

Airports are small cities. They face complex problems. To be competitive they need to choose the least cost option that meets their objectives. To be sustainable and resilient airports need to choose the most effective and cost-efficient investments. In order to accomplish this, **Atlanta's Hartsfield-Jackson airport (ATL)** needed the right tools and support.

Challenge: Reduce the expenditure on external consultants by using a Triple Bottom Line decision support tool in-house

ATL is the world's busiest airport, serving more than 101 million passengers annually. The airport's sustainability guiding principles require:

- ATL's planning maintain a balanced and integrated approach for all development; and
- management takes into account **economic stability, social responsibility, and environmental sustainability.**



A triple bottom line cost benefit analysis (TBL-CBA) approach fit the bill to meet each requirement.

Autocase, a cloud-based TBL-CBA software tool, is being used for projects across the airport. In one case Autocase allowed ATL to satisfy the requirements of a LEED® Pilot Credit and provide insights into the value of replacing Fire Station 40 to LEED standard. Autocase informed ATL on the value of its sustainable, healthy, and resilient design.



Source: ATLNext – [Support Facilities](#)

The benefits of design innovations for airports can be measured in Autocase in terms of:

- emissions reductions,
- reduced potable water use,
- passenger experience; and
- health and productivity of employees.

Autocase's TBL-CBA approach expresses costs and benefits in dollar terms, so design alternatives can be compared on an "apples to apples basis", using a common measure in an objective and defensible manner. Atlanta Airport is using Autocase to:

- Pursue the LEED Pilot Credit for Informing Design Using Triple Bottom Line Analysis for Fire Station 40 and LEED Silver certification underscoring ATL's commitment to preserving the environment through green building practices.
- Determine whether they should apply for LEED Silver certification for a maintenance shop facility.
- Decide on the best sustainable investments for a cargo building expansion.
- Optimize the green infrastructure investments in the surrounding area of the airport, on the basis of social and environmental impacts.

Atlanta Airport is using Autocase across its enterprise as an in-house tool to help inform design decisions.

They are doing the analysis with the included support from the professional economists at Autocase.

Atlanta airport is working with Autocase for Buildings and Autocase for Sites in collaboration with Autocase's economic consulting team.

The airport is analyzing investments in energy efficiency, indoor environmental quality, water efficiency, and sustainable sites. Using a triple bottom line approach lets them identify not just the overall project value but also

how much of the value comes from, for example: energy savings; air pollution and carbon emission reductions; and benefits to employee health and reduction in absenteeism.

Autocase's economists are experts in TBL-CBA for high performance building designs. In conjunction with the software application, Atlanta is able to use them on an as-needed basis for the cost of the enterprise software license.

Value by Stakeholder

Cost or Benefit Category	Lifetime Present Value
Owner & Occupant	
Capital Expenditure	-\$166,647
Absenteeism	\$14,540
Electricity Costs	\$112,013
Natural Gas Costs	\$25,484
Productivity	\$44,409
Cycling Health Benefits	\$17,693
Water Costs	\$9,590
Community	
Air Pollution	\$132,214
Carbon Emissions	\$71,865
Recreational Use	\$38,847
Heat Island Effect	\$7,765
Congestion	\$5,396
Vehicle Operating Costs	\$4,652
Reduced Vehicle Use	\$2,006
Social Water Value	\$372
Stakeholder Group Totals	Lifetime Present Value
Owner & Occupant	\$57,082
Community	\$263,117
Triple Bottom Line Value	\$320,199

Solution: Autocase's TBL-CBA approach combined with Autocase's professional economists lets the airport evaluate design alternatives in a balanced and integrated approach, to maintain its reputation as the world's busiest and most efficient airport

Autocase helps the airport:

- Prioritize investments based on life-cycle cost analysis and total cost of ownership.
- Value environmental impacts and go above and beyond the environmental compliance requirements.
- Integrate environmental sustainability into its decision-making.
- Enhance stakeholder engagement and ensure compatibility with surrounding communities.
- Promote a people-oriented work environment.

Sample Autocase Output for a Fire Station 40 Design Alternative

Results: Plan, design and build with full information regarding economic stability, social responsibility, and environmental sustainability.

With Autocase, ATL:

- valued the health, productivity, and absenteeism benefits of their designs
- can make planning and design decisions taking into account economic stability, social responsibility, and environmental sustainability
- gets access to the professional economists that designed and built Autocase.

Autocase: Making the business case for high performing and sustainable buildings.

Autocase[®]
BUILDINGS

Autocase for Buildings from Impact Infrastructure, Inc.

Autocase for Buildings is a software tool that models the environmental and social dollar values of building designs and, together with financial costs, evaluates their net, triple bottom line (TBL) benefit over the life of a project using a rigorous cost-benefit analysis (CBA) framework. With Autocase, the cost and time required to compare design alternatives at any stage of a project is a fraction of today's custom studies. As a result, design firms can easily evaluate and justify different approaches and, in so doing, contribute to the future economic, social, and environmental success of every project.

For more information about how TBL-CBA would assist your project, go to www.autocase.com