

Examining Misleading Economic Claims Made for Hanscom Field

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Hanscom Field is claimed by the operators to provide significant financial benefits to the Commonwealth. This is a review of those claims and finds that the benefits are improperly calculated and grossly exaggerated by nearly two orders of magnitude.

As part of a campaign to justify continued subsidies for General Aviation airports like Hanscom Field, studies of economic benefit are often performed by aviation interests, often with funding by government agencies. Studies by aviation interests tend to exaggerate the economic impacts of airports for various political reasons.

This report finds three major defects in Massport's computation of economic benefit of Hanscom Field.

First, Massport has inexplicably included the economic contribution of the local Air Force Research labs in their analysis. These research labs have nothing to do with the airport, but Massport claims all this research funding as part of Hanscom Field airport operations. This wrongful inclusion accounts for over 90% of the claimed economic benefit of Hanscom Field.

Second, Massport has ignored FAA guidance regarding how to account for economic benefit, and has wrongly claimed many types of benefits which the FAA specifically says do not exist. When adjusted to comply with FAA instructions, the claimed economic benefits are substantially reduced.

Third, Massport has ignored the economic costs associated with Hanscom Field. The cost of carbon associated with greenhouse gas emissions is totally ignored but has a significant effect on the calculation of economic benefit.

Improperly claimed Air Force research economic impacts

Massport reports two wildly different economic impact figures. In the annual State of Hanscom report, it claims airport economic benefits of \$679 million; yet in a number of other public reports, Massport claims \$6,700 million, ***nearly ten times larger***. This dramatic disparity is due to the inclusion of the economic impacts of the Air Force Research Labs adjacent to Hanscom Field in the larger number. While the Air Force activities certainly create regional economic impact, it is absurd to assign these to the general aviation airport next door.

Hanscom Field was, but is no longer, a military airport. Air Force flight operations were closed in 1973 as part of base realignment. Aircraft related research and flight activities were moved to Wright Patterson AFB in Ohio. The Hanscom military airfield was decommissioned and wholly transferred to Massport. Nevertheless, the Air Force does have a research center located adjacent to Hanscom Field on Air Force property, and there is also substantial military research at adjacent MIT Lincoln Labs. These types of research include cyber security, nuclear weapons control systems, and satellite communications. These research operations are **unrelated to the airport** and exist because of the deep history of program success and the availability of a skilled technical workforce in the area. The Air Force also provides Air

Force retiree services at their facility. The research and other services provided by the Air Force are not attributable to Hanscom Field.

The Air Force research lab and other functions employ 10,600 with expenditures claimed to be \$6.03 Billion, according to Mass DOT publications. This dwarfs the 2,243 people employed *at the airport* as reported in the 2022 State of Hanscom report. None of the Air Force employees or economic activity are attributable to the airport. Yet inexplicably Massport has claimed this research, and ancillary retiree services, to be *caused* by the airport and has claimed it as an economic benefit of the airport. Compounding this exaggeration, Massport adds a 1.5 X economic multiplier on Air Force employees, said to represent their local expenses and people employed by them.

Therefore, the starting point for analysis of economic impact must begin by removing the Air Force research lab employment and expenditures which Massport wrongly includes to grossly inflate the impact calculations.

Improperly disregarding FAA guidance for economic impact

The FAA in 1992 issued a landmark report titled “Estimating the Regional Economic Significance of Airports.” This report has served as the basis for evaluating economic benefits for many years. However, more recently, some of the guidance of this report has been ignored in order to inflate economic benefit claims.

The FAA report outlines three types of impacts and how they should be computed. Massport uses methodology and data contained a Mass DOT report¹. A review of the Massport conclusions in light of FAA guidance exposes major inflation in the Massport numbers. Each of these important errors is discussed in turn, along with how the economic benefits should be calculated.

Errors in calculating direct impacts

These impacts are associated with contributions to the Massachusetts economy that are due to impacts of business specifically associated with the airport. However, the FAA report finds that **“direct impacts should represent economic activities that would not have occurred in the absence of the airport,”** and that such economic activity represents not just dollars transacted but represents value-add services delivered within the Commonwealth.

Payroll is one type of economic benefit. However, the FAA report admonishes: “If it were determined that, without the airport, some on-site employees would be doing comparable work elsewhere in the region without displacing other workers, **their employment should not be part of the airport's contribution to local economic activity.** This would be significant in a region with full or near full employment.” Since the Commonwealth meets this last condition, it is clear that Hanscom employees would have alternative employment; using the FAA guidelines such direct employment should not be counted at Hanscom Field. Nevertheless, Massport has wrongly used the full payroll as if none of the

¹ CDM Smith with Airport Solutions Group LLC.; Massachusetts Statewide Airport Economic Impact Study Update Technical Report, Mass DOT, Jan 2019.

employees could otherwise be employed without the airport. The unemployment rate of 5% could be used to represent that part of payroll for which any employee cannot find another job. For purposes of analysis, using the FAA guidance, instead of using zero or 5%, the generous figure of 10% unemployable if the airport did not exist will be used to estimate economic benefit.

Non-payroll operating expenses can represent another type of economic benefit, but only to the extent that they represent value add services within the Commonwealth. Services are generally assumed to be local economic benefits, but many type of expenses are related to equipment and supplies, like fuel, which may not benefit the local economy. For example, the purchase of capital equipment made in China is only an economic benefit to the extent that the delivery, installation, and maintenance services within the Commonwealth are counted. The purchase of aircraft or aircraft parts manufactured elsewhere cannot be considered an economic benefit to the Commonwealth. Nevertheless, Massport has wrongly used all expenses as a proxy for Commonwealth economic impact. There is no known guidance to estimate the fraction of expenses which remain in Massachusetts. A review of other airports finds that such expenses are consistently considerably larger than payroll. For purposes of analysis, it will be assumed that 100% of airport-related expenses generated regional value add (including repairs, construction, commissions, services, parking fees, leases, etc) but only 25% of non-airport tenant expenses (including fuel, parts, aircraft, vehicles, major equipment, etc) generated regional value-add. This factor is subject to adjustment if more detailed data about the nature of the expenses becomes available.

Off-airport businesses that are directly related to the airport can also be included in direct expenses. Unlike large commercial airports, there are no known businesses related to aviation at Hanscom located off-site which should be considered in this calculation.

Errors in calculating indirect impacts

Indirect economic impacts occur due to employment outside of the airport which is the result of the airport. **The FAA guidance prescribes that for general aviation airports such indirect effects are insignificant and should be ignored.** However, there are a certain number of tourists related to the airport, which could result in employment in various businesses outside of the airport. It is difficult to identify any specific visitor business whose employment is enabled by Hanscom Field. Nevertheless, some fraction of local business economics could be attributed to Hanscom visitors.

For purposes of analysis Massport makes a reasonable estimation of the number of out-of-state visitors arriving via Hanscom Field. However, the FAA report instructs that any tourists arriving via Hanscom Field **cannot be counted if they would have arrived via alternate means if Hanscom Field did not exist.** Since the general area is served by commercial airports, rail and highway, it is extremely unlikely that most visitors intending to come to the region would not have come if Hanscom were not available. Yet Massport inexplicably assumes that **none** would have come without the convenience of Hanscom Field. Nevertheless, a few visitors might not have come without the option of Hanscom Field. For purposes of analysis, using the FAA guidance, we will assume 10% of regional visitors arriving via Hanscom would not have come if they needed to use another method of transportation.

Errors in calculating induced impacts

Induced economic impacts occur when the original direct and indirect economic impacts ripple through the economy. Such effects are represented by multipliers applied to the original impact. For example, visitors spending money result in the employment of a waitress; she in turn hires a day care service; the day care provider in turn provides piano lessons for her child. There is considerable dispute regarding how to compute such effects. As previously stated, the FAA guidance suggests that such effects are only contributory when the beneficiaries would not have alternative employment if the airport did not exist; such multiplier effects cannot be used in a region with “full or near-full employment.” Since these conditions certainly exist in this region, no multiplier effects due to indirect economic impacts should be applied. Nevertheless, ignoring FAA guidance, Massport wrongly applies an economic multiplier of around 1.4 X to every type of payroll or expense. For purposes of this analysis, following FAA guidance, it is assumed that only 10% of the induced employment would not otherwise find a job, reducing the estimated multiplier from 1.4 to 1.04.

Failing to count negative economic impacts

Airports serving jet traffic are often the largest regional emitter of green house gasses. Hanscom Field is a particularly large emitter, enabling CO₂e emissions of around 600,000 tons per year. These emissions can be directly associated with a societal cost based on the net present value of their long term damage. The Biden administration assigns a cost of \$51 dollars per ton of GHG emissions; the EPA has assigned a cost of \$190 per ton. These establish a reasonable range of societal cost of emissions. For purposes of this analysis we will use a figure in the middle of the range of \$100 per ton.

Using these figures the GHG emissions cost (negative benefit) associated with Hanscom Field can be directly computed at \$60M per year.

Computing economic impacts based on actual data

Using the prescribed FAA methodology and Massport data, the economic impact of the airport can be determined. In the table on the following page, the first column lists the data as presented in the 2019 report funded by the Mass DOT, which wrongly includes the Air Force Research contribution. The second column lists the data as Massport describes it in other reports, without the inclusion of the Air Force Research Labs. The third column lists the data adjusted using the prescribed FAA methodology with inclusion of GHG costs.

Table showing data and calculations for computing economic benefits of Hanscom Field three ways; Based on Massport Public Claims; Based on Massport data from the State of Hanscom report; and based on the Massport data adjusted according to FAA guidance.

	Claim	Data	FAA adj
Direct Impacts			
# employees	10924	2234 ¹	223 ²
airport payroll	\$351,081,000	\$133,000,000 ³	\$13,300,000
Massport non-payroll expense	\$5,300,000 ⁴	\$5,300,000	\$5,300,000
Tenant airport charges	\$19,176,000 ⁵	\$19,176,000	\$19,176,000
Tennant off airport expense	\$4,334,419,000	\$290,000,000 ⁶	\$72,500,000 ⁷
Indirect Impacts			
# Visitors	58112	58112	5811 ⁸
Visitors expenditures	\$26,150,000	\$26,150,000	\$2,615,000
Induced Impacts			
induced payroll (.40)	\$140,432,400	\$53,200,000	\$1,330,000
induced non-payroll (.42)	\$1,830,735,900	\$132,079,920	\$9,697,600
induced visitor (.81)	\$21,181,500	\$21,181,500	\$211,815
Cost of Carbon			
.60 MT @ \$100/T	\$0	\$0	-\$60,000,000 ⁹
Total (K\$)	\$6,728,475,800	\$680,087,420	\$64,130,415

¹ From the State of Hanscom report and does not include Air Force employees

² The fraction of airport employees who would not have found another job without Hanscom

³ From State of Hanscom and does not include Air Force payroll

⁴ Non-payroll expense of Massport according to the 2022 State of Hanscom

⁵ Tenant payments to the airport (leases, fees, etc)

⁶ Does not include the Air Force

⁷ Only 25% of off-airport expenses are assumed; the remaining expenses (fuel, aircraft, aircraft parts, vehicles) are not assumed to directly benefit the Massachusetts economy

⁸ Only 10% Hanscom visitors would not have come if required to use different transportation

⁹ Social cost of 600,000 Tons of CO2e at \$100/per ton; see separate analysis for estimating CO2e

Conclusion

The economic benefits of Hanscom Field Airport are on the order of \$64M. This is less than 1% of the \$6,700M benefit claimed by Massport in public documents. The vast majority of the overstatement is caused by the erroneous inclusion of economic benefits associated with the nearby Air Force Research facilities. Of the claimed \$6,700 M, 89% or \$6.03 M is attributable to the Air Force. Of the remaining \$678 M claimed by Massport, 81% or \$556 M are benefits that do not exist when FAA guidelines are followed. The incorrectly claimed benefits are reviewed and quantified, and include errors in direct benefits, indirect benefits, and induced benefits. In addition, a negative benefit associated with the social cost of carbon of \$60M was not included in reports by Massport.