

CIVIC HOSPITAL NEIGHBOURHOOD ASSOCIATION

WHY THE 2022 NEW CAMPUS DEVELOPMENT EMPLOYEE TRAVEL SURVEY NEEDS AN ADJUSTMENT FOR NON-RESPONSE

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Introduction

When conducting surveys, it is important to obtain a high response rate so that decisions are based on accurate data. In any survey there will be a certain number of people who do not respond. These are referred to as non-responses. Adjusting for non-response has always been part of well-designed surveys. Even when non-response rates were close to 5%, Statistics Canada always applied a non-response adjustment algorithm.

The 2022 travel to work survey conducted by The Ottawa Hospital (TOH), estimated employee practices for all modes of transportation to the current campuses of TOH (i.e. modes of travel such as vehicle, transit, bike). This modal share is a foundation for the transportation strategies of the New Campus Development (NCD). However, with a very high non-response rate of 71 percent, assumptions about these modal shares could be inaccurate.

Therefore, an adjustment for the high non-response is clearly necessary but was not applied.

However, it is still possible to apply an adjustment to the data even though the survey was conducted years ago. The adjustment is important because the survey currently remains the only source of data on travel to work by TOH staff. The adjustment will be even more important when, as planned by the TOH, it is conducted annually as part of the Transportation Management Strategy (TMS).

What is the Impact of having such a high non-response to the survey?

The 2022 survey of TOH staff was a census of all the staff but with the high non-response rate, there is a potential for bias in data drawn from the survey.

For any survey, non-response potentially biases the data in two ways:

1. The non-response rates for each of the groups (e.g., occupation) in the survey are not equal, and
2. What the survey is designed to measure, e.g., mode of travel, varies among the groups.

These can interact to increase the impact of non-response.

For example, in the 2022 survey, one can imagine that the doctors covered by the survey had the highest non-response rate and the highest rate of driving to the hospital. As a result, without a non-response adjustment, the survey estimates underestimate the extent of driving to the hospital by all staff.

The non-response adjustment methodology

To perform the adjustment on the 2022 survey, some additional but readily available information is required. The hospital's administrative records yield the total number of persons at the time of the survey in each of the occupations identified on the 2022 questionnaire.

The non-response adjustment involves making changes so that the number of people in each occupation accounts for the same percentage in the survey as it does in the population. This is done by adding weights to the completed questionnaires. Then, when one adds up the weights on the questionnaires for a given occupation, the sum will be equal to the number of persons in that occupation in the population. These weights are used to produce all of the tabulations from the survey.

Summary

Modal-share data will be essential for executing the TMS and in that role, it is vital to measure even small year-to-year change accurately. Not only will the use of a non-response adjustment improve the quality of each year's data, but non-response adjustments will improve the accuracy of measures of year-to-year change.