Quantifying University of Toronto Business-Related Air Travel Emissions: September 2018 - September 2019

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Executive Summary

The University of Toronto's Committee on the Environment, Climate Change, and Sustainability (CECCS) tasked our student group, Gas Busters, to calculate the UofT's total greenhouse gas emissions released from business-related air travel. Business-related air travel is defined as any air travel made by students, faculty, staff, or visitors that was paid for or reimbursed by the UofT.

Throughout the 2019 fall academic semester, our group collected flight and financial data through the UofT finance department, the UofT travel booking agency, and surveys. This data, combined with government-reported emissions factors allowed us to calculate UofT business-related air travel emissions in two separate ways, giving us an emissions range. The first, top-down approach, used aggregated flight and financial data and produced a final number of 26,028 tCO_2e. The second, bottom-up approach, relied primarily on survey data and produced a final number of 57,838 tCO_2e.

Gas Busters was successful in reporting the business-related air travel emissions for the UofT for the period of September 2018 to September 2019 to be 26,028 and 57,838 tCO_2e. The emissions calculation spreadsheet and survey template have also been provided to the client as a deliverable, allowing the CECCS to continue work on calculation business-related air travel emissions in the future.

Our group faced some challenges in analyzing the findings of this report, mostly with obtaining high quality data. The limitations of these challenges are discussed, along with our recommendations for the project moving forward.

Project Scope

Introduction

In 2017, the University of Toronto (UofT) formed its CECCS in response to the Report of the President's Advisory Committee on Divestment from Fossil Fuels. Since then, the University of Toronto (UofT) has become a member of the University Climate Change Coalition (UCCC), a group of universities committed to reducing their carbon footprint. As part of this larger ambition towards addressing climate change and greenhouse gas (GHG) emissions, the UofT is now questioning the impact of its Scope 3 emissions and, more specifically, emissions from university business-related flights. Scope 3 emissions are defined as emissions from sources not owned by the university, but that are related to the company's operations or activities (Protocol, G. G., 2011). Currently, the UofT does not have a consolidated program to collect data or calculate Scope 3 emissions. Therefore, as part of the UofT's commitment to reducing carbon footprint, this project aimed to quantify emissions from business-related air travel made by faculty, staff, visitors or students that was paid for or reimbursed by the UofT.

Key Questions and Deliverables

In order to achieve this goal, we have considered the following questions: What business-related air travel data do we need to collect? Where is this data located, and what is the best way to collect this data? How do we calculate GHG emissions from this data? Finally, what are the UofT's total business-related air travel emissions?

Our main goal was to conduct the following: collect all required data, determine an emissions calculation of said data, quantify the university's total business-related air travel emissions over a specified timeframe, provide the CECCS with a standardized method to calculate business-related emissions from raw air travel data, along with a survey template and an annotated bibliography of relevant university air emissions studies.

Methodology

Defining Business-Related Air Travel

University business-related air travel is defined as any air travel made by students, faculty, staff, or visitors that was paid for or reimbursed by the UofT. This definition was chosen based on the availability of data and is supported by approaches of other universities such as UCLA (Kwan, 2008) and UBC (Wynes, 2018). For clarification, the table below offers examples of common flights, and indicates which types are included in this definition and which types are not.

University Business-Related Air Travel	Not University Business-Related Air Travel
University of Toronto-Funded Flights: ● Conferences ● Workshops ● Research ● Sporting Events ● Visitor Travel Grant and Scholarship-Funded Flights Administered Through UofT ● Research, conferences, study abroad, etc.	Flights Directly Funded by Grants and Scholarships Not Administered Through UofT ● Research, conferences, study abroad, etc. Visitor-Funded Flights ● Conferences, events, research, etc. Personally-Funded Flights ● Consulting, trips home, events, etc. + Any other flight not funded by the University of Toronto

Data Sources

Throughout the duration of the project, we identified several sources for data collection. Each provided important information necessary for the quantification of business-related air travel.

Avenue Travel

The first source of data that we identified was Avenue Travel, the UofT's travel booking agency. We collected detailed data that included flights booked by university staff, students, faculty, and visitors. Key data collected collected from Avenue Travel included cost of flight, origin-destination, distance traveled, and cost per mile travelled for each individual flight. Reports generated by Avenue Travel were sorted into domestic, transborder, and international flight categories. Overall, Avenue Travel data showed a total of $2,959,553 in flight spending.

University Financial Records

The second source of data that we identified was the university's flight-related financial records. This data was obtained by the university via all relevant General Ledger (GL) codes. These records demonstrated the total amount of money that the UofT spent on flights for the period September 2018 to September 2019, and was sorted into several booking categories including staff, students, field trips, and conferences.

Emissions Factors

The third source of data that we used was flight emission factors from the Government of the United Kingdom's Department for Business, Energy & Industrial Strategy (Department for Business, Energy & Industrial Strategy, 2019). These emissions factors were selected for several reasons. First, their emission factors were best aligned with the data we could access, as they were normalized based on distance flown. Second, their emission factors took into account several important considerations including average flight occupancy rates, the elevation at which emissions are released, average

passenger class (i.e. economy, economy-plus, business, and first class), and the often indirect trajectories of planes when travelling.

The emissions factors as calculated by the Government of the United Kingdom are sorted into short-, medium-, and long- haul flights as defined in the table below.

Emission Factors		
Flight Classification	Trip Distance (km)	kg CO_2e/passenger km
Short-haul	<463	0.25493
Medium-haul	463-3700	0.15832
Long-haul	>3700	0.19562

As we can observe, the emissions factors intuitively decrease as the flights become longer, as longer flights usually have higher passenger to weight ratios, experience less air friction due to altitude, and experience less altitude-climbing time relative to its total flight time. However, long-haul flights actually have a slightly higher emission factor than medium-haul flights since emissions released at higher altitudes have a greater global warming potential.

Survey

The final source of data collection method we used was a survey. Our goal was to calculate the emissions through a different, 'bottom-up' methodology which is explained below. The survey was shared with the respective departments and faculties of the members of the CECCS, in addition to a few other departments in the UofT. Departments and faculties chosen had been deemed to be most likely to respond due to existing connections with our team and client. Both faculty and staff were deliberately included in the survey dissemination, while students were free to respond.

Calculation Methodology

Business-related air travel emissions were calculated using both a 'top-down' and 'bottom-up' methodology. This decision was made based on the availability of data and is consistent with the approach recently used by the University of British Columbia (Wynes et al., 2018).

The top-down methodology uses individual and aggregated flight data collected from Avenue Travel, the UofT Financial Services, and the aforementioned emissions factors. The bottom-up approach used data collected through the survey, Avenue Travel Data, the UofT Financial Services, and the emissions factors.

Top-Down Calculation Method

The Avenue Travel data was categorized into domestic, transborder, and international travel. Since the emissions factors were categorized differently (i.e. short-, medium-, and long-haul flights), we rearranged the data obtained from Avenue Travel to reflect the same categorization while maintaining its integrity. Based on the new arrangement, we obtained the total fare spent on flights, and the total

miles flown in each class. We then calculated the kilometre per dollar (km/$) value through the following formula:

km/$= 1.60934 (km/mile) * Total distance flown per flight class (miles)/ Total fare spent per flight class ($)

We also calculated the percentage spent on each flight class through the following formula:

% Spend = Fare spent per flight class/Total fare spent through Avenue Travel

To obtain the distance flown in each flight class, we followed the following formulas:

Short-haul Distance (km) = Short-haul spend ($) * Short-haul km/$

Medium-haul Distance (km) = Medium-haul spend ($) *Medium-haul km/$

Long-haul Distance (km) = Long-haul spend ($) *long-haul km/$

Lastly, we calculated the emissions from each flight class through the top-down approach through the following formulas:

*Short-haul Emission (kg CO_2e) = Short-haul distance (km)*Short-haul emission factor (kg CO_2e/km)*

Medium-haul Emission (kg CO_2e) = Medium-haul distance (km) Medium-haul emission factor (kg CO_2e/km)*

*Long-haul Emission (kg CO_2e) = Long-haul distance (km) * Long-haul emission factor (kg CO_2e/km)*

The results of these calculations are shown in the next section.

Bottom-Up Calculation Method

For this calculation method, we analyzed the data received through the survey. After conducting a survey for ten (10) days, we obtained a total of 79 responses which reported 115 round-trip flights flown. We gathered the origin and destination of all flights taken by the respondents. Through research, we found the distance traveled by each flight. To be consistent with the top-down approach, the flights were classified into short-, medium-, and long-haul flights. From the distance traveled, we calculated the emissions from the flights taken in the survey through the following formula:

*Short-haul Emission (kg CO_2e) = Short-haul distance (km)*Short-haul emission factor (kg CO_2e/km)*

Medium-haul Emission (kg CO_2e) = Medium-haul distance (km) Medium-haul emission factor (kg CO_2e/km)*

*Long-haul Emission (kg CO_2e) = Long-haul distance (km) * Long-haul emission factor (kg CO_2e/km)*

Simultaneously, we calculated the total cost spent on each flight class through the following formula:

*Total Spent per flight class($) = Average cost of ticket per flight class ($) * Number of flights per flight class (#)*

The average cost of tickets per flight class was taken from the Avenue Travel Data. With the above calculations, we then obtained the emissions per dollar spent for each flight class within the survey through the following formula:

Emissions per dollar spent per flight class (kg CO_2e/$) = Emissions per flight class (kg CO_2e)/ Total spent per flight class ($)

Following this, we used this emissions per dollar spent in each flight class on the financial data obtained from the UofT to calculate the emissions of the bottom up approach.

*Total emission (kg CO_2e) = Emission per Dollar (kg CO_2e) * Total Spent per flight class from Financial Data ($)*

Project Deliverables

Data Calculation Results

The first project deliverable was to calculate the total emissions produced by business-related air travel. The results from these calculations are presented below.

Top-Down Calculation Method

Using the methodology described in the Calculation Methodology Section, we determined that 54.7% of money is spent on long-haul flights, 43.1% on medium-haul, and 2.2% on short-haul. We also found that the distance traveled per dollar spent increases as the trip distance increases with 7.85 km/$ on long-haul flights, 5.75 km/$ on medium-haul flights, and 1.91 km/$ on short-haul flights.

Flight Breakdown - Avenue Travel		
Flight Classification	Relative $ Spent on Flights (%)	Distance per Dollar (km/$)
Short-haul	2.2	1.91
Medium-haul	43.1	5.75
Long-haul	54.7	7.85

According to the UofT's financial data, the total amount of money spent on flights from September 2018 to September 2019 was $20,943,371. The table below divides this into the flight categories based on the percentages obtained from Avenue Travel data. From it, we are able to determine the total distance flown in each category as long-haul: 89,908,395 km; medium-haul: 51,873,101 km; and short-haul: 893,345 km.

Flight Totals - University Financial Data

Flight Classification	Total $ Spent	Distance per Dollar (km/$)	Total km flown
Short-haul	466,819	1.91	893,345
Medium-haul	9,028,218	5.75	51,873,101
Long-haul	11,448,335	7.85	89,908,395

Finally, multiplying the distance with the emission factors, we were able to determine the total emissions in each category at 17,588 tCO_2e for long-haul flights, 8,213 tCO_2e for medium-haul flights, and 228 tCO_2e for short-haul flights.

Final Calculation			
Flight Classification	Total distance flown (km)	Emissions factor ($kgCO_2e/km$)	Total Emissions ($kgCO_2e$)
Short-haul	893,345	0.25493	227,740
Medium-haul	51,873,101	0.15832	8,212,549
Long-haul	89,908,395	0.19562	17,587,880
Grand Totals	**142,674,841**		**26,028,170**

Bottom-Up Calculation Method

Using the methodology described in the Calculation Methodology Section, we determined the total distance flown based on survey responses to be 1,850,802 km. The numbers sorted into the appropriate flight category are shown in the table below. Multiplying these numbers by emissions, we also calculated emissions for each category at 315 tCO_2e for long-haul flights, 38 tCO_2e for medium-haul flights, and 0.3 tCO_2e for short-haul flights.

Survey Emission Calculation			
Flight Classification	Total distance flown (km)	Emissions factor ($kgCO_2e/km$)	Total Emissions ($kgCO_2e$)
Short-haul	1,332	0.25493	340
Medium-haul	239,720	0.15832	37,952
Long-haul	1,609,750	0.19562	314,899
Grand Totals	**1,850,802**		**353,191**

The total number of flights, average fare per ticket, and total fares were calculated based on the methodology described and are shown in the table below. The results show that approximately $136,340 of air travel booking was captured through the survey, which represents just 0.65% of all business-related flights booked from September 2018 - September 2019 according to the UofT financial data.

Survey Cost Calculation			
Flight Classification	Total Number of Bookings	Avg. Fare per booking ($)	Total Fare ($)
Short-haul	7	402	2,814.7
Medium-haul	79	821	64,854.6
Long-haul	29	2,368	68,670.6
Grand Totals	**115**		**136,339.9**

Finally, we were able to determine the total emissions in each category at 52,498 tCO_2e for long-haul flights, 5,283 tCO_2e for medium-haul flights, and 56 tCO_2e for short-haul flights.

Total Survey Emissions Calculation			
Flight Classification	Emissions Intensity (kg CO_2e/$)	Total Spent ($)	Total Emissions (kgCO_2e)
Short-haul	0.121	466,819	56,318
Medium-haul	0.585	9,028,218	5,283,250
Long-haul	4.586	11,448,335	52,498,068
Grand Totals		**20,943,372**	**57,837,636**

Survey Template

The second project deliverable was to produce a survey template that could be used again to calculate business-related air travel emissions from a bottom-up approach. The questions that we used can be found in the appendix.

The survey questions were created based on the survey created by the University of California Los Angeles (Kwan, 2008) and with input from our client. In the final version of the survey, just three questions were included: 1) “What’s your role at the UofT?” was asked to understand who was answering the survey; 2) “Which academic division or administrative unit do you belong to?” provided us with a breakdown view in the perspective of divisions and units; and 3) “Please list the destinations for the flights that you remember taking in the past 12 months that were funded through the university” Allowed us to compare with the top-down approach.

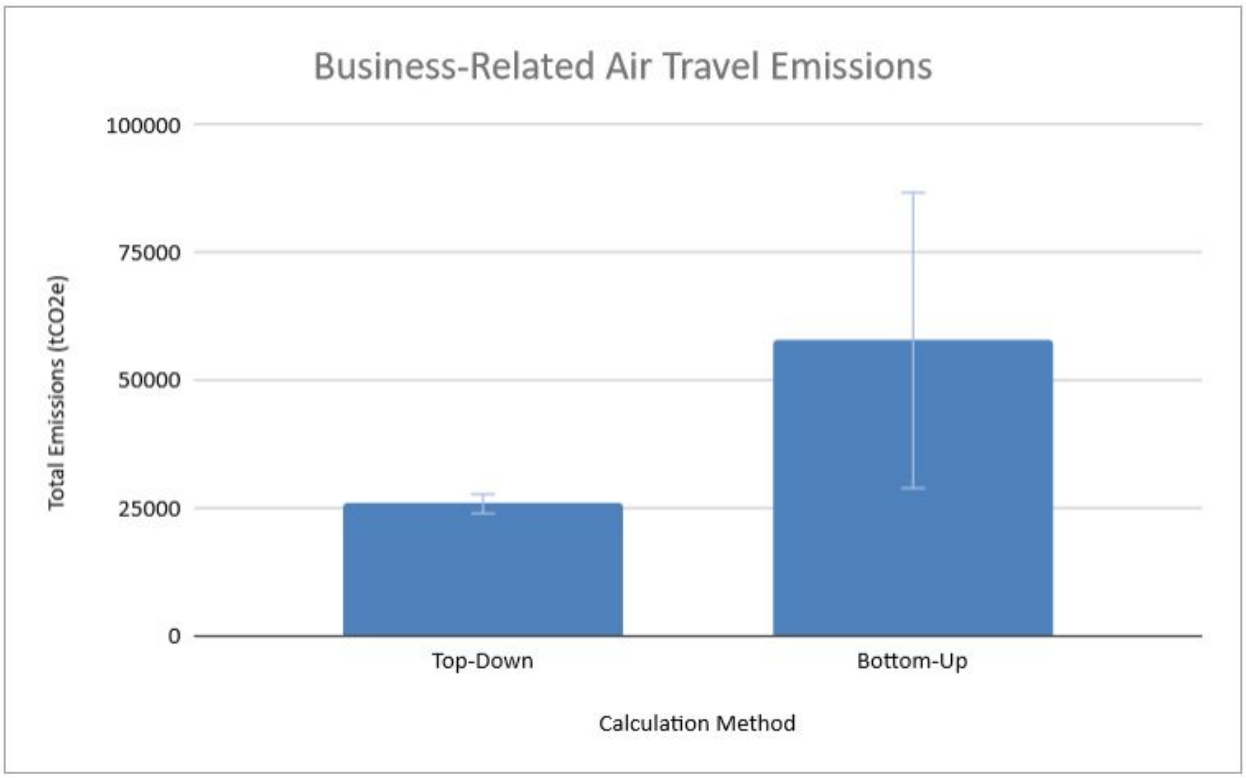
Emissions Calculation Spreadsheet

The final deliverable for this project was a standardized method to calculate business-related emissions from raw air travel data, through the form of a spreadsheet. This spreadsheet offers the CECCS the tools necessary to calculate the UofT’s emissions moving forward. It contains the raw data obtained from all sources, along with intact formulas that can be used to easily follow calculations and make further calculations in the future. This spreadsheet has been uploaded to a shared google drive with the client.

Key Findings

Total University Business-Related Air Travel Emissions

We determined business-related air travel emissions to be 26,028 using the top-down calculation method and 57,838 using the bottom-up calculation method. However, both of these methods also need to consider a margin of error based on the quality of data available. We've estimated a 10% margin of error in the top-down method because we did not have detailed flight information for all university flights and to account for possible manual entry errors when entering G&L codes into the financial data. We've estimated a 50% error in the survey responses to account for the extremely low number of responses which accounted for just 0.65% of the total money spent on bookings.



In our opinion, the survey results had too few responses to provide meaningful information and the top-down approach should be used as a best estimate for business-related air travel emissions.

Comparison to Other Universities

The flight emissions intensity of the UofT, based on the total number of staff and faculty, falls within the range of all universities that we compared. The exception is with the University of California Los Angeles,

where the UofT's emissions range is higher. However, these emissions are from 2008 years ago and thus may not be the best for comparison.

A more accurate comparison can be made by expanding the number of universities that are compared, by using more recent numbers, and by shrinking the UofT's emissions range by collecting more accurate data through the survey.

University Name	Year of Emissions Calculations	Total Business-Related Air Travel Emissions	Total number of Staff and Faculty	Flight Emissions Intensity
University of California Los Angeles	2007	5,883 to 21,839 tCO_2e	20,622	0.285 to 1.059 tCO_2e/person
University of British Columbia	2015-2016	26,333 to 31,685 tCO_2e	16,891	1.559 to 1.876 tCO_2e/person
University of Toronto	2018-2019	26,028 to 57,838 tCO_2e	21,788	1.19 to 2.65 tCO_2e/person
University of Edinburgh	2019	18,501 tCO_2e	9,324	1.984 tCO_2e/person

Conclusions

Ultimately, we evaluated the contribution of air travel that was funded through the university, including conferences, research, meetings, grants and scholarship to the environmental footprint of the UofT. The calculated carbon emission in this project is 26,028 tCO_2e to 57,838 tCO_2e. This is approximately 1.19 to 2.65 tCO_2e per university employee (faculty & staff). We also showed that the students, staff and faculty of the UofT had travelled great distances over the past year. For example, 55% of the trips taking place in this project are long-haul, which totals to over 89 million km. Our findings show that business-related air travel has become a central component of the university experience for many students, staff and faculty. However, this result is limited to one financial year. Therefore, determining whether our data is representative of a wider trend is difficult.

Nevertheless, a few other published results are directly comparable to our results. Other universities, such as the University of British Columbia (UBC) and the University of California, Los Angeles (UCLA) have also looked at their carbon emissions from air travel. For instance, UBC, an institution with 16,891 staff and faculty, calculated their emission to be 26,333 to 31,685 tCO_2e. This number is lower than our calculated emission since the UofT is a larger institution, with 21,788 numbers of staff and faculty. On the other hand, researchers from the UCLA, another research-oriented university of similar size (20,622 number of staff and faculty), calculated their emission to be 5,883 to 21,839 tCO_2e. These differences

can depend on many factors, including the size of a university, geographical locations, and the financial budgets of the university. Yet, in all cases, one thing is certain: business-related air travel represents a large proportion of universities' greenhouse gas emission burden.

Recommendations

To potentially reduce the environmental impact of air travel, we have proposed a few recommendations tailored to tracking and addressing greenhouse gas emissions from business-related air travel at the University of Toronto.

Comprehensive Data Collection

Centralize and Standardize University Data

First and foremost, it is crucial for the CECCS to gather higher quality data from the UofT in the future. Given the decentralized nature of air travel data collection, implementing a university-wide, standardized data collection method will be important. This could present itself as a form to be filled out by administrative staff, or in a way best suited for the UofT. Regardless of the method implemented, the CECCS should ensure the collection of all necessary data for the most accurate calculations (e.g. flight class, flight destinations, cost, etc.). This would allow emissions associated with air travel to be easily exported for future assessment, and would increase the accuracy of institution-wide emission reporting. Once this data becomes readily available, we can begin to observe trends over a long period of time, which we strongly recommend. Tracking air travel emissions from several financial years could determine whether the UofT's greenhouse gas emissions from air travel are increasing, decreasing, or relatively stable from year-to-year, and could identify which departments contribute to emissions the most for targeted interventions.

Conduct a Thorough Survey

In the meantime, strengthening the survey will be a strong practical step that can be completed. Increasing both the number of respondents in general along with the number of student respondents will give a fuller picture of the UofT's air travel emissions. Based on the UofT's number of staff, faculty, and students, we suggest a target of 1373 responses. This number represents approximately 6.3% of the total number of faculty and staff. The 6.3% is the average response rate on air-travel surveys conducted by other universities that were able to poll their entire faculty and staff population.

In addition, improving the precision of the survey options will better align responses with the other data collection methods; tightening origin-destination points, distinguishing between flight classes, and gathering dollar values are among some of the ways the survey can be improved. We recommend using

a more robust survey platform in the future, especially one that allows for more intuitive entering of origin and destination information, rather than into a blank field as the survey is in its current form.

Carbon Offset Program

Lastly, we recommend the implementation of a carbon offset program. While such a program may not eliminate the impact of the UofT's air travel, it can still work to reduce it. Assuming a carbon price of $30/tonne, the UofT could offset its 2018-2019 emissions at a cost of $780,840. Since we also know the UofT spent $20,943,371 on flight during this period, this would represent a 3.72% increase in the cost of booking. Depending on the flight class, this would add between $15 and $88 to the cost of a single booking.

Cost of Carbon Offset Program			
Flight Classification	Avg. Fare per booking ($)	Offset Cost per booking ($)	Total 2018-2019 Offset Cost ($)
Short-haul	402	15	17,405
Medium-haul	821	31	336,603
Long-haul	2,368	88	426,833
Grand Totals	**3,591**		**780,840**

Implementing a carbon offset program would allow the UofT to serve as a model for other large public institutions in playing an essential role in addressing their own business-related air travel emissions.

Quick Wins and Flight Alternatives

Reducing business-related air travel emissions at the UofT requires substantial shifts in individual behaviours. The most effective step would be requiring economy-class travel; in other words, the UofT should eliminate all non-economy ticket purchases. Individuals who are wishing to fly in a higher class or to upgrade their tickets could still to do so at their own expense so that the UofT is not accountable for the added increase in emissions. This would make a significant difference as first class emissions are 4 times that of economy class emissions and business class emissions are 2.9 times that of economy class emissions for long-haul flights (Department for Business, Energy & Industrial Strategy, 2019).

Moreover, for those who are traveling in short-haul flights (such as to Montreal, Ottawa, New York, etc), ground transportation using VIA-rail or a busing system is a great alternative. This would also make a significant difference as short-haul flights release the greatest amount of emissions per distance travelled and emit about 5 times the emissions compared to rail travel (VIA Rail Canada, 2019).

Project Challenges

Multiple Project Inputs

At the beginning of our project, we received incongruent input from multiple sources (our client, the course instructor, and course TA) which made it challenging to distinguish between what the expectations were from our group. This resulted in actions that were unintentionally misaligned with our client's expectations . In order to avoid future incidents of miscommunication, the Gas Busters made an effort to write clear emails to our client outlining the group's next steps, and implemented the practice of waiting for a written go-ahead from the client before advancing. We felt that by the end of the project almost all input was made from our primary client contact, Dione, which made progressing without conflict a lot easier.

Difficulty Accessing Data

Midway through the project, awaiting for requested data proved to be challenging. We could not move ahead until data was in our hands. Avenue Travel was difficult to reach, and the data provided by the university via GL codes was insufficient on its own to calculate GHG emissions accurately. To remedy this, it was mutually decided that it would be our client's responsibility to reach Avenue Travel, as we were relying on their data to move forward. We recognized that correspondence from the client would be perceived as more credible in the eyes of the company, and would thus increase our chances of receiving any data. Though data was still slow to come in, this strategy proved successful.

Lack of Data Availability

Overall, while the Avenue Travel data was in fact beneficial, we were not able to collect all data necessary for the *most* accurate calculation possible. The unfortunate truth is that the university's decentralized nature means that air travel data is scattered throughout departments and faculties, and is collected in a variety of ways (if at all). While we could not resolve this issue within our time frame, our aforementioned recommendations will assist the CECCS in gathering this data. All in all, the Gas Busters proved to be capable to improve on issues that were within our control. Of course, some of the limitations could not be solved within a short semester. Still, we are hopeful that the CECCS will be able to move forward and address this.

Technical Limitations

By far, the largest technical limitation of this project related to incomplete datasets.

Incomplete Individual Flight Data

In the top-down method, the percentage of dollars spent on each flight class was extrapolated from Avenue Travel to the total amount spent on flights from UofT financial data. However, Avenue Travel data represented only 14% of total university spending on air travel.

The impact of this limitation on the top-down approach is moderate, and is equally likely to skew the final results in both the positive and negative direction. Since not all travel is booked through Avenue Travel, this limitation can only be resolved by collecting complete flight information at the university level.

Limited Survey Results

Due to a variety of factors (a 10-day window, and no access to email listservs) the survey received 79 responses. These responses represented only 0.65% of the university's total spending on flights and thus an extremely high degree of variation in the bottom-up approach is to be expected. However, unlike the incomplete individual flight data, these responses are more likely to be skewed in the positive direction. We are making this assessment based on three factors. The factor is due to response bias - we assume that people were less likely to open and fill-out the air travel survey if they have never travelled by air for the university. Second, the total emissions results from this method are 25% higher than the next highest university that we compared to.

The impact of this limitation can be reduced by taking our recommendation to gather at least 1373 responses, which is the most one would reasonably expect given the current total number of faculty and staff at the UofT and our research on flight survey response rates at other universities.

Time Frame Misalignments

Data from Avenue Travel, UofT Financial Services, and the survey were all collected for a 1-year timeframe. However, this time frame did not overlap perfectly. Avenue Travel data was representative of the period of October 1st 2018 to September 30th 2019, UofT Financial Services was representative of the period of September 1st 2018 to September 1st 2019, and survey data was representative of the 12 months immediately preceding the taking of the survey - roughly from November 20th 2018 to November 20th 2019. The misalignment of these dates creates additional uncertainty in our numbers, but is unlikely to skew them in one direction or the other given that they all observed a relatively similar period of time.

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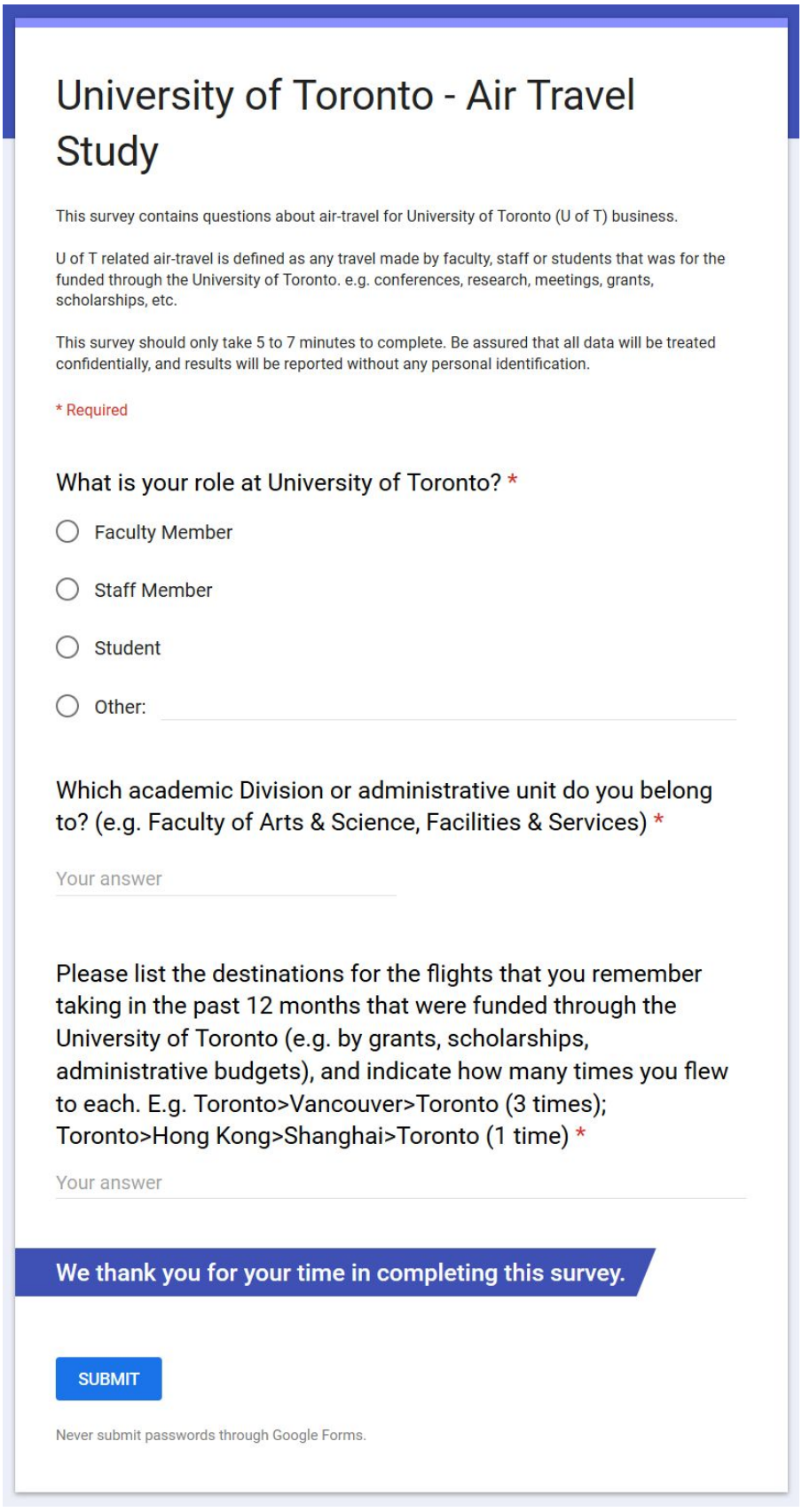
Appendix



University of Toronto - Air Travel Study

This survey contains questions about air-travel for University of Toronto (U of T) business.

U of T related air-travel is defined as any travel made by faculty, staff or students that was for the funded through the University of Toronto. e.g. conferences, research, meetings, grants, scholarships, etc.

This survey should only take 5 to 7 minutes to complete. Be assured that all data will be treated confidentially, and results will be reported without any personal identification.

* Required

What is your role at University of Toronto? *

- ○ Faculty Member
- ○ Staff Member
- ○ Student
- ○ Other:

Which academic Division or administrative unit do you belong to? (e.g. Faculty of Arts & Science, Facilities & Services) *

Your answer

Please list the destinations for the flights that you remember taking in the past 12 months that were funded through the University of Toronto (e.g. by grants, scholarships, administrative budgets), and indicate how many times you flew to each. E.g. Toronto>Vancouver>Toronto (3 times); Toronto>Hong Kong>Shanghai>Toronto (1 time) *

Your answer

We thank you for your time in completing this survey.

SUBMIT

Never submit passwords through Google Forms.