



TRANSPORTATION STRATEGY

FORGING PATHWAYS TO CONNECT THE
COLLEGE AND ITS COMMUNITIES

Prepared for Physical Resources
by Urban Equation

ALGONQUIN
COLLEGE



KEY UPDATES

Strategy Document (Periodically updated with new info)

v.2017.11.02	Minor edits and updates
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v.2017.06.07	Reviewed by ACET
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Project Vision & Principles (Changes to be reviewed by ACET)

v.2017.06.07	Approved by ACET
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1.0
WHY IS
TRANSPORTATION
IMPORTANT TO
LEARNING?

Efficient and modern transportation is an enabler for education, connecting Algonquin College’s students and employees with their learning and work environments. A thriving and dynamic institution is one that is served by safe, clean and efficient transportation choices that are affordable.

Efficient and modern transportation is an enabler for education, connecting Algonquin College’s students and employees with their learning and work environments. A thriving and dynamic institution is one that is served by safe, clean and efficient transportation choices that are affordable. For much of the 20th century, campuses were developed to support students and employees arriving by car. Parking lots were built to serve the purpose of storing vehicles, and have significantly impacted the physical character of our cities and campuses; large paved parking areas now dominate many Canadian campuses. Surface parking, over time, was seen as essential to accommodating the transportation needs of students and employees, and has also become a reliable source of revenue for many institutions.

Transportation connects Algonquin College students with their learning environments

Campuses of the 21st century are shaping up to look quite different: these campuses prioritize walking, cycling and transit (where available), leverage low impact development solutions, such as permeable pavement and bioswales, to reduce stormwater

runoff from parking, and increasingly emphasize green and open spaces. Investments in sustainable transportation infrastructure, such as Light Rail Transit (LRT), advances in technology, such as online learning and self-driving vehicles, and changing social norms will continue to transform the way that we connect to learning.

As this transformation evolves, institutions will be challenged to strike a balance between the need to accommodate cars, dependency on parking revenues, and pressure to optimize land. When imbalanced, institutions experience increased friction with users as the availability or cost of parking becomes a source of tension. Such tension could constrain growth should students consider an education elsewhere.

As we continue to grow, our Transportation Strategy will provide long-term strategic guidance to support a fresh approach to connecting students and employees to their learning environments. The Transportation Strategy recognizes the diverse needs of our communities, and unique characteristics of each campus at Algonquin College, while addressing issues such as safety, access, healthy living and sustainability.

More than 33% of Ontario’s GHG pollution is caused by the transportation sector.

Algonquin College uses an innovative and agile approach to planning to enable it to dynamically respond to a fluid academic environment. This approach, called Integrated College Development Planning (ICDP), has been used to guide the development of the Transportation Strategy, which provides a decision-making framework to optimize future transportation choices, and meet College-wide targets.



2.0 TRANSPORTATION AT ALGONQUIN COLLEGE

2.1 STRATEGIC LINKAGES

The Transportation Strategy is aligned with the College's core strategic documents.

- *50+5: Algonquin College Strategic Plan 2017-2022*: The Strategic Plan calls upon the College to “Reduce [its] ecological footprint”. The Transportation Strategy will contribute towards this goal by improving and encouraging the use of sustainable modes of transportation, thereby reducing greenhouse gas emissions associated with the car;
- *Integrated College Development Planning (ICDP) Framework*: This innovative and agile approach to planning is used to plan, design, and implement physical and digital environments in a fluid academic environment. Transportation connects to various planning principles within the ICDP framework, from healthy living to making the College welcoming, navigable and familiar;
- *Sustainability Strategy Framework*: The Transportation Strategy supports the sustainability framework in several ways by advancing social, economic and environmental objectives. For example:
 - Socially - Clean, safe and accessible transportation choices contribute directly to the success of our students, recognizes diversity, promotes healthy living, and improves relationships with our neighbouring communities;
 - Environmentally - Transportation has a significant ecological footprint that can be reduced or reversed through sustainability-oriented mindsets, innovative solutions and technological advances;
 - Economically - Optimized transportation solutions help the College prosper by meeting the needs of students, while generating revenue for the College.

- *5-Year Woodroffe Campus Master Development Plan*: The Transportation Strategy fulfills a key objective of the 5-Year Plan, specifically to “Improve accessibility to, from and within the campus through a comprehensive transportation strategy that prioritizes sustainable modes of transportation such as transit, cycling, the future LRT, and addresses current and future parking needs”; and
- *Algonquin College Water Strategy and Energy Strategy*: Transportation infrastructure, such as parking, can help manage and reduce the rate and volume of stormwater leaving the campus, by considering strategies such as permeable pavement and bioswales. The mode of transportation chosen by students and employees, impacts the College's Scope 3 greenhouse gas emissions (GHG's); a more pedestrian friendly campus, with strong cycling connections to the community, can reduce emissions.

The Transportation Strategy also contributes to government, and non-government priorities:

- *Federal Sustainable Development Strategy (FSDS) for Canada (2016-2019)*: The FSDS will take effective action on climate change, reducing emissions and ensuring all Canadians live in clean, sustainable communities that contribute to their health and well-being;
- *Ontario Climate Change Action Plan (2016-2020)*: Through the Plan, Ontario aims to become a North American leader in the deployment of low-carbon and zero-emission transportation, such as increased use of electric vehicles; and
- *Colleges Ontario: Moving to Net Zero Colleges as Global Leaders*: This proposal, currently suggests emissions reduction action in 5 areas, one of which is transportation, including strategies such as electrical vehicle charging stations.

2.2 LOCAL PLANNING CONTEXT

Every day, more than 20,000 students and employees access learning and work environments at Algonquin's three main campuses.

The context for Transportation is unique and local to each campus. The Ottawa campus, originally located on farmland on the outskirts of the city, has seen its surroundings transition from rural, to suburban, to urban as the City has grown, and continues to grow, over the past 50 years. The new Light Rail Transit (LRT) system will introduce transit oriented development opportunities to the campus, and as a result could accelerate growth even further in West Ottawa. Perth and Pembroke, on the other hand, serve smaller municipalities, where public transportation options are limited and dependency on the car is greater. The affordability and supply of student housing on, or in proximity to, each campus will also affect the need to travel to campus by car.

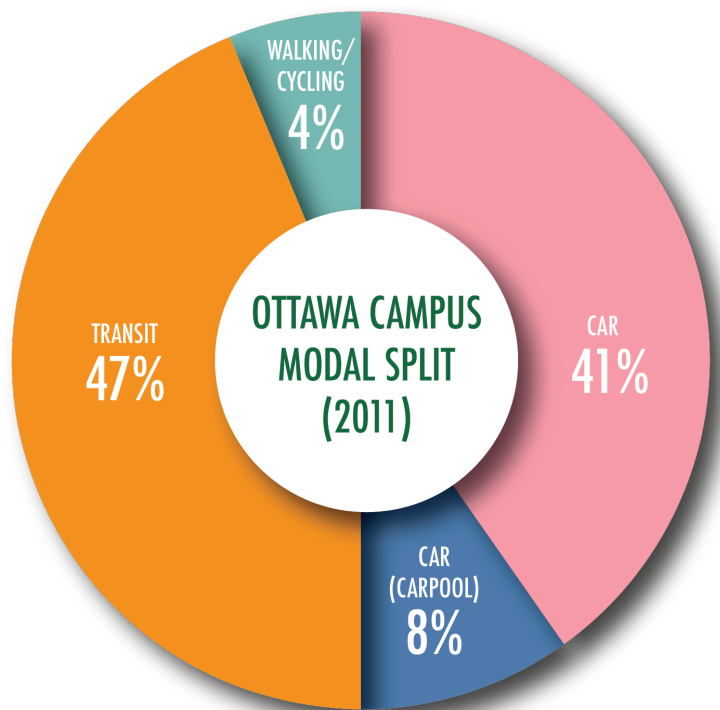
OTTAWA CAMPUS: CURRENT STATE

At the Ottawa campus, parking lots dominate the physical landscape. While the volume of parking has served students, employees and the College well over the years; parking revenue have been a source of stable revenue, while the number of parking spaces have generally ensured easy access to the College (at most times of the academic year), it has also detracted from the beauty of the campus and provided a challenging environment for pedestrians. As the College looks to the future, current parking assets will be needed for future academic buildings and green spaces, limiting the College's ability to add more parking spaces. Finding innovative and proactive approaches to parking will be needed to meet the needs of students, employees and visitors.

While there is very little current data available, in 2011 the City of Ottawa completed a city-wide travel survey that provides a useful baseline to understand how students, employees and visitors travel to and from the campus. In 2011, 49% of people travelling to the College arrived by car (41% in single occupant vehicles - SOVs), 47% by bus, and 4% by way of active transportation, such as walking and cycling¹. Regardless of how people arrive to the campus, it can be a difficult and confusing experience. A lack of clear exterior and interior wayfinding challenges new arrivals, as does the lack of contiguous pedestrian and cycling paths that connect to, and through, the campus.

Stage 2 LRT, which includes extending LRT to Algonquin College, is scheduled to open in 2023, extending the City's LRT network to the College. In advance of this, the city will likely introduce transit oriented development (TOD) policies to the area surrounding the station, in the hope that these communities will intensify, and utilize the new infrastructure. These policies include targets to significantly increase the share of people arriving by transit to 66%, by 2031².

¹ Source: City of Ottawa 2011 city-wide travel survey (courtesy of Morison Hershfield)
² Transit-Oriented Develop (TOD) Plans, City of Ottawa, January 29th, 2014



OTTAWA CAMPUS: ACHIEVEMENTS

Over the years, the College has implemented several initiatives that offer more convenient and sustainable transportation choices to staff and students, including:

- A pedestrian bridge provides a safe crossing across Woodroffe Avenue, linking the Bus Rapid Transit (BRT) station and ACCE building to the east side of the campus.
- An extension of the Light Rail Transit system (LRT) to Baseline Station is planned for 2023. The College is participating in a cost sharing proposal to build a new above grade pedestrian bridge between the new station and ACCE building;
- In September 2015, a Universal transit pass (U-pass) was introduced for all Algonquin Ottawa campus students. The U-pass offered a 50-60% discount off the typical pass, and in the short since introduced, transit ridership has increased by 7.3% at the Ottawa Campus³;
- An electric vehicle charging station has been installed at the ACCE building to encourage the use of electric vehicles (two more are planned);
- Cycling infrastructure has been expanded to include 700 bike racks and 3 bicycle repair stations.

³ Source: Transit boarding data from OC Transpo for the Winter 2015 and 2016 semesters showed an increase of 10.7% in transit ridership at the College, while full-time student enrollment increased by 3.4% during the same period, yielding an effective increase of 7.3% in transit ridership.



ROUTE 118 BUS STOP: RETHINKING THE PROBLEM

In 2011, the College partnered with OC Transpo to redirect Route 118 through the Ottawa campus, and add two new bus stops. The initial bus stop solutions were simple, traffic focused responses that did not contribute to a quality student experience. As part of a Students' Association (SA) priority, the SA offered funds to implement improved bus stops at Building C.

The Integrated College Development Planning (ICDP) framework offered an agile and novel approach that reframed the problem. Through the Project Vision and Principles (PVP) process, a group of stakeholders

from across the College, representatives from OC Transpo, and transportation and sustainability experts came together to consider ideas on how to create a sense of place, where students could feel safe and comfortable.

The design yielded a pedestrian oriented solution and in the Fall of 2014, the College made the decision to proceed with a high value solution. The project was a success and incrementally moves the Ottawa campus towards a safer and more welcoming pedestrian and transit environment.

PERTH AND PEMBROKE CAMPUSES: CURRENT STATE

Neither the Perth nor Pembroke Campuses have access to public transit; students and employees must travel to and from the campus by car, by foot, or by bike. Bike racks and showers in the new LEED campus buildings provide much needed amenities for students who choose to cycle to these campuses.


At the Perth Campus, the parking supply is sufficient to meet the current needs of students and employees. While enrolment is expected to remain constant at around 300 students for the Fall of 2017, future enrolment could grow to 400 students, presenting a challenge to the campus. The College may consider approaching the local church and municipality to utilize adjacent parking lots, and is also in discussions about the viability of a local residence solution in Perth, which would potentially reduce the need for some cars to park on campus. The parking situation may need to be revisited pending the future growth strategy.

At the Pembroke campus, College parking is not sufficient to meet the needs of students during the academic year, and the adjacent paid municipal parking lot is used to accommodate the overflow. With three new academic programs being introduced to the campus in the Fall of 2017, the College anticipates enrollment to increase by a minimum of 75 students (from ~1000 students), leading to additional pressures on parking. Due to the number of out-of-county students (approximately 50%) many find accommodation within the town and, depending on the location, this drives the need to commute to the campus by car. Accommodating car travel is important to ensure convenient access to the campus, and a positive student experience, as well as ensuring growth at the campus is not constrained for lack of parking.

The Pembroke campus has three privately run residences within walking distance to the campus, and a new private residence is being planned. This additional residence could alleviate some of the pressure on parking. The carpooling program was discontinued on campus as it was not being used.

PERTH AND PEMBROKE CAMPUSES: ACHIEVEMENTS

The two new LEED campus buildings provide amenities to support cyclists, such as bicycle parking and showers, as well as electric car charging stations. In Perth, the Students' Association facilitates a carpooling program.

A photograph of a city street with a line of red and white buses. The buses are parked or moving slowly in a line. In the background, there are green trees and multi-story buildings. The text '3.0 TRANSPORTATION PLANNING VISION AND PRINCIPLES (PVP)' is overlaid in large white letters on the image.

3.0

TRANSPORTATION PLANNING VISION AND PRINCIPLES (PVP)

VISION

Forging pathways to connect the College and its communities.

GUIDING PRINCIPLES

A. Connect to our Learning and Work Environments

Accommodate the diverse needs of the College community and visitors by providing accessible connections to, from, within or between our learning and work environments.

B. Create Inviting Campuses

Create pedestrian oriented campuses that are fun, welcoming, safe, easy to navigate and for the College and its communities.

C. Provide Sustainable Choices

Embrace sustainable transportation choices and innovative solutions that maximize access to learning, promote healthy living, reduce our ecological footprint, and are fiscally responsible.

OBJECTIVES

Improve active transportation options to, from and within our campuses.

Develop innovative parking solutions that meet the needs of the College community and visitors, while respecting municipal and environmental obligations, and surrounding communities.

Raise awareness and promote sustainable transportation options, by engaging the College community and inspiring action.

Improve transit options and services to, from and within the Ottawa campus;

Ensure clear exterior, interior and online wayfinding solutions for all campuses.

Reduce the number of single occupancy vehicle (SOV) trips to, from and between campuses.

Enhance the remote learning and working experience to reduce demand on physical infrastructure.

Create ‘fun’ campuses to encourage spontaneous exploration and discovery of our College environments.

Evaluate transportation plans and projects through a sustainability lens that includes lifecycle costs, environmental impact, healthy living and community benefits.

Connect transportation projects and initiatives with academic programming, experiential learning opportunities, and applied research.

Reduce greenhouse gas emissions associated with corporate, employee, and student travel.

“Together we discover, learn and share the development of transportation careers for today and tomorrow.”

— Ottawa New Car Dealers Association

4.0 ALGONQUIN COLLEGE TRANSPORTATION TARGETS



Table 1. Transportation targets (2020 and 2032) considering baseline conditions.

	INDICATOR	BASELINE	BY 2020	BY 2032
Transit Cycling Walking	Increase the % of sustainable trips (made by transit, cycling or walking)*	In 2011, 51% of trips were sustainable	65%	80%
Single Occupancy Vehicles	Decrease the % of trips made by SOV*	In 2011, 41% of trips were made by SOVs	27%	15%

- * Initial targets and metrics are focused on the Ottawa Campus, using the existing Transit Oriented Development (TOD) targets published by the City of Ottawa. These targets should be considered aspirational for the College, will align the College with municipal targets, and reduce our ecological footprint by reducing Scope 3 emissions. Other campuses will be benchmarked and monitored in the future.



5.0

**INITIAL RECOMMENDED
PRIORITY PROJECTS &
INITIATIVES**

The following table lists the recommended short-term projects to be completed within the next five years. Implementation details such as resource implications, timelines, possible stakeholder impact, and accountability will be determined at the implementation stage following ACET approval.

GUIDING PRINCIPLE	RECOMMENDED PRIORITY PROJECT
<p>A. Connect to our Learning Environments Accommodate the diverse needs of the College community and visitors by providing accessible connections to, from, within and between learning environments.</p>	<p>Develop an Active Transportation Plan for the Ottawa campus, where:</p> <ul style="list-style-type: none"> ▪ Cycling and pedestrian networks are contiguous, and integrated with local municipal networks; ▪ Accessibility meets the needs of the campus community; ▪ A safe and welcoming experience for students, employees, and visitors can be assured.
<p>B. Create Inviting Campuses Create pedestrian focused campuses that are fun, welcoming, safe, and intuitive for the College and its communities.</p>	<p>Develop Parking Strategies and Plans for each campus, where:</p> <ul style="list-style-type: none"> ▪ Current obligations and commitments are documented, including those from relevant local authorities such as municipalities and conservation authorities, as well as LEED requirements; ▪ The College maintains inviting, and consolidated campuses in each community; ▪ The land available for buildings and green/public space is defined, and maximized; and a target ratio of green / open space is established; ▪ The needs of current and future external partners are considered, such as ProPhysio; ▪ Parking demand is smoothed at peak times. <p>Complete the deployment of wayfinding solutions for the Ottawa campus</p> <p>Develop a plan to identify and implement opportunities for “fun” initiatives, making the College more interesting and engaging.</p>
<p>C. Provide Sustainable Choices Embrace sustainable transportation choices and innovative solutions that maximize access to learning, reduce our ecological footprint, and are fiscally responsible.</p>	<p>Develop an engagement plan to inform and encourage sustainable modes of travel, including ways to reach new students prior to arriving on campus, and during orientation weeks.</p> <p>Conduct a cost-benefit analysis to transition College owned vehicles to low / zero emission vehicles, and reduce Scope 1 emissions;</p> <p>Complete a GHG Inventory for Scope 3 emissions related to transportation; and develop targets and strategies to reduce these emissions;</p> <p>Develop and implement a campus-wide monitoring program to monitor the modal split at each campus, and establish meaningful targets.</p> <p>Develop a plan to reduce single occupancy vehicle (SOV) trips at each campus;</p> <p>Develop green infrastructure guidelines and specifications for the construction of roads and parking, considering issues such as the heat island effect, permeability, and the Low Impact Development (LID) guidelines developed for the Water Strategy;</p>

A photograph of a modern building with a courtyard. In the foreground, several bicycles are parked on a brick-paved area. One bicycle is prominently featured, with a black bag attached to its rear. The building in the background has large windows and a modern architectural style. Picnic tables are visible in the courtyard. The word "APPENDICES" is overlaid in large, white, sans-serif capital letters across the center of the image.

APPENDICES

APPENDIX A: GLOSSARY

Active Transportation – Active transportation refers to any form of human powered transportation such as walking, running, cycling, non-mechanized wheelchair, in-line skating, skiing, or skateboarding.

Climate Change – The United Nations Framework Convention on Climate Change (UNFCCC), defines “climate change” as: “a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.”

Emission Scopes – Greenhouse gas (GHG) emissions are classified into three scopes:

- Scope 1 (“Direct”) – Emissions created by the College’s operations or owned assets; for example the College “owns” a molecule of CO₂ when it is created through cogeneration, or corporate vehicles.
- Scope 2 (“Indirect”) – Emissions created by the College’s operations, but purchased from a utility company; for example the College buys electricity from Hydro One.
- Scope 3 (“other Indirect”) – Emissions created from activities upstream and downstream of the College, neither owned nor controlled by the College. This might include business travel purchased goods and services, student and employee commuting emissions, leased assets, etc.

Greenhouse Gases (GHG’s) – A greenhouse gas is a gas in an atmosphere that absorbs and emits radiation within the thermal infrared range. This process is the fundamental cause of the greenhouse effect. The primary greenhouse gases in the Earth’s atmosphere are water vapor, carbon dioxide, methane, nitrous oxide, and ozone. Greenhouse gases greatly affect the temperature of the Earth; without them, Earth’s surface would average about 33 °C colder than the present average of 14 °C. Since the beginning of the Industrial Revolution (taken as the year 1750), the burning of fossil fuels and extensive clearing of native forests has contributed to a 40% increase in the atmospheric concentration of carbon dioxide, from 280 to 392.6 parts per million (ppm) in 2012. This increase has occurred despite the uptake of a large portion of the emissions by various natural “sinks” involved in the carbon cycle.

Green Infrastructure – Green infrastructure is any practice that uses or replicates natural systems to achieve a desired outcome. This includes green roofs, bioswales and rain gardens. Green infrastructure does not exclusively mean vegetation. Permeable surfaces are considered green infrastructure as well. Green infrastructure looks to nature for advice, restoring and replicating ecological systems to create human benefits.

Low Impact Development (LID) – A stormwater management approach with a basic principle that is modeled after nature: manage rainfall at the source using on-site natural landscape features, such as rain gardens, green roofs, permeable pavers, etc. The goal is to mimic a site’s predevelopment hydrology (water cycle) by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to its source.

Modal Split – Modal split is based on the percentage of travelers, or number of trips made, using a particular type of transportation, such as car, passenger, bicycle, walking, transit, etc.

APPENDIX B: CURRENT INITIATIVES

OTTAWA CAMPUS

The following initiatives have been implemented at the Ottawa Campus, in addition to those noted above.

- An electric vehicle charging station has been installed at the ACCE building, with a retrofit currently planned to expand its ability to charge 2 cars, rather than 1. Two more stations are currently being planned;
- Car sharing programs have been introduced, such as a Vrtucar space at ACCE, although one car has been removed due to a lack of use;
- A carpooling program has been created;
- An active transportation study is underway to explore ways to improve the pedestrian and cycling circulation at the Ottawa campus; and
- A bike renting program is currently being finalized.



Table 2. Ottawa Campus modal share targets.

MODAL SHARE TARGET	TRANSIT	WALKING/ CYCLING	CARPOOL	SOV
Baseline (2011)	47	4	8	41
2022	55	10	8	27
2032	65	15	5	15

Notes:

- 2011 Baseline data: From Morrison Hershfield (originally sourced from the City of Ottawa 2011 city-wide travel survey).
- 2022 Targets: Interim targets proposed by the College.
- 2032 Targets: From Ottawa's TOD Policy for Lees, Hurdman, Tremblay, St. Laurent, Cyrville and Blair.

PERTH CAMPUS

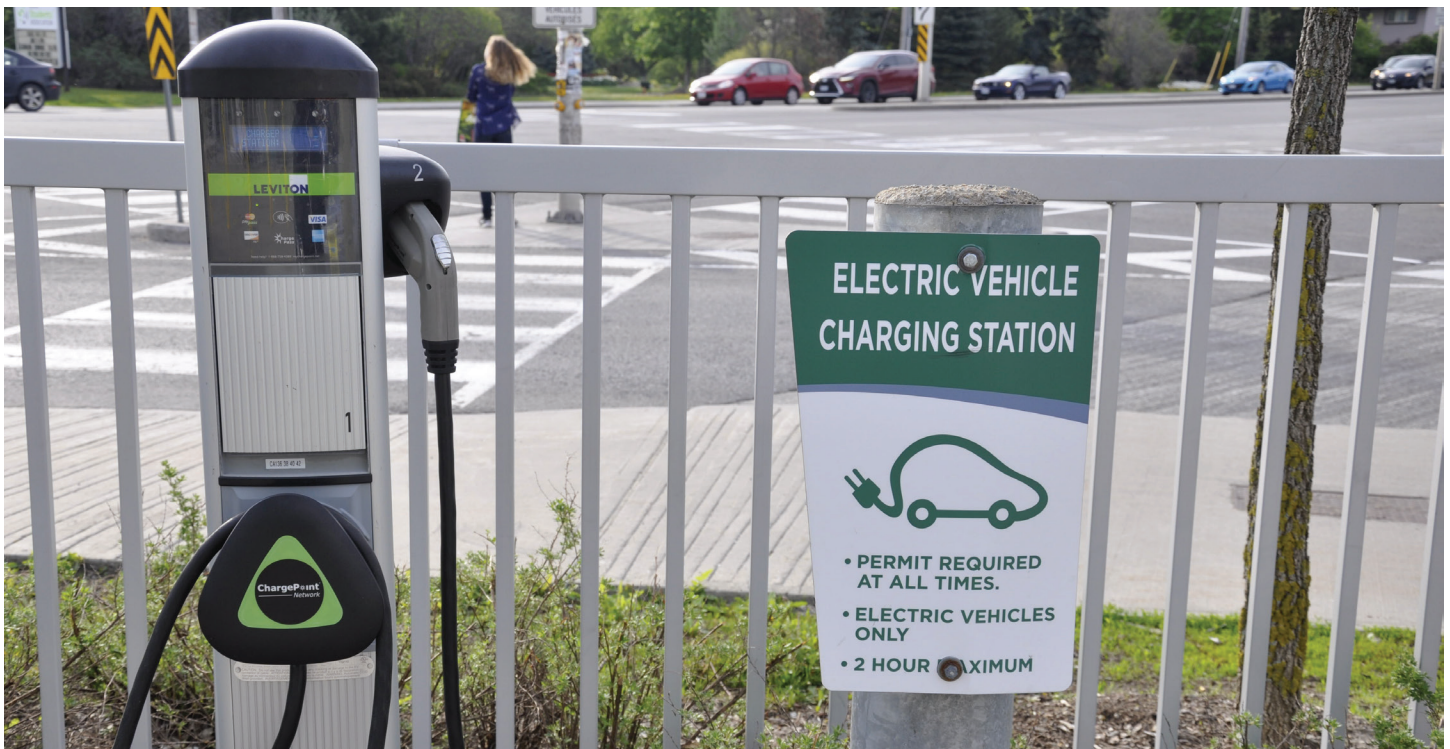
As noted above, as part of the efforts to achieve LEED Gold, the Perth campus has showers and bicycle racks to encourage more active transportation opportunities to students and staff.

The campus parking lot meets strict requirements for stormwater runoff, and includes both bioswales and a gravel parking lot to help hold and infiltrate stormwater, and reduce runoff to the Tay River

PERTH CAMPUS

The following initiatives have been implemented at the Pembroke Campus, some in relation to the current LEED application:

- As part of its LEED application, the campus has installed 6 showers (located within the Students' Association facilities), as well as 47 bicycle racks;
- Students in forestry programs are bused to off-site locations, providing a more sustainable way to reach off-site locations than individuals driving their own cars;
- Bioswales and an on-site stormwater management pond reduce stormwater flows from the parking lot.



APPENDIX C: LOCAL CAMPUS ISSUES

OTTAWA CAMPUS

- At times parking is perceived to be an issue at the Ottawa Campus, with specific comments about availability and cost noted during the stakeholder engagement that was completed as part of the 5-Year Woodroffe Campus;
- With respect to the parking issues noted above, it should be noted:
 - A Parking Operations Review was completed in December 2013, and found that the College's parking facilities are generally well utilized. The average utilization of parking facilities across the campus was approximately 85%, with higher rates achieved closer to the campus core, and a significant drop off the further away from the core of the campus you go;
 - Although current parking supply on campus exceeds the City of Ottawa's minimum parking by-law requirements, the parking supply in relation to student population is one of the lowest in Ontario;
 - Surface parking dominates the eastern Ottawa campus and presents a challenge for pedestrians and the beautification of the campus, and for managing stormwater run-off. The Water Strategy and the Ottawa Campus Integrated Rainwater / Stormwater Plan and the Transportation Strategy will look at ways to address these closely linked issues;
- Physical space for surface parking has been virtually exhausted; structured parking could add parking spaces, but revenues will not be able to cover the increased capital, maintenance and operational costs. As a result, structured parking would become a cost-centre and is currently not considered feasible;
- Access to, from and across the campus for pedestrians and cyclists is considered unsafe and at times confusing. Deficiencies that have been identified to date, include:
 - Lack of adequate pedestrian spine through the large surface parking area;
 - Gaps in on-campus sidewalk facilities – most notably on College Avenue which forms the main entrance to the College;
 - Substandard pedestrian pathways in terms of width or surface treatment;
 - Inconsistent signage and treatments at pedestrian crossing locations;
 - Lack of designated on-road cycling facilities; and
 - Lack of sheltered bicycle racks or secured bicycle lockers and storage facilities for cyclists.

PEMBROKE CAMPUS

- Parking is in short-supply at the Pembroke campus during the academic year; the number of parking spots do not meet the current needs. Students and employees pay to park at the municipal parking lot adjacent to Pembroke campus. That lot is also fully utilized, particularly in the winter months when some spots are lost to snow storage;
- While some remote conferencing facilities exist, these generally work best for small groups. In larger groups, there are sound quality issues so staff still need to commute occasionally to the Ottawa campus to attend meetings. This travel is inconvenient, increases greenhouse gas emissions, and can become problematic during adverse winter weather;
- The carpentry shop is located off-campus, across town, and students need to commute to reach this location;
- There have been no reported safety issues in the College parking lot; there is good lighting, and the parking lot is in good condition. The municipal parking lot is not lit which could cause some safety concerns at night. Although this is not controlled by the College, it is used by College students and employees who are not able to find parking on campus (as noted above);
- There are no issues with wayfinding and the building is fully accessible; and
- Despite the Pembroke campus making commitments to provide designated priority parking spots as part of the LEED certification process, it has recently moved away from designated priority parking spots (except for accessible parking) to alleviate the parking pressure at the campus. As a result,
 - 19 electric vehicle parking stations are available, but are no longer designated as priority parking for electric vehicles as they were not being used. These spots have been made available as regular parking spots to help ease parking demand; and
 - 14 priority parking spaces for students that car pool have been made available to regular, non-priority parking spaces, and the carpooling program has been discontinued at Pembroke.

PERTH CAMPUS

- Parking capacity is an issue only on certain days of the week, and at certain times during the semester;
- There are issues with the parking lot itself; pot holes, lack of lines, snow clearance, lack of parking enforcement;
- The current parking lot is not paved which makes demarcation of parking spots difficult;
- Inquiries to pave the existing lots have been refused based on the earlier conservation authority restrictions related to the location of the flood plain (although if permissions were changed, paving the lot would be unaffordable for the Perth Campus at this time); and
- The parking lot is perceived by some as unsafe due to reduced lighting and lack of emergency stations.

APPENDIX D: TRANSPORTATION TREND LOG

As a defining issue of our time, the energy landscape Transportation is poised to transform; pressure to reduce emissions, new advances in technology, and changing social preferences are converging, and introducing a degree of uncertainty as it relates to planning future infrastructure. This uncertainty introduces risk, making long-term decision-making challenging, reinforcing the need for an agile and flexible approach to planning.

Imagining how the market will change within the context of the College's key planning horizons provides an important perspective on how the College may need to respond to transportation matters in the years to come. By considering potential scenarios, Algonquin can do its best to make decisions within the context of emerging trends, risks, and opportunities. The following table is not intended to predict the future, but rather is intended to provide a log to capture this context. Where appropriate, the College could explore any of these issues in further depth, as needed.

PLANNING HORIZON	TREND & POTENTIAL DRIVER OF CHANGE	RISK/OPPORTUNITY	SHORT-TERM MITIGATION/RESPONSE
SHORT-TERM: 2017-2022	Concern over climate change increases, puts additional pressure on the College to reduce travel related emissions.	Without action, the College could be perceived to be falling behind other institutions, impacting the reputation of the College, and rendering the College less competitive as students pursue learning and research opportunities at institutions with strong performance / reputation in sustainability and emissions reduction.	Benchmark, and track Scope 3 emissions. Shift College owned vehicles to low / zero emission models. Develop a travel policy that encourages more sustainable transportation modes. Increase awareness of students and employees,
	U-Pass	The introduction of the U-Pass was a major milestone; increased awareness of its benefits will continue to lead to an increase in student transit users.	Develop a plan to raise awareness.
		There is a risk that the SA votes to cancel the U-Pass in the future.	Monitor the success of the U-Pass, and raise awareness.
	Shifting modal split to transit, pedestrians, and bicycles, from a dependency on cars.	Algonquin College runs the risk that its campus infrastructure does not meet expectations with respect to providing safe, and contiguous pedestrian and cycling connections.	Develop an active transportation strategy that provides better connections to, from and within the campus.
	The campus experience, such as beautification and pedestrian focused campuses, becomes increasingly important to students in choosing a post-secondary institution.	The College runs the risk that its vast amount of surface parking and lack of open space does not offer the welcoming, engaging and fun experience that students will look for.	Develop strategies to enhance the beauty of each campus, including ways to make the campus experience more engaging, and fun.
	Telecommuting and online learning continues to grow.	Digital connectivity and online learning could reduce demand on parking at all campuses; potentially smoothing out peak parking times, and reducing parking revenues.	Align parking strategies with College digital connectivity strategies.
	The Sharing Economy	Shared ownership, or shared use of cars, enables students to share the use of personal cars, reducing demand on parking.	Develop parking strategies / plans for each campus.
		Parking revenues are at risk of declining.	Explore alternative sources of revenue to compensate for a decline in parking revenues.
	Ride Sharing Services / Technology	New service and apps will provide students, employees and visitors more affordable options to travel to and from College campuses; Uber, carpooling, etc., could reduce demand on parking.	Develop parking strategies / plans for each campus.
		Parking revenues are at risk of declining.	Explore alternative sources of revenue to compensate for a decline in parking revenues.
Parking demand increases, outstripping current supply	The College has no more capacity to add surface parking at any of its campuses. Structured parking would be costly, and eliminate parking as a revenue source. A lack of parking could impact enrolment if students deem the campuses to difficult or costly to access.	Develop parking strategies / plans for each campus, including demand management.	

PLANNING HORIZON	TREND & POTENTIAL DRIVER OF CHANGE	RISK/OPPORTUNITY	SHORT-TERM MITIGATION/RESPONSE
MID-TERM: 2023-2033	LRT Phase 2 increases the number of students and employees travelling to and from the College by transit.	LRT could reduce the Colleges' scope 3 emissions, reduce SOV modes of travel, and reduce demand on parking.	Encourage the use of transit. Invest in transit related infrastructure.
		Reduced parking demand could reduce parking revenues.	See above.
	Electric vehicles (EV) become more affordable, propelled by technological advances and governmental incentives.	Electric vehicles may become commonplace, maintaining pressure on parking resources, and requiring new infrastructure.	Monitor demand in the short-term, and develop a deployment strategy for additional charging stations as demand increases.
	Self-driving cars, and 'connected' vehicles.	Ontario is positioning itself as a destination open to testing new driverless technology; Algonquin has an opportunity to align with the Province and its high-tech sector to embrace, and pilot, new technologies.	Monitor.
		Self-driving cars may put pressure on parking resources and infrastructure.	If structured parking becomes a short-term priority at the Ottawa Campus, the investment case must consider the impact and risk of self-driving cars.
The growth in the commercial use of drones.	Algonquin has an opportunity to align with the Ottawa high-tech sector to embrace, and pilot, new technologies, and increase applied research and learning / training opportunities.	Monitor. The College may need to develop protocols and guidelines for the use of drones on campus as volume of traffic increases.	
LONG-TERM: 2034-BEYOND	Baseline Station embraces Transit Oriented Development.	As Centrepointe develops, density will increase. New development will bring both opportunities to connect to a new community, as well as risks associated with increased traffic, such as safety and congestion.	Monitor.

APPENDIX E: THE PROCESS AND ENGAGEMENT

The project vision and principles (PVP) is the starting point for Algonquin's new Transportation Strategy. It was developed through consultation with stakeholders as part of the Integrated College Development Planning (ICDP). The PVP provides succinct guidance to the Transportation Consultants, College staff and other Stakeholders to establish an understanding related to the ambitions of the Transportation Strategy.

This PVP has three parts: a Vision statement for the project; Guiding Principles; and Objectives. Consultants will use this document as a decision framework that allows them to make informed choices between competing alternatives. The Objectives are used to set direction, and eventually used to evaluate the success of the Strategy once in operation.

The PVP sessions were held between March and May, 2013, and the PVP was updated again in March 2017. Participants in the PVP are listed below, and included a wide range of internal College staff, and external stakeholders. (Note: AC denotes Algonquin College staff).

STEERING GROUP

- John Tattersall (co-chair), Director, Physical Resources, AC
- Doug Wotherspoon (co-chair), Executive Director, Advancement Division, AC
- Bassam Hamwi, Principal & Director Transportation Planning, Morrison Hershfield
- Cathy Dempsey, Director, Finance and Administrative Services, AC
- David Corson, Students' Association
- John Dalziel, Head of Major Construction, AC
- Karen Foster, Director, College Ancillary Services, AC
- Phil Rouble, Associate Director, Facilities Planning & Sustainability, AC
- Rodney Wilts, Partner, BuildGreen Solutions
- Steve Dulmage, Associate, BuildGreen Solutions
- Jennifer Armstrong, Principal & Senior Transportation Planner, Morrison Hershfield

STAKEHOLDER ENGAGEMENT SESSIONS

- Jennifer Armstrong, Principal & Senior Transportation Planner, Morrison Hershfield
- Liz Babiak, Algonquin College, Social Media Community Officer, AC
- Robin Bennett, Cycling Facilities Coordinator, City of Ottawa
- Robert Blondin, Supervisor Caretaking & Grounds Services Team, AC
- John Cook, Principal, GRC Architects
- Karen Coffey, AODA/Diversity Advisor, AC
- David Corson, President, Students' Association
- Dan Cuddy, Student Success Specialist, AC
- John Dalziel, Head of Major Construction, AC
- Jack Doyle, General Manager, SA
- Steve Dulmage, Associate, BuildGreen Solutions
- Ted Fobert, Founding Partner, FoTenn
- Bassam Hamwi, Principal & Director Transportation Planning, Morrison Hershfield
- Beverley Haslegrave, Lead Hand Grounds, AC
- Jim Kyte, Chair, Marketing & Management Studies, AC
- Victoria Laaber, Councillor Chiarelli's Office
- Roch Lafond, Manager, Parking, Lockers, Coin-ups, and Card Services, AC
- Nicholas Lapierre, Financial Aid Officer, AC
- Adam Luciano, OC Transpo
- Phillip Rouble, Associate Director, AC
- Bryan Sangster, AC
- Genya Stefanoff, OC Transpo
- Shelley Styles, Director, Student Support Services, AC
- Michelle Tait Eburne, Manager, Welcome Centre, AC
- John Tattersall, Director, Physical Resources, AC
- Jack Wilson, Professor, PPSI, AC
- Rodney Wilts, Partner, BuildGreen Solutions
- Doug Wotherspoon, Executive Director, AC
- Zlatko Krstulic, Planner, City of Ottawa

INTERVIEWEES

Perth Campus: March 27, 2013

- Tara Lee Ferguson, Administrative Services, AC
- Leigh Mckay, Perth Receptionist, AC
- Jacob, Student
- Terri Jordan, Perth Campus, AC

Pembroke Campus: April 24, 2013

- Murray Kyte, Chair of Outdoor Training and Campus Operations, AC
- Victoria Faught, Manager, Administrative Services, AC
- Jaime Bramburger, Manager, Community & Student Affairs, AC

Online - ITS: May 17, 2013

- Rod Martin, Manager, Infrastructure Services Team, AC
- Craig Delmage, Manager, Information Security, AC

APPENDIX F: TRANSPORTATION AND THE COLLEGE SUSTAINABILITY STRATEGY FRAMEWORK

Transportation has an important role to play in the College's Sustainability Strategy Framework; addressing it holistically will significantly advance our sustainability agenda. The following examples summarize how the Transportation Strategy relates directly to sustainability at the College.

Social

- **Enhance Student Success:** By providing transportation that offers safe, reliable, and efficient access to learning (either digitally or physically), the College will contribute directly to the success of the students.
- **Promote Human Development:** Active transportation choices can improve health and wellness and overall quality of life. Poor quality transportation options can be a source of frustration and stress.
- **Lead in Community and Corporate Social Responsibility:** Parking issues have spilled into neighbouring communities at all campuses; respecting our campus neighbours is important to ensure positive relations with those that live next to our campuses.

Economic:

- **Advance as an Incubator for a Green Economy:** The inclination of basing transportation choices / decisions on convenience and/or a feeling of entitlement must be balanced against the long-term viability and vibrancy of our campuses, ensuring future students are not compromised by short-term decisions.
- **Pursue Economic Strength:** In addition to meeting an institutional need, parking has historically been a source of revenue for the College. Options for surface parking are now limited at each campus; the College will need to rethink/refine business planning methodologies to adapt to transportation and parking strategies.

Environmental:

- **Reduce our Ecological Footprint:** Automobiles are among the largest emitters of greenhouse gases (GHG), and contribute significantly towards the carbon footprint of the College. Scope 3 emissions from commuting can be significant, so reducing the dependency on cars can reduce the ecological impacts associated with travelling to, from, and between campuses.
- **Facilitate Debate on Environmental Issues:** Differentiating between the 'wants' and the 'needs' of students and staff may stimulate a healthy, possibly contentious, but necessary debate on the environmental effects of transportation.
- **Restore and Regenerate our Environments:** By rethinking the need and/or approach to storing cars (parking) on campus, more opportunities will emerge to enhance our natural and built environments.

The definition that inspires us

"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

Brundtland Commission, 1987



The S-E-E Model of Sustainability reflects the notion that the world is an interconnected system of social, economic and environmental needs that must succeed over time and that Algonquin College will weigh in all its decisions.

