

**What Do The People Say? A Thematic Analysis of  
Transit Related Comments from the Dalhousie  
University Annual Sustainability Commuter Surveys  
2012-2015**

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## Abstract

Each year the Office of Sustainability conducts an Annual Sustainability and Transportation Survey, where between 1200-1700 staff, students, and faculty fill out the survey. Qualitative questions have been used in these surveys in attempt to gather feedback on commuting issues, and to better understand the barriers and opportunities of Dalhousie commuters as it relates to using transit and other transportation modes. This research examines the identified themes present in qualitative comments made by Dalhousie staff, faculty, and students who participated in the surveys; attempts to fill the information gap regarding these barriers and opportunities, as well aid in understanding specific themes associated with commuters, and their experiences and attitudes towards commuting. Four years (2012-2015) of survey data questions from the Annual Sustainability and Transportation Surveys will be used for this study. The qualitative research method employed for this project is inductive line-by-line coding whereby each line can have more than one code. This study documented a variety of barriers and opportunities regarding accessibility, travel time and distance, weather, risk, satisfaction, and safety. These barriers included: lack of reliability and frequency of service, weather deterrents; while opportunities included: off-site parking with bus or shuttle options to and from campus locations, increased amount of weather protection barriers for waiting commuters, and routes to outside the peninsula (directly to and from Dalhousie campuses).

*Key Words:* Accessibility, Bus, Shuttle, Transit, Frequency, Travel Distance, Travel Time, Weather, Risk, Satisfaction, Reliability, Halifax, Dalhousie University

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## **1.0 – Introduction**

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### **1.1 – Problem**

Dalhousie is the largest University of higher learning in Nova Scotia, and as such, the Dalhousie community relies on various forms of transportation, regardless of being a student, faculty, or staff. The Office of Sustainability's Annual Sustainability and Transportation Survey is organized and conducted each year. Standardized quantitative and qualitative transportation questions are asked. Data from the survey is provided to students and faculty involved in DalTRAC (the Dalhousie Transportation Collaboratory). They analyze and summarize the quantitative transportation data in a yearly Commuter Report.

The Office of Sustainability would like to use the qualitative information from the four surveys (2012-2015) to help shape the University Transportation Demand Management Action Plan. The focus of this report is to analyze qualitative data from four years of the annual survey data to identify the key barriers and opportunities identified by survey participants associated with transit commuting.

### **1.2 – Purpose of the Study**

The Office of Sustainability conducts an Annual Sustainability and Transportation Survey, where between 1200-1700 staff, students, and faculty fill out the survey each

year. Qualitative questions have been used in this survey in attempt to gather feedback on commuting issues, and to better understand the barriers and opportunities of Dalhousie commuters as it relates to using transit and other transportation modes. This research examines the identified themes present in qualitative comments made by Dalhousie staff, faculty, and students who participated in the Annual Sustainability and Commuter Surveys. This will in turn attempt to fill the information gap regarding these barriers and opportunities, as well aid in understanding specific themes associated with (Dalhousie survey participants) commuters, their experiences and attitudes towards commuting. The analysis of this information will be provided to the Office of Sustainability and other entities for future transportation planning. The focus of this analysis will be on the transit barriers and opportunities, and the data set will be four years of survey data questions.

## 1.3 – Study

### 1.3.1 – Questions Being Analyzed

There are two questions from the Annual Sustainability and Transportation Survey that are being analyzed for this study. Question 47 from the 2012 Survey and Question 46 from the 2013 Survey is: *What transportation improvements would you like to see at Dalhousie within the next five years?* This question was not in the 2014 and 2015 survey but rather a broader question was asked. Question 6 from the 2014 Survey and Question 7 from the 2015 Survey is: *What sustainability projects would you like to see progress on?*



### 1.3.2 – Research Questions

The main research question is:

- What are the themes – in regards to commuter barriers and opportunities – present in the feedback received from the Annual Sustainability and Transportation Survey?

The sub-research questions are:

- Are there specific links/connections (direct and/or indirect) between identified themes?
- Does a theme affect or influence another? In what way? How does this compare to the provided literature? Are any patterns present from year to year?

### 1.3.3 – Definitions

**Accessibility** – The ability to get to transit locations without excessive hindrances; the extent to which facilities are barrier free and usable by persons with disabilities, including wheelchair users.

**Commuter** – A person who travels regularly between home and work or school.

**Frequency** – The rate at which something occurs or is repeated over a particular period of time.

**Public Transportation** – Transportation by bus, rail, or other conveyance, either publicly or privately owned, which provides to the public general or special service on a regular and continuing basis.

**Reliability** – the quality of being trustworthy or of performing consistently well.

**Risk** – A situation involving exposure to danger.

**Shuttle** – A public or private vehicle that travels back and forth over a particular route, especially a short route or one that provides connections between transportation systems, employment centers, etc.

**Transit** – Conveyance or transportation of people from one place to another.

**Travel Distance** – Total amount of measurable distance from going from one place to another.

**Travel Time** – A duration of time spent going from one place to another.

## 1.4 – Delimitations and Limitations

The one main identified delimitation is the established academic timeframe and its effect on the production of deliverables associated with this research and analysis. There are two main identified limitations to this study. First is the researchers subjectivity in regards to the analysis of the feedback and identification of themes. This will provide potential limitations in the analysis and results due to the possibility of themes being missed, not being identified as important or altogether, and misinterpretation of the feedback provided by the survey participants. The second identified limitation is the lack of in-depth experience with coding strategies and methods. Additionally, further limitations associated with this research could be that participants are not equally perceptive in regards to commuting or provided feedback. As well, the interpretation of the gathered information may be more difficult than anticipated.

## **1.5 – Significance of the Study**

This research attempts to fill the information gap regarding the barriers and opportunities identified in the qualitative comments made by Dalhousie staff, faculty, and students who participated in the Annual Sustainability and Commuter Surveys.

The Office of Sustainability would like to use the qualitative information from the four surveys (2012-2015), where the analysis of this information will be provided to the Office of Sustainability to be used to shape the Dalhousie University Transportation Demand Management Action Plan. The analysis of this information will also be provided to other entities for future transportation planning, at the discretion of the Office of Sustainability and Dalhousie University.

## **2.0 – Literature Review**

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### **2.1 – Barriers**

It should be noted that many barriers have links or influences on each other. The following themes are the key barriers outlined in the literature examined.

#### **2.1.1 – Accessibility**

Transit service acts as a viable option if the service is available at the location(s), and at the time an individual expects to commute (Zielstra & Hochmair 2010). Kittleson & Associates (2003) and Murray (2001) assert that the presence or absence of transit

service near origin and destinations are major factors in any decision-making process regarding transit commuting. Contingently, Krizek & El-Geneidy (2007) states that there seems to be a dependence on supplementary conditions such as schedule variability/reliability or high influx of commuting ridership. For Schlossberg et al. (2007) factors such as, transit stop/station area, features of the transit route, etc. influence the level of accessibility to transit commuting. A survey of the transit commuters in Ottawa by Taylor and & Fink (2011) determined various factors which have influence on transit commuting including information regarding scheduling, routes, locations and frequencies; the availability of on-street services and facilities, and customer service. Litman (2011) focuses on the fact that accessibility to transit is a major factor when transit commuting, and the lack of access or unreliability of service causes for implications of how the service is perceived by its users. Therefore the more efficient service and increased reliability (as best as possible) would mitigate the barrier(s) of access and travel/commute time associated with, and perceived by transit commuters.

### **2.1.2 – Travel Distance & Time**

According to O’Sullivan & Morrall (1996), transit commuters are actively aiming to reduce travel distance and time of their walking portion to be able to access transit, and that it should be noted that the accessibility and availability of transit can be measured spatially and temporally (Zielstra & Hochmair, 2010). When there seems to be a dependence on supplementary conditions such as schedule variability/reliability (Krizek & El-Geneidy, 2007), distance does not change, but timing and its associated cost of

travelling to the route access point and waiting until arrival become a more heavily considered factor.

### **2.1.3 – Satisfaction**

There are a number of factors associated with transit commuter satisfaction. Commuters travelling on a schedule that is unreliable are less satisfied. Cantwell, Caulfield, & O'Mahoney (2009) identify that the time-spent waiting is also reflective of the overall satisfaction level of the service and commuting experience. Litman (2011) notes that the lack of access or unreliability of service impacts how its users perceive the service(s) provided. Disruptions caused by seasonality, particularly during colder months, have the ability to affect overall satisfaction (Jacques et al., 2011). Therefore the more efficient service and increased reliability (as best as possible) would mitigate the barrier(s) of access and travel/commute time associated with, and perceived by transit commuters.

### **2.1.4 – Weather Protection**

According to Schlossberg et al. (2007), and Zhang (2012) weather and weather protection (or lack there of) are factors that influences the level of willingness to utilize any form of transit service. Weather delays can affect entire network operations, leaving transit users generally less satisfied with their commute (Jacques et al., 2011). Weather's influence is wide ranging, as it has potential to reduce transit ridership, lengthen time spent moving and stationary, reduce service reliability, and increase the cost of operation.

Weather can influence travel behavior, affecting the activities that drive travel demand, and affecting travel experience. Transit users are subject to direct impacts from weather when they wait or walk in exposed areas, while in a vehicle, are affected indirectly by bad weather through the reduction of transit service quality (Guo, Wilson, and Rahbee, 2007).

### **2.1.5 – Safety**

According to Zhang (2012), “safety is consistently ranked as one of the highest priorities at a bus stop (Taylor et al., 2009). It is understandable that personal safety is the basis upon which all other improvements can be made. Without an adequate level of perceived safety, commuters will simply choose not to use the bus stop (Nabors et al., 2007)” (Zhang, pp. 26). Despite its overall safety and security, many people consider public transit dangerous. Contributing factors to this perception is that transit travel frequently requires riders to be in restricted areas with strangers, and where conditions are sometimes crowded and uncomfortable (Litman, 2015). Most passengers are responsible and considerate, not all riders are, where some can become problematic, distressing other passengers. These conditions can cause feelings of powerlessness, discomfort and insecurity. As well, disproportionate media coverage can also encourage transit fear because transit accidents and assaults are infrequent; yet tend to receive significant media coverage (Martin, 2011). Not only the reality of safety affects transit commuting, but also any perception of risk or inability to have commuter safety ensured can seriously affect any decision-making in regards to transit commuting.

## 2.2 – Opportunities

Regarding opportunities for transit commuting, implications associated with planning and management decisions arise, as explained by Litman (2011), are based on certain parameters. Litman (2011) writes that under different criteria and commuting conditions for evaluating transportation, the opportunities vary. Litman provides examples, where transportation is evaluated based on certain parameters. He concludes that through evaluating the commuting conditions (traffic speeds, congestion delay, etc.), there is an opportunity for enhancing the transit system through the improvement of roadways. Evaluating transportation based on mobility – the movement of people and goods – provides the opportunity for general improvements to transit services. As well, when evaluated based on accessibility – the overall ability to reach desired goods, services, and activities – opportunities arise, or to be considered, for additional transportation improvement options, such as more accessible land-use patterns to reduce travel distances (Litman, 2011). Opportunities identified by Zhang (2012) are specific to the area around transit stops, which can be improved through implementing sufficient seating areas based on the location and anticipated amount of transit commuters, and providing appropriate shelter and information to house and protect the commuting population from the elements, and provide accurate details regarding transit frequencies.

In a similar report, the University of McGill examined commuter patterns of their community much like the study and reports provided by DalTRAC. This study focused on commuting mode, greenhouse gases (similar to the indicators found in the DalTRAC Commuter Report), as well incorporated themes based on the general comments received

from their own Transportation Survey. Jacques et al. (2011) identified some of the associated themes, as well as explored opportunities that may be beneficial, and relevant to Dalhousie University and the Halifax Regional Municipality (HRM). The opportunities conveyed included better access for the mobility impaired, increased capacity and frequency of buses to overcome wait times and crowding, provide adequate shelter at service locations, promote the transit systems to the populace through various means of (social) media and advertisements (posters) (Jacques et al., 2011).

The literature review has identified various barriers associated with transit commuting. These are determined to be accessibility to transit stops (based on location and distance) as well as desired routes/transferability to desired routes; reliability of services and associated wait-time based on route frequency; the availability of shelters providing weather protection; and the perceptions regarding risk and personal safety. The literature also provides potential opportunities in regards to transit commuting. These have been identified as adequate shelter from the elements for those using transit; advertising and providing information regarding scheduling and frequencies of routes; more frequent and reliable service, and a higher number of accessible transit and route diversity for disabled individuals.



## **3.0 – Methods**

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### **3.1 – Assumptions and Rationale**

There is the assumption that the feedback provided by the survey participants is honest and truthful, and comprehensive regarding their commuting experiences and attitudes.

Qualitative research is especially suited for this research because the aim is to directly categorize and analyze the themes present in the feedback provided by the participants of the Sustainability and Transportation Survey. Creswell (2009), provides a layout of procedures regarding the organization of data, getting a general sense of the information – in accordance with the information provided by the literature review – and its meaning. Further providing the steps for detailed analysis through the process of coding the information into key categories or concepts with their associated descriptions, determining the connection between the themes and descriptions, leading to the eventual interpretation of these themes.

### **3.2 – Design Type**

This research used an open coding structure where codes are established as the data is analyzed as opposed to pre-determining an initial coding structure using the literature. Coding allows for the most efficient way to organize, categorize, analyze, and summarize the information in terms of the themes regarding the barriers and opportunities associated with transit commuting. Given the scope of this project,

inductive line-by-line coding was used. Each line can have more than one code. Codes have be documented and analyzed in Excel to help sort and create themes.

### **3.3 – Role of Researcher**

The role of the researcher in this study is to review, interpret and analyze the data, extract themes associated with the specific scope of barriers and opportunities in regards to commuting and to provide a summary. The researcher is a fifth year student enrolled at Dalhousie University and the University of King's College. In regards to commuting, the researcher has utilized the various modes of transportation found in Toronto (subway, bus, streetcar, etc.), as well has lived various distances from the Dalhousie Studley campus in Halifax, NS, also has commuted in different ways over the past five years.

### **3.4 – Data Collection Procedures**

Four years of survey data questions from the Annual Sustainability and Transportation Surveys are used for thematic analysis. Before the beginning of this analysis, the completion and approval from the REB (Research Ethics Board) for secondary use of this information for research is necessary and essential to protect the rights of the survey participants. Upon approval from the REB, the procedures for gathering the information from the data involves the organization and preparation of the information before analysis; initial read-through of the data to gain an understanding of concepts and ideas being provided by the participants; the analysis and coding (open,

axial, or selective as coding methods) of the data and descriptions of the themes to be implemented an excel spreadsheet.

Furthering this process is the of making interpretations and meaning of the data, acknowledging what is being purveyed, what might be missing, and what might need to be questioned in light of these interpretations (Creswell, 2009). This process was repeated in order to identify themes, key words, and specific topics identified by the survey participants; to ensure that all information is accounted for, identified, understood, subjected to analysis, and confirm that nothing has been missed, not considered, and or disregarded.

### **3.5 – Methods for Verification**

The method used was repeated in order to make sure that the identified themes, key words, and specific topics provided by the survey participant is consistent. This ensures that all relevant information associated with transit commuting found in the survey participants comments is accounted for, identified, understood, subjected to analysis, but primarily to ensure that nothing has been missed, not considered, and or disregarded.

## 4.0 – Findings and Analysis

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Participants may have provided multiple comments in response to the following questions.

### 4.1 – 2012 Survey

Question 47: *What transportation improvements would you like to see at Dalhousie within the next five years?*

Among the 746 comments received by Survey participants, a total of 449 [60%] were transit related. Comments were grouped by the main themes of transit passes, Halifax Transit services, and shuttle and ferry services.

Of these 449 comments, 186 [41%] Identified and expressed interests regarding bus and transit pass services at Dalhousie.

- 38% identified a desire for summer bus passes to be provided to students;
- 37% of respondents commented on employee (faculty and staff) bus passes, stating that “transit pass for employees” (faculty and staff) to be of high importance;
- 14% of respondents indicated that Dalhousie University should have a ‘University Bus’ specifically used to go between campuses, such as a “reliable bus service between Sexton and Studley campus,” or “school bus running between campus[es].” These respondents specifically use the term

‘bus’ where other respondents used the term ‘shuttle.’ These terms have been used separately for the purpose of this analysis;

- 12% of comments suggested that the bus passes should be cheaper, subsidized, and or free for faculty and staff, and students passes to be free;
- 7% recommended year-round transit pass options for faculty, staff, and students;
- 2% requested bus passes for graduate students, the ability to opt in/out of the bus pass services provided at Dalhousie if “residence is within walking distance to school” or “graduate students should have an optional summer bus pas” as well as just stated or references “bus pass[es].”

Of these 449 comments, 140 [31%] identified and expressed opinions regarding a shuttle service.

- 35% of respondents expressed a desire for a shuttle service to be provided between campuses:
  - 28% was explicit about this shuttle being between the Carleton, Sexton, and Studley campus locations;
  - 7% wished for a service between Halifax and the Truro Agricultural campuses by providing comments such as “shuttle service between Halifax and Truro campus,” and a “shuttle service between campuses;”
- 21% of respondents expressed wanting for a shuttle service which travelling to and from outside the peninsula/city core such as a “direct shuttle service

from Sackville or Bedford,” and providing “service from areas of the peninsula (Clayton Park, Fairview, Dartmouth, etc.);”

- 18% identified a need for a dedicated, or university provided shuttle, suggesting a “university Shuttle that acts like public transport,” and that “the university should adopt a university shuttle service so as to make it easy for students most especially international students to travel to campus;”
- 16% of respondents indicated that they would like off-site (campus) parking with a shuttle service to their desired campus, this has been expressed as an “off-site parking and then shuttle service to campus,” or “some form of off campus parking with a shuttle service to campus;”
- 11% indicated the want for a shuttle service to be provided for going to and from key/central locations in the Halifax Regional Municipality such as “shopping malls, parking lots outside the city, etc.,” as well a “university shuttle to and from bus terminal[s] to get to Dalhousie,” where this could include locations such as Mumford, Bridge, and Lacewood Terminals;
- 4% of respondents indicated that they would like to see a dedicated employee shuttle program;
- 0.7% of respondents specified that they would like a shuttle service to run in the evenings, and off-peak hours, “Perhaps shuttles from outside of Metro locations for a.m. and p.m.”

Of these 449 comments, 121 [27%] identified and expressed opinions about Halifax Transit.

- 26% of respondents specified that they would like more reliability, and a higher frequency of service to be provided, stating that “more frequent and reliable buses,” “more frequent busses stopping on campus/travelling up and down University Ave,” and “more frequent buses from off-peninsula;”
- 14% of respondents indicated that they would like more accessible and direct services to and from outside of Halifax (Dartmouth, Spryfield, etc.), “more bus routes from Dalhousie campus to Bridge Terminal, Dartmouth,” “improved bus transportation from outside the peninsula (Sackville, Fall River, Bedford) that has a route that goes by the hospitals and universities during morning and evening rush hour,” and “improvement to public transit for people living outside of the city in terms of not having to change buses;”
- 11% of respondents stated that they would like to see improved, less complicated, and more convenient routes, where respondents stated they want “faster bus services,” and “improved bus services from areas of the peninsula (Clayton Park, Fairview, etc.);”
- 7% of respondents specified more direct routes to and from Dalhousie University such as “a bus route direct from Main St. Dartmouth to Halifax,” and a “direct bus to major parts of the city and outskirts;”
- 7% of respondents indicated that they would like for an increase in later evening and off-peak hours services to and from the university such as a “dedicated morning and evening direct limited stop bus service,” it should also be considered for this to be applied to the various distances that the routes take (Cole Harbor was indicated as a location);

- 5% of respondents specified that they want more information about the bus services provided, along with campus-wide initiatives to promote bussing;
- 4.4% of the respondents indicated they had no opinion or were pleased with their experience using the bus services provided in the Halifax Regional Municipality;
- 3% of respondents indicated that they would like the express bus routes to be expanded to where the “metro X bus stops closer to the Universities/Hospitals rather than Scotia Square,” an “express bus from Dartmouth to campus,” as well as “express bus service from major commuter centers” indicating that if the availability for these express services were more wide-spread, there would be a greater inclination to partake in using transit;
- 2% of respondents advocated for bus shelters to be built at all stops;
- 1.6% of respondents indicated that they would like to see priority lanes during peak hours, a bus service provided for Truro Agricultural Campus, and for a commuter/student-only bus service respectively. 0.8% of respondents desired for wireless internet (Wi-Fi) to be provided at transit stops, and on the buses themselves.

Of these 449 comments, 10 [2%] showed interest in a train/rail service, suggesting “light rail access,” and a commuter train to and from outside the Halifax peninsula; 5 [1%] identified and expressed opinions on ferry services, expressing interest in a shuttle to specifically go to and from the ferry terminal.



Additionally, the remaining 297 [40%] of the total 746 comments identify the need for improvements for Dalhousie’s cycling population such as bicycle-sharing, car-share supports, enhanced parking infrastructure, pedestrian walkways, a motor-vehicle free University Avenue, and have the comment ‘n/a.’ Of these remaining 297 comments:

- 69% of the comments referenced parking initiatives and infrastructure;
- 63% were referencing bikes and bike-related initiatives;
- 53% referenced cars, and car-share initiatives;
- 6% referenced pedestrian areas, for example “making the strip of University Avenue within campus an all-pedestrian zone.”

## 4.2 – 2013 Survey

Question 46: *What transportation improvements would you like to see at Dalhousie within the next five years?*

Among the 732 comments received by Survey participants, a total of 393 (54%) were transit related.

Of these 393 comments, 167 [42%] identified and expressed opinions on a shuttle service. These can be identified and broken down into various groupings.

- 30% of respondents identified a need for a dedicated, or university provided shuttle, suggesting to “implement a university shuttle system,” or specifically a “University shuttle service;”

- 19% of respondents expressed a desire for a shuttle service to be provided between campuses, as comments suggest an “intercampus shuttle,” and “service between campus;”
- 10% of respondents expressed wanting for a shuttle service which travelling to and from outside or around the peninsula, such as “Dal to Halifax's suburbs (Tantallon, Hammonds Plains, etc.),” or “between Dal's Halifax campuses and within the peninsula;”
- 9% of respondents indicated that they would like off-site (campus) parking with a shuttle service to their desired campus, this has been expressed as a “shuttle or park and ride service;”
- 8% of respondents indicated interest in a shuttle service between Halifax and the Truro Agricultural campuses, designated in Truro by providing comments such as “a shuttle between campuses for students attending both Universities and for Staff who work in Halifax and live in Truro,” and for “Truro to have shuttle service;”
- 8% of respondents indicated that Dalhousie University should a ‘University Bus’ specifically used to go between campuses;
- 6% of respondents indicated the want for a shuttle service to be provided for going to and from “Dalhousie from various key locations in HRM;”
- 6% of respondents specified interest in an “airport shuttle from campus,” or a “Dal operated airport shuttle;”

- 5% of respondents specified that they would like a shuttle service to run in the evenings, and off-peak hours, suggesting an “after hours shuttle service for students / faculty that have to be on campus late;”
- The remaining 2% of the respondents offered comments that were restricted to “shuttle,” or “shuttle service.”

Of these 393 comments, 140 [35.6%] identified and expressed opinions on the Halifax Transit system.

- 29% of respondents specified that they would like more reliability, and a higher frequency of service to be provided, stating that there should be “more reliable public transit between campuses,” “more reliable bus service and more frequent busses at peak times,” and have the “frequency and number of buses improved;”
- 25% of respondents stated that they would like to see improved, less complicated, and more convenient routes, where respondents stated they want “improved bus services from areas of the peninsula,” and “better metro bus service in areas outside [the] peninsula;”
- 17% of respondents specified more direct routes to and from Dalhousie University such as “service from Mumford terminal (or Exhibition Park, somewhere outside the rotary!) directly to Dalhousie;”
- 17% of respondents indicated that they would like more accessible and direct services to and from outside of Halifax such as “more direct bus routes like

the 42 (one from Bedford would be fantastic),” and “more direct buses to the school from areas such as Spryfield;”

- 6% of respondents indicated that they would like for an increase in later evening and off-peak hours services to and from the university such as an “increased frequency of buses to campus that run later than 6pm,” and “suggest express busses such as the 17, 42, 33, 34 to run later;”
- 4% of respondents identify Dalhousie, as being a hotspot for transit commuters, and that there should be “more significant bus terminal” where “Dalhousie should be a hub of transport not just an end point;”
- 4% of respondents indicated that they would like the express bus routes to be expanded to where there is “express bus services with direct transportation from terminals to campuses,” or “hourly Metro Transit express bus between the Dal terminal and other terminals (Bridge, Lacewood, [...]);”
- 4% of respondents indicated that they would like to see a bus service provided for Truro Agricultural Campus;
- 4% of respondents indicated that they would like better or improved waiting areas for transit, a specifically identified location being “outside the S.U.B;”
- 3% of respondents advocated for bus shelters to be built at all stops, specifying an “improved shelter for students catching bus of LeMarchant;”
- 3% of respondents specified that they want more information about the bus services provided, regarding transit routes and times.

Of these 393 comments, 118 [30%] Identified and expressed interests regarding bus and transit pass services at Dalhousie.

- 58% identified a desire for summer bus passes to be provided to students;
- 21% of respondents commented on employee (faculty and staff) bus passes, and requested “extended” or “permanent employee bus pass;”
- 13% of comments suggested that the bus passes should be cheaper, subsidized, and or free for faculty and staff, and students passes to be free;
- 11% requested the ability to opt in/out of the bus pass services provided at Dalhousie, suggesting “buss pass for students and staff, year round with month to month option;”
- 8% recommended year-round transit pass options for faculty, staff, and students;
- 6% of respondents made basic comments such as “bus pass;”
- 1% requested bus passes for graduate students.

Lastly, of these 393 comments, 9 [2%] expressed interest regarding train/rail services, advocating for “light rail access to areas outside of HRM,” the inclusion of a “monorail,” and that there should be “no cars allowed on campus, rail system only;” 2 [0.5%] identified and expressed opinions on ferry services, suggesting there be a “deal with the ferry schedule times,” a “boat shuttle across the arm,” and “shuttles from the ferry terminal.”

Additionally, the remaining 339 [46%] of the total 732 comments identify the need for improvements for Dalhousie's cycling population such as bicycle-sharing, car-share supports, enhanced parking infrastructure, pedestrian walkways, a motor-vehicle free University Avenue, and have the comment 'n/a.' Of these remaining 339 comments:

- 67% of the comments referenced bikes and bike-related initiatives;
- 33% with respect to cars, and car-share initiatives;
- 60% of the comments referenced parking initiatives and infrastructure.

### 4.3 – 2014 Survey

Question 6: *What sustainability projects would you like to see progress on?*

Among the 821 comments received by Survey participants, a total of 21 (2.6%) were transit and commuting related.

- 28% of respondents identified the need for a shuttle or bus service that would run between campus locations;
- 24% recommended the continuation of the employee (faculty and staff) bus pass initiative;
- 23% advocated for more direct and accessible routes:
  - 9% indicated areas outside of the peninsula;
  - 14% indicated for locations within the peninsula itself;
- 19% of comments requested improved services to be provided;
- 19% of suggested more frequent and reliable services;

- 5% of respondents advocated for more information or “more of an effort to encourage people to use more sustainable forms of transit, like public transit;”
- 5% suggested a bus or shuttle service between the Halifax and Truro campuses;
- 4% of respondents recommended “transit priority measures (faster transit service);”
- 4% inquired upon others thoughts regarding a potential “ferry or boat service for people who would like to walk to Studley campus.” from a location such as “Purcell’s Cove Road;”
- 9% of respondents mentioned “bus pass,” or “Epass.”

Additionally, the remaining 800 [97.4%] of the total 821 comments identified various sustainability improvements and provide suggestions regarding Dalhousie’s cycling population such as bicycle-sharing, car-share supports, enhanced parking infrastructure, pedestrian walkways, a motor-vehicle free University Avenue, and have the comment ‘n/a.’ Of these remaining 800 comments:

- 9.4% of the comments referenced bikes and bike-related initiatives;
- 4.4% regarded cars, and car-share initiatives;
- 3.9% of the comments referenced parking initiatives and infrastructure.

## 4.4 – 2015 Survey

Question 7: *What sustainability projects would you like to see progress on?*

Among the 725 comments received by Survey participants, a total of 45 (6%) were transit and commuting related.

- 31% of respondents advocated for more “support,” and “encouragement” for taking public transit;
- 29% of suggested more frequent and reliable services;
- 24% of comments requested improved transit options and services to be provided;
- 20% advocated for more direct and accessible routes:
  - 11% indicated areas outside of the peninsula;
  - 9% indicated for locations within the peninsula itself;
- 9% of respondents mentioned “discounted,” or “subsidized” bus passes;
- 9% recommended the employee (faculty and staff) bus pass, suggesting that it is “offered to all family members of employees (spouse and dependents) for it to be truly effective to motivate and actually allow people to travel by bus instead;”
- 5% suggested a bus or shuttle service between the Halifax and Truro campuses;
- 4% of respondents identified the need for a shuttle or bus service that would run between parking and campus locations;
- 4% of respondents recommended “transit priority measures (faster transit service);”
- 4% of respondents suggested light-rail commuter system is implemented.



Additionally, the remaining 680 [94%] of the total 725 comments identify various improvements and provide suggestions for Dalhousie’s cycling population such as bicycle-sharing, car-share supports, enhanced parking infrastructure, pedestrian walkways, a motor-vehicle free University Avenue, and have the comment ‘n/a.’ Of these remaining 297 comments:

- 6% of the comments referenced bikes and bike-related initiatives,
  - 69% specifically referenced bike lanes/routes (31/45 comments);
- 5% with respect to cars, and car-share initiatives;
- 4% of the comments referenced parking initiatives and infrastructure.

Table 1. Summary of Main Barriers and Opportunities (Identified in the Literature Review and Survey Results).

	Literature Review	Survey Results
Barriers		
	<ul style="list-style-type: none"> <li>• Accessibility to transit stops (based on location and distance)</li> <li>• Access to desired routes, including transferability to desired routes;</li> <li>• Increased reliability of services provided;</li> <li>• Route frequency and associated wait-time;</li> <li>• Availability of shelters providing weather protection;</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of access to transit information;</li> <li>• Transit routes are too complicated, or inconvenient;</li> <li>• Not enough transit/shuttle access directly to and from Dalhousie campuses (from within the outskirts and outside the peninsula);</li> <li>• Express bus services are limited;</li> <li>• Transit service is unreliable;</li> <li>• Transit services are limited at</li> </ul>

	<ul style="list-style-type: none"> <li>• Perceptions of risk and personal safety while commuting via transit options.</li> </ul>	<p>later evening/off-peak hours;</p> <ul style="list-style-type: none"> <li>• Weather deterrents;</li> <li>• No bus/shuttle service provided for the Truro Agricultural Campus;</li> <li>• No off-site parking options;</li> </ul> <p><i>(Specific to 2012 &amp; 2013 Results)</i></p> <ul style="list-style-type: none"> <li>• No employee (faculty and staff) transit pass;</li> <li>• Graduate student transit pass options;</li> <li>• No availability of transit passes for summer students;</li> <li>• No year-round transit pass option.</li> </ul>
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Opportunities		
	<ul style="list-style-type: none"> <li>• Enhancing the transit system is to improve roadways;</li> <li>• Improvements to the service provided;</li> <li>• Increased amount of transportation; improvement options;</li> <li>• Increased amount of accessible land-use patterns to reduce travel distances;</li> <li>• Implementing sufficient seating areas based on the location and anticipated amount of transit commuters;</li> </ul>	<ul style="list-style-type: none"> <li>• Increased distribution of information regarding transit options on campus;</li> <li>• Increased promotion of transit commuting options to Dalhousie community;</li> <li>• Expand routes to outside the peninsula (directly to and from Dalhousie campuses);</li> <li>• Increase transit service frequency and reliability;</li> <li>• Expand service hours of services to and from the Universities and their campuses (earlier mornings/late evenings);</li> </ul>

	<ul style="list-style-type: none"> <li>• Providing appropriate shelter to house and protect the commuting population from the elements;</li> <li>• Provide accurate details and information regarding transit frequencies;</li> <li>• Better access for the mobility impaired;</li> <li>• Increased capacity and frequency of buses to overcome wait times and crowding;</li> <li>• Provide adequate shelter at all service locations;</li> <li>• Increased and better promotion of the transit systems to the populace through various means of (social) media and advertisements;</li> <li>• Higher number of transit accessibility and route diversity to disabled individuals.</li> </ul>	<ul style="list-style-type: none"> <li>• Construct weather shelters/barriers at all stops on and around Dalhousie campus locations;</li> <li>• Improve the condition of the transit waiting areas;</li> <li>• Expand the options for express bus routes;</li> <li>• Provide transit/shuttle service for the Truro Agricultural Campus;</li> <li>• Off-site parking with shuttle service to and from campus locations;</li> <li>• University specific bus/shuttle for inter-campus students, faculty, and staff;</li> <li>• University service to and from the Airport and campus locations;</li> <li>• University service between Truro Agricultural Campus and Dalhousie main campus locations;</li> <li>• Expand ferry routes and increase frequency of service;</li> <li>• Commuter rail system (providing access from around N.S.);</li> <li>• Free/cheaper/subsidized transit passes for students, faculty, and staff;</li> </ul>
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## 5.0 – Discussion

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It must firstly be noted that the Office of Sustainability and Dalhousie University has conducted and completed a shuttle study report. Halifax Transit has offered new routes such as the Number 90, which travels inbound from the Larry Uteck Roundabout to Halifax via the Bedford Hwy, Windsor St. and University Ave. to the ferry terminal located on Lower Water St. As well, there has been an employee transit initiative where faculty and staff have been provided passes (2013/14), and an expansion of the University student pass that extends to summer and graduate students at Dalhousie University.

There is some disparity between the four years of survey results, specifically referring to the amount of participants' transit related comments, yet with a relatively similar amount of comments left per year. This is shown, as 60% (449/746) of the 2012 survey transitioned to 26% (187/732) in 2013, then 5% (43/821) in 2014, and lastly 7% (48/725) in 2015. This is due to the change in question in 2014 and 2015, which is less transportation specific.

For 2012 and 2013 where the same question was asked, there was very little variation in the main themes identified in the comments by survey participants as the main identified issue was a lack of employee and staff transit passes, followed by either a bus or shuttle service specific to Dalhousie University Campuses, or identifying that there could be improvements on the frequency and reliability of the transit services provided to

and from Dalhousie, and by extension the City of Halifax. As well, there was very little variation on sub-topics identified in the comments (ex. Dalhousie-Airport shuttle/bus service, priority transit lanes).

For 2014 and 2015, there was more variation amongst the main themes and terms, yet fewer comments, not only in total (seeing as it was an important topic), but vastly different percentage of comments alluding to transit passes in general (as previously noted with the implementation of the employee and summer/graduate student transit pass initiative taking place).

The main themes identified in the survey results are consistent with the same principal themes found in the literature review: accessibility (primarily regarding routes that do not come in proximity to Dalhousie campus or desired locations), travel time and distance (in regards to expanding routes to further destinations on and off the peninsula), satisfaction (identified with the desire for more reliable and frequent service to be provided), weather protection (distinguishing the need for more shelters at transit stops on and by Dalhousie campuses), however 'safety' was not addressed in any of the transit related comments throughout all four years. As well, the only perceived links/connections noticed in each year's analysis was that respondents would primarily discuss similar subject matter (ex. shuttle/bus service). Over the four years of survey results, the only identified patterns to have emerged was how consistently similar the way that respondents had framed their responses: being connected with like subjects, as well, being primarily unilateral in regards to what form of transit they are commenting on

(comments on shuttle services primarily stayed with ‘shuttle’ as their focus for their comments).

## 6.0 – Conclusion

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This study examined the comments made by Dalhousie survey participants to gather feedback on commuting issues, and to better understand the barriers and opportunities of Dalhousie commuters as it relates to using transit and other transportation modes. This research examined and identified themes present in qualitative comments made by Dalhousie staff, faculty, and students who participated in the Annual Sustainability and Commuter Surveys; and in turn attempted to fill the information gap regarding these barriers and opportunities.

Through the examination of the survey participants comments the information gap regarding these barriers and opportunities, as well aid in understanding specific themes associated with commuters, their experiences and attitudes towards commuting has been reduced.

As stated throughout this study, the main themes identified in the survey results were consistent with the principal themes found in the literature review: *accessibility* (primarily regarding routes that do not come in proximity to Dalhousie campus or desired locations), *travel time* and *distance* (in regards to expanding routes to further destinations

on and off the peninsula), *satisfaction* (identified with the desire for more reliable and frequent service to be provided), *weather protection* (distinguishing the need for more shelters at transit stops on and by Dalhousie campuses), however *safety* was not addressed in any of the transit related comments throughout all four years.

Over the course of the years 2012-2015, various transit-related initiatives have taken place and have been implemented. Dalhousie with Halifax now offer an employee transit initiative (EPASS) where faculty and staff have been provided transit passes (2013/14). In addition the University student pass has been extended to summer and graduate students at Dalhousie University. This study contributes in filling the information gap regarding the barriers and opportunities associated with transit commuting at Dalhousie University.

## **6.1 – Recommendations**

It is recommended that the Office of Sustainability continue to further engage its community regarding their transportation needs, as well potentially look into areas of improvement such as: making the Dalhousie Studley Campus bus stop locations (LeMarchant St. and University Ave.) a Terminal location; increase the promotion of Tiger Patrol services; communicate and work with the City of Halifax to better and expand the services to and from the various Dalhousie campus locations, including route and off-peak hours expansion; interest in off-site parking options with a shuttle or bus service to campus locations; and to continue to engage with the Dalhousie community to increase awareness and information regarding transit options, times, etc. on all campuses.

With these recommendations – related to the data and analysis – if implemented, they are likely to have the most favourable impact on transit services and users. This study and analysis of this information has been submitted to the Office of Sustainability and will be provided to other entities for future transportation planning.



## 7.0 – References

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## 8.0 – Appendix

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### 8.1 – Ethics Application



#### **Secondary Use of Information for Research** (including biological materials)

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This form should only be used for secondary use of information and biological materials such as health records, student records, survey data, or biological material surplus to diagnostic exams or surgical procedures. If the study exclusively uses data that are publically available or made accessible through legislation or regulation, it is exempt from REB review (TCPS [Article 2.2](#)).

This form should be completed using the *Guidance for Submitting an Application for Research Ethics Review – Secondary Use of Information* document available on the Dalhousie University [Research Ethics website](#) (application instructions).

#### **SECTION 1. ADMINISTRATIVE INFORMATION** [File No: office only]

Indicate the preferred Research Ethics Board to review this research:

[ ] Health Sciences OR [X] Social Sciences and Humanities

Project Title: What do the people say? A Thematic Analysis of Dalhousie's Transit Commuter Survey Data
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1.1 Research team information			
Dalhousie researcher name	Thomas Davison		
Banner #	B00575831	Department	Arts & Social Sciences
Email (@dal)	th945321@dal.ca	Phone	902-488-3215
Study start date	September 2011	Study end date	May 2016
Co-investigator names and affiliations	N/A		
Contact person for this	Name		

submission (if not lead researcher)	Email		Phone	
<b>1.2 For student submissions:</b>				
Degree program	Environment, Sustainability, and Society.			
Supervisor name and department	Rochelle Owen, Director Office of Sustainability.			
Supervisor Email (@dal)	rochelle.owen@dal.ca	Phone	902-494-7448	
Department/unit ethics review (if applicable). <b>Undergraduate minimal risk research only.</b>				
Attestation: <input checked="" type="checkbox"/> I am responsible for the unit-level research ethics review of this project and it has been approved. Authorizing name: Steven Mannell – College of Sustainability Date: 8 March 2016				

<b>1.3 Other reviews</b>		
Specify the custodian(s) of any records/database/materials to be accessed	Rochelle Owen, Director Office of Sustainability.	
Has your proposed research been submitted for approval to the custodian(s) of records/data/materials? <input type="checkbox"/> Yes Date or anticipated date: <input checked="" type="checkbox"/> No Please explain: Custodian of data is the project supervisor.		
Other ethics review (if any) for this secondary use research	Where?	N/A
	Status?	N/A
Funding (if any)	Agency	N/A
	Award Number	N/A
Peer review (if any)		

<b>1.4 Attestation(s).</b> The appropriate boxes <i>must</i> be checked for the submission to be accepted by the REB)
<input checked="" type="checkbox"/> I am the <b>lead researcher</b> . I agree to conduct this research following the principles of the Tri-Council Policy Statement <i>Ethical Conduct for Research Involving Humans</i> (TCPS) and consistent with the University <i>Policy on the Ethical Conduct of Research Involving Humans</i> . I have completed the TCPS Course on Research Ethics (CORE) online tutorial. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

For Supervisors (of student / learner research projects):

I am the **supervisor** for this research named in section 1.2. I have reviewed this submission, including the scholarly merit of the research, and believe it is sound and appropriate. I take responsibility for ensuring this research is conducted following the principles of the TCPS and University Policy.

I have completed the TCPS Course on Research Ethics (CORE) online tutorial.

Yes     No

## SECTION 2. PROJECT DESCRIPTION

### 2.1 Lay summary

2.1.1 In lay language, describe the rationale, purpose, and study objectives, hypotheses or questions. Include the background information or literature to contextualize your study. What new public or scientific benefit is anticipated? [500 words]

Approximately 22% of Dalhousie Halifax campus commuters utilize the Halifax transit system as their primary mode of transport to and from campus. The Office of Sustainability's Annual Sustainability and Transportation Survey is organized each year where standardized quantitative and qualitative transportation questions are asked. Data from the survey is provided to DalTRAC (the Dalhousie Transportation Collaboratory) students and faculty to analyze and summarize the quantitative transportation data in a yearly Commuter Report. The Office of Sustainability would like to use the qualitative information provided by survey participants from the four surveys (2012-2015) to help shape the University Transportation Demand Management Action Plan. This research will examine the identified themes present in qualitative comments made by Dalhousie staff, faculty, and students who participated in the Annual Sustainability and Commuter Surveys. This analysis will aid in understanding specific themes associated with (Dalhousie survey participants) commuters, their experiences and attitudes towards transit commuting. The analysis of this information will be provided to the Office of Sustainability and other entities for future transportation planning. The main research question for this project is: what are the themes – in regards to commuter barriers and opportunities – present in the feedback received from the Annual Sustainability and Transportation Survey? The sub-research questions are: are there specific links/connections (direct and/or indirect) between identified themes?; does a theme affect or influence another? In what way? How does this compare to the provided literature?; and are any patterns present from year to year?

The literature review has identified various barriers associated with transit commuting. These are determined to be accessibility to transit stops (based on location and distance) as well as desired routes/transferability to desired routes; and reliability of services and associated wait-time based on route frequency. The literature also provides potential opportunities in regards to transit commuting. These have been identified as adequate shelter from the elements for those using transit; advertising and providing information regarding scheduling and frequencies of routes; and a higher number of accessible transit and route diversity to disabled individuals.

The benefits from this project is to help inform and shape the Dalhousie University Transportation Demand Management Action Plan, as well as provide information to the relevant entities (example: Halifax Transit) for furthering their transportation plans and strategies, based on the identified concerns, barriers, opportunities and general comments.

2.1.2 Describe how the purpose of the current research builds on and/or differs from the purpose for which the information (data/records/biological materials) was originally gathered. The research will focus solely on the comments provided by the participants of the Office of Sustainability's Annual Sustainability and Transportation Survey whereas DalTRAC utilizes the rest of the survey into a Commuter Report breaking down the provided information by identifying age, gender, student, faculty, staff member, the different transportation modes (primary and secondary, tertiary) used by the different campus populace, inter-campus transportation.

**2.2 Information source / identification**

2.2.1 Describe the population or sample included in the original data (or biological material) collection. Describe how the data (or materials) were initially gathered, when, and by whom. If information was collected for research, how were participants recruited?

The population sample is of the students, faculty, and staff members of Dalhousie University from the years 2012-2015. The data was collected via online survey at the beginning of each school year (Fall term) by the Office of Sustainability. Participants were recruited through a variety of methods including direct email to employees, email promotion to all student societies and academic programs, social media (blog, twitter and Facebook), intercept stations in the Student Union Building, posters, and LCD screens. A chance to win one of five prizes was promoted as part of the strategy.

2.2.2 For the current analysis, describe and justify the sample or sub-sample being used (inclusion/exclusion criteria). Explain the process of identifying, selecting and obtaining records (or materials).

Relevant qualitative questions (one to two questions per year) will be analyzed from four years of survey data (2012-2015). The Supervisor (Director of the Office of Sustainability) will provide access to the question data in PDF form. Data is not correlated with survey respondent information, thus responses are anonymous.

The relevant questions are "What transportation improvements would you like to see at Dalhousie within the next five years?" (Question #47 from 2012 Survey, and Question 46 from 2013 Survey), "What sustainability projects would you like to see progress on?" (Question 6 from 2014 Survey, and Question 7 from 2015 Survey).

2.2.3 List data (or biological materials) sources and custodians and describe permissions secured to access the data or materials (attach permission letters).

[X] Not applicable

#### 2.2.4 Inclusion of Aboriginal peoples

Will the research questions/hypotheses concern Aboriginal peoples?  Yes  No

Will analyses use Aboriginal community membership as a variable?  Yes  No

Will interpretation of results refer to Aboriginal people, language, history or culture?

Yes  No

If yes to any of these, discuss any plans for community engagement, as indicated in TCPS Articles 9.20-9.22. Append any existing research agreements concerning the data or samples. State whether ethical approval has been or will be sought from any Aboriginal ethics review group. Describe how results will be returned to the community.

### 2.3 Collection & analysis

2.3.1 Briefly discuss the data to be captured from records or biological materials, the data fields to be used, or the variables to be used for the proposed analyses. Justify the use of these in relation to the study purposes. Attach any data capture sheet for record review, or list of variables to be used.

The data to be captured from the surveys will be key terms, phrases, and themes regarding experiences from transit commuting found in participants comments to qualitative questions in the annual surveys. The data field will be Microsoft Excel.

2.3.2 Describe the data analysis plan.

This research will use an open coding structure where codes are established as the data is analyzed as opposed to pre-determining an initial coding structure using the literature. Given the scope of this project, inductive line-by-line coding will be utilized. Each line can have more than one code. Codes will be documented and analyzed in Excel to help sort and create themes.

2.3.3 Describe the roles of research team members (including students and supervisors) in relation to the overall study, and any special qualifications relevant to the proposed study.

The role of the researcher in this study is to review, interpret and analyze the data, extract themes associated with the specific scope of barriers and opportunities in regards to commuting and to provide a summary. The Role of the Supervisor is to provide review and feedback regarding works submitted, and guidance regarding moving forward during the duration of the project.



## 2.4 Informed consent

2.4.1 How was informed consent originally obtained from participants? Indicate the information uses for which participants originally gave consent. To what extent does the original consent address the purposes of the current study? Attach original consent form if available.

Not applicable, uses records or biological materials collected for non-research purposes (ensure 2.4.2 is complete).

Consent was originally obtained prior to the participants starting the annual Sustainability and Transportation Survey. The participants consented to the information found in the entirety of the survey. A screenshot of the 2015 Survey consent form (provided by Rochelle Owen) is appended in the Appendices.

2.4.2 Will consent be obtained from individuals prior to using data (or biological materials)?

Not applicable, uses pre-existing research dataset (ensure 2.4.1 is complete).

Yes. Explain informed consent process in detail and append consent form(s).

No. Explain why this would be impossible or impracticable, and why it is unlikely to adversely affect the welfare of individuals to whom the information relates (referring to each of the criteria described in TCPS [3.7A](#), [5.5A](#) and/or [12.3](#)).

2.4.3 Research using health information may be subject to Nova Scotia's *Personal Health Information Act*. In accordance with this Act, please explain why the research cannot reasonably be accomplished without access to personal health information.

Not applicable, the research does not use health information.

## 2.5 Privacy & confidentiality

2.5.1 Indicate the level of identifiability of data or biological materials. (It is best practice to collect data at the lowest level of identifiability possible to meet study objectives.)

Anonymous/anonymized (data/materials cannot be linked to individuals).

De-identified (a key-code linking data/materials with individuals exists but is not available to the researcher).

**If either of the above, skip to section 2.6**

Identifiable (information directly or indirectly identifies individuals):

Specify what direct (name, contact information, student number, social insurance number, health number etc.) or indirect (date of birth, sex, postal code, etc.) identifiers are being collected. Justify why each item is essential to conduct the research.

2.5.2 Will individual information be combined with information from other sources to form a composite record (data linkage)? Will the research create individually identifying information by combining information from two or more databases without the consent of the individuals who are the subjects of the information (data matching)?

No

Yes. Describe the other information and how linkage will be conducted, and/or why data matching is required. Describe reasonably foreseeable risks to privacy and how these will be mitigated.

2.5.3 Provide a detailed description of the steps that will be taken to protect the privacy and confidentiality of individuals whose data or materials are being analyzed (throughout the process of data collection, extraction, transfer, linkage, analysis and dissemination). Indicate the steps that will be taken to protect the security of directly or indirectly identifiable information, especially if it is shared with others, including access to data, physical security, and technical (electronic) security.

The researcher will not be provided with survey participant information. Just the comments.

2.5.4 Will data that may reasonably be expected to identify an individual (alone or in combination with other available information) be accessible outside Canada? (This includes sharing information with team members, collecting data outside Canada, use of software, etc.)

No

Yes. If yes, describe how you comply with the University Policy for the Protection of Personal Information from Access Outside Canada.

2.5.5 Specify who will have access to data (or biological materials) and the level of identifiability of the information to which they will have access. Describe why this is necessary.

2.5.6 Specify how long study data or materials, including personal information, will be retained and how they will be secured. Discuss whether data will be destroyed or irreversibly anonymized, and what procedures will be used for this. Will an electronic database be created for purposes of this research? Discuss plans for retention and use of any data or materials stored beyond the study currently being reviewed.

## 2.6 Dissemination of results / individual or collective risk

2.6.1 How will study results be disseminated?

Only aggregate data will be presented

Individual de-identified data will be presented

Other. If “other”, briefly describe dissemination plans with regard to identifiability of data.

2.6.2 Discuss any potential for risk to individuals, or to communities/collectives (e.g. geographic communities, schools, professions, ethnic groups, etc.) and how this will be mitigated.

No data will be provided to link individual comments to the data. The responses are indicative of the Dalhousie community. Objective treatment of the data will be used to create high level themes.

With the delineation of the data from individuals and conclusions risks are mitigated.

## 2.7 Conflict of interest

Describe whether any conflict of interest exists for any member of the research team in relation to the individuals whose data or biological materials are being used (e.g. teaching or clinical relationship, program provision), and/or to study sponsors, and how this will be handled.

Not applicable

## SECTION 3. APPENDICES

**Appendices Checklist.** Append all relevant material to this application. This may include:

- Original and/or new consent documents
- Permission letters, support letters
- Research agreements
- Data capture sheet/list of data fields, variables, survey items

### **Consent Form (if applicable)**

Sample consent forms are provided on the [Research Ethics website](#) and may be used in conjunction with the information in the *Guidance* document to help you develop your consent form.



https://surveys.dal.ca/opinio/s?s=30275&tr=4731852&dt=desktop



Opinio Survey Service

## Annual Campus Sustainability Survey 2015

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**Participation:** This survey will take approximately 10-15 minutes to complete. We are seeking responses from all students, faculty, and staff at Dalhousie University (Halifax and Agricultural campuses). All participants will have the opportunity to be entered into a draw for one of five \$50 gift cards to: David's Tea, Sobey's, Atlantic Superstore, Uncommon Grounds, and Just Us! Café.

**Confidentiality:** Participation in this survey is entirely voluntary and can be discontinued at any time prior to submitting the survey. All responses will be kept anonymous and the confidentiality of each participant will be protected. If you provide your name and contact information for the prize draw, they will not be linked with your survey responses.

**Questions:** If you have any questions, comments, or concerns about your participation in this research project, please contact Emilie Williamson Streich, at [em394589@dal.ca](mailto:em394589@dal.ca), or our faculty supervisor, Scott Comber, at [Scott.Comber@dal.ca](mailto:Scott.Comber@dal.ca).

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