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Executive Summary

TBA

Humber College Transportation Demand Management Plan

Transportation Demand Management - Vision and Mission

Humber College's Transportation Demand Management (TDM) endeavours to provide programs, services, and infrastructure that support the growth of sustainable transportation at Humber College. This plan outlines strategies that will provide our students, staff, and faculty with greater access to sustainable transportation alternatives. Ultimately, the TDM will support Humber College's transformation into a more socially, environmentally, and economically sustainable institution.

The TDM plan aims to reduce our campus footprint and achieve the goals we have outlined in Humber College's *2014-2019 and 2019-2024 Sustainability Plans.* The plan aims to reduce the number single occupant vehicles travelling to and from campus. Achieving this objective will reduce the need for more transportation infrastructure in the future, such as parking and road space. The goals will increase the percentage of people using sustainable modes of transportation for travel to and from campus. The TDM plan will be in effect from 2018 to 2022; following this period, a new TDM plan will be developed.

There are numerous benefits to encouraging staff, students, and faculty at Humber College to make use of sustainable modes of transportation, including:

- Reducing the percentage of commuters using single occupant vehicles contributes to the achievement of Humber College's broader institutional sustainability goals, including sustainable transportation, and will reduce Humber College's greenhouse gas emissions.
- Providing a wider variety of sustainable transportation options facilitates allow for an increase in equitable access to Humber facilities, as the costs and barriers to using sustainable modes of transportation, such as public transportation and cycling, are generally lower than that of single-occupant vehicles.
- Promoting sustainable modes of transportation will educate students and staff about greenhouse gas emissions, outdoor air quality, health, wellness, and sustainable design.
- Adopting the strategies outlined in this plan creates opportunities to re-envision the Humber College campus as a living lab, by monitoring and gauging the impact of new and innovative TDM solutions and acting as a model for future TDM initiatives and other institutions.

The Transportation Demand Management Plan is based on Humber College's 2014-2019 and 2019-2024 Sustainability Plans, a guiding document that outlines Humber College's institutional sustainability goals and sets targets for Humber College to facilitate the reduction of greenhouse gas emissions. A priority area in the Sustainability Plan is Sustainable Transportation: targeting a decrease in single-occupant vehicle trips to both campuses, and an increase travel to campus by sustainable means, like transit,

carpooling, biking, and walking. The strategies and recommendations in this plan have been formulated to fulfill this goal.

What is Transportation Demand Management?

Transportation Demand Management is the use of programs, services and policies aimed at reducing or redistributing travel demand, in order to meet future travel needs without increasing the capacity of transportation infrastructure, such as widening a road or building more parking. It is a proactive, forward-thinking measure that is implemented in advance of future demand and makes it easier to choose sustainable transportation options. A Transportation Demand Management Plan can be applied at a small scale, such as a workplace, a travel corridor like a major roadway, or in a larger area, such as a business park or neighbourhood.

In Humber College's context, TDM will discourage single-occupant vehicle trips and promote sustainable transportation: walking, public transportation, cycling, and carpooling, as well as trip elimination, such as telecommuting for staff, and online or distance education programs for students as mentioned in the Ontario Climate Change Action Plan 2017. The Transportation Demand Management plan identifies strategies designed to increase the proportion of students and staff choosing these more sustainable modes of transportation.

Humber College utilizes the Association for the Advancement of Sustainability in Higher Education's (AASHE) Sustainability Tracking and Rating System (STARS) as a framework to inform its sustainability programs. Developing and investing in TDM related programing is recommended by the AASHE STARS framework.

Humber College groups directly involved in the development of this plan include the Office of Sustainability, Capital Development & Facilities Management, First Year Experience, Parking Services, Public Safety, INGITE (Humber College's student federation) and Sustainability Steering Committee.

Transportation Demand Management Purpose and Timeline

The TDM plan outlines specific strategies designed to manage the future demands on Humber College and municipal infrastructure, created as a result of expected population growth at Humber College. This plan is applicable to the Lakeshore and North campuses, and is in effect for 5 years, from 2018 to 2022. During this time, enrollment at Humber College will grow by approximately 4,000 new students at both campuses.

The following table outlines projected student enrollment until 2022:

Year	Projected Enrollment
2017-18	28,592
2018-19	29,180
2019-20	29,910
2020-21	30,658
2021-22	31,424

With a growing student population, getting students and staff to campus is expected to become increasingly challenging. By supporting sustainable transportation with the strategies outlined in this report, Humber can make use of its existing transportation system. Infrastructure can be more efficient and reduce the amount of transportation infrastructure required to be constructed in the future.

Transportation Demand Management Plan Goals

The Transportation Demand Management Plan aims to achieve the following goals:

Reduce Single Occupant Vehicle Use	Reducing single occupant vehicle use is the primary purpose of the TDM plan. In order to achieve the goals in the *2014-2019 and 2019-2024 Sustainability Plans,* Humber College must take measures to encourage the increased use of sustainable modes of transportation.
Decrease Humber College's Campus Footprint	Commuting is the fastest growing source of emissions at Humber College. Implementing a robust carpool matching tool and revitalize the carpool program is a supporting action in the *2019-2024 Sustainability Plan* and is necessary to reduce commuting emissions and Humber College's environmental impact. All TDM strategies have been formulated to achieve this goal.
Create a Pedestrian Friendly Campus	The Transportation Demand Management plan aims to improve pedestrian infrastructure and access to help create a more pedestrian-friendly campus and increase active transportation on and around campus.
Promote Bicycle Use	Bicycle use at Humber College is currently low. The TDM plan aims to promote bicycle use namely by increasing investment in bicycle infrastructure and programming.
Increased Transit Use	Transit use at Humber College is high. However, embedding information about sustainable transportation options into all staff, faculty and student information is a supporting action in the *2019-2024 Sustainability Plan* and increasing the share of students and staff using transit is important to reduce single occupant vehicle use, as Humber College's population continuously rises.
Integrate Sustainability Throughout Campus	Sustainable transportation is a component of Humber College's broader sustainability goals. Increasing the use of sustainable transportation will help drive the achievement of sustainability goals in areas outside of transportation by improving general sustainability knowledge and awareness among the Humber community.
Encourage a Healthy and Active Lifestyle	Increasing the use of sustainable transportation at Humber College also promotes physical activity and an active and healthy lifestyle. Students and staff who choose active transportation methods as opposed to driving benefit from decreased stress levels and increased energy levels among many other benefits.
Planning for Future Growth	Humber College's population is projected to increase to 31,424 by 2022. TDM planning is necessary to

	accommodate this future growth without a substantial increase in single occupant vehicles travelling to Humber College.
Improve Connectivity Between Campuses	As Humber's community grows, so does the need to improve connectivity between campuses, as means to reduce single occupant vehicle travel between both campuses and improve the efficiency of travel by public transportation.
Cost Effectiveness	By implementing the strategies contained in the TDM plan, Humber College can leverage efficiencies within it, in order to mitigate the extensive capital investment needed to accommodate a large increase in single occupant vehicles as the student population grows.

To achieve these goals, the TDM plan employs a suite of proactive strategies. These strategies and their specific implementation plans are outlined in greater detail in the following sections.

Background

Humber College was a member of Smart Commute, an agency of Metrolinx that promotes sustainable transportation, and assists employers in implementing sustainable transportation initiatives. Smart Commute is the provider of Humber College's travel and commuter shed surveys.

The quantitative data in this report was collected in 2013 and 2016 in the Metrolinx *Smart Commute Survey* of staff and students at the North and Lakeshore Campuses. At the North Campus, 491 out of 4,618 faculty/staff responded to the Smart Commute Survey with a response rate of 11%, and 2,247 out of 23,293 students responded with a response rate of 10%. At the Lakeshore Campus, 220 faculty/staff responded out of 1,278 with a response rate of 17%, and 1,547 students responded out of 9,543 with a response rate of 16%. As this survey did not employ a perfectly representative sample, the information cited from the survey is not generalizable to all of Humber College's faculty, staff, and students. However, this is currently the most comprehensive data of this kind available for Humber College. The results of the Smart Commute survey are separated by campus, a weighted average of the data from both campuses was used in cases where campus-wide data was required.

Current Travel Habits and Origins

The 2016 Smart Commute survey shows that:

- 56% of people travelling to the North campus live more than 10 kilometers from campus
- 50.2% of people travelling to the Lakeshore campus live more than 10 kilometers from campus.
- 44% of people travelling to the North Campus, and 49.8% to the Lakeshore Campus, live within 10 kilometers of campus.
    - This group makes up approximately 45% of the total Humber College population across both campuses.
    - Under 10 kilometers is close enough for walking, cycling, and taking transit to campus instead of driving to be feasible. There is extensive potential for increased use of sustainable transportation for travel to and from Humber College.

Current Regional Transportation Plans/Policy Review

Humber College's North and Lakeshore campuses are both affected by the City of Toronto's transportation plans, as well as the plans of surrounding jurisdictions and other agencies. In general, these plans do not explicitly address or directly affect Humber College. However, they will likely have a positive impact on the availability of sustainable transportation in general, and it is expected that municipal transportation plans will facilitate the choice of sustainable transportation alternatives among Humber students and staff.

City of Toronto

There is alignment between Humber College's TDM and the City of Toronto's transportation planning goals, as expressed in the *Official Plan*, and other transportation planning documents, such as the *Cycling Network 10 Year Plan*. As with Humber College, the City of Toronto aims to reduce automobile dependency and the use of single occupant vehicles by supporting alternative sustainable modes of transportation.

- Many of the goals of the *Official Plan* are consistent with those of Humber College. The *Official Plan* incorporates TDM methodology into the municipal transportation planning process, and it encourages the use of TDM programming by Toronto employers as a way of reducing future demands on the transportation system.
- These plans will have a positive impact on the availability of sustainable transportation in general and will make it easier to for Humber students and staff to choose sustainable transportation options.
- The Official Plan supports social, economic, and environmental sustainability, and a shift towards a more sustainable transportation system is an explicit goal of the Official Plan.
- It specifically targets improved access to public transportation and active transportation and seeks to provide improved access to more transportation options.
- The City of Toronto's Cycling Network 10 Year Plan includes a proposed uninterrupted dedicated bicycle route from the North Campus to Lake Ontario along the Humber River, and major corridor studies with the potential to lead to new bicycle infrastructure directly serving the Lakeshore campus in the future.

Peel and York Regions

These goals are also echoed in the transportation plans of Peel and York regions, which neighbour Humber College. This includes the Peel Region *Long Range Transportation Plan,* and the York Region *Transportation Master Plan*. As 41% of students and 33% of staff travel from Peel and York Region, transportation plans from these regions will affect Humber College, and it is important to take them into account in the Transportation Demand Management Plan.

- Sustainability is an integral component of both the Peel Region *Long Range Transportation Plan* and the York Region *Transportation Master Plan*.
- These plans also both focus on reducing single-occupant vehicle use in their respective regions and encouraging the use of sustainable modes of transportation such as public transportation, walking, and cycling as an alternative to driving.

Metrolinx

Metrolinx, the regional transportation authority for the Greater Toronto and Hamilton Area, identifies Humber College as a "Destination", in its long-term regional transportation plan, *The Big Move*. A Destination is a "unique place […] that has significant drawing power", and that is an important trip generator for the regional transportation system. As of this writing, the component of this plan that most affects Humber College is the Finch West Light Rail Transit line. This line, being planned by Metrolinx, the City of Toronto, and the Toronto Transit Commission, is expected to be completed by 2023. Humber College's North Campus will be the Western Terminus of this line, which will run along Finch Avenue and link the North Campus to Toronto's subway system. It is expected that this line will lead to a dramatic change in the transportation patterns at the North Campus, by increasing the number of public transit users and potentially impacting the number of single occupant vehicles on campus.

The Toronto Transit Commission is also in the process of implementing the Presto fare card system. While the timeline for this process has not yet been fully established, a Presto card will soon be required to access all transit services serving Humber College. This brings an opportunity for Humber College to sell Presto cards and offer card reloading services in order to encourage the use of public transportation. There are plans to move Humber College's discount transit pass program for staff to a Presto based system, though, as of this writing, the exact timeline and implementation plan for this change has not been determined.

Background - Active Transportation

According to the 2016 *Smart Commute Survey*, a relatively small share of students and staff use active transportation modes to travel to and from campus. At the Lakeshore campus, 14% of students walk to campus, and only 1% commute by bicycle. At the North campus, only 9% of students walk, and no students surveyed reported to commute by bicycle. Approximately 1% of staff commute by bicycle at both campuses.

The North Campus is connected to the West Humber Trail and the larger Humber River trail system, which links the campus to surrounding community, Western Toronto, and the Lake Ontario shoreline. The Lakeshore Campus is in proximity to Waterfront Trail system, linking the campus through Downtown Toronto to the east and through Peel Region the west. There are bicycle lanes and on-street cycling routes close to the Lakeshore campus, located on Lakeshore Blvd, Birmingham St and Royal York Rd. These routes link the campus to shops and services in the local communities of Long Branch and Mimico, Bloor Street, and to the Waterfront and Humber Trail systems. There are also multiple on-street bike routes near both the North and Lakeshore campuses, which are marked and signposted but not separated from traffic.

There are currently 32 bicycle parking racks at the North Campus, and 36 racks at the Lakeshore campus. In addition, there are also secure bike rooms located at the Lakeshore Campus Student Welcome and Resource Centre and at Lakeshore Building A, with a capacity of 32 and 46 bicycles respectively. Lakeshore residence students have priority when signing up to use the bike rooms, but they are available to all faculty, staff and students on campus. Bicycle repair stations are available at both campuses, located next to the parking services kiosk in front of the Learning Resource Commons at the North Campus, and north of the M Building at the Lakeshore Campus. At the North Campus parking garage, secure parking for 100 bicycles will is available.

Humber also has a variety of programming and initiatives to encourage staff and students to commute to campus by bicycle.

Background - Public Transportation

Both the Lakeshore and the North campus are well served by public transportation, and the use of public transportation is high at both campuses; 59% of students at the North Campus, and 56% of students at the Lakeshore campus commute using public transportation. This percentage is lower for staff, with 19% at the North Campus and 22% at the Lakeshore campus using public transportation.

The North Campus is served by 10 bus routes, the Toronto Transit Commission, Brampton Transit, York Region Transit, and Mississauga Transit. In 2015, a dedicated transit terminal was opened at the North Campus that relocated all bus service to campus in a single accessible location. At the Learning Resource Commons at the North Campus, there are large screens displaying static schedules for the bus routes serving campus.

The Lakeshore Campus is served solely by the Toronto Transit Commission. The campus is served by two bus routes on Kipling Avenue, and streetcar service on Lakeshore Boulevard. Express bus service between the Lakeshore campus and Kipling Subway Station was launched in 2016, as a result of engagement with the Toronto Transit Commission. Furthermore, the Lakeshore Campus is located reasonably close to Mississauga Transit and GO Transit services, with a short TTC connection. The Lakeshore Campus also supports the South Etobicoke Transit Action Committee (SETAC), a volunteer-led community group that advocates for improved transit service in the surrounding neighbourhood.

Discounted Toronto Transit Commission passes for students and staff are available at both campuses' bookstores. Humber College also coordinates annual photo days with the Toronto Transit Commission at both campuses, in order to provide TTC student discount Photo ID cards.

Background - Parking & Fleet Management

As of 2016, approximately one quarter of students at either campus commute by single occupant car. This is contrasted with staff, of whom 67% at the North Campus, and 68% at the Lakeshore Campus travel in single occupant vehicles. In 2016, compared to 2013, the percentage of faculty and staff at the Lakeshore campus are choosing sustainable modes of travel is increasing. In terms of absolute demand, staff represent the greatest opportunity to reduce single occupant vehicle trips.

Parking Lots

There are 8 permit-only parking lots, 4 visitor parking lots, and a parking services and guest parking lot at the North Campus. Some of these lots are located offsite and are linked to campus by a shuttle bus service. In total, there are 3,723 parking stalls at the North Campus, 467 of which are reserved for permit-holders only. At Lakeshore Campus, most of the parking stalls are in one lot combining visitor and permit parking, located behind the student residence totalling 657 stalls. There are also two smaller permit-only lots located throughout campus, and an underground garage with 50 parking stalls for visitors and permit holders at the Student Welcome and Resource Centre. In total, there are 769 parking stalls at the Lakeshore Campus, 99 of which are reserved for permit holders only.

In September 2018, a new parking garage, with approximately 1000 spaces, was opened at the North Campus. At the Lakeshore Campus, a new offsite 346 space parking lot at 170 Birmingham Street,

reserved for permit holders, is expected to open in the near future. As with the offsite parking at North Campus, this lot, too, will be linked to campus by a shuttle bus.

Electric Vehicles and Charging Infrastructure

There are 20 electric vehicle (EV) parking spots and charging stations available across Humber College's two campuses. All the EV chargers are Level 2 charging stations – they provide up to an 80% charge after 4 hours. As the demand for EV chargers on our campuses will likely exceed the availability of charging stations, Humber encourages drivers to share charging stations by moving their EVs to a regular parking spot after four hours of free charging. EV drivers will receive a notification after charging for 3 hours and 30 minutes prompting them to move their car. Drivers are offered spots on a first-come, first-served basis. Stations are held for a configurable amount of time while drivers move their vehicle. Charging Fees Humber will encourage drivers to move their EVs to a regular parking spot after four hours of free charging. After 4 hours, drivers will be billed $5.00 for each hour or partial hour of additional charging to encourage them to share the EV charging stations with other drivers. All individuals using the EV chargers require a parking pass (permit or day pass).

Humber College also partners with Plug'n Drive, a non-profit organization that promotes electric vehicles, for outreach programming and electric vehicle test drive events. Humber conducts outreach events in conjunction with Plug'n Drive throughout the year to promote low and zero emission vehicles.

Carpooling

The Smart Commute survey indicates that 4% of students and 3% of staff at the Lakeshore campus, and 4% of students and 8% of staff at the North Campus travel in carpools. In order to incentivize carpooling, Humber College has reserved parking for carpools that are formally registered with parking services which includes 5 parking stalls at the North Campus, and 2 parking stalls at the Lakeshore campus. An Emergency Ride Home program is also available for registered carpoolers, where they can receive up to $75 for alternate transportation in the event of an unforeseen event that causes them to miss their regular carpool. In order to use the reserved parking or claim Emergency Ride Home funds, carpool groups must be registered with Parking Services. Participation in the formal carpool parking program is very low. Presently, only 4 carpools are registered at the North campus, and there are none at the Lakeshore campus. This is much lower than the number of self-reported carpools in the Smart Commute Survey, which indicates approximately 1700 registered carpools campus wide. It is recommended that Humber College formulate new strategies to encourage carpooling and to increase the number of registered Humber carpools.

A car sharing service was launched at the North and Lakeshore campuses in January 2018 through Enterprise Car Share. Students and staff are eligible for discounted rates. The service is open to students at a minimum age of 18, who at minimum hold a G2 Ontario license or equivalent.

As of 2019 Humber has begun the process to introduce a carpool matching software application(app) to help connect the Humber College community together to find individuals to carpool with. Drivers and passengers will be able to login on to the application and either find a driver or passenger to commute with to campus. It will allow students and staff to find drivers and passengers that live within their area. Students and staff will have their own portals to increase comfort and accessibility.

The app will aid in efforts to reduce single occupant drivers that contribute to high greenhouse gas emissions. Additionally, by reducing single occupant drivers it will decrease the demand for daily parking. While encouraging drivers to register for Humber's formal carpool program, allowing for an increase in available parking permits.

Carpool Incentive Program

1.Staff and Faculty

Leaderboard – Top 2 drivers each month with the most greenhouse gases saved receive $50 gift card each. Along with a feature post on Instagram and Employee News Network Mention – this would add a non-incentive reward. As the program evolves there is potential for preferred parking spot for users.

2. Student

Passengers will pay a maximum fee of $5.50 per trip, per seat to the driver via credit card through the app. Drivers can potentially offset their gas and daily parking (depending on the trips and number of passengers). The fee includes a service charge of $0.50.

Background - Education and Outreach Programming

The Office of Sustainability engages in education and outreach programming to promote sustainable transportation, through workshops, pledges, curriculum integration, and events. Some of these include:

- Humber Earth Week
- Public Relations Sustainability Fair
- Bike to Campus Day

With the development of a carpool matching app, the Office of Sustainability will be launching an extensive plan to communicate to the Humber community the benefits of using the carpool matching app. The plan includes highlighting the application on social media, Humber's employee news network, communique, designated website page, event booths during orientation, HGTV and designated signage around campus.

Humber College engages with the Toronto Transit Commission, Brampton Transit, Mississauga Transit, and York Region Transit to advocate for improved transit services to both campuses. A recent example of successful advocacy has led to the creation of an express bus route serving the Lakeshore Campus in 2016.

Transportation Demand Management Strategies

The following strategies were selected developed in to support the vision and goals of the TDM, as well as the targets in Humber College's 2014-2019 and 2019-2024 Sustainability Plans. They are informed by engagement with other stakeholder groups, as well as peer review of TDM practices in other post-secondary institutions in Canada and the United States (see Appendix I).The strategies in this plan vary in terms of cost, ease of implementation, and effectiveness. The strategies are in various stages of implementation, and many are partially in place or based on existing programming.

Campus Footprint

1. Increase combined percentage of students and staff using sustainable transportation modes from 66% to 80% by 2022.

Overview

- This strategy is overarching and dependent on the other strategies.
- Sustainable travel modes for the purpose of this report are defined as walking, cycling, using public transportation, electric vehicles, and carpooling.
- 71% of students use a sustainable transportation option at Humber and 42.33% of staff identify as taking sustainable mode of transportation to Humber.
    - There are greater opportunities for increased use of sustainable transportation among staff.
- It is important to increase the percentage of students and staff using sustainable modes of transportation as Humber College grows

Recommendations

- Monitor the use of sustainable modes of transportation.
- Programing to increase the use for sustainable transportation options should also specifically target staff.
- Aim to increase the share for sustainable transportation to 80% across both campuses by 2022.
    - 85% for students.
    - 40% for staff & faculty.

Metrics

- Percentage of staff and students using sustainable modes to travel to and from campus.

TDM Goals

1, 2, 3, 4, 5, 6, 7, 8, 9, 10

Implementation Timeline

Long Term (3-5 years)

Resources - $$

- Office of Sustainability
- First Year Experience
- IGNITE
- Smart Commute

2. Reduce Greenhouse Gas Emissions for student and staff commuting by 5% by 2022 or 663 tonnes of $C0_2e$ emissions from 2014-2015 levels.

Overview

- Student and staff commuting represents approximately 57% of Humber's total emissions and 94% of Scope 3 emissions which are indirect emissions that are not owned or controlled by Humber (2015)
- Commuting is also the largest source of greenhouse gas (GHG) emissions at Humber College.
    - In 2014-2015, commuting emissions were approximately 13,260 tonnes of CO_2e.
    - This is greater than emissions from Humber College's electricity and natural gas consumption combined.

- Commuting emissions rose by 5.7% from 2006, even though total emissions declined by 10.7% in the same period.

Recommendations

- Continue ongoing monitoring all Humber College GHG emissions.
- Prepare GHG emissions inventories, including Scope 3 commuting data on an annual basis.

Metrics

- Total GHG emissions from student and staff commuting.

Goals

2, 6

Resources - $$$

- Office of Sustainability
- Parking Services
- Metrolinx, Toronto Transit Commission and other transit agencies
- IGNITE
- First Year Experience

3. Conduct a commuter shed analysis on an annual basis

Overview

- A commuter shed analysis is a detailed report of the travel origins of commuters to a specific place or organization.
- Humber College conducted a commuter shed analysis in 2013 and 2016, as a component of the Metrolinx Smart Commute surveys.
- The long gap between each report creates data that is outdated and may not be properly reflective of changes at Humber College.

Recommendations

- Conduct commuter shed analyses annually.
    - An annual commuter shed analysis would give Humber College a source of consistently up-to-date data that
- Work with Metrolinx or other third-party providers to incorporate more detailed data into future commuter shed analysis.

Goals

2,6

Resources

- Metrolinx
- Smart Commute
- Parking Services
- Public Safety

Active Transportation

4. Increase the combined percentage of students and staff that walk to campus from 9% to 15%

Overview

- 9% of students and staff both campuses walked to campus in 2016. This is much lower for staff, approximately 2% of whom walk to campus.
- Walking is more popular at the Lakeshore Campus than the North campus. This is likely the result of the denser and more pedestrian friendly neighborhood in which the Lakeshore campus is located in.
- In the Smart Commute survey, only a small percentage of students and staff indicate that they are willing to walk to campus, and less than 10% are identified in the survey as living close enough to campus to make walking feasible.

Recommendations

- Focus initiatives to students and staff who live within 2km of campus.
    - This group is indicated in the Smart Commute survey as more likely to walk to campus.
    - According to the Smart Commute survey, approximately 2300 students and staff live within 2km of campus.
- Develop new pedestrian infrastructure on campus.
- Engage with the city of Toronto to improve pedestrian infrastructure at the North Campus.

Metrics

- Number of staff and faculty who travel to campus by walking.

Goals

1,2,3,7

Implementation Timeline

Long Term (3-5 years)

Resources - $

- IGNITE
- City of Toronto
- Smart Commute
- Parking Services
- Public Safety

5. Extensively upgrade and expand bicycle infrastructure and programming on campus, in order to increase the percentage of students and staff cycling to both campuses, from 0.4% to 5%

Overview

- The percentage of students and staff who travel by bicycle at both the Lakeshore and North campuses is very low, approximately .04%.
- The percentage students and staff travelling to campus by bicycle is in decline at Lakeshore campus, and stagnant at North campus.
    - Between 2013 and 2015, the percentage of bicycle commuters at Lakeshore campus has dropped from 5% for staff and 2% for students, to 1% for both groups.
- An increased share of students and staff travelling to campus by bicycle would reduce carbon emissions and would lead to positive health outcomes.
    - Research shows that people who commute by bike have less stress, and better concentration and memory. An increased use of cycling has the potential to increase staff productivity and improve the academic performance of students.

- Majority of staff and students at indicate on the Smart Commute survey that they live too far from campus for cycling to be feasible.
- Providing official support for cycling, such as the provision of new infrastructure, would demonstrate Humber College's commitment to sustainability in a highly visible manner.

Recommendations

- Take immediate action to increase the percentage of students and staff who travel by bicycle. Outreach efforts should be targeted at students and staff who live within 10 kilometers of campus.
- Conduct more detailed research to uncover fine-grained information about cycling at Humber College, and specifically the reasons for the drop in bicycle commuting.
- Develop and implement new educational programming to encourage bicycle commuting, and work to expand the scope of existing incentives and programming.
    - Examples of existing programs include Bike Fridays and Bike to Work Month.
- Develop bicycle lanes where possible on Humber College owned roadways.
- Engage with the City of Toronto to discuss the potential of an expansion of bicycle infrastructure and dedicated bicycle lanes serving the North and Lakeshore campus.
- Conduct and expand education and outreach activities.
- Investigate the possibility of introducing incentives to encourage bicycle commuting.
- Engage with stakeholders, such as the City of Toronto, to improve bicycle infrastructure serving the campus.
- Work to develop more dedicated bicycle infrastructure on campus. This is identified in the Smart Commute survey as the leading type of infrastructure that would encourage increased bicycle commuting.
- Expand on programs such as Bike Fridays and Bike to Work Week to encourage students and staff to travel to campus by bicycle.

Metrics

- The percentage of students and staff travelling to campus by bicycle.
- The number of active cycling outreach programs.
- Engagement with outreach programs to encourage cycling.

Goals

1,2,4,7

Implementation Timeline

Long Term (3-5 Years)

Resources - $$

- Capital Development & Facilities Management
- City of Toronto
- Smart Commute
- IGNITE
- First Year Experience
- Public Safety

6. Create dedicated bicycle trails on campus and create on-street bicycle lanes on Humber College roads.

Overview

- Respondents in the Smart Commute survey indicate that availability of cycling lanes could encourage cycling to campus.
- Both the Lakeshore and North campuses are well connected to City of Toronto cycling trails.

Recommendations

- Publicize and raise awareness of bicycle lanes and trails to campus
- Highlight specific bicycle routes to campus.
- Develop cycling route guides that highlight the best cycling routes to campus and dedicated cycling facilities on campus.
- Install bicycle lanes on Humber College owned transportation infrastructure.
- Engage with the City of Toronto and other stakeholders to improve bicycle infrastructure serving both the North and Lakeshore campuses.

Metrics

- Percentage of students and staff commuting using dedicated cycling infrastructure.
- The availability of new dedicated bicycle routes serving the Humber College campus.

Goals

1,2,3,6,7,8

Implementation Timeline

Long Term (3-5 Years)

Resources - $$

- Capital Development & Facilities Management
- City of Toronto
- Smart Commute
- Public Safety
- Parking Services

7. Increase the number of bike share bikes from 27 to 50 bikes over 2 campuses.

Overview

- 66% of respondents in the Smart Commute Survey state that they are willing to use a bike share program.

Recommendations

- Undertake communication to ensure sufficient visibility of the bicycle sharing program.
- Work with IGNITE and First Year Experience to develop and implement outreach initiatives.
- Target increased outreach to the beginning of fall term and the relaunch of the program in the spring.
- Work to ensure increased and continuous awareness of the bicycle program.
- Monitor the use of the bicycle program on an ongoing basis and compare actual usage of bicycle services with the intentions expressed in the Smart Commute survey.
- Work with Bikeshare Toronto to allow one-way rentals, so bikes rented on campus can be returned to any Bikeshare Toronto location in Toronto.
- Engage with Bikeshare Toronto to expand the availability of the program, including an increased number of bikes, and more Bikeshare Toronto locations around campus.

Metrics

- Total number of bike share bikes available on campus.
- Number of Bikeshare Toronto rentals at Humber College.

Goals

1,2,4,6,7

Implementation Timeline

Short Term (0-2 Years)

Resources - $

- Bikeshare Toronto
- Parking Services
- Capital Development & Facilities Management

8. Double the number of bicycle repair stations across Campus from 2 to 4 and install a repair station at Orangeville campus.

Overview

- There are currently 2 bike repair stations at Humber College, 1 at North, and 1 at Lakeshore.
- One bike repair station is located next to the parking services kiosk in front of the Learning Resource Commons at North Campus, and 1 is located north of the M building on the east side of the Lakeshore Campus.
- Providing bike repair stations on campus is a simple and cost-effective way of supporting bike commuters.
- The availability of bike repair stations would act as a visible signal of Humber College's support for cycling and sustainable transportation in general.

Recommendations

- Conduct research on the use of the repair stations in order to gauge usage levels.
- Install more repair stations as demand warrants.
- Establish a volunteer bike repair workshop on campus where students can borrow tools and can fix their bikes with the help of skilled volunteers.

Metrics

- Number of bike repair stations available
- Usage levels of the bike repair stations

Goals

4,7

Implementation Timeline

Short Term (0-2 Years)

Resources - $

- Parking Services
- Public Safety
- Capital Development & Facilities Management

9. Double the amount of bicycle racks on campus from 62 to 120 and make secure bike parking available at the North campus.

Overview

- There are 30 bicycle racks at the North Campus, and 32 bicycle racks located at the Lakeshore Campus.
    - Many of these racks are not situated in the most commonly accessible locations for cyclists.
- There are two secure bike rooms at the Lakeshore campus. One is located in the Student Welcome and Resource Centre parking garage with a capacity of 36 bikes, and one located in Building A with a capacity of 45 bikes. There is no secure bike parking at the North Campus.
- The Smart Commute survey indicates that the availability of secure bike parking could encourage more bicycle commuting.
- Bicycle parking is extremely efficient, the space needed for only one car can hold up to 20 bicycles, and the cost of a constructing a bike parking space is a fraction of a parking space for a car.

Recommendations

- Double the amount of on-campus bicycle racks, to 60 racks on each campus.
    - Racks should be installed at all major entrances and exits to buildings on campus.
    - Preferred locations for new racks include areas that are: high in pedestrian traffic, well lit, near security cameras, and sheltered or protected from the weather.
    - Bicycle parking should be easy to find, marked on campus maps, well signed, and free of obstructions. Fixtures for bike parking should be of a high standard of quality.
- Increase the number of bike racks on the exterior side of campus premises, so students and staff can park their bikes without having to travel further on campus grounds.
- Make secure bike parking available at the North Campus.
- Streamline the secure bike parking application process and update the application form website.
- Continue to monitor usage levels bicycle parking facilities, including the secure bike rooms at the Lakeshore Campus.
- Conduct outreach and education campaigns as necessary to raise awareness of the availability of bicycle parking infrastructure.

Metrics

- Usage levels for bicycle parking infrastructure.
- The number of new bike parking stations installed on a year-on-year basis.

Goals Met

1,4,7,8

Implementation Timeline

Short Term (0-2 Years)

Resources - $$$

- Capital Development & Facilities Management
- Parking Services
- Public Safety

Public Transportation

10. Encourage use of transit for travel to and from campus, and increase the combined percentage of staff and students travelling to campus by transit from 52% to 75% by 2022

Overview

- The use of public transportation at Humber College is high
  - 56% of students at the Lakeshore Campus and 59% of students at the North campus took transit
  - 19% of staff at North Campus, and 22% of staff at Lakeshore Campus, used public transportation.
  - Combined, 52% of staff and students at both campuses use public transportation.
- Both campuses are served by the Toronto Transit Commission bus system. Transit service to neighboring municipalities is also available at the North Campus from the Mississauga, Brampton, and York Region transit systems.10 bus routes serve the North Campus, and 3 transit routes serve the Lakeshore Campus.

NORTH CAMPUS	LAKESHORE CAMPUS
TTC 191 Highway 27 Express (Connecting to Kipling Subway Station)	TTC 188 Kipling South Express (Connecting to Kipling Subway Station)
TTC 186 Wilson Rocket (Connecting to Wilson & York Mills Subway Station)	TTC 44 Kipling South (Connecting to Kipling Subway Station)
TTC 96 Wilson (Connecting to Wilson & York Mills Subway Station)	TTC 501 Queen Streetcar
TTC 36 Finch West (Connecting to Finch West & Finch Subway Station)	
MiWay 107 Malton Express	
MiWay 22 Finch	
Brampton Transit 511 Steeles Zum Express	
Brampton Transit 11 Steeles Local	
Brampton Transit 50 Gore Road	
York Region Transit 7 Martin Grove	

- Recent transit improvements at Humber College include:
  - In 2016, express bus service between the Lakeshore Campus and Kipling Subway Station was introduced as a result engagement with the Toronto Transit Commission.
  - In 2015, a bus loop was opened on the North Campus, and transit users were no longer required to walk to bus stops on Humber College Boulevard.
  - Transit information screens were included in the new Learning Resource Commons (LRC) building at North Campus, which display the scheduled (not live) arrival times for the bus routes serving the North Campus.
  - In 2014, the Mississauga Transitway was opened, and Mississauga Transit provides express bus service using the Transitway from the North Campus to Square One in Mississauga.
  - In 2020 a Presto Machine is to be installed at both campuses to encourage transit use.
- Discounted transit passes for employees are sold at the campus bookstore, and Toronto Transit Commission student photo ID cards are available on campus on annual photo days.
  - In the Smart Commute Survey, 51% of staff and 64% of students indicate that they would be more willing to use public transportation if discounted passes were available.
- There are no immediate plans for substantial changes to the bus services to either campus.
- Humber College's North Campus will be the western terminus of the planned Finch West LRT line, expected to be opened in 2021.
  - This line will run along Finch Avenue and link the North Campus to Toronto's subway system.
- It will create an opportunity to increase the number of public transit users and potentially reduce the number of single occupant vehicles on campus.
- There is an opportunity for Humber College to take advantage of existing transit services and transit related programming, to increase the percentage of transit users at Humber.

Recommendations

- Continued engagement with the Toronto Transit Commission, Mississauga Transit, Brampton Transit, and York Region Transit to advocate for expanded transit services to campus.
- Collaborate with community groups, such as the South Etobicoke Transit Action Committee, in order to develop future transit options for the Lakeshore campus and help the local community evaluate transit projects and ideas.
- Work to encourage transit pass purchases and raise awareness of the availability of discounted transit passes.
- Continue to improve the available transit infrastructure on campus. For example, install a transit information screen similar as the one at North Campus at the Lakeshore Campus, or install heated bus shelters at campus transit stops.
- Update the Humber College website so that it has the most up-to-date transit information; Update transit maps, and the interactive online map, to include the most up to date routes servicing both campuses.
- Consider increasing parking pass fees and visitor parking fees in order to encourage students and staff to use public transportation instead of driving.
- Develop outreach material, such as mini transit guides, and materials on public transit options for commuting to campus in new employee orientation packages and student admissions packages.
- Undertake education and outreach initiatives to encourage students and staff to obtain transit discount photo ID cards and purchase transit passes.
- Engage with Metrolinx to make sales and loading of Presto cards available on campus.
- Provide live transit updates on the LRC transit information screens.

Metrics

- The percentage of students and staff travelling to campus on public transportation.
- The amount of transit trips taken to campus.
- Usage levels of transit routes serving the campus
- The number of discount photo ID cards issued on campus.

Goals Met

1,2,5,6,9

Implementation Timeline

Long Term (3-5 Years)

Resources - $$

- Metrolinx
- Local Transit Agencies (Toronto Transit Commission, Mississauga Transit, Brampton Transit, York Region Transit)
- Public Safety
- IGNITE
- First Year Experience
- Humber Bookstore
- Smart Commute
- SETAC

11. Create a shuttle bus system to link the North and Lakeshore campuses

Overview

- Currently, Humber College does not provide transportation between the North and Lakeshore campus.
- The University of Toronto, York University, and Centennial College currently provide intercampus shuttle service
- Students and staff wishing to travel between campuses must use their own vehicles or existing public transportation services.
    - This creates increased road traffic and crowding on bus routes serving both campuses.
- The lack of intercampus transportation is a common complaint among staff.
    - Providing a shuttle service would reduce mileage claims for intercampus travel by staff.

Recommendations

- Investigate the possibilities of providing an intercampus shuttle service.
- Track and monitor the level of intercampus travel, in order to.

Metrics

- Number of intercampus trips by students and staff.
- Total amount of mileage claims for intercampus travel.

Implementation Timeline

Long Term (3-5 Years)

Resources - $$$$

- Parking Services
- Public Safety
- Human Resources
- Capital Development & Facilities Management

Parking and Fleet Management

12. Revamp and redesign the on-campus carpool parking program, in order to increase the number of carpool parking passes issued from 4 to 40

Overview

- Humber has a carpool parking program. Under this program, carpools registered with parking services receive carpool parking passes and have access to reserved carpool parking spaces.
    - Six reserved spaces are located on the North Campus, and 2 on the Lakeshore Campus.
    - To qualify for the carpool parking program, the members of the group must hold parking permits, which they must give up in exchange for a carpool parking permit.
- Humber College encourages the use of Humber's carpool matching application to organize carpoolers.
    - Users register on the tool and can use it to find and contact other users in their area and organize a carpool.
- Participation in the formal carpool parking program is very low.
    - There are 4 registered carpools institution-wide: 2 at the North Campus, and 2 at the Lakeshore Campus.
    - The Smart Commute Survey indicates approximately 1700 self-reported carpools. This demonstrates that majority of carpool commuters at Humber are doing so informally and do not participate in the program.
- The existing carpool parking program is inflexible. It requires students and staff to always travel in their specific registered carpool, which is often unfeasible.
    - In the Smart Commute Survey, a considerable percentage of students and staff indicated that they would be more willing to carpool if they had more flexible options.

    - A more flexible carpooling program may be more attractive to students than they current arrangement, as students are often on campus at irregular times and have schedules that do not match up.
- It is important to encourage carpooling, because it is a potential sustainable transportation alternative for commuters for whom walking, cycling, or using public transportation may not be a feasible alternative to driving.
    - This is especially true of staff, who, on average, live farther from campus than students. Approximately 73% of staff live greater than 10 kilometers away from campus, contrasted students.
- However, students and staff are open to carpooling. 61% of staff and 81% of students indicate in the Smart Commute survey that they are willing to try carpooling.

Recommendations

- Work to increase the percentage of students and staff travelling in carpools.
- Promote carpooling with engagement events, such as Carpool Week, and by promoting to new students during orientation week.
- Promote the use of Humber carpool matching application once launched.
- Maintain and raise awareness of the Emergency Ride Home Program. The availability of alternate transportation in the event of an unforeseen emergency would encourage carpooling, according to the Smart Commute survey.
- Organize and host outreach and engagement events to raise awareness of the carpool program and ride matching software.
- Create a dedicated page for carpool parking information. All information related to carpooling and carpool parking at Humber should be available on this page. This includes the carpool parking policy, how to obtain a carpool parking pass, and the location and number of carpool parking spots available.
    - This page could integrate functions of the carpool matching application and could integrate with the carpool parking program to simplify the process of registering a carpool.
    - An example of an institution with a similar page is the University of Ottawa.
- Work with parking services to simplify the process of registering a carpool and receiving a carpool parking permit, with the aim of making the program more flexible. This is especially important for students, who may have irregular schedules and are thus unable to carpool every day.
    - For example, carpool permit holders may be given a discount on regular parking, in order to incentivize carpooling for people who may not be able to carpool every day.
- Change the carpool parking policy to allow people without cars or parking permits to join registered carpools.
- Locate carpool parking stalls in desirable areas. Carpool parking stalls should be highly visible, well-marked, and located close to the front entrances of campus buildings.
- Increase the number of carpool spots to ensure that registered carpool groups can always find a spot.
    - Carpool permit applications should be prioritized if there is a parking permit waiting list.
- Dedicate a small, “preferred” parking lot or row of parking spaces to only carpool parking
- Increase visibility of the parking stalls placing them in high traffic areas such as in the parking garage.
- Build on existing events, such as Carpool Week and booths at events, to raise awareness and promote carpooling.
- Investigate the feasibility of providing other incentives for carpooling. While the Smart Commute Survey indicates that financial incentives would encourage more students and staff to carpool, these incentives may not necessarily have to be financial in order to be effective.

Metrics

- Number of students and staff travelling to campus in carpools.
- Number of carpool parking permits versus conventional parking permits issued each year
- Number of carpool parking spaces installed each year
- The number of single-occupant vehicles taken off the road each year

- Number of matched trips on Humber's carpool matching application
- Number of active users on carpool matching application Goals Met

1,2,6,8,9,10

Implementation Timeline

Long Term (3-5 Years)

Resources - $$

- Carpool Software
- Public Safety
- Parking Services
- Capital Development & Facilities Management
- Information Technology Services (for new carpooling web portal)

13. Grow enrollment in the on-campus car sharing service and monitor and evaluate the service on an annual basis.

Overview

- A car sharing service on campus was launched in January 2018 by Enterprise Carshare. Initially, two vehicles will be located at North campus, and one at Lakeshore campus.
- The availability of carsharing on campus has the potential to reduce the need for students and staff to own their own vehicles. Thus, it may contribute to a reduction in the number of single occupant vehicles on campus and reduce transportation emissions.
- Providing this service at convenient locations on campus, and providing discounts to students and staff, has the potential to drive use of the carsharing program.
- Discounted memberships for staff, faculty, and students are available, which waives membership fees for the first year.
- The minimum age of participation for the car sharing service is 18, and it is open to holders of G2 licenses and International Driving Permits. This allows more students to be able to take advantage of the service.
- Use of the service has increased substantially since its introduction.

Next Steps

- Promote the availability of car sharing and increase awareness in outreach events and marketing campaigns.
- Monitor usage levels of car sharing.
- Create a section on the Office of Sustainability website dedicated to car sharing
- Develop a staff car sharing program for work related travel instead of using personal or fleet vehicles.
- Aim for a 5% increase in car sharing enrollment by 2022

Metrics

- Number of discounted car-sharing memberships purchased each year.
- Number of car-sharing vehicles picked up or dropped off on campus parking spaces.
- Number of car share parking spaces installed on campus each year.
- Number of car share vehicles available on campus.

Goals Met

8,9,10

Implementation Timeline

Long Term (3-5 Years)

Resources - $$

- Enterprise Carshare
- Parking Services
- Public Safety

14. Increase the availability of electric vehicle parking spaces and charging infrastructure from 2 spots to 20 spots across both campuses by 2020.

Overview

- Electric Vehicle charging infrastructure is already available at the Lakeshore Campus.
    - A Level-2 charging station with 2 parking spots is available at the Lakeshore Campus Welcome Centre parking garage.
    - On-campus charging stations free to use, and are open to all Humber staff, faculty, and students, as well as the public, with a maximum time of 4 hours.
- 16 Level 2 charging stations will be available at the new parking garage at the North Campus, opening in 2018.
- Increasing the availability of charging stations has the potential to encourage the purchase and use of electric vehicles.

Recommendations

- Study the demand for EV charging stations in the future, in order to ensure that enough dedicated EV charging stations are available to meet future demand.
- Monitor the use of the charging stations to determine if the existing infrastructure is sufficient to meet demand.
- Increase the number of charging stations available on the Lakeshore campus.
- Install more EV stations in more locations throughout campus, to make charging more convenient and incentivize EV use.
- Update parking map for North and Lakeshore campus to clearly show where EV charging locations are located once installed.
- Explore other incentives to encourage electric vehicle use going into the future, such as preferential access to reserved parking spaces.

Metrics

- Total number of EVs using the charging stations per year.
- Usage levels of charging stations.
- Number of students and staff using EVs to travel to campus.

Goals Met

2,6,8

Implementation Timeline

Long Term (3-5 Years)

Resources - $$$$

- Parking Services
- Public Safety
- Capital Development & Facilities Management

Education and Engagement Programming

15. Conduct and develop education and outreach programming to raise awareness and promote sustainable transportation and programming.

Overview

- Education and awareness of the TDM strategies and goals are key to securing a successful implementation.
- Humber College participates in various campaigns, and outreach events to spread awareness of sustainable transportation and sustainability in general. These the main avenues used by Humber to educate the public and create change in public behavior.
    - Existing outreach initiatives include Carpool Week, Bike to Work Day, and Bike Month.
- These programs help to incentivize students and staff to choose alternative modes of transportation instead of driving alone and provide a call-to-action to use alternative transportation.

Recommendations

- Develop and expand promotion and outreach programming to raise awareness of the TDM goals.
- Examine new types of programming, such as workshops and curriculum engagement.
- Lead outreach events on campus to raise awareness of sustainable transportation.
- Provide information on sustainable transportation modes to students and employees via newsletters, e-mails, workplace displays, websites, hiring and recruitment materials, orientations and other in-person engagement.
- Promote sustainable commuting options at campus open houses, orientation events, student acceptance packages, and other campus events.
- Coordinate with transportation providers, such as the Toronto Transit Commission and Metrolinx, to promote their services at outreach events.
- Examine existing TDM programming and continue involvement in existing TDM programming and campaigns.
- Create marketing materials to convey the benefits of alternative commuting alternatives in an enticing way
    - *Example materials:* posters, brochures, postcards, and sustainable travel tip sheets, customized to the needs of Humber campuses.
- Develop and lead special event campaigns at campus to raise awareness of transportation.
- Promote commuting options at campus open houses, orientation events, student acceptance packages, campus events, and other opportunities.
- Build on the Lakeshore Campus' partnership with the South Etobicoke Transit Action Committee (SETAC), to develop future community engagement initiatives.

Metrics

- Number of events per year that feature sustainable transportation as a theme or component.
- Number of TDM related education or outreach programs.
- Number of engagements related to TDM programming at sustainability events.
- The amount of TDM related promotional material and other marketing collateral developed per year
- Total engagement levels with TDM promotional material.

Goals Met

6,8

Implementation Timeline

Short Term (0-2 Years)

Resources - $

- Wall Space
- IGNITE (billboards)
- First Year Experience
- Marketing
- Media Services

16. Create a unified web page for all TDM programming

Overview

- Currently, information about various TDM related programs located in a multiple place on the Humber College website. There is no single index of all TDM programming.
- It can be difficult to find information about TDM programs on Humber College's website. By creating a comprehensive index for all TDM programming, Humber College will make it easier to find information about these programs.
- A unified TDM web page would also serve as an excellent platform for outreach and education about important Humber College sustainability initiatives. It would increase awareness of the wide variety of TDM programs, as visitors seeking information on one program will be exposed to information on all programs.

Recommendations

- Create a single website encompassing all TDM programming.
- Identify new and existing TDM programs for inclusion on the website.
- The website may be operated by the Office of Sustainability, or by another relevant stakeholder group, such as Parking Services.
- Create an inventory of all information on existing TDM programs currently on the Humber College web site.
- Work with information technology services to develop the website, either under the Office of Sustainability's page, or as a standalone page.

Metrics

- Number of visitors to TDM websites

Goals Met

6,10

Implementation Timeline

Short Term (0-2 Years)

Resources - $

- Information Technology Services
- Media Services
- Marketing
- Parking Services
- Capital Development & Facilities Management

17. Engage with at least 5000 students, faculty, and staff in 2019 on TDM issues & programming.

Overview

- Humber College currently has an extensive social media presence.
- There is an opportunity to use Humber College's existing social media presence as a base from which to provide education and outreach about TDM programs.

Recommendations

- Develop and expand existing outreach channels and initiatives.
- Develop new engagement activities in the future.
- Create a social media strategy for promotion of the TDM.

Metrics

- The number of social media impressions, comments and likes on social media posts, scroll depth, followers, new follower growth, newsletter sign-ups open rates, and click rates on newsletter emails.
- Increase or decrease in total number of people engaged with at outreach booths, year on year.

Goals Met

6,10

Implementation Timeline

Long Term (3-5 Years)

Resources - $

- Information Technology Services
- Media Services
- Marketing
- IGNITE
- First Year Experience

18. Leverage student participation to grow the Transportation Demand Management program. Integrate Transportation Demand Management into curriculum content for at least two programs per year.

Issues and Opportunities

- There are opportunities for integration of TDM elements into course content in a wide variety of Humber College programs.
- Programs with a high potential for curriculum integration include Engineering, Finance, and Marketing courses.

Recommendations

- Work with program coordinators to identify courses to be targeted for curriculum integration initiatives and to determine more specific course content.
- Engage with course instructors to determine the best methods of integrating TDM programming into course content
- Integrate the TDM goals and strategies into the curriculum for at least one new TDM project each with a new subject of study (project varies by subject of study).

Metrics

- Number of programs of study that incorporate Transportation Demand Management into course content

Goals Met

6,10

Implementation Timeline

Long Term (3-5 Years)

Resources - $

- Academic faculties
- IGNITE
- First Year Experience

5 Year Implementation Plan

The TDM plan will be implemented over a five-year period. It will be in effect between 2018 and 2023. At the conclusion of this time period, a new TDM report will be developed and issued, using the previous TDM plan as a baseline. The TDM plan will be reviewed three years following its issuance, in order to monitor the implementation and performance of TDM strategies and to inform new or modified strategies in the future. The TDM plan will reflect the Sustainability Plans 2014-2019 and 2019 to 2024.

Other long-term goals not covered in the scope of this plan include establishing a TDM coordinator role, and the creation of a TDM-specific internship, to oversee the implementation of TDM planning as well as the integration of corresponding strategies into college-wide operations and planning.

Trip elimination is not directly covered in the scope of the TDM, however, it is supported and influenced by the Province of Ontario's Five-Year Climate Change Action Plan 2016-2022. Trip elimination is a longer-term objective and does not fall directly into the scope of the TDM. It is recommended that Humber College is incorporate trip elimination strategies into long-term transportation programming. It is also recommended that Humber College work towards reducing the number of commuter trips to campus by encouraging telecommuting and alternative trip elimination methods, including distance and online education and the adoption of compressed work schedules.

Furthermore, Humber College should work to reduce other forms of non-commute travel by staff and students. This falls outside of the direct scope of this plan and includes business and other official travel by Humber staff and students, as well as any air travel for official Humber business. This non-commuting travel accounted for 2% of Humber's GHG emissions in 2015, an increase of 4.3% from 2006. This was the second largest source of Scope 3 emissions. Currently, only emissions from mileage claims for car travel are counted in this percentage, as air travel emissions are not tracked. Humber College only tracks the origin and destination for air trips, not the exact distance of the trip. However, it is estimated that Humber College staff flew approximately 3.6 million kilometres in the 2017-2018 fiscal year, with an average trip distance of approximately 4500 kilometres. The GHG emissions associated with this travel are currently not included in Humber College GHG inventories.

In order to obtain a more complete picture of Humber College's total transportation emissions, it is recommended that Humber College begin to track, monitor and address staff air travel more closely, by providing an accurate and include its associated emissions in future inventories of Humber College's

greenhouse gas emissions. Tracking air travel in this way would also fulfill an action item in the *Sustainability Plans.*

Benchmarking

Ongoing evaluation of the implementation and performance of the TDM strategies is important for the success of the TDM plan. This monitoring is necessary to measure the achievement of TDM goals, the cost effectiveness of TDM programming, and to inform the development of new TDM programming in the future. In order to gauge the progress of the TDM goals, Humber College will monitor the progress and implementation of TDM programming. Progress on each strategy will be evaluated using 2018 as a base year, by using metrics based on the TDM goals. It is recommended that a role be established to lead the integration and evaluation of the TDM program and strategies.

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Appendix: Policy Review\TDM Planning at Other Institutions

Tracking and monitoring the progress of the TDM plan is necessary in order to ensure its success. Progress on the implementation of the TDM strategies and the achievement of TDM goals will be evaluated against a set of benchmarks on an annual basis. Transportation Demand Management plans and programs have been implemented at many other post-secondary institutions in Canada and the United States. This section outlines the availability of 9 common TDM programs at other institutions, recognizing that every institution is different and has programming tailored to its unique needs. However, the principles and applications of TDM programming are comparable across institutions.

Program / Institution	Transit Pass Discount	Bike Parking	Secure Bike Parking	Bike Share Program	Carpool Program	Emergency Ride Home	Carshare Program	TDM Marketing Campaigns	Electric Vehicle Charging Stations
Humber College	**Staff Only, TTC Pass Only**	✓	**One campus**	✓	✓	✓	✓	✓	**One campus**
Mohawk College	✓	✓	✓	✓	✓	✓	✓	✓	✓
University of Toronto	✓	✓	X	**St. George Campus Only**	**Mississauga Campus Only**	**Mississauga Campus Only**	**St. George Campus Only**	✓	**Scarborough Campus Only – Staff Only**
McGill University	✓	✓	X	✓	X	X	✓	✓	X
University of British Columbia	✓	✓	✓	✓	✓	✓	✓	✓	✓
Tufts University	**One campus**	✓	✓	✓	✓	✓	✓	✓	**One campus**

Tufts University, Medford, MA

All 9 TDM programs are available at Tufts University in some form. However, dedicated carpool parking is available on campus, and discounted transit pass from the Massachusetts Bay Transportation

Authority (MBTA) are available to staff at certain campuses. Tufts has plans to roll this program out to all students and staff on an institution wide basis. Bicycle sharing is available through the municipal bike sharing system in the Boston area. However, EV charging stations are only available at 1 of the 3 Tufts campuses. This is also the only institution discussed in this section with a comprehensive shuttle bus system, which links the Tufts campus to the surrounding area and the MBTA subway system. However, public transportation service to the Tufts campus is more limited than the other institutions.

Mohawk College, Hamilton, ON

Mohawk College has a wide variety of TDM programs, and a commitment to sustainable transportation is important to the college. In recognition of this commitment, Mohawk College was a recipient of the 2017 Canada's Greenest Employers award, and the 2016 Smart Commute Workplace Gold Award. The college officially supports commuting by bicycle, carpool, and public transportation through programming and new infrastructure. Mohawk opened a secure bicycle storage cage in 2015, and a new on-campus transit terminal in 2016. Mohawk College also has dedicated carpool parking and dedicated electric vehicle parking equipped with charging infrastructure.

University of Toronto, Toronto, ON & Mississauga, ON

The range of TDM programming available at the University of Toronto is extensive, though availability differs between Toronto varies between campuses. This is generally due to the unique needs of each campus, and the differences between the St. George campus in downtown Toronto, and the suburban Scarborough and Mississauga campuses. For example, electric vehicle charging is only available at the Scarborough Campus. Likewise, the university has a carpool parking program at its Mississauga campus only. Car sharing is available at the St. George and Mississauga campuses. The University does not provide secure bike parking, however, there is extensive conventional bicycle parking available on all three campuses, and the university also supports a volunteer-run bicycle repair centre, where students have access to tools to make repairs to their bicycles, and can learn about bicycle repair.

University of British Columbia, Vancouver, BC

Sustainability is a key value at the University of British Columbia, the university provides extensive support for sustainable transportation, and the availability of TDM programming is extensive. In total, 68% of travel to the University of British Columbia is through means other than single occupant vehicles. For example, there are 10 secure bike cages and 200 secure bike lockers located on campus. Students have access to a heavily discounted transit pass. 18 level-2 EV charging stations are located across 4 parking lots. The university's human resources department also works to drive trip reduction by officially supporting telecommuting for certain support staff through policy.

McGill University, Montreal, QC

McGill University encourages students and staff to commute by bicycle, and there is extensive bicycle infrastructure on campus and the streets direct adjacent to campus. Furthermore, the campus is served by Montreal's municipal bike sharing system. However, there is no secure bike parking available on campus. EV charging and carpool parking is also not available at McGill, however, as with the University of Toronto's St. George Campus and McGill University they are located in a dense urban area where driving is less necessary and there is less demand for carpooling.