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# TRIPLE BOTTOM LINE ANALYSIS AND JUSTIFYING AIRPORT INFRASTRUCTURE PROJECTS

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During the 2008/2009 economic crisis, both Canada and the U.S. used investment as the primary method to stimulate their respective economies. Both governments introduced significant new spending in 2009 with a focus on projects that were “shovel ready” and would result in immediate economic impact. As a result, many airports found themselves in a position to take advantage of these programs to secure funding for infrastructure developments. This recent push for stimulus funds gave rise to the question regarding the most appropriate methodology for building a business case for airport infrastructure projects.

Airports are complex business entities that offer a variety of interconnected services and facilities at a single location. The fundamental function of an airport is to provide a central location and associated infrastructure for air travel but they often provide services and value to a number of stakeholders, while also having significant impact on their surrounding communities. For example, Schiphol Airport in Amsterdam acts as a multimodal hub for air, road and rail traffic while adding value to the Randstad region and throughout the Netherlands.

In recognition of the broad effects industries like airports have on regions, governments have invested in performing “Full Cost Analyses” designed to put quantitative values to previously considered qualitative-only effects. The Federal Government of Canada released a report on the full cost of transportation in 2008. Both the U.S. and Canadian governments have moved towards Triple Bottom Line (TBL) Analysis based on economic, social, and environmental accounts, as requirements in proposed business cases. Methods in which airports can utilize these accounts in government funding business cases are described below.

**Economic Impact Analysis.** Economic impacts are often the most important aspect of a TBL analysis as infrastructure programs are targeted towards projects that will see immediate job creation. As airport infrastructure projects, such as runway extensions, often involve a significant construction period, they are advantaged in being able to demonstrate the immediate creation of jobs and the wages that go with them.

Furthermore, airports have the advantage of supporting important economic sectors such as tourism and trade, both of which are often sectors targeted by government for growth. Projects supporting the growth of traffic at an airport can often be linked to supporting these industries. Demonstrating an effect of job creation into external industries provides a competitive advantage for projects seeking funding.

The economic analysis in a TBL also includes financial impacts. While these can include more obscure measures such as the opportunity costs of land use, an effective way to demonstrate the “repayment” of the funding is through the tax contributions of the jobs created by the project.

**Environmental Impact Analysis.** TBL analysis must also show that the proposed project will result in no additional negative environmental impacts, outside of the construction period, compared to the status quo. Infrastructure developments designed to incorporate sustainable practices, such as Leadership in Energy and Environmental Design (LEED) building designations, provide an advantage for projects seeking funding. This is because, moving forward, projects that support reduced

environmental impacts are becoming requirements for certain infrastructure funding programs. For the actual construction of the project, it is important to demonstrate in the business case that proper mitigation strategies are in place to ensure that the environment is minimally impacted.

**Social Impact Analysis.** Social benefits are generally not required in most current business cases, however, being able to demonstrate the benefits provide important value to the business case. For airports, demonstrating social benefits can vary from measurable, quantitative impacts such as reducing noise impact to qualitative impacts such as community and First Nations support. Community support can come from the local or regional City Councils and Chambers of Commerce, while First Nations support can come from local First Nations Bands. First Nations support is particularly important for many regional airports in Canada, as these airports are often located outside of urban areas and expansions can come in contact with First Nations land.

**Conclusion.** Utilizing a Triple Bottom Line analysis is becoming critical to preparing effective business cases for procuring government infrastructure funding. Its broad scope and use of quantitative and qualitative analysis is particularly useful for airports to demonstrate their impact and importance to surrounding communities and regions as well as supporting complementary industries. A TBL provides the means to effectively show that the desired infrastructure project will have a far reaching impact that makes it worthwhile to pursue.