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1, 3, and 5. Impact model results are usually reported in gross, not net, terms. It would also be specious to model quantitatively how the land itself would have been used if not as an airport. This more likely lends itself to a qualitative analysis rather than a quantitative analysis. If one assumed the land uses/industries would have been the same with or without the airport, then one could look at how adjacent areas have developed. However, it is safe to say that at least some of the business in the vicinity of the airport is tied to the presence of the airport itself.

We could potentially conduct a cluster analysis to examine this “but for” estimate, or we could otherwise come up with comparable cities with and without airports to examine growth differences between them. However, a net analysis of this type would require a separate, independent analysis from the impact model that would expand the project scope sizably. The proposal would have to be adjusted to accommodate such an analysis.

2. To account for out of region funding for projects, we could gain an estimate of outside construction spending, then compare the local to outside construction spending to the ratio of local to statewide economic impact. The IMPLAN modeling system we would employ generates an estimate on its own of the “leaks” to outside the community, based on the availability of local businesses to supply their airport and, in turn, supply the airport’s suppliers. If the local availability of a given input is non-existent or falls short of needs, then the modeling framework “purchases” the input from outside the local area, creating a leakage from the local area economy.

We could compare the estimate of local to outside construction spending to the estimate of local to state economic impact generated by IMPLAN to determine whether the IMPLAN model is generating a reasonable estimate of outside of region funding for projects.

4. Survey methods are traditionally what we use to estimate consumer spending behavior, though we use any other spending data that is available. We request information from the client that might allow us to determine whether expenditures reported on the surveys are accurate. For example, we would request any available sales receipt data at retail establishments or restaurants connected to the airport, as well as the number of transactions. This will allow us to estimate roughly how many consumers are visiting these establishments, as well as how much each consumer is spending at those establishments.

If our survey estimates are comparable to the estimates we’ve found at airport-related establishments for different expenditure categories (e.g. retail and food and beverage), we can feel confident that the total spending number we estimate will be accurate.

Regarding self-selection bias on web-based surveys, it is important to note that each survey delivery mechanism (in-person, mail, phone, and web) has pros and cons, including some degree of self-selection bias. While it is known to be a problem with online surveys, concern about self-selection in online surveys has diminished over time, as internet use among households and businesses has approached saturation, as individuals have become more comfortable in online activities, and in particular, as they have become more comfortable in providing information online. As mentioned above, ideally one can compare survey results with other “objective” data, submitting it to a “taste test” and evaluating its reliability.

We have extensive experience conducting online surveys as part of our impact analyses, and to this point we have not seen systematic bias in the survey results. Incentivizing through the use of a prize can help with this, as it encourages those not already incentivized to fill out the survey on its own to do so. It is also very hard to determine in advance what the self-selection bias would be, as it can come in different forms. For example, are high spenders less likely to participate due to their higher opportunity cost of time? Low spenders may also have incentive not to participate for different reasons, so there is no clear direction of self-selection bias.

6. It is not often easy to quantify the adverse impacts of an establishment, as these impacts may be qualitative in nature. If this is the case, rather than try to reinvent the wheel by generating our own original methodology, we traditionally seek out existing literature that gauges the quantifiable impacts of some of these adverse effects. Using the example of the airport, we would do the following process:

1. Determine what the relevant negative impacts of Truckee Tahoe Airport are (e.g. traffic or environmental)
2. Measure the level of negative impacts on Truckee Tahoe Airport
3. Gather existing literature to find cost estimates of these negative impacts in comparable cases, such as similar-sized airports.

If there are no analyses showing these effects for comparable airports, we would look toward other airports and try to adjust its estimates to what would be reasonable to Truckee Tahoe Airport. If, even then, no analyses showing these effects for other airports exist, we would then look toward studies showing these impacts on similar types of businesses, then try to adjust those estimates so that they make sense in the context of Truckee Tahoe Airport.