DURHAM COLLEGE OF APPLIED ARTS AND TECHNOLOGY
PUBLIC MEETING OF THE BOARD OF GOVERNORS
ADDENDUM

Date: Wednesday, October 8, 2014

Time: 6:00 pm

Location: Community Room, Gordon Willey Building, A144

Governors are invited to tour the Simcoe Building and C-Wing before the meeting. Meet at 5:00 in the Community Room. Dinner will be available in the Community Room at 5:45.

Pages

5. PRESENTATIONS

5.3 Capital Projects

Durham College
University of Ontario Institute of Technology
JOINT CAMPUS MASTER PLAN

Vision and Directions Report

DRAFT FOR DISCUSSION (v05)
July 16, 2014

MMM GROUP

In Association with:
Greenberg Consultants Inc.
Educational Consulting Services Inc.

Consultant Project Team

MMM GROUP LIMITED (MMM)
Land Use Planning
Urban Design
Landscape Architecture
Consultation
Transportation Planning
Active Transportation
Servicing
Sustainability

GREENBERG CONSULTANTS INC.
Visionary Urban Designer

EDUCATIONAL CONSULTING SERVICES (ECS)
Space Needs Analysis

JOHN KENNEDY
Advisor

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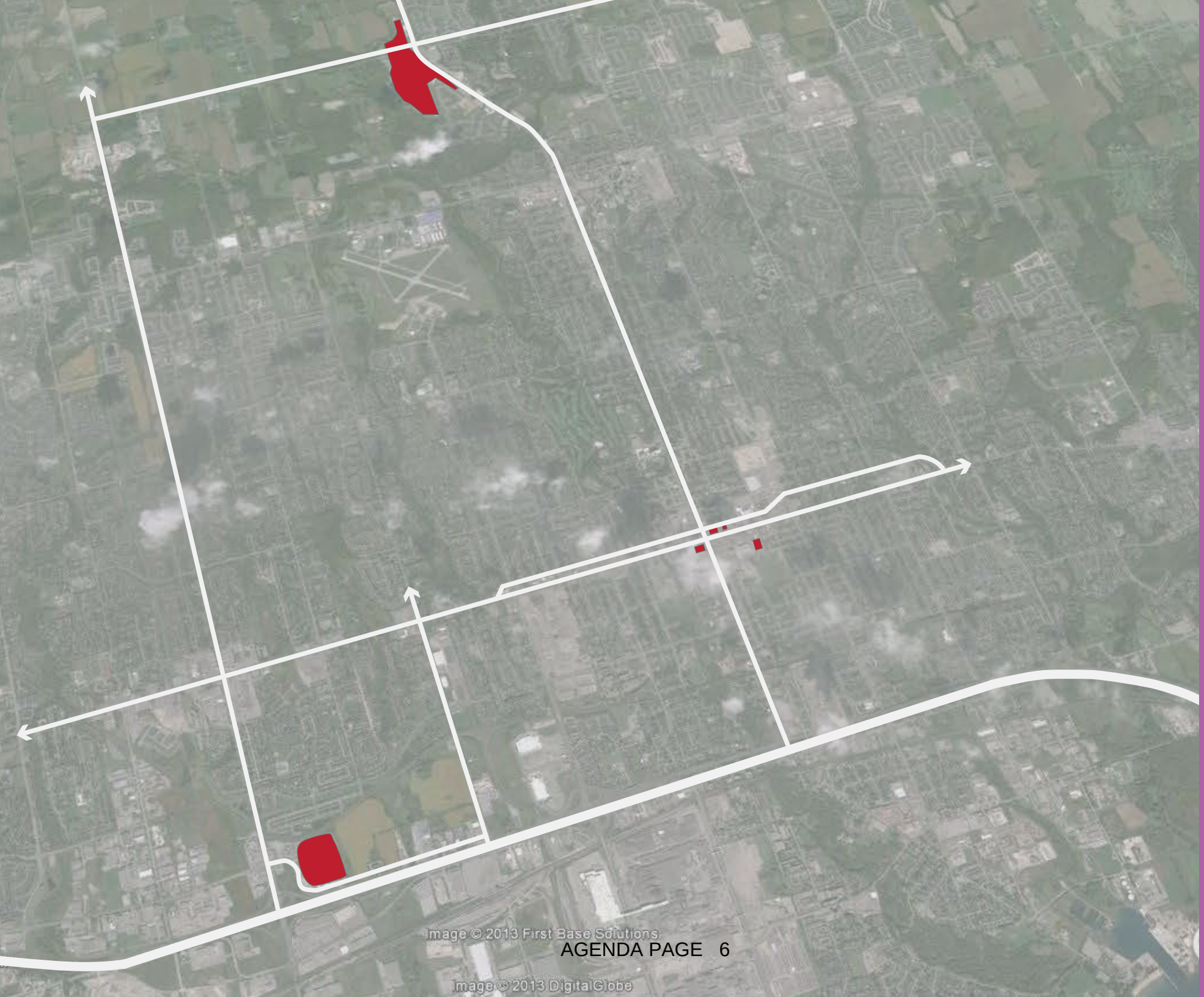
1.0
Introduction and Context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1.1 Introduction

MMM Group Limited, in association with Greenberg Consultants Inc. and Educational Consulting Services, was retained by Durham College and the University of Ontario Institute of Technology (UOIT) to undertake a Joint Campus Master Plan. The objective of the Campus Master Plan is to proactively address land use and infrastructure development to meet evolving academic and student needs. The shared Oshawa campus, the UOIT downtown Oshawa location and the Durham College Whitby campus are included in the Campus Master Plan.

The Campus Master Plan will outline a coordinated development solution to guide the character, scale, facilities and layout of the campuses and will address future academic, research, student life, athletic and community partnership needs. Most importantly, the Campus Master Plan will be realistic and implementable. It will describe the steps that need to be undertaken to translate the joint vision into a vibrant institutional precinct that appropriately integrates with the Region of Durham, City of Oshawa and Town of Whitby.

The Master Plan process has been divided into two phases.

- **Phase 1: Vision and Directions Report |** The Vision and Directions Report is a summary of contextual analysis, site observations, focused consultation and a creative preliminary campus design process. This Report describes a Framework, through a series of Master Plan principles, recommendations and graphic depiction of a layout for the shared Oshawa campus. Phase 1 was initiated in August 2013 and will be completed in late June 2014.
- **Phase 2: Joint Campus Master Plan |** The Joint Campus Master Plan will include a detailed concept plan, phasing and implementation strategy. Phase 2 will commence in July 2014 and will conclude in early 2015.

Institutional Visions and Strategic Priorities

Durham College and UOIT have recently refreshed their strategic plans; outlining clear visions and the foundations necessary to guide growth and development over the next decade. These strategies help set the stage for delivering a compelling and relevant visual concept via the joint Campus Master Plan.

UNIVERSITY OF ONTARIO INSTITUTE OF TECHNOLOGY

Vision

With its foundation in technology, the sciences and professional practice, UOIT advances the discovery and application of knowledge that accelerates economic growth, regional development and social innovation and inspires graduates who will continue to make an impact on the world, as it is and as it will be.

Strategic Priorities

1. Preparing our graduates for the evolving 21st century workplace.
2. Build strength and capacity through research, innovation and partnerships.
3. Be distinguished as a healthy 21st century workplace.

DURHAM COLLEGE SUCCESS MATTERS

Vision

Durham College is the premier post-secondary destination for students who succeed in a dynamic and supportive learning environment. Our graduates develop the professional and personal skills required to realize meaningful careers and make a difference in the world.

Goals

Our Students

To provide students with the best possible learning experiences by offering new opportunities for experiential learning, fostering greater mobility within the post-secondary system and ensuring all necessary supports are in place.

Our People

To capitalize on the vast experiences and expertise of our people and help them make the best possible contribution towards the student experience.

Our Business

To be prudent stewards of all resources so that we are financially responsible, demonstrate good governance and are system leaders in making decisions that support outstanding teaching and learning.

Our Community

To ensure the college, in all its actions and decisions, is contributing to the economic and social prosperity of our communities.

Process

The joint Campus Master Plan addresses Durham College's Whitby and Oshawa campuses and UOIT's downtown Oshawa and north Oshawa locations; however, specific focus was given to the shared Oshawa campus and the undeveloped Windfields Farm lands north of Conlin Road. The lands north of Conlin Road are commonly referred to as the Windfields Farm lands because the lands formed a portion of the lands owned by E.P. Taylor and used for breeding horses. These lands present significant opportunity and options for greenfield development.

The Campus Master Plan is an integrated process being undertaken by both Durham College and UOIT. The consulting team worked closely with the following groups and committees to ensure that the objectives and timelines for the Master Plan process were achieved:

Project Team: Comprised of senior faculty and administrative representatives from Durham College and UOIT, the Project Team was responsible for providing direction, ongoing feedback and input to the consultants.

Advisory Committee: Comprised of staff from the City of Oshawa, Region of Durham, Durham College and UOIT students, faculty and administrators, and the Project Team.

Senior Administrators: The senior leadership teams at Durham College and UOIT provided input on various topics as well as insight into each institution's strategic mandate.

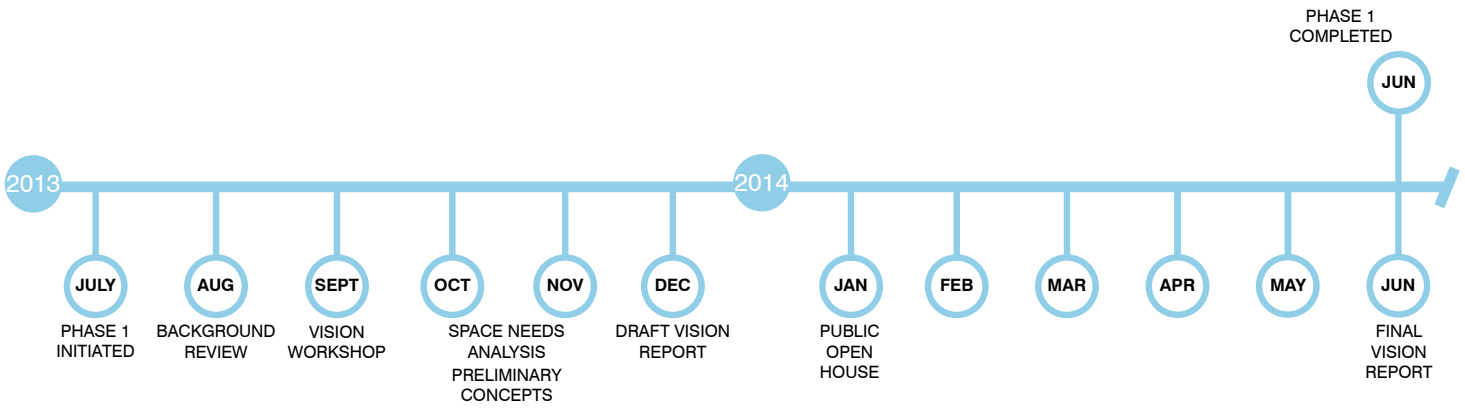
Board of Governors: Both institutions have active Boards of Governors who support the Campus Master Plan process.

The existing Campus and study area has been subject to a number of development studies, background reports and Master Plans, including a campus Master Plan undertaken in 2011. The current Campus Master Plan process acknowledges and builds upon previous studies. It carries forward key lessons to inform the Master Plan Principles and Framework Plan and ultimately the concept plans to be prepared in Phase 2.

Scope of Study

The Campus Master Plan includes the following lands, which will be referenced as such throughout the document:

- Shared Oshawa campus - including Durham College and UOIT's individual and shared facilities in north Oshawa;
- Windfields Farm lands north of Conlin Road - lands owned by Durham College and UOIT, located north of Conlin Road and west of Simcoe Street;
- Durham College Whitby campus; and
- UOIT downtown Oshawa location.



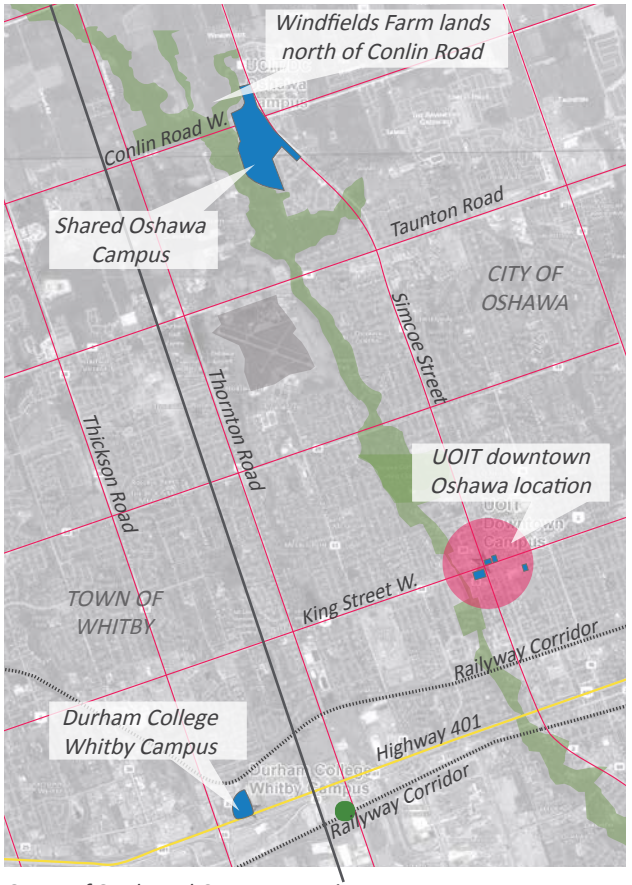
Project Timeline and Process

The Master Plan will focus primarily on the shared Oshawa campus and the Windfields Farm Lands north of Conlin Road, as it provides the greatest opportunity for future expansion. The Master Plan, including the high-level space needs analysis, provides direction on the development form and growth forecasting to 2030.

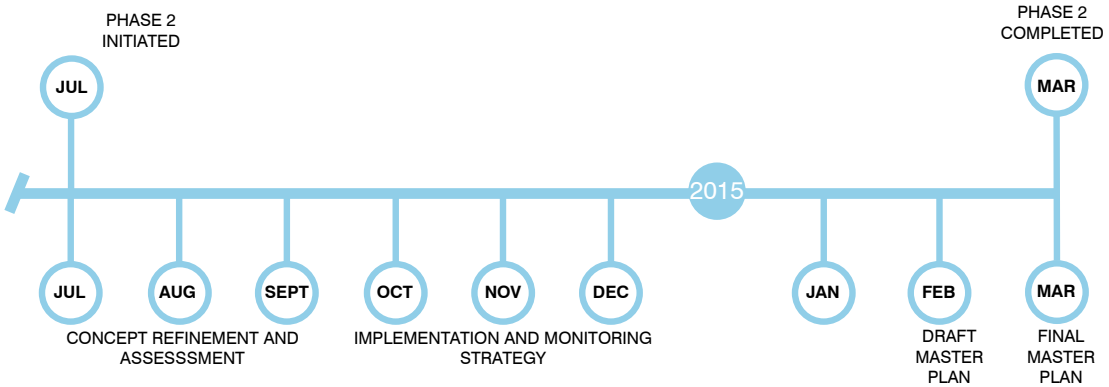
Report Structure

The structure of the Vision and Directions Report is as follows:

- Section 1: Introduction and Context - provides an overview of the Master Plan process and context.
- Section 2: Vision and Objectives - outlines the principles from which the Master Plan will be developed.
- Section 3: World In Motion Analysis - this preliminary analysis illustrates the ongoing initiatives and activities surrounding the campuses.
- Section 4: Contextual Analysis - summarizes the technical review and site analysis undertaken and identifies the implications that the findings will have on the Campus Master Plan. Recommendations based on this analysis are provided.
- Section 5: Space Needs Analysis - provides an overview of the projections for future academic, residential, supporting office and innovation space requirements. This is the driving force behind future development at these sites. The complete space needs analysis report is provided as an Appendix.
- Section 6: Consultation - the vision, principles and Plan Framework were informed by consultation and discussions with both institutions (faculty, staff and students), the City of Oshawa and Durham Region. Highlights of this consultation effort are presented in this section.
- Section 7: Framework Plan and Next Steps - the Framework Plan is a visual representation of the vision for the shared Oshawa campus. It provides directions and recommendations for the Master Plan concepts that will be developed in Phase 2.



Scope of Study and Campus Locations



1.2 The Campuses

History

Built form history and programmatic development at Durham College and UOIT tells an important story in the evolution, growth and integration of the two institutions over the course of the past 50 years. The timeline of campus development also provides important context which informs future planning for all campuses and locations.

The shared Oshawa campus will evolve to include the undeveloped Windfields Farm lands north of Conlin Road, accommodating much of the projected growth for both institutions. While physically separated from the larger shared Oshawa campus, the Durham College Whitby campus and UOIT downtown location are part of both institutions and there is a desire to improve physical and visual connections and the sense of belonging to the larger College and University community.

In addition to formal campuses, Durham College operates local facilities in communities throughout Durham Region, including smaller training, learning and employment services buildings. These additional locations are described for context.

Shared Oshawa Campus

The shared Oshawa campus is located west of Simcoe Street, and generally south of Conlin Road. It was the original location for Durham College when it was established in 1967. At that time, two hundred and five (205) students attended the College at the shared Oshawa campus. From its beginning the College specialized in technology.

Throughout the 1980s, Durham College experienced rapid growth and expanded into skilled trades. Over the last 45 years the student enrolment has expanded to over 10,000 students.

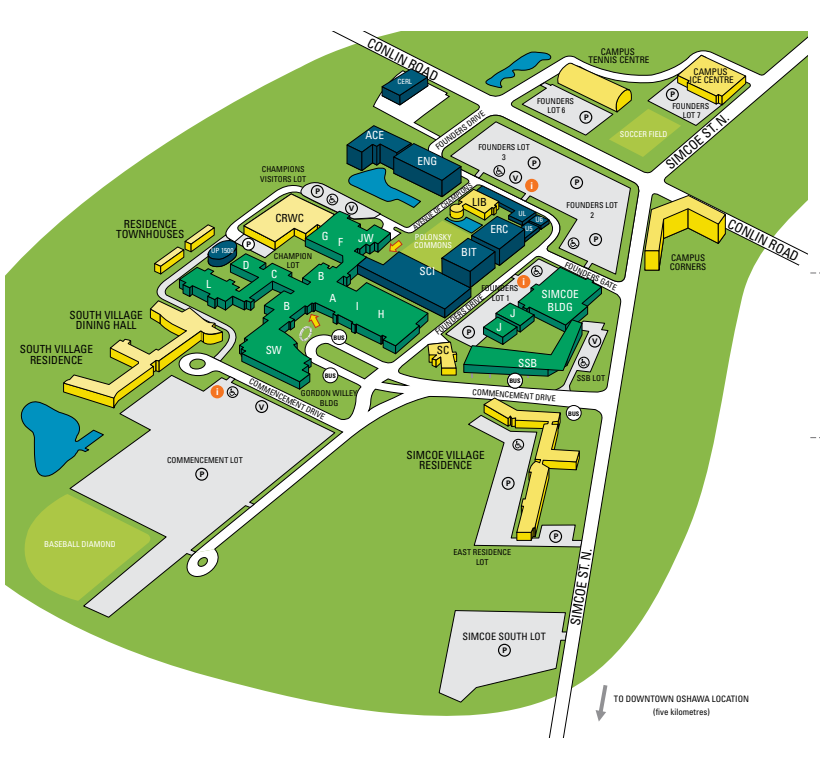
Durham College offers more than 130 full-time programs in a number of different disciplines including: culinary, hospitality, tourism, horticulture, business, information technology, media, art, design, general arts, science, skilled trades, justice, emergency services, health and engineering technology. The programs offered enable students to develop the skills required to meet the demands of today's job market. There are also numerous graduate certificate, fast-track and apprenticeship options available in addition to hundreds of continuing education and online learning opportunities.

The Simcoe Building was one of the original buildings constructed on the shared Oshawa campus and remains in its location as a focal point of the campus. The new Student Services Building, completed in 2011, is also a focal point and was established to meet the growing and evolving needs of Durham College.

Established in 2003, UOIT has successfully established 43 undergraduate and 27 graduate programs in Science, Technology, Engineering and Math (STEM) focused disciplines; each designed to be technology-enabled, career-focused and market-oriented, while providing clear pathways for college graduates to complete a university degree. UOIT has 6,600 students attending class in buildings located on the shared Oshawa campus.

Both Durham College and UOIT have their main buildings in the shared Oshawa campus. The College's buildings tend to be the older facilities and are located on the south end shared Oshawa campus. UOIT's buildings are newer and concentrated around Polonsky Commons, a green space in the northern portion of the campus. Vaso's sport's field, the Campus Ice Centre, the campus tennis centre and associated parking lots are located directly north of Conlin Road, within the Windfields Farm lands north of Conlin Road.

Approximately 131 hectares (324 acres) of land north of Conlin Road and west of Simcoe Street was acquired in 2003. These lands were part of the legendary Canadian thoroughbred horse racing family operation founded by businessman E.P. Taylor and known as Windfields Farm lands north of Conlin Road. Northern Dancer, winner of the 1964 Kentucky Derby and longtime stud, was born and is also buried here. The Windfields Farm lands north of Conlin Road are primarily undeveloped and include three tributaries and associated natural corridors. These features are further explained in the Natural Environment section of this report and are referred to as Oshawa Creek and Tributaries W1 and W2. Buildings, barns, and horse gravesites are also located on the Windfields Farm lands north of Conlin Road, primarily located on the north-east



UOIT BUILDINGS
SHARED DC AND UOIT BUILDINGS
DURHAM COLLEGE BUILDINGS
PARKING LOTS
WATER FEATURE
INFO/WELCOME BOOTH
MAIN ENTRANCE/RECEPTION

PARKING LOT
VISITOR PARKING
ACCESSIBLE PARKING
BUS STOP

CRWC = CAMPUS RECREATION AND WELLNESS CENTRE
LIB = LIBRARY
ACE = AUTOMOTIVE CENTRE OF EXCELLENCE
BIT = BUSINESS AND IT BUILDING (UB)
CC = CAMPUS CORNERS
CERL = CLEAN ENERGY RESEARCH LABORATORY
ENG = ENGINEERING BUILDING
ERC = ENERGY RESEARCH CENTRE
SCI = SCIENCE BUILDING (UA)
U5 = REGISTRAR'S OFFICE AND FINANCIAL AID
U6 = ACADEMIC SUCCESS CENTRE
UP 1500 = PAVILION 1500
SSB = STUDENT SERVICES BUILDING
SC = STUDENT CENTRE
SW = SOUTH WING
JW = JUSTICE WING
GWB = GORDON WILLEY BUILDING

Shared Oshawa campus, Illustrating DC , UOIT and Shared Campus Facilities (Source: UOIT)

Shared Oshawa Campus UOIT Location and Durham College Campus

corner of the lands. The history of the Windfields Farm lands is further described in the Cultural Heritage section of this report.

The stormwater pond (Source: UOIT)

Shared Oshawa campus (Source: Durham College Photo Archive).

Durham College Whitby Campus

The Durham College Whitby Campus was established in the early 1990s when the college purchased the Cadbury chocolate factory overlooking Highway 401. The centerpiece of that campus became the nationally recognized Skills Training Centre, where thousands of apprentices have studied and the college has become a leader in addressing skilled trades. The campus is located on Champlain Road, directly east of Thickson Road, directly north of Highway 401 and has a strong visual presence along that major transportation artery. The Whitby campus is approximately 8 km south and west of Durham College's shared Oshawa campus. The campus is approximately 4.3 km south and west of UOIT's Downtown Oshawa location.

Home to the School of Skilled Trades, Apprenticeship & Renewable Technology, the Whitby campus offers 14 apprenticeship programs including 11 that are Red Seal as well as numerous trade-related certificate and diploma programs. The campus recently reached the end of a three-phase construction project that saw $45 million invested in an expanded post-secondary presence in Durham Region.

The first phase of the project, a comprehensive learning facility designed to train students in renewable energy and meet the projected demand for green jobs in Ontario, officially opened in December 2009.

In May 2011, the second phase of the project officially opened, adding 38,000 additional square feet of space to campus, 13,000 of which is an expanded shop area for programs focused on green building trades and technology. Features of Phase 2 include a Library Commons; new labs, classrooms and boardrooms; new Student Association space; renovated student services; and two residential labs that demonstrate the many changes happening in the construction and building trades.

The third phase of the project, the 36,000-square-foot Centre for Food (CFF) located at the northwest corner of campus, opened in September 2013.The CFF was created in direct response to the demand of the local culinary, hospitality and tourism sectors and is designed to accommodate approximately 900 additional students studying in culinary, hospitality, tourism, agriculture and horticultural programs.

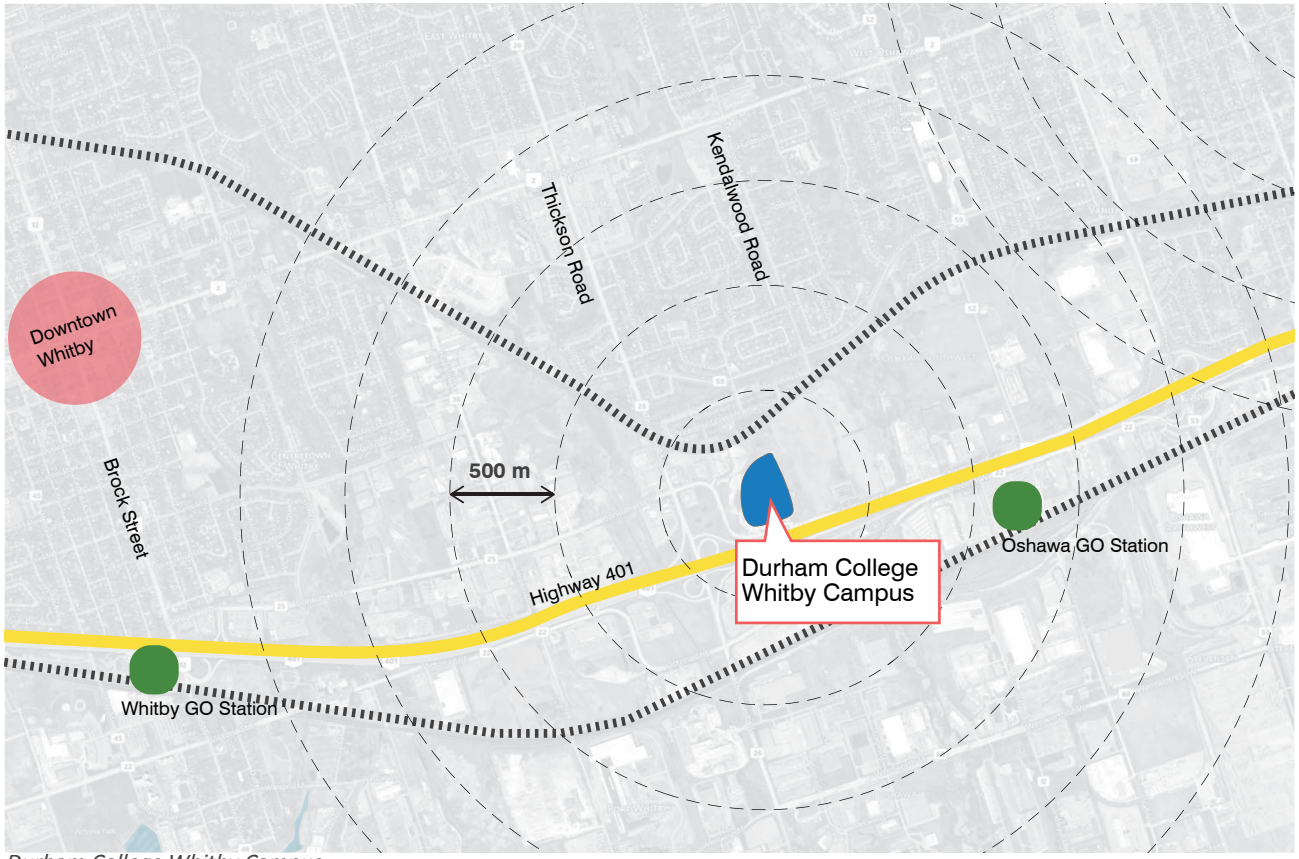
The entire Whitby campus currently has a student population of 2,700 students. The Whitby campus' location, adjacent to a major transportation corridor, is beneficial for broader exposure; however challenging when it comes to establishing campus life, walkability and a sense of place. The buildings are generally surrounded by parking lots and vast open spaces. In 2013, an Urban Design study was undertaken, in collaboration with the surrounding property owners, to establish the future character, land use and built form for the lands east of Durham College in recognition that a new GO rapid transit station is proposed on Thornton Road. This study is described further in Section 4.1 of this report.

The Whitby Campus is physically separated from the shared Oshawa campus; however connections to the shared Oshawa campus have been established through commonalities in the building branding, the promotion of service offerings and the integration of Whitby campus students in the broader College campus life.

Durham College Community Facilities

Durham College also provides smaller, off-campus facilities in Pickering and throughout Durham Region. The Pickering Learning Site, located south of Kingston Road and east of Liverpool Road, opened in September 2012 and is a partnership with Centennial College. The site provides a collaborative learning centre with programs that are specifically designed to meet the needs of students looking to further their credentials in an environment focused on mature, professional learners and innovative curricula delivery. Programs include graduate certificates in Addiction and Mental Health, Human Resource Management, Victimology and Youth Corrections.

Durham College also provides Community Employment Services centres in Oshawa, Uxbridge, Bowmanville and Port Hope. The purpose of these centres is to provide free information and tools to assist job seekers in identifying and taking advantage of various employment/career options.

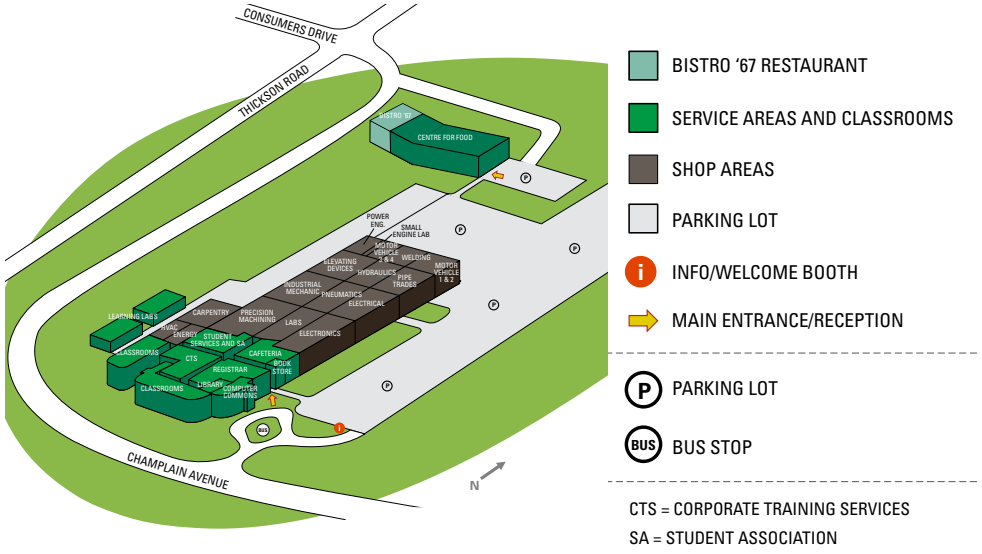


Durham College Whitby Campus

(Source: Durham College Photo Archive).

(Source: Durham College Photo Archive).

Durham College Centre for Food at Whitby Campus (Source: Durham College Photo Archive).



Durham College Whitby Campus Map

UOIT Downtown Oshawa

The UOIT downtown Oshawa location occupies five (5) buildings within the City of Oshawa's central commercial area. This location is approximately 5.6 km south of UOIT's shared Oshawa campus. Currently 2,150 students attend classes at the downtown location, primarily in the Faculty of Social Science and Humanities and Faculty of Education. This campus also provides student services, including a Registrar's Office, Student Awards and Financial Aid, a Student Experience Centre, the Centre for Evaluation and Survey Research (CESR), libraries dedicated to the Faculty of Social Science and Humanities and the Faculty of Education, as well as office and administrative spaces.

Buildings that form the UOIT Oshawa downtown location include:

- Bordessa Hall,
- 11 Simcoe Street North,
- 2 Simcoe Street South,
- 61 Charles Street, and
- Regent Theatre.

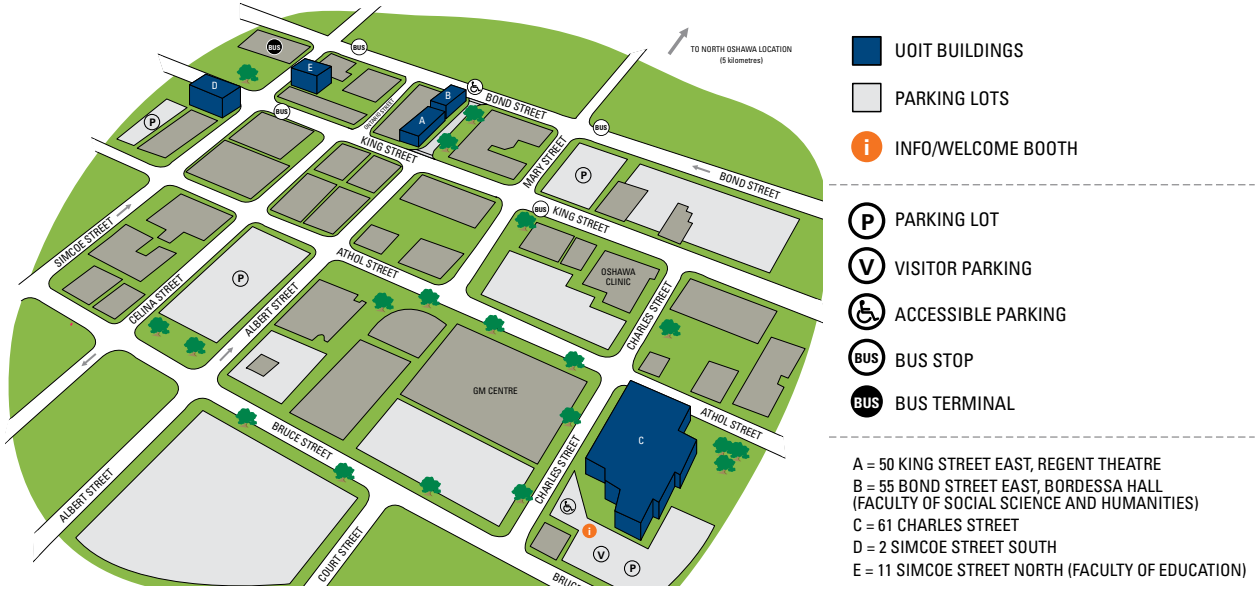
The re-use and redevelopment of the Regent Theatre, a historically designated building, gives UOIT a visible presence and helps to create a strong relationship with the local community. The Regent Theatre opened in 1919 and is a key architectural and cultural landmark in downtown Oshawa. In 2001, the building was designed under Part IV of the *Ontario Heritage Act* (OHA). Designation under Part IV of the OHA recognizes the building's heritage significance in the City of Oshawa and protects the building from future demolition. Designation ensures that a proper process is in place to review and manage any signifcant future alterations so that the changes respect the property's heritage value.

The theatre reopened after renovations in 2010 and is now used as a lecture theatre for UOIT. In the evenings and weekends it continues to host community events. The restored Regent Theatre building illustrates University's respect for the preservation of Oshawa's heritage assets.

The UOIT downtown Oshawa location is integrated with the commercial and retail character of central Oshawa. UOIT branding on buildings at the downtown Campus provides a visual connection to the shared Oshawa campus. Students travel between locations by transit or personal vehicle. Walking between campuses is not a viable option due to distance.

UOIT Downtown Oshawa Campus

Regent Theatre - Historically Designated Building at the downtown Oshawa campus
Image Source: http://regenttheatre.ca/history.php



UOIT Downtown Oshawa Campus Map

2.0
Campus Master Plan Vision and Objectives


MILLFIELDS
TRAILS
LINK TO
PLAYING FIELDS
form follows nature
safe crossings, pedestrian zones
SHOPS, CIVIC SPACES
STREETS
THROW AWAY THE RULES
KEY
ENVIRONMENT
CREATE A PLACE
CREATION

2.1 Campus Master Plan Vision

The Master Plan vision and principles established in this Vision and Direction Report will be the foundation from which the Campus Master Plan, in Phase 2, is created. The Master Plan Principles were developed in consultation with the Project Team and through consultation with the Advisory Committee and senior leaders at both institutions. The Master Plan Principles guided the design of the Framework Plan and will guide the development of the detailed Concept Plan in Phase 2 of the project.

Building on the existing institutional foundation at the shared Oshawa campus, the Campus Master Plan vision and principles were established to direct the creation of a mixed use, vibrant academic hub and allow for new partnership opportunities between Durham College and UOIT, the private sector and the broader community. The Campus Master Plan will also establish principles that encourage the further integration of the downtown Oshawa location and Whitby campus. Most importantly, the principles establish the basis for the development of a Campus Master Plan that will provide the institutions with the necessary tools to meet future space needs while encouraging the development of a more urbanized, walkable campus.

To create a dynamic campus that meets the future needs of students, faculty and the community, a shift in the built form and its relationship with vehicles, people, open space and the public realm must occur. Campus development will shift away from being expansive and car dominated, towards a more tightly knit, pedestrian oriented, and mixed use space. The campus will provide learning, social, commercial, natural and community spaces that will be complemented by office and lab spaces as part of an innovation hub.

These integrated and complementary spaces will support the growing institutional needs as well as provide service opportunities to the surrounding community. The Campus Master Plan Principles help to reinforce the desired shift.

Campus Master Plan Vision

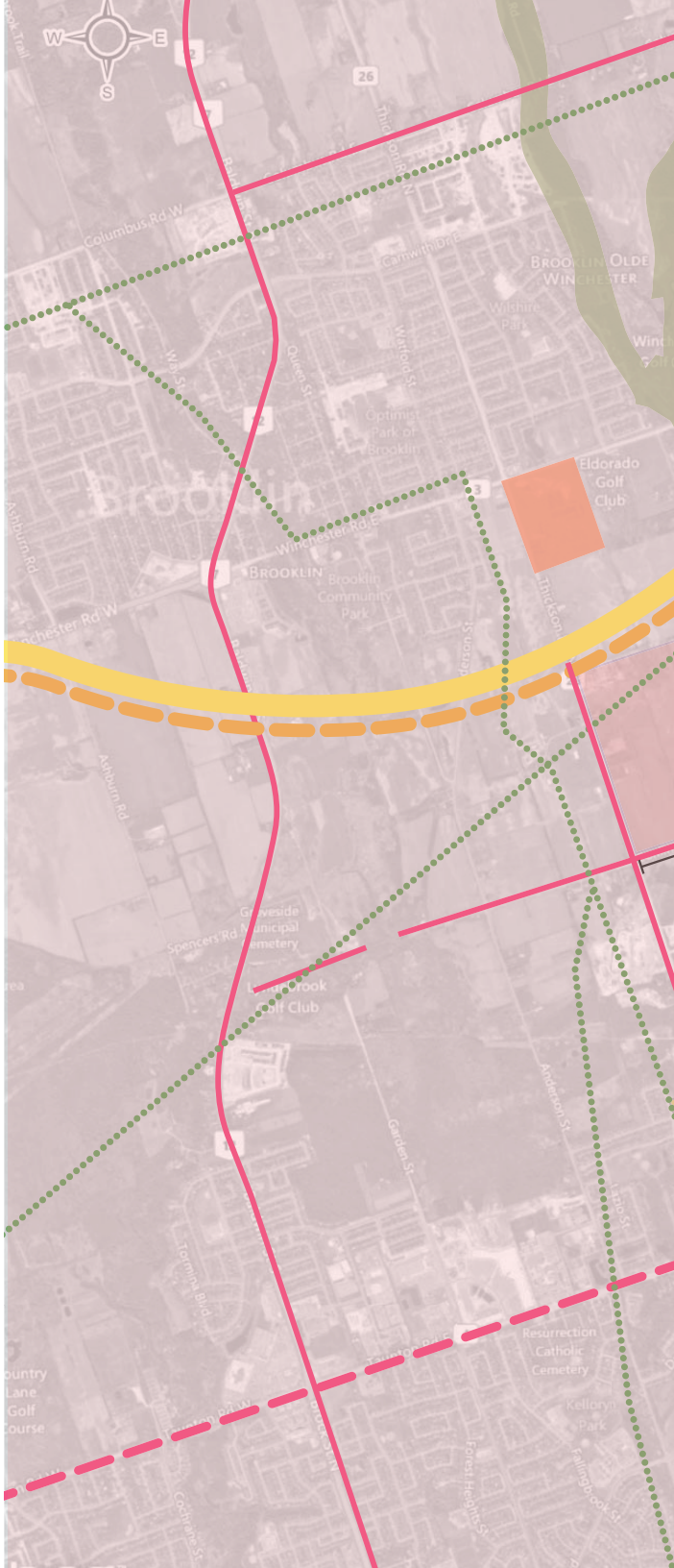
The Joint Campus Master Plan for Durham College and the University of Ontario Institute of Technology addresses land use and infrastructure development with a realistic, solutions-oriented implementation plan. The Master Plan acknowledges space needs across all institutional categories and the desire for a vibrant, integrated and sustainable campus community. A compelling Master Plan concept to promote a compact, walkable, mixed-use and green campus that offers opportunity for appropriate collaboration with the community, business partners, and all levels of government.

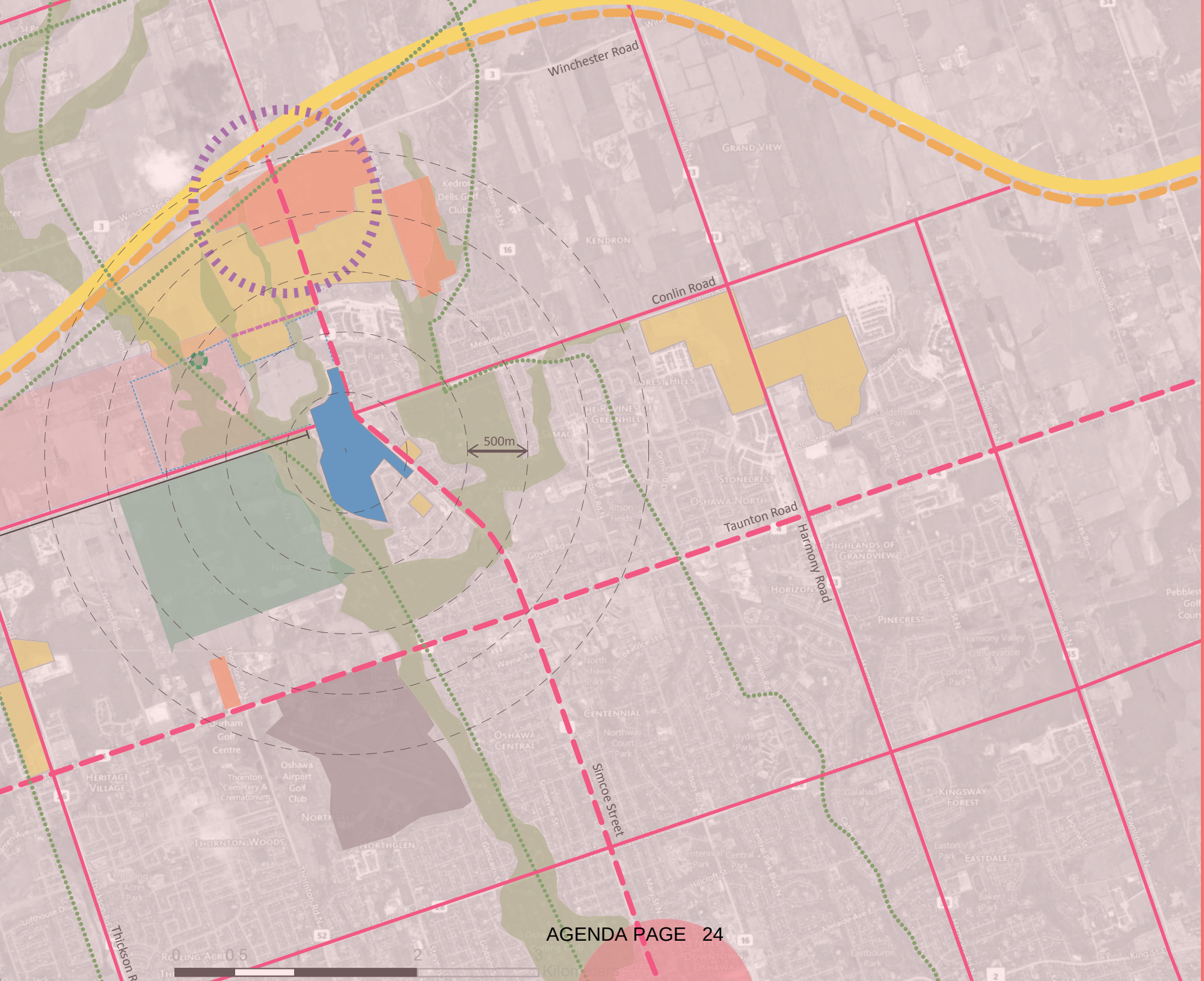
2.2 Master Plan Principles

1	Student Focused Institutions	The Master Plan will address the needs of students, and enhance the student's experience of the campus environment as an integral part of their life while enrolled in the College and/or the University.
2	Research, Experiential Learning and Scholarship	The Master Plan will take full account of the distinctive infrastructure needs to support research, experiential learning and scholarship and the application thereof.
3	Contemporary Planning	Campus design, built form, student services, pedestrian connectivity and parking cannot continue to be planned and developed as they are currently. A contemporary approach to campus planning and design that shifts the current paradigm is required. The paradigm shift will enhance the existing campus and develop the future campus spaces in a way that encourages walkability, the creation of vibrate streetscapes, establishes strong connections, and responds to the needs of students and faculty.
4	Vision based in Practicality	The Master Plan will create an implementable and practical vision for the campuses. Phasing will address the immediate facility needs while being flexible to respond to the evolving nature of the academic environment and funding opportunities.
5	Walkability	The Master Plan will prioritize pedestrians and create strong links both through and surrounding the campus. Especially important are the links across Simcoe Street North and Conlin Road for future campus expansion into the Windfields Farm north of Conlin Road and to enhance integration between the campus and the broader community.
6	Transportation and Transit	Pedestrians and cyclists as well as public transit will be given priority in terms of long term planning and facilities. The provision of public transit to and from campus will improve over time, and will, in turn, reduce reliance on personal vehicles. The Master Plan will be positioned to leverage future transit investment.
7	Green Connections	The surrounding natural landscape should be considered as key to the future Master Plan. Buildings and pedestrian walkways will address and interact with natural spaces and provide walking and cycling connections to the broader community.
8	Interactions and Long Term Connections	The Master Plan will promote interaction and integration with the surrounding community and land uses. New campus facilities should include spaces that can be used by a broad range of people within and outside of the academic community.

9	Identity	The Master Plan will strengthen the physical relationship between Durham College and UOIT whilst providing a means for both institutions to reinforce their own identities. The shared Oshawa campus will be defined as a place that is unique and distinguishable from the surrounding areas, but that is integrated with and inviting to the broader community.
10	Use Land Efficiently	The Master Plan development concept will be structured to meet the future academic, faculty, athletic and student space needs of the institutions while providing the tools and framework to be adaptable to leverage funding opportunities as well as development opportunities with the private sector.
11	Partnerships	The Master Plan will provide guidance to the institutions on how they should position themselves, in terms of organization and design to take advantage of partnership opportunities (government and non-government).
12	Enrolment Growth and Diverse Student Needs	The Master Plan will accommodate the future academic space needs for both the University of Ontario Institute of Technology and Durham College. The Master Plan will acknowledge the demographic profile and needs of the student population as being unique from other colleges and universities and will address residence, housing, activity, social and cultural needs.
13	Sustainability	The Master Plan will incorporate sustainability principles that are measurable, holistic and applicable at different scales (building to neighbourhood). Where possible, sustainability features will form key areas of interest within the campus, such as the existing stormwater ponds and green roofs.
14	Innovation and Technology	The Master Plan will accommodate spaces for innovative start-ups, technology and manufacturing. The innovation and technology park space will provide spaces that can be used by both institutions and that can be integrated with academic spaces.
15	Decision Making Processes	The Master Plan will articulate and directly inform a decision-making process with respect to physical form, space utilization and partnership with moving forward for both institutions, ensuring the continued success and growth of both.
16	Cultural Heritage and Diversity	The campus has a rich history and a bright future as well as a diverse student population which should be reflected in the Master Plan. The legacy of E.P Taylor, Windfields Farm and the horse racing history associated with the lands north of Conlin Road, as well as the Aboriginal heritage, should be expressed in the Master Plan in an innovative and relevant way.
17	A Plan that works for the Short, Medium and Long term	The Master Plan will be adaptable over the short, medium and long term, as opportunities arise.

3.0
World in Motion




Winchester Road
Conlin Road
Taunton Road
Harmony Road
Simcoe Street
500m
0
0.5
1
2
Kilometers

3.1 World in Motion - Shared Oshawa Campus

Introduction to the World in Motion

The "world in motion" diagrams illustrate the ongoing initiatives and ever-changing context in which the Campus Master Plan is set. These layered plans demonstrate the breadth and scale of the inititatives that are in progress surrounding the campus. It also assists in identifying opportunities and threats. Opportunities should be effectively leveraged to benefit the institution. Potential threats or conflicts between the institutional objectives and the surrounding initiaives be should identified and where possible addresseed within or through the Master Plan process. A strong understanding of the dynamic initiatives that are at play will be critical in the creation of a Campus Master Plan that is proactive and appropriately positioned to leverage these opportunities.

To create these drawings the project team examined and identified the following initiatives and issues:

- Walking distances;
- Planning applications currently under review and recently approved;
- Proposed public transit improvements identified in the Metrolinx 'The Big Move' plan;
- Proposed public transit improvements from Durham Regional Transit;
- Proposed trail systems;
- Existing green spaces and linkages;
- Restrictions related to the Oshawa Airport; and
- Extension of Highway 407.

World in Motion - Shared Oshawa Campus

The shared Oshawa campus is located in an area which is experiencing significant change and development activity. One of the most significant changes is the extension of Highway 407 east towards Highway 115. The highway construction will occur in two phases with the first phase from Brock Road in Pickering to Harmony Road in Oshawa being completed by 2015. A full interchange will be constructed at Simcoe Street North and Highway 407, approximately 2.5 km north of the intersection of Simcoe Street North with Conlin Road. The second phase of construction is expected to be complete by 2020 and will extend Highway 407 east from Harmony Road to Highway 35/115. This significant piece of infrastructure will provide improved connections to and from north Oshawa to the Greater Toronto and Hamilton Area.

Metrolinx' Big Move (2008) identifies significant transit improvements that will connect the future Highway 407 to downtown Oshawa via Simcoe Street. Further, the Highway 407 and Simcoe Street intersection has been identified as a 'proposed transportation hub'.

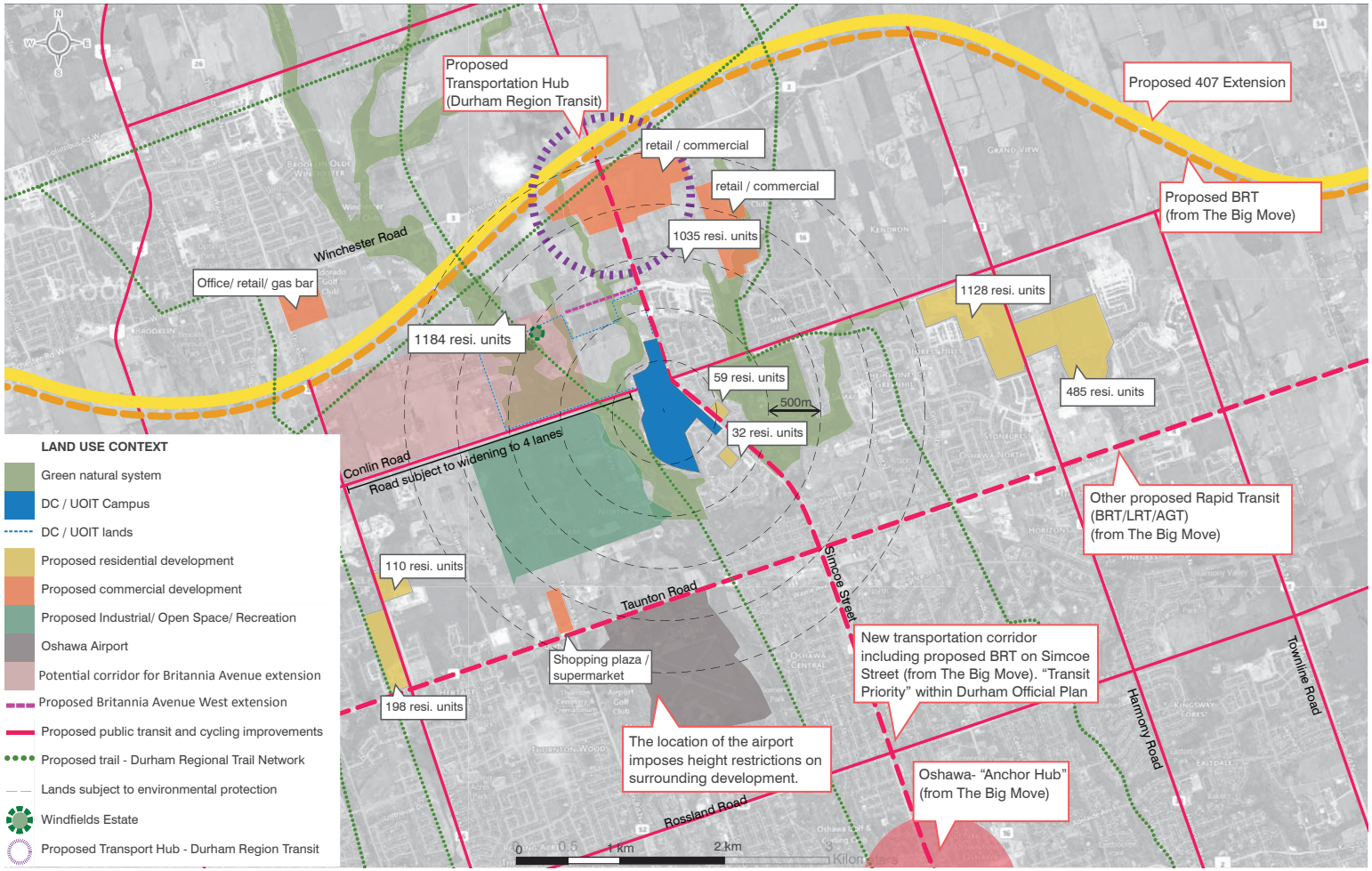
Access to the Windfields Farm lands north of Conlin Road will be improved through the extension of Britannia Avenue west from Simcoe Street. The first portion of the Britannia Avenue West extension from Simoce Street will be substantially constructed by the end of 2014. The second phase of the Britannia Avenue West extension which will connect to Thornton Road and beyond is currently being studied in an Environmental Assessment. It is generally acknowledged that the road will run, in some way, along the northern limit of the institutional lands north of Conlin Road and connect with Thornton Road in a location north of Roselawn Avenue.

A large scale residential development of approximately 1,000 units, including single and semi-detached, townhouse and apartment units will be located north of the Britannia Avenue West extension and the Windfields Farm lands north of Conlin Road. Construction will begin in 2014 and the first phase of development is anticipated to be complete within 5 years. Approximately 480,000 m^2 of commercial development is approved at Simcoe Street North and Winchester Road. This development will begin to transition the surrounding area from agricultural/open space uses to residential and commercial uses. This transition will also occur on the Windfields Farm lands north of Conlin Road and presents an opportunity for the shared Oshawa campus to become a focal point of north Oshawa.

New and extended trail networks are proposed in the area that, if constructed, could link the shared Oshawa campus to the new developments in the north and improve connections to the existing urban communities to the south.

A summary of key activities surrounding the Windfields Farm lands north of Conlin Road include:

- A large scale retail, residential and commercial development north of the existing campus.
- Significant local population growth expected as a result of the new residential development.
- Extensive improvements to public transit, specifically along Simcoe Street and the creation of a public transit hub at the 407.
- Extension of Highway 407.
- Development of Britannia Avenue west of Simcoe Street along the northern boundary of the Windfields Farm lands north of Conlin Road.



Shared Oshawa Campus "World in Motion"

3.2 World in Motion - Whitby and Downtown Oshawa

The context surrounding the Durham College Whitby Campus and the UOIT downtown Oshawa location are different from that of the shared Oshawa campus.

Durham College Whitby Campus

Durham College Whitby Campus is located in Whitby on Champlain Road, directly adjacent to and visible from Highway 401. The review of ongoing initiatives identified the following key activities occurring in proximity to the campus:

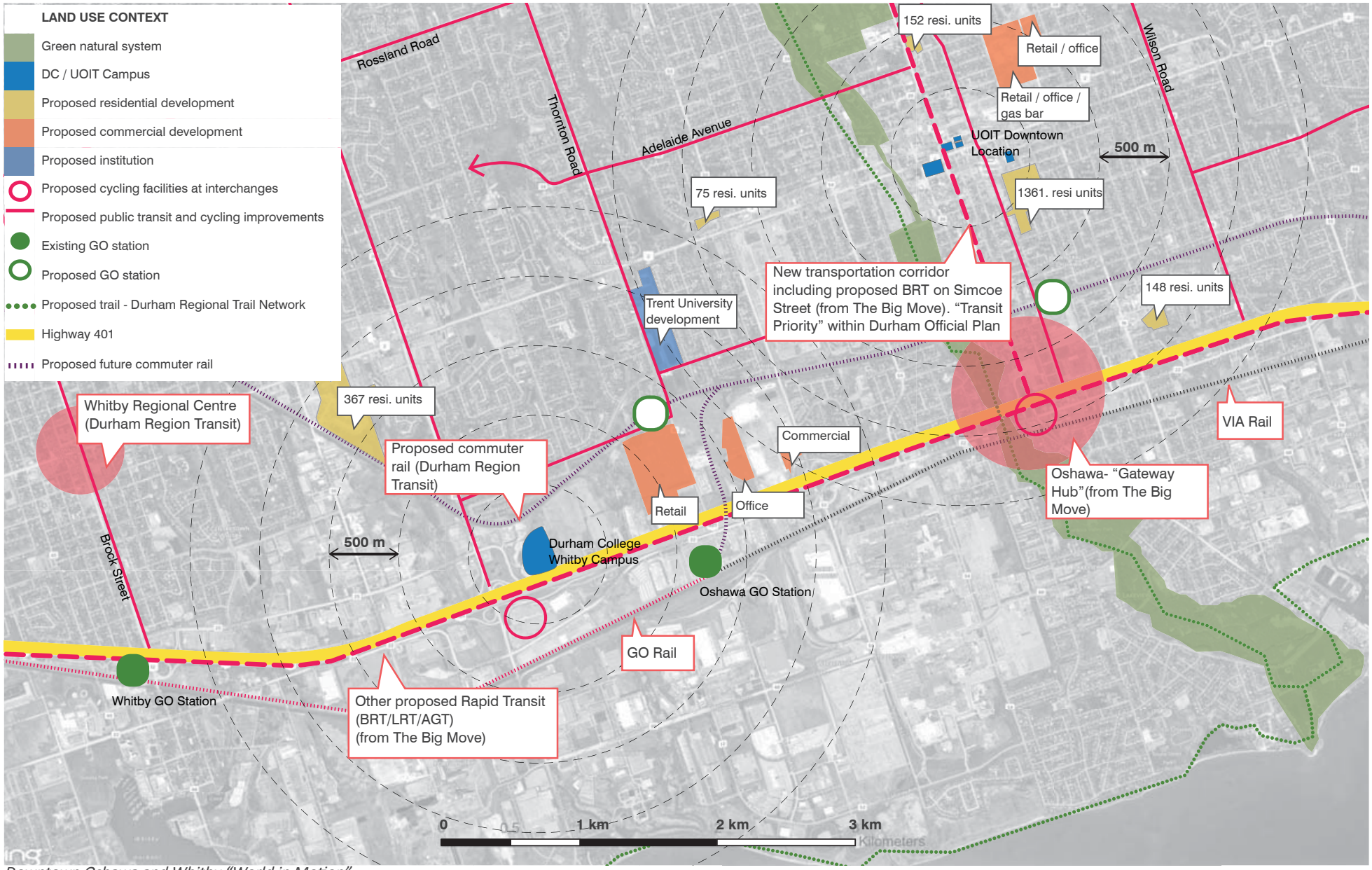
- As part of Metrolinx' Big Move Plan, proposed improvements to the commuter rail network, including a new rail line to the north and a new GO station located north-east of the campus;
- A number of retail, commercial and office developments located to the east of the Campus; and
- Trent University campus development along Thornton Road, north-east of the Whitby Campus.

UOIT Downtown Location

The UOIT Downtown Location is located at in Oshawa's downtown core, primarily along King Street East and West.

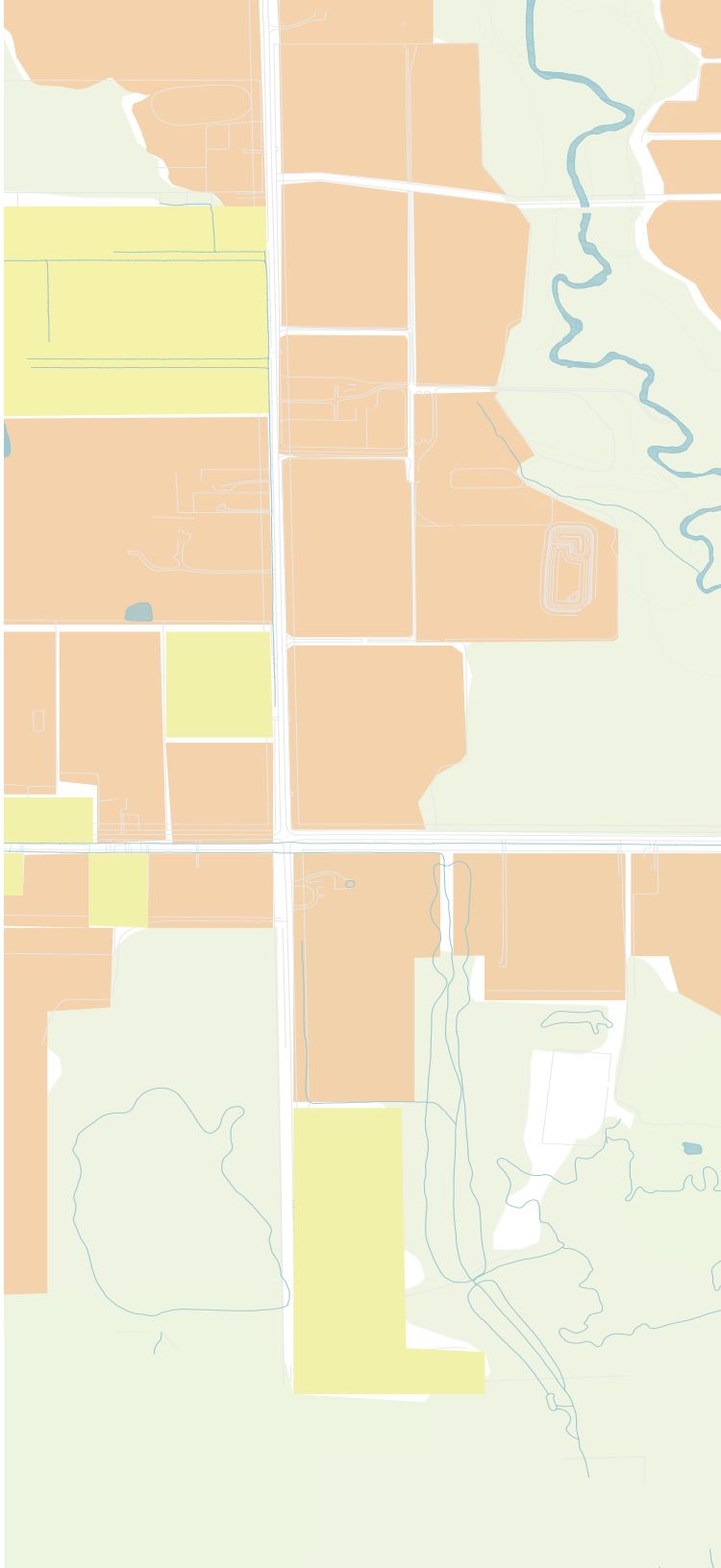
The following relevant key activities are occuring in proximity to the UOIT downtown location:

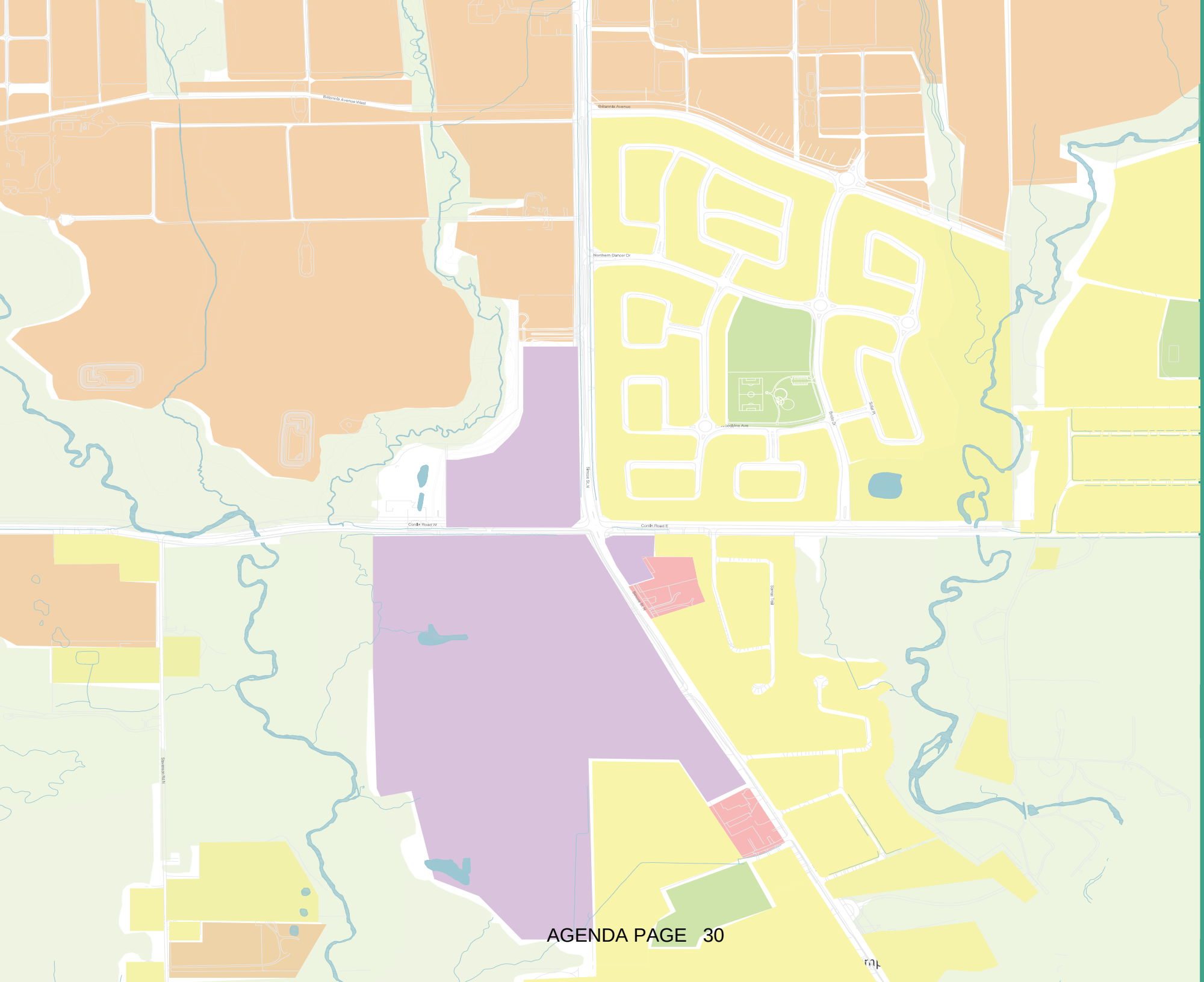
- New residential townhouse and apartment developments;
- A proposed retail and office development located north and east of the site;
- Metrolinx' Big Move (2008) identifies downtown Oshawa as an Anchor Hub, denoting its strategic importance in relation to the Oshawa Urban Growth Centre. It also proposes an "Oshawa Connector" which will connect downtown Oshawa by bus rapid transit to the existing GO Transit Station adjacent to Highway 401.
- Metrolinx' Big Move (2008) identifies a bus rapid transit line along Highway 2, connecting Scarborough Centre to downtown Oshawa.
- Metrolinx' Big Move (2008) identifies transit improvements along Simcoe Street to connect the existing GO transit station to the future Highway 407. This would also provide improved transit connections between the UOIT downtown location and the shared Oshawa campus.
- The existing Oshawa GO Transit Station is identified as a "Gateway Hub" in the Big Move. These hubs are places of connectivity between regional rapid transit services, and also considered to be places where different modes of transportation, from walking to high-speed rail, come together. Gateway Hubs in the Big Move generally correspond with the Mobility Hubs as identified in the Growth Plan for the Greater Golden Horseshoe.
- There is a proposed trail to the west of the location.



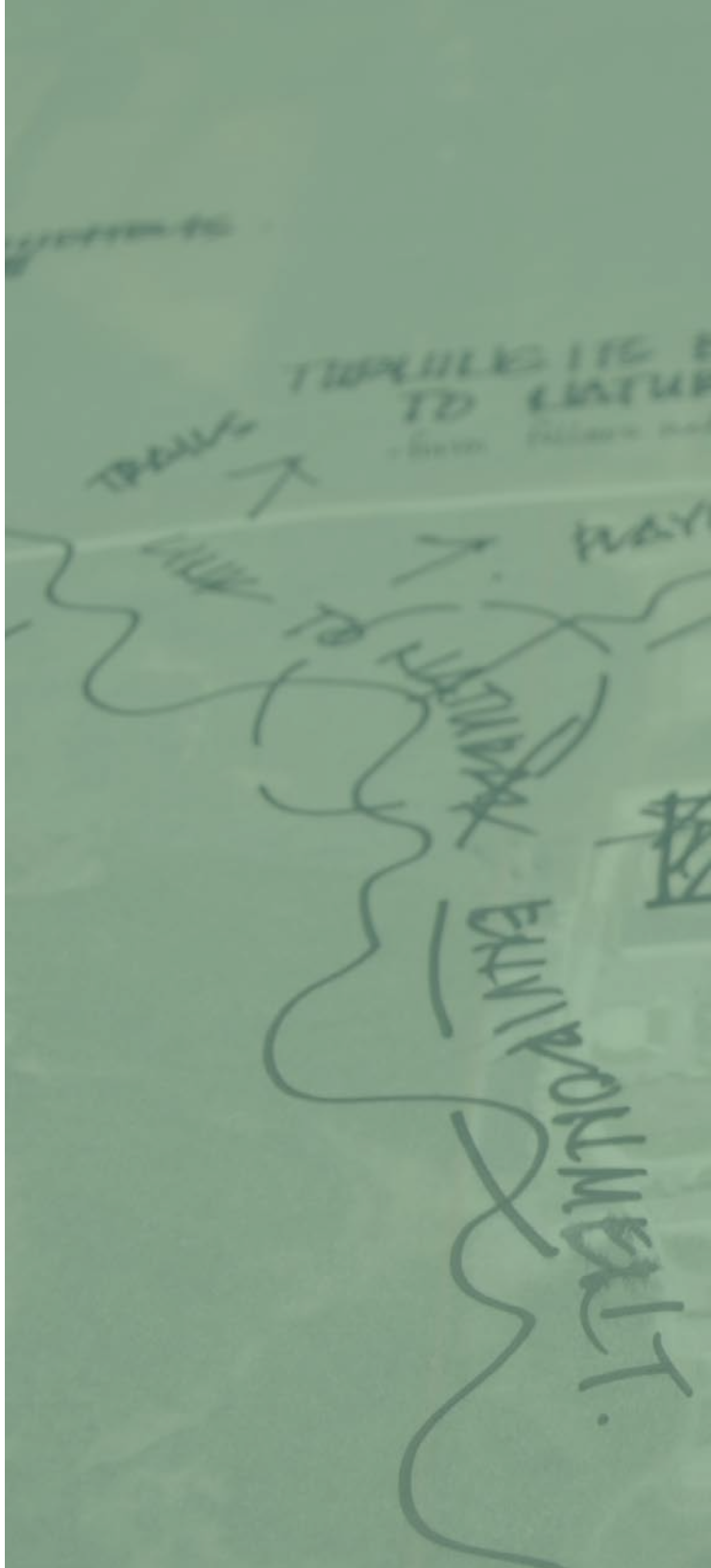
Downtown Oshawa and Whitby "World in Motion"

4.0
Contextual Analysis




Britannia Avenue West
Britannia Avenue
Northern Dancer Dr
Seneca St N
Conlin Road W
Conlin Road E
Stevenson Rd N
Seneca Way

4.1
Campus Planning




DEVELOPMENT OPPORTUNITY!
SHOPS, CIVIC SPACES
STREETS
THROW AWAY THE
CREATE A PLACE!

4.1 Campus Planning

Introduction

Durham College and UOIT have undertaken joint Master Planning processes and independent studies related to land use and design in the past. There is valuable information in each of these previous Plans and as such, they were reviewed as part of this exercise. Key principles have been identified to carry forward into the current Campus Master Plan process.

Durham College - UOIT North Campus Master Plan Report 2001

In 2001, The Planning Partnership and Brad Johnson & Associates were retained to develop a master plan for the Windfields Farm lands north of Conlin Road. The report outlines the possible development for land north of Conlin Road and provides an overview of the shared Oshawa campus.

Key principles from the 2001 Plan include:

- create a vibrant focus for the City of Oshawa;
- create a built form and/or landscape edge to create signature edge streets; and
- the need to provide sense of entry into the campus.

(Source: The Planning Partnership and Brad Johnson & Associates)

March 2010 Master Plan Notebook: Sasaki

In 2008 Sasaki was retained to prepare a master plan as a road map for growth on the shared campus, and to address the unique needs of each institution. The report includes a high level urban design analysis of the north and south campus. Three master plan concepts were put forward. The 'Community Connections' concept combined with elements of the 'Distinct Identities' concept were determined the most appropriate and preferred.

Principles from the Sasaki Plan that may be considered in the development of this Joint Campus Master Plan include:

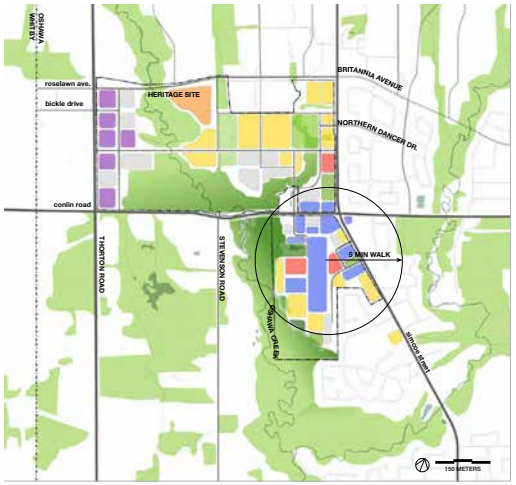
- Each institution should have a clear physical identity within the shared campus
- A more effective on-campus transit solution is required than what is currently provided in the campus transit loop.
- Development along Simcoe Street should be better defined in order to reflect the institutions' presence and identity.

The Sasaki work was completed less than five years ago and as such, some of the mapping remains relevant and has been used in this exercise.

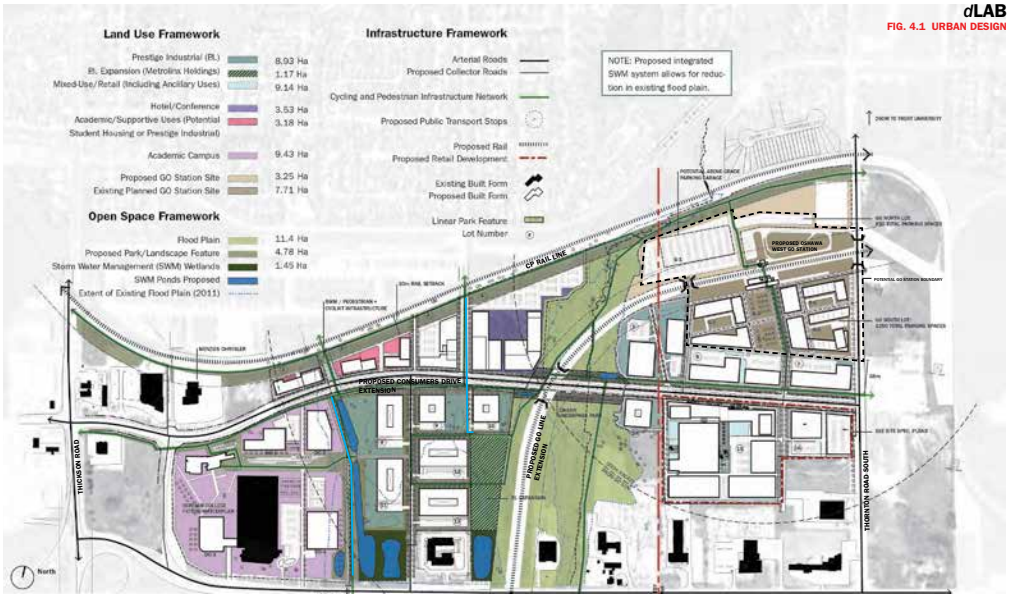
Into the Future: A Framework & Action Plan for Growing UOIT & Downtown Oshawa March 30, 2011

The report outlines a framework for proposed growth for UOIT and downtown Oshawa. It provides an overview of possibilities and challenges. Key principles that have been brought forward include:

- The importance of integrating the different locations within the UOIT and identifying the university as one institute. The report identifies that these must be both movement connections as well as creating the visual perception of one overall campus.
- The desire for vibrant communities surrounding the UOIT campus. Vacant and underused sites surrounding the downtown location could evolve to create mixed use communities.



Draft Master Plan Land Use
(Source: Sasaki Master Plan, 2010)



Land Use Framework (Source: rA, Urban Design Study, 2013)

dLab Urban Design Study, 2003

dLAB presents a sustainable urban design framework for the lands surrounding and adjacent to the proposed Oshawa West GO Station. The landowners and principal tenants of lands surrounding the proposed station site initiated the dLAB Urban Design Study to create a cohesive vision for the form, character, and principal land uses that are supportive of and compatible with this future transit investment. The vision for the site focused on these principles which will be considered in the current exercise:

- Leveraging the location in terms of access and exposure to Highway 401;
- Opportunities for creative cluster or innovation district that includes both new employment and expansion of the existing Durham College and Trent University Campuses;
- Consumers Drive extension east from Thickson Road in Whitby to Thornton Road in Oshawa. Durham College's phase 3 development was to include a portion of this road extension.
- The east and west channels of Corbett Creek run through the site and create opportunity for open space and natural heritage enhancement.

The Plan illustrates Durham College's lands as an expanded campus with academic buildings in areas where parking lots currently exist. The Campus Master Plan will incorporate the related pillars and land use plan into recommendations for the Whitby Campus.

Accessibility Plans

Both Durham College and University of Ontario Institute of Technology have Accessibility Plans. Durham College creates an annual Accessibility Plan to review and evaluate the previous year's objectives and outline a set of objectives for the coming year. UOIT's multi-year Accessibility Plan creates a roadmap for UOIT to meet the obligations of the Integrated AODA standards.

These are relevant to the Master Plan as the Plan will need to consider implementation of the relevant Accessibility for Ontarians with Disabilities Act (AODA) requirements broadly in its design.

Strategic Initiatives and Campus Planning: Recommendations:

CP 1: Past Master Plans and strategic documents have identified principles that should be considered in this Master Plan process:

- Create vibrant, mixed use communities that integrate neighbourhoods and the institutions;
- Establish clear physical identities for each institution; leverage access and exposure;
- Create signature street/built form connection that defines presence but also a sense of place;
- Reduce parking provision and make transit more effective on campus;
- Utilize opportunities for open space and natural environment connections; and
- Develop opportunities to create linkages with the wider community and create economic opportunities.

CP2: The Campus Master Plan should implement relevant Accessibility for Ontarians with Disabilities Act (AODA) requirements through design.

4.2
Natural Environment

4.2 Natural Environment

Introduction

The natural environment is an integral part of the shared Oshawa campus. As the campus expands north into the Windfields Farm lands north of Conlin Road, the natural environment will continue to be a structuring element in the determination of building and open space locations and road alignments. As a result, it is essential to understand the opportunities associated with the natural environment, and how this can be reflected and integrated with the campus lands. Oshawa Creek, its tributaries and associated wetlands, are an important resource and opportunity for the future campus. In taking advantage of the natural features in the campus planning process, it is also critical to understand the development constraints associated with these features.

The western edge of the shared Oshawa campus is established by the natural valley system which continues south to towards Lake Ontario. The creek corridor has been integrated into the campus design through the development of a naturalized and functional stormwater management pond opposite Polonsky Commons.

Watercourses and Wetlands

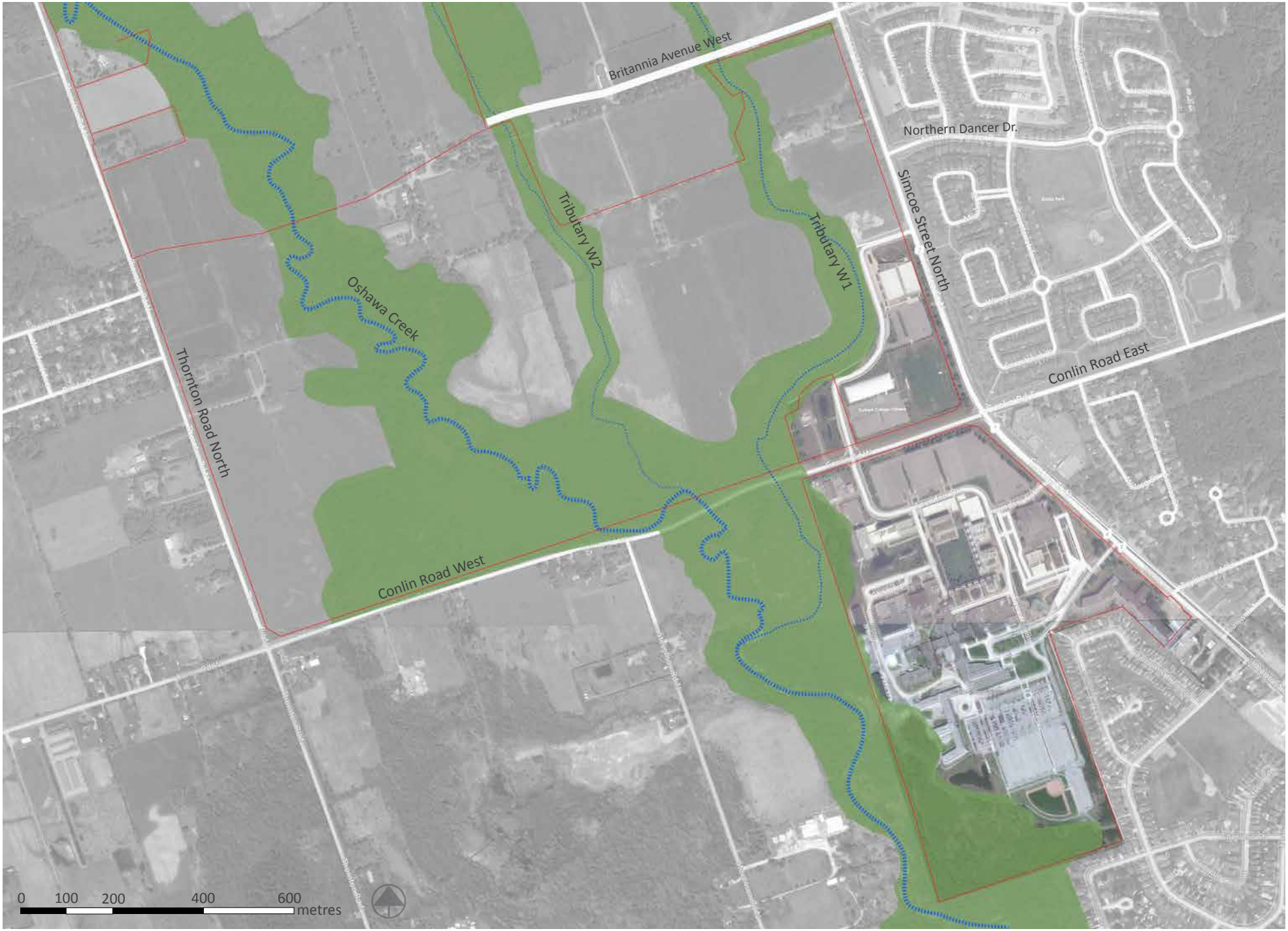
The Windfields Farm lands north of Conlin Road are traversed from north to south by three watercourses; the West Branch of Oshawa Creek and Tributaries “W1” and “W2.”

Oshawa Creek and the surrounding forested area are the most significant watercourse and natural feature through the Windfields Farm lands north of Conlin Road. The Oshawa Creek corridor, north of Conlin Road also contains a series of Provincially Significant Wetlands (PSW), unevaluated wetlands, and old growth forest areas, as defined by the Ministry of Natural Resources. A setback of 30 + metres is required from these features. The PSW is located directly north of Conlin Road, west of the Oshawa Creek watercourse.

Tributary W1 originates north of the Winchester Road and continues south, connecting to the Oshawa Creek corridor along the west side of the Windfields Farm lands north of Conlin Road. A minimum setback of 30 metres is required for any future development adjacent to this tributary.

Tributary W2 originates south of Winchester Road, flowing south through the centre of the Windfields Farm lands north of Conlin Road and joins Oshawa Creek West branch directly north of Conlin Road.

W2 is the smallest of the three features and is a dry tributary, meaning that surface flows may be present following extreme rain events. Despite this characterization, development must also be set back.



Natural Corridors (Creek locations are approximate and should be confirmed through detailed reconnaissance)

Grading and Topography

North of Conlin Road, the land is gently sloped from north to south and would be considered to be generally flat (average 1% to 2% grade). Slopes are slightly greater around the Oshawa Creek and the two tributaries. The slopes are most significant in the creek corridor south of Conlin Road, where the watercourse sits within a small valley. The change in elevation is approximately 10 metres, from the grades at the shared Oshawa campus to the bottom of the creek corridor. The developed lands south of Conlin Road are generally flat with minimal grade changes. Development north of Conlin Road will require site grading that matches any grading along the valley edges. Along Simcoe Street and Thornton Road the grades will be established along the property line to ensure that they are compatible with the centreline road grades allowing for the future urbanization of these roads.

Considerations for the future grading within the Windfields Farm lands north of Conlin Road include:

- Conlin Road is currently going through the Environmental Assessment process which will result in a redesign and new property line grades.
- Future road grades north of Conlin Road are anticipated to be generally flat, varying between approximately 0.5% and 3.0%.
- Any new roads north of Conlin Road need to be designed to drain south toward one of the future SWM facilities previously identified by the Windfields Planning Area West Master Environmental Servicing Plan (February 2012).
- Britannia Avenue extension, west of Simcoe Street, will be constructed in 2014. In order to cross the creeks and install culverts, the elevation of Britannia Avenue West will be raised above existing grades (by up to 4m).
- Site grading will need to be designed in accordance with City of Oshawa grading criteria with respect to minimum and maximum grades, slope heights, swale requirements, etc.

Development Constraints

Prior to the development of detailed plans for development in the Windfields Farm lands north of Conlin Road, the site will need to be walked with staff from both Central Lake Ontario Conservation Authority (CLOCA) and the City. Specific development constraints, including top-of-bank, need to be staked and surveyed in order to establish the precise limits of development.

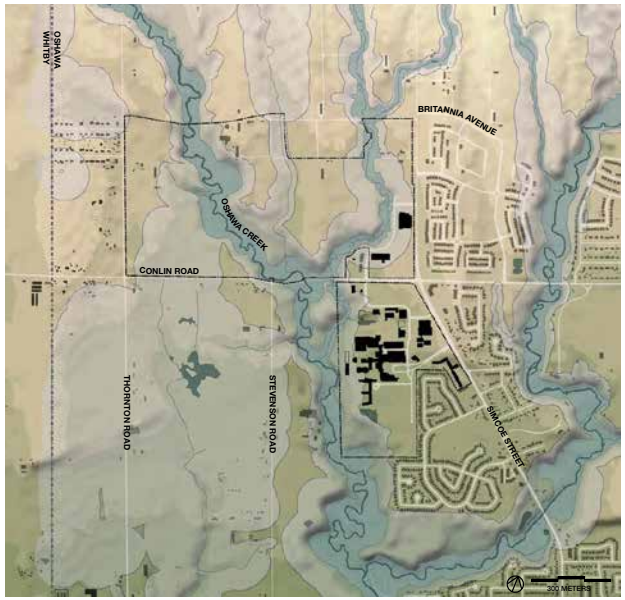
The Oshawa Creek corridor is up to 300m wide in some sections which creates a barrier for crossing, but allows for the creation of a significant green link throughout the campus lands. Proposed crossings of the creek and tributaries must consider, among other things, environmental impact, erosion potential, and wildlife movement.

Downtown Oshawa Location

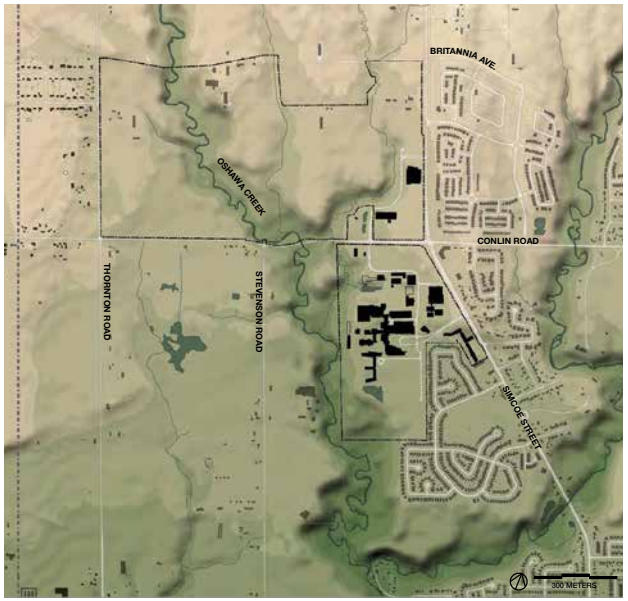
The downtown Oshawa location is set within an urban context where there are very few natural features. Open spaces and streetscaping associated with this location are discussed in Section 4.3: Urban Design.

Whitby Campus

The dLab Urban Design Study identifies the east and west channels of Corbett Creek directly west of the Whitby Campus. The Study indicates that there are wetlands located in the Creek corridors which it suggests can be integrated with open space areas.



Preliminary Floodplain Review Areas (Sasaki Master Plan, 2010)



Topography at the shared Oshawa campus and Windfields Farm lands (Sasaki Master Plan, 2010)

Natural Environment Recommendations:

NE1: Oshawa Creek and Tributaries W1 and W2 create natural corridors which should be protected and integrated into the Master Plan. Development areas should respect the known corridor setbacks, while ensuring that development and open space can be positioned to take advantage of and integrate with these existing features.

NE2: The total number of creek crossings should be minimized and where required, sited to minimize environmental impact.

NE3: Additional environmental effects should be explored as concept plans develop and the limits of development should be confirmed by DC and UOIT through consultation with Central Lake Ontario Conservation Authority (CLOCA) as soon as possible.

4.3
Urban Design

4.3.1 Introduction

A full understanding of the defining characteristics and structuring urban design elements of the existing campus is necessary to successfully integrate new built form and open space elements to be designed in the Master Plan.

The following section studies the key urban design elements that will inform the Framework Plan and the Campus Master Plan:

- Character Areas within the campus
- Built Form and Architecture
- Public Art
- Streetscape
- Open Spaces

High quality urban design will contribute to the establishment of a distinct campus identity. Creating a more walkable environment, with linked open spaces and a connected and enlivened public realm will enhance the campus experience for students, staff and the public. It can enhance a sense of identity within the campuses and celebrate cultural heritage, strongly reinforcing both the form and function of the campus in the future.

Summary of Urban Design Analysis

The urban design analysis provides insight and direction to the following Master Plan Principles:

Walkability

There are opportunities to increase density throughout the site, especially along Simcoe Street and Conlin Road. Increasing built form density would aide in the establishment of a "hub" for the campus, as well as enhancing pedestrian spaces by framing open spaces and pedestrian connections. An increase in density would also improve the walkability of the campus through integrating uses in a more proximate arrangement, and help connect the campus to the surrounding wider community through more integrated land uses.

Green Connections

The existing green spaces on campus such as Polonsky Commons and the stormwater management facility present an opportunity to establish a wider green linkage strategy which connects with the natural heritage system of the Oshawa Creek and its tributaries. These green connections can provide much needed passive open space within the campus, as well as providing green infrastructure function, such as managing stormwater and reducing the urban heat island effect.

Identity

A joint campus identity can be enhanced through a co-ordinated campus wide approach to wayfinding and site elements such as lighting, benches and trash receptacles. Co-ordination with the City of Oshawa and Durham Region on streetscape enhancements that will improve the connectivity of the campus as well as the greater community also offers the opportunity to create a campus gateway. Through the use of coordinated public realm elements and street furnishings that are themed, a campus precinct can be established, strengthening the visual presence of both institutions within the wider community.

Cultural Heritage and Diversity

Windfields Farm represents an important cultural heritage asset for both the campus as well as the wider community. The diversity amongst students at both institutions, as well as the shared Oshawa campus' location within traditional territories of the Mississaugas of Scugog Island First Nations provides a strong cultural core at this campus. Strengthening the presence of the farm and cultural history within the framework of the campus provides an opportunity to reinforce the unique historical context within the campus' identity. The creation of strong pedestrian linkages throughout the campus will serve to connect Windfields Farm with the rest of the campus. Further, opportunities may exist to

coordinate programs and course work with the site facilities which will assist in the re-purposing of the lands and buildings. The influence of this important resource should be referenced throughout the campus where possible.

Learning from the Evolution of the Campus to Challenge Design Convention

Built form can have a powerful influence on the urban environment, defining space and lending character to an area. The Master Plan will consider a substantial increase in the amount of development on the shared Oshawa campus in particular, presenting important opportunities for articulating space and creating identity. Built form interface with campus circulation systems as well as the open space system could be strengthened, and new built form should be considered carefully in terms of its contribution to campus identity. It is key to build on the existing foundations in terms of building use, architectural style and its surrounding area. New buildings should use contemporary architecture using modern materials and referencing the original campus buildings.

Understanding the character of the campus is important in creating a vision and master plan going forward. New development should build upon what has been achieved to date, strengthening connections and enhancing identity.

The Campus ice Centre

Looking towards Founders Drive

4.3.2 Character Areas

After examining factors such as built form character and use, open space, programming and connections, the shared Oshawa campus has been divided into the eight character areas:

- Sports Village north of Conlin Road;
- Conlin Road and Simcoe Street Frontages;
- Gordon Willey Building and Campus Approach;
- South and West Village Residences;
- Polonsky Commons and Stormwater Pond;
- Recreation and Wellness Centre and surrounding area;
- Simcoe Village Residence; and
- Windfields Farm lands north of Conlin Road.

The eight character areas are further described below and recommendations are summarized at the end of the section.

Sports Village north of Conlin Road

This area has an active recreation focus, and currently includes the Tennis Centre, Ice Centre and Soccer Field, facilities which are used by both institutions as well as the wider community. The Ice Centre with its parking lot is located adjacent to Simcoe Street. The Tennis Centre is located at the north-west corner of the Simcoe Street/ Conlin Road intersection. These buildings and parking lots occupy key sites within the campus.

Conlin Road and Simcoe Street Frontages

The north-east portion of the shared Oshawa campus lands which front onto Conlin Road and Simcoe Street are currently characterized by large at-grade parking lots with small scale permanent and temporary buildings adjacent to, but set back from Simcoe Street.

The modernist and striking design of the Student Services Building, completed in 2011, is a landmark of the campus. Although set back, it is visible from Simcoe Street, but it is physically disconnected from the streetscape by a large parking lot.

One of the first buildings on the Durham College campus, the Simcoe Building is a one-storey building of low architectural quality that fronts onto Founder's Drive. Its long, windowless walls result in little interaction with the public realm, and a weak relationship with Simcoe Street. The large surface car parking areas in this character area present key development opportunities for increased density and improved interaction between built form and street life.

Gordon Willey Building and Campus Approach

The Gordon Willey building was built in the early 1970s and is the heart of the original campus. The main entrance to this two storey building fronts onto Commencement Drive, which is accessed from Simcoe Street. Commencement Drive is currently part of the main bus route loop and drop off point at the campus. The area of open space referred to as the Willey Quad within the 2010 Master Plan Notebook is located in front of the Gordon Willey building. Currently use of this open space is not maximized due to the large amount of congestion resulting from the bus route.

Plan of the Character Areas

South and West Village Residences

The West Village Residence and South Village Residence are three buildings which house a significant proportion of the on-campus student population. The 208,000-square-foot South Village residence opened in September 2005, and is five storeys. The building fronts onto the main parking lot in the south of the site, and to the west of the building is the Oshawa Creek.

The West Village Residence comprises two buildings, which are both four storeys high. These town houses are of neo-traditional architecture with walk up steps and railing features. The buildings front on the Wellness Centre and the L Wing of the Gordon Willey building, and are separated by a small parking lot.

Polonsky Commons and Stormwater Management Pond

Polonsky Commons is the largest formal open space within the campus and is surrounded by four storey buildings on three sides. The buildings create a sense of enclosure and define the edges of space. The campus library borders the Commons on the northern side, which also includes a café. The western boundary of the Commons is a protected walkway, which provides a visual connection to the stormwater pond and open space beyond to the west.

Recreation and Wellness Centre and Surroundings

The Recreation and Wellness Centre, opened in 2007, is located along the western edge of the Campus, between the Gordon Willey building and Oshawa Creek. This two storey building contains the campus' 28,000-square-foot triple gymnasium and a 10,000-square-foot fitness centre, as well as the Campus Health Centre. The athletics facilities are used by over 10,000 users each month, and provide an important function for students and staff, as well as the greater community at large.

Simcoe Village Residence

This four storey residence building is set back from Simcoe Street and is separated from the road with two parking lots and an area of open space. There is no building identification or wayfinding signage. The building has little relationship with Simcoe Street, as it fronts onto a parking lot and overlooks the back yards of private two storey homes. The homes are bounded with private wooden fences.

Windfields Farm Lands

The Windfields Farm, northwest of the campus, was the horse farm of E.P Taylor and is resting place to eight famous racehorses including Northern Dancer. Currently, it is not visually or physically connected to the shared Oshawa campus, and is not accessible to the public. Further detail and recommendations are provided within the Cultural heritage section of this report.

Whitby Campus - Durham College

The character of Durham College Whitby Campus is characterized by one large building adjacent to Champlain Avenue as well as the recently opened Centre for Food building which is located on the northwest corner of the campus. The campus was established in the early 1990s as a skilled trades training centre and has undergone a major expansion with Phase 1 (focus on green and renewable energy) opening in 2009 and Phase 2 (focus on sustainable building trades and student study space) in 2011. Both of these additions

became part of the main building while Phase 3 (the Centre for Food) is a standalone building, which opened in 2013.

The campus buildings share a similar branding as the Student Services Building on the shared Oshawa campus. Physical connections between the campuses are limited resulting in the need for students to drive between between campuses. The campus's location proximate to Highway 401 ensures is accessibility by car, however it leaves the campus rather isolated in terms of its linkage to the greater community.

Downtown Oshawa Location - UOIT

UOIT downtown Oshawa location benefits from the vibrant downtown character of its surrounding. This location includes the reuse of historic buildings such as the Regent Theatre which was redeveloped in 2010 as a lecture theatre. Drawing on the unique architectural character of these historic buildings strengthens the campus' identity and serves to integrate the campus into the community.

Character Area Recommendations

CA1. The Conlin Road and Simcoe Street intersection could be a gateway to the campus. This mixed use hub could have a range of activities and uses, including both institutional and commercial, strengthening the community connection as well as institutional identity.

CA2. Create a strong building edge, framing the public realm by orienting new development towards Simcoe Street and Conlin Road.

CA3. Intensify development within the Conlin Road and Simcoe Street parking lots to create a vibrant mixed use hub and to present a strong gateway into the shared Oshawa campus.

CA4. Review existing bus routes and opportunity for possible bus loop relocation to determine how transit congestion can be reduced within the Willey Quad open space.

CA5. Commencement Drive has the opportunity to become a key pedestrian connection within the campus, detailed with streetscape and planting improvements to reflect the importance of this route.

CA6. Intensification of the South Village Residence large surface parking lot may be considered, with an aim to create a more continuous built form and assist in linking the campus together.

CA7. Opportunities for improved green linkages between the campus and the surrounding natural environment may be implemented where possible.

CA8. Polonsky Commons is a focal point of the campus and has the opportunity to be further reinforced and integrated with the pedestrian links throughout the campus.

CA9. Explore opportunities to improve the interface and connections between the character areas on campus through the provision of coordinated streetscaping, wayfinding and pedestrian pathways (both internal and external).

CA10. Seek opportunities to create visual linkages between the UOIT Downtown location and DC Whitby Campus through consistent signage and branding.

4.3.3 Built Form and Architecture

The original Durham College buildings are of typical character for institutional buildings of their time. The two and three storey, mostly brick buildings establish a central axis at the centre of the campus. Early buildings were set back from Simcoe Street in large areas of open space, with the backdrop of the Oshawa Creek.

The Simcoe Building was one of the first buildings constructed on the shared Oshawa campus. It is one storey in height and set back from Simcoe Street. The main building entrance is set back from Founders Drive and is behind a parking lot. Pedestrian access would be provided through the parking lot. The redevelopment of this site would provide the opportunity to create a continuous and active façade along Founders Drive, Founders Gate, and/ or along Simcoe Street.

The first UOIT buildings, built in 2002, were developed along Founder's Drive and changed the urban fabric of the campus, creating a design shift within the campus. These buildings are four storeys in height and included the shared library and the Science, Business and IT Building. These comparably taller buildings, increased the overall building scale at the campus.

The library has large expanses of glass frontage with red brick at the ground floor, which reflects the material of the original Durham College campus. The library is striking with a circular section which juts out from the rest of the building. Like many other buildings on campus the building façade, paneling features add interest to the overall streetscape. The library faces directly onto Polonsky Commons. The café within the building helps to create further activity in this area.

The UOIT Science Building which fronts onto Polonsky Commons is one of the most recognizable buildings on Campus.

This four storey building from 2002 uses brick for the main material with large oversized windows, providing large amounts of natural light to the labs within.

This building acts as a visual transition between the original Durham College buildings which were mostly brick, to the newer buildings in the north of the campus which feature more contemporary materials. The fenestration pattern of the library is echoed in the Science building which creates consistency around Polonsky Commons.

The Durham College Student Services building, located on Commencement Drive is a modernist two storey concrete and glass building. Half of the building is suspended on pillars creating a protected pathway and steps from Commencement Drive on the west to the internal building courtyard to the east underneath. The building works with Commencement Drive's topography and is elevated further from the ground at the south of the building than the north. The open space underneath the building provides a visual connection through to the Campus from Commencement Drive, while the pillars effectively mark the building footprint and relationship to the street.

The dynamic architectural form of the Student Services Building shares a permeability in its façade with the Library and the Science buildings, with large expanse of glass allowing for visual connections from inside and out.

The Student Centre, located directly east of the Student Services Building, is a two-three storey brick building with large glass arched windows, which reflect the Windfields Farm legacy. The main entrance to the student centre is at Founders Drive and Commencement Drive. There is also a rear

(Source: UOIT)

(Source: Durham College Archive)

(Source: Durham College Archive)

entrance from the Student Services building. The building is set back from the intersection and there are few trees or outdoor spaces for students, aside from a few benches.

The UOIT Energy Systems and Nuclear Science Building and the Business and Information Technology Building which both front directly onto Founder's Drive have contemporary interpretations and reflect the key materials found within the campus.
Combined, the buildings create a dynamic streetscape. Glass and brick are the main materials used but varied fenestration creates an interesting rhythm to the building and reduces the overall building mass.

Although not visible at street level a key feature of the buildings surrounding Polonsky Commons are the green roofs. These form a key part of the Campus' sustainability commitment and connect the green infrastructure network.

In some parts of the campus there is a disconnect between the different built forms. This is especially true along Founders Drive where more recent development such as the Energy Systems and Nuclear Science Research Centre; a four storey building with an interesting and vibrant façade, is located adjacent to a temporary, one storey structure, with little space between them. This juxtaposition is uncomfortable and is detrimental to the rest of the streetscape which is generally four to five storeys.

Built Form and Architecture Recommendations

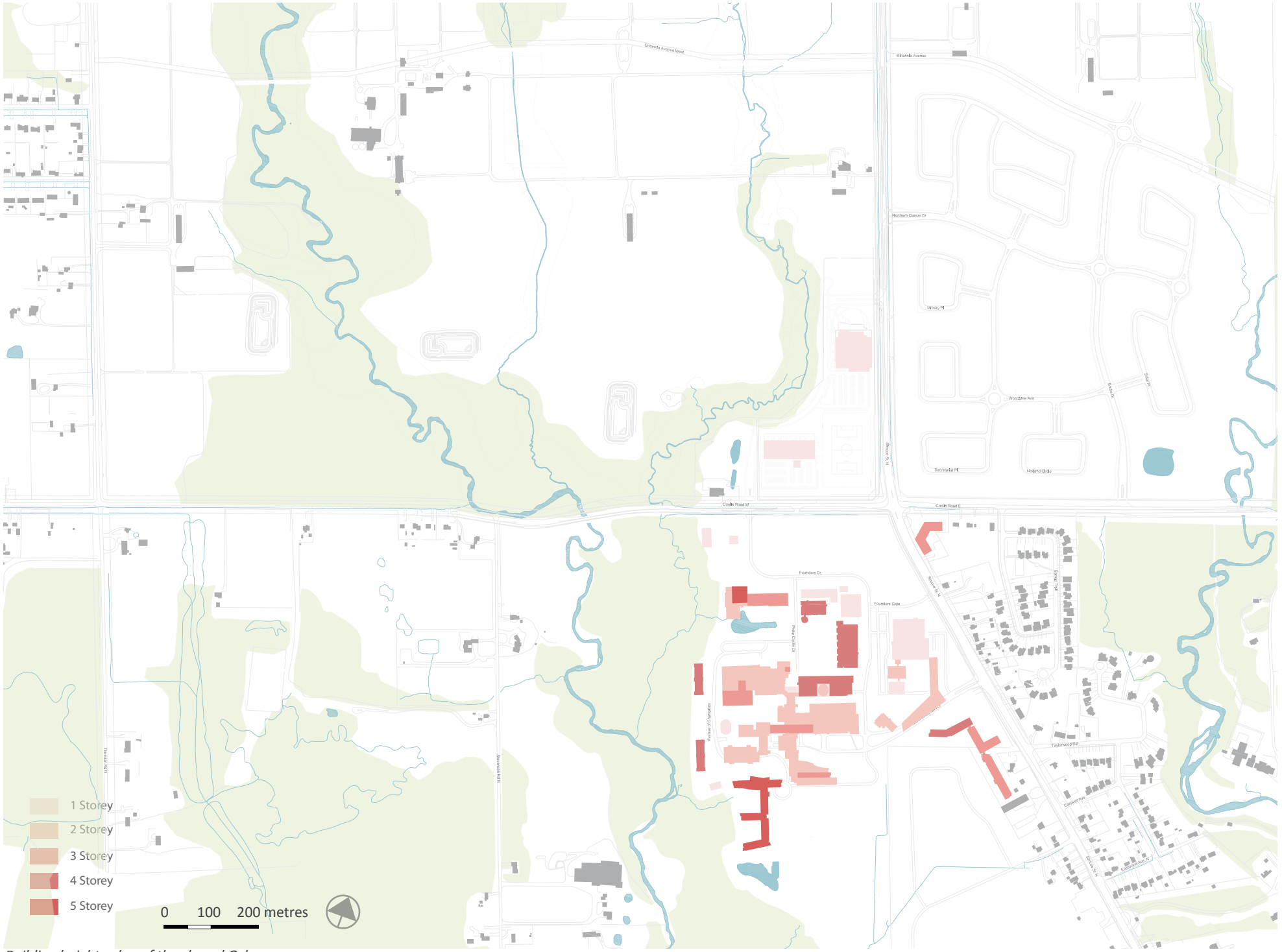
BF1. New campus buildings should, where appropriate, continue to use and reference materials which are used in the existing buildings; brick, glass, concrete and paneling. The materials colour palette could be complimentary to the existing buildings and landscape. Sustainability principles and features could be incorporated into new buildings where appropriate.

BF2. The new buildings should, where appropriate, be of contemporary and striking design to complement the existing urban fabric, reference the campus' cultural heritage and showcase the campus' commitment to innovation, technology and sustainability.

BF3. In contrast to the many interesting and varied buildings on campus there are buildings that present opportunities for redevelopment. Underutilized or outdated buildings that are located at key locations on the shared Oshawa campus may be redeveloped, for example, the Simcoe Building.

BF4. Redevelopment and infill along Simcoe Street North should establish a strong relationship with the streetscape and an exciting dynamic façade.

BF5. Existing parking lots and underutilized buildings adjacent to Founders Drive may be developed to be up to four storeys in height to create a strong boulevard in the heart of the campus.



Building heights plan of the shared Oshawa campus

4.3.4 Figure Ground Study

Shared Oshawa Campus

The figure ground plan is a mapping of built and unbuilt space. It is an important tool in analyzing built form and the relationships between buildings, as well as to site and circulation patterns. Gaps in footprint, or disorganized space can highlight potential development areas.

The opposite plan highlights the relationship between the built form on the campus, open spaces and parking lots. Building mass at the heart of the campus is greater than open space, creating a more dense campus with defined street walls. The articulation of open space is also achieved through the built form, perhaps most notably at Polonsky Commons, where the built form surrounds and defines the open space. The location of the parking lots surrounding the institutional buildings and adjacent to the main access roads is similar to the campus form that existed when original Durham College buildings were built in 1950s/ 1960s and when vehicular transportation was generally increasing. As urban design thinking has evolved and public transit provision has increased these areas are no longer considered suitable locations for parking. Infill development and intensification of these areas will aide in redefining these spaces, and increasing walkability and a sense of human scale. Transportation via private automobile and, therefore, parking will still be required on campus; however, it into the future parking lots should not be placed along primary street frontages and where feasible should be placed out of view, either below grade or within structured buildings.

The figure ground also identifies potential for improved open space connections throughout the campus, as well as opportunities for improved connections to the Oshawa Creek corridor which could be integrated throughout the campus. The opposite photo illustrates the opportunity for increased development at key corners within the campus and along the main roadway corridors. It is essential that the development potential of these vacant sites, some of which are currently occupied with mobile or temporary buildings, is achieved.

Durham College Whitby Location

The main building on the Whitby Campus is striking and easily recognized from the Champlain Avenue and the 401 Highway. The building has a large footprint reflective of its formerly industrial purpose, and its internal site circulation is connected to Champlain Drive.

UOIT Downtown Oshawa Location

The buildings at this location form part of the fine grain of urban development characteristics of the settlement period and streetscape of downtown Oshawa. While the location within dense built form organized on a grid affords well defined street walls and public realm, the building locations within the city form result in a disconnection of the buildings from one another. The result is a diminished institutional presence within the urban fabric, and a lack of a campus inter-relationship.

Figure Ground plan of the shared Oshawa campus

4.3.5 Public Art

Shared Oshawa Campus

Public art is a key feature throughout the shared Oshawa campus for both Durham College and UOIT. It is an important part of the campus landscape and environment. Art installations add vibrancy to an environment and can assist with way finding and creating character areas within a location. Public art provides a key opportunity to reference a site's heritage and create powerful connections to its sense of place.

Some of the key public art features are identified on the opposite page.

Public Art Recommendation

PA1. Additional public art may be incorporated throughout the campus to strengthen campus identity, contribute to the aesthetic quality of the campus, and create opportunities for engagement and interaction.

(Source: Durham College Archive)

(Source: Durham College Archive)

4.3.6 Streetscape

A well-designed and active streetscape can provide important opportunities for engagement and enhancement of public life. There is potential to improve the overall streetscape of the campus. A coordinated streetscape strategy would help create a cohesive identity for the institutions.

Street Furniture

There are a limited number of benches located throughout the campus for student use. While some of these are located on the key green spaces which are well used, others are in more peripheral locations. Additional benches at suitable locations could be provided as key clusters of street furniture in suitable locations will create key social hubs.

Street Materials

The buildings within the campus use a range of materials, however this variety is not reflected within the streetscape. Concrete is the main material used for streetscaping element and paving. In some locations, such as adjacent to the Campus Ice Centre, the impact of the concrete has been reduced with planting boxes using woodchip. This variety in materials helps provide variety and colour to the streetscape.

Whitby Campus - Durham College

Whitby Campus comprises one main building with a parking lot adjacent to it as well as the recently opened Centre for Food building which is located on the northwest corner of the campus with another smaller parking lot adjacent to it.
There are opportunities for streetscape elements between the two buildings

Downtown Oshawa - UOIT

This location benefits from the downtown streetscape, which has wide pavements and tree planting along Victoria Street and Simcoe Street.

Recommendations

ST1: An integrated approach to streetscaping may be established for all campuses. This will create a unique identity for both institutions and the campuses. The strategy would identify suitable materials which reflect each individual institution's vision as well as coordinated materials and design for shared spaces. The strategy would ensure a coordinated and unique appearance on the campuses while respecting the unique identities of Durham College and UOIT.

ST2: Locations for additional street furniture and other streetscape elements should be identified through the Master Plan process. The institutions may seek to add elements of a downtown streetscape into the shared Oshawa campus.

4.3.7 Open Spaces

The opposite aerial photograph highlights the many green spaces within the campus and its relationship with the neighbouring forest.

There are a range of open spaces within the campus. The 2010 Master Plan Notebook categorized these as follows:

- Forested land
- Natural Open Space
- Agricultural Land
- Lawns
- Quads and Greens
- Plazas
- Athletic Fields

(Source: Sasaki Notebook, 2010)

Polonsky Commons

The central open space on the shared Oshawa campus. This open space is surrounded by buildings on the north, east and south sides, including the library. There is a shelter on the west side.

Stormwater Pond

The main stormwater pond for the campus is located to the north-west of Polonsky Commons. This pond is a key part of the sustainability initiative throughout the campus and provides a key informal open space in the campus. The stormwater pond and Polonsky Common helps create green linkages into the campus from the forested lands to the west, improving the relationship with Oshawa Creek.

Willey Quad

The Willey Quad open space fronts the Gordon Willey building. This open space comprises a number of formal lawns, which is intersected by the bus route loop which approaches from Commencement Drive to the west. In the south of the campus there is a second stormwater pond and a baseball field. Again, the positioning of these green spaces draws the natural green linkages from Oshawa Creek into the campus.

Whitby Campus - Durham College

There are areas of informal open space surrounding the main building and the Centre for Food. There are no formal open spaces at this campus.

UOIT Downtown Location

There are numerous open spaces within Oshawa downtown, including the Memorial Park and Rotary Park.

(Source: Durham College Archive)

(Source: Durham College Archive)

Recommendations

OS1. Whilst the Willey Quad identifies the main entrance to the campus it is compromised by the current bus route. This area could be revisited and the emphasis could be on creating an accessible high quality open space which is usable and pedestrian friendly.

OS2. Polonsky Commons is the main and most formal open space within the campus. Whilst it fronts onto the Oshawa Creek lands and provides green linkages into the campus, its potential on the eastern side of the campus could be realized. Efforts could be made to open up Polonsky Commons with a gateway entrance to the west to frame its entrance and additional area of open space immediately adjacent to it.

OS3. The potential of the open space surrounding the main building at the Whitby Campus could be explored and seating areas provided.

OS4. Linkages and use of the open spaces surrounding UOIT's downtown location could be improved.

4.4
Land Use Planning

4.4.1 Provincial Policy Context

Introduction

The land use planning and regulatory framework for Durham College and the University of Ontario Institute of Technology provides the statutory framework for the future development of these lands. Further, these documents will provide the basis for the justification of intensification and mixed use development on the campuses.

The following documents were reviewed in the context of the Master Plan. Summaries of the most relevant documents have been provided in this section.

- Growth Plan for the Greater Golden Horseshoe, 2006;
- The Big Move, 2006;
- Region of Durham Official Plan;
- City of Oshawa Official Plan;
- City of Oshawa Zoning By-Law; and
- dLab Urban Design Study.

Growth Plan for the Greater Golden Horseshoe

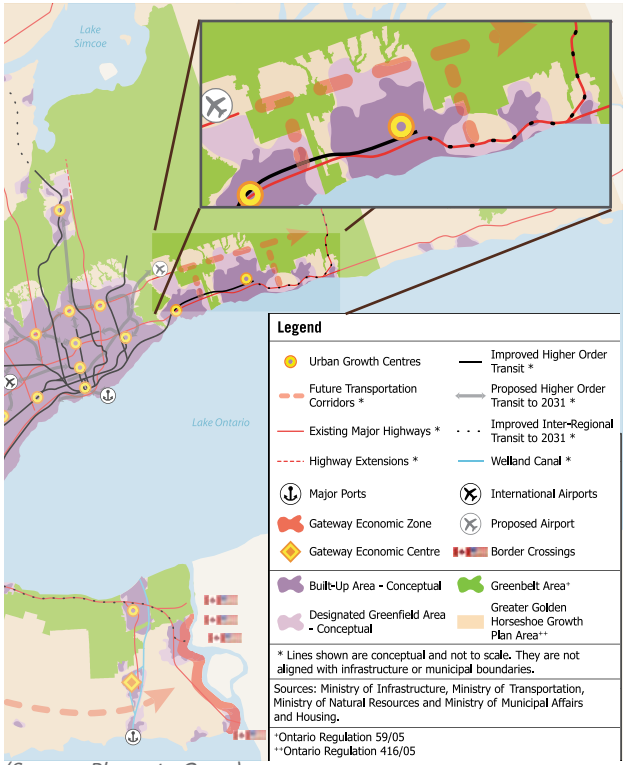
The Growth Plan for the Greater Golden Horseshoe (Growth Plan) is the Government of Ontario's framework for implementing their vision for building stronger, prosperous communities by better managing growth in the Region. The Growth Plan was prepared in 2006 under the Places to Grow Act, 2005, and was amended in June 2013.

The Growth Plan's vision is to grow a strong economy; offer a wide range of choices for living; improve movement throughout the Region; create a healthy environment that integrates with the Region's natural features; protects the high quality agricultural lands; creates vibrant and more compact settlement and development patterns within the existing urban centres; offers a diversity of opportunities for living, working, and enjoying culture; and ensures a high standard of living and quality of life.

The three campuses are within areas identified in the Growth Plan as being able to accommodate growth in population and employment. More specifically, the shared Oshawa campus and the Whitby campus are located within the "Built-up Area", which is where the Plan envisages and encourages the majority of intensification to occur. Downtown Oshawa is identified in the Growth Plan as an "Urban Growth Centre", which is to be the central focus of major intensification in the Region.

The Growth Plan policies state that population and employment growth is to be accommodated by: directing this growth to Built-Up Areas through intensification; promoting the reduction in auto-dependency through the creation of mixed use, transit supportive pedestrian friendly urban environments; and planning and investing for a balance of jobs and housing in communities across the GGH to reduce the need for long distance commuting and to increase the modal share for transit, walking and cycling (s. 2.2.1).
The provincial policy directive clearly supports intensification and infill development as a means to support the anticipated employment and population growth. These policy objectives are consistent and in line with many of the Master Plan Design Principles and provide a strong policy basis for creating a more urban, mixed use, transit supportive built form and block fabric through the Master Plan process.

Growth Plan Concept

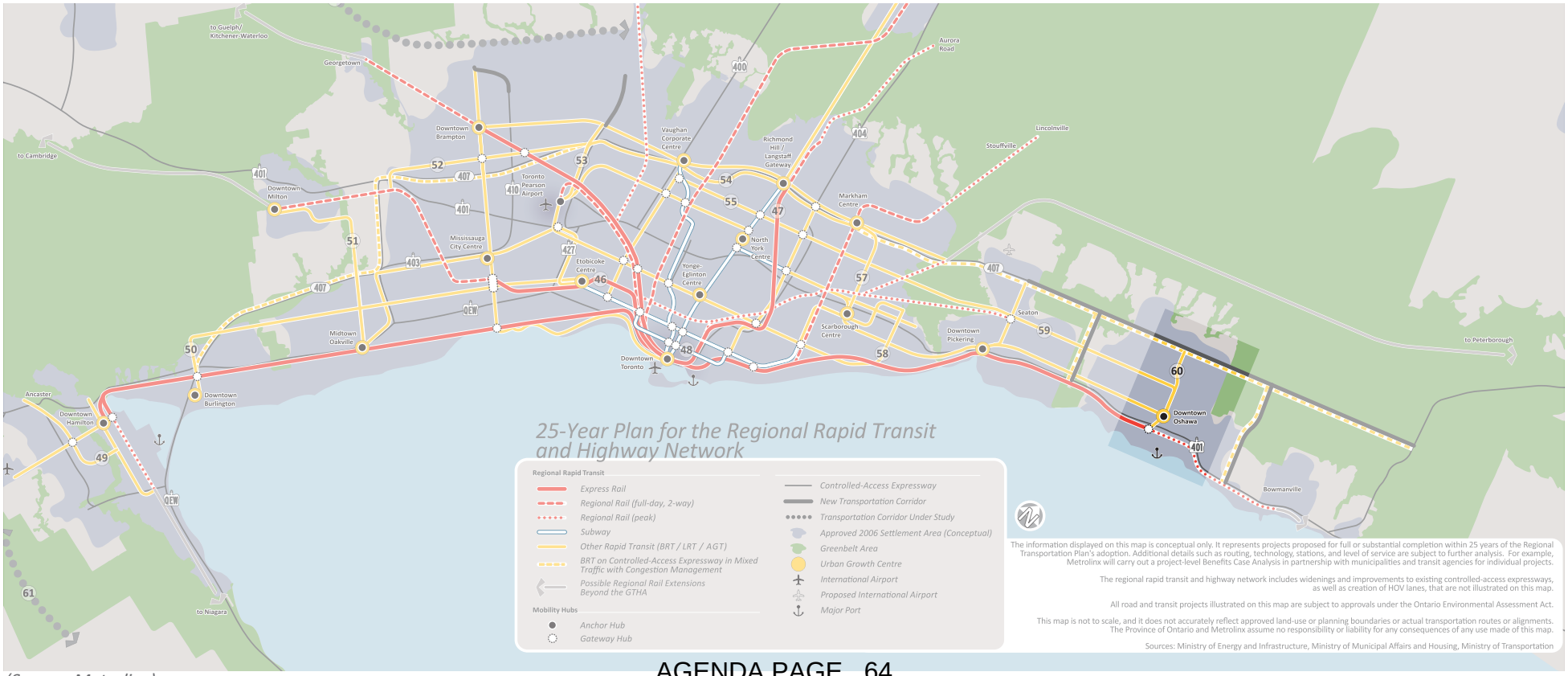


(Source: Places to Grow)

The Big Move, 2008

The Big Move was developed in 2008 by Metrolinx and provides a common vision for transportation within the Greater Golden Horseshoe. This long-term strategic plan for the development of an integrated and multi-model regional transit system provides policies and "big moves" for transit and transportation improvements and system expansion. In years 16 to 25 (approximately 2025 to 2035), the Big Move Plan identifies the extension of Bus Rapid Transit (BRT) or Light Rail Transit (LRT) service along Simcoe Street North as well as along Taunton Road, south of the shared Oshawa campus. GO Transit has also proposed an additional GO station at Thornton and Consumer's Road on the Whitby-Oshawa border, north of Highway 401, and adjacent to the new Durham College dLab. Rapid transit along Simcoe Street North will connect Durham College and UOIT to downtown Oshawa and the existing Oshawa GO Transit station.

This rapid transit expansion would positively alter function of Simcoe Street N. and more smoothly move people to and from downtown Oshawa.



(Source: Metrolinx)

4.4.2 Regional and Local Policy

Region of Durham Official Plan

Durham College and UOIT campuses are located within the Region of Durham. The Durham Regional Official Plan (January 2013, Office Consolidation) provides policies that guide the use of land and provision of transportation services across the Region.

The goals of the Official Plan are to be achieved through following a series of directives; many of which are consistent with the Master Plan Design Principles, and include encouraging developments to utilize land efficiently; protecting natural features; increasing employment opportunities; and creating urban environments that are people oriented and that support active transportation (s. 1.3.1). The Master Plan will support these directives.

Land Use Designations

The majority of the lands at the shared Oshawa campus, including the Windfields Farm lands north of Conlin Road, are designated as Living Area on the Regional Structure Plan. The Oshawa Creek corridor is Major Open Space and the lands west of the corridor are Employment Areas. The downtown Oshawa location is a Regional Centre and the Whitby campus is designated Employment Areas. These designations are defined more specifically in the local municipal Official Plans.

General urban area policies support a more compact urban form which promotes transit-supportive Urban Areas and accommodates the population and employment forecasts (s.8.2.1.a). Further, population and employment growth in the Region is to be accommodated in designated employment areas, and through intensification in built-up areas (s.7.3.9), which includes the DC and UOIT campuses. The Master Plan principles promote intensified development.

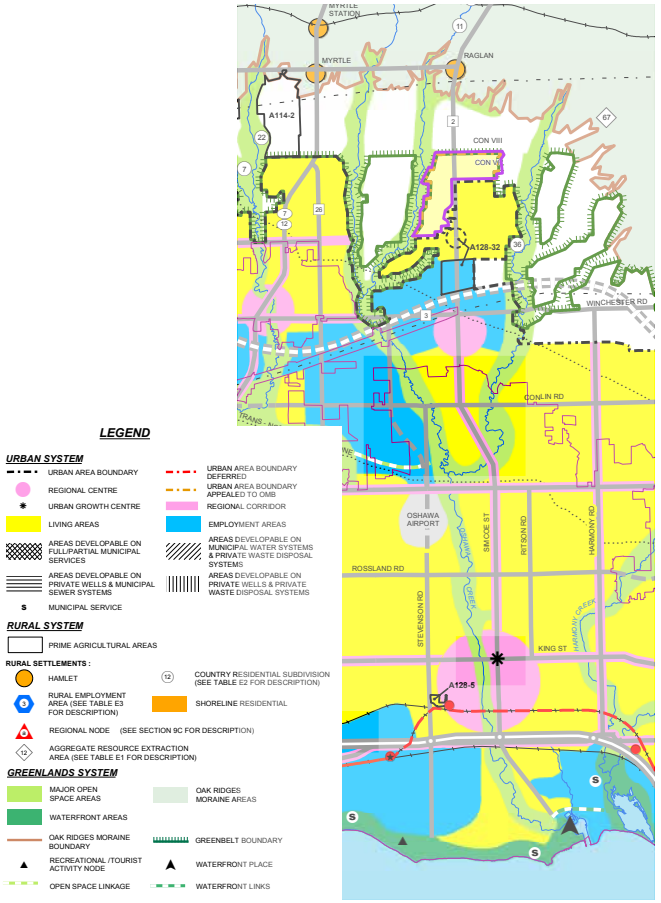
Transportation

The Durham Region Official Plan designates Simcoe Street North as a Type B arterial road. Simcoe Street is identified as a Regional Corridor and Transit Spine and is under the jurisdiction of the Region of Durham. The road is a critical north-south transportation corridor which connects downtown Oshawa to residential communities and to Durham College/UOIT. In addition, a Highway 407 interchange at Simcoe Street is also planned. As a Transit Spine, development adjacent to Simcoe Street is intended to provide for higher densities and mixed uses.

Economic Growth and Education

The Official Plan's economic growth policies state that the diversification of the economic base is to be achieved through ongoing cooperation with area municipal Councils, including the participation in joint efforts with the Region's educational institutions and with the business community to provide programs designed to train and retrain the Region's labour force (s. 3.3.8.f).

The Official Plan also promotes the establishment of higher education facilities in the Region and suggests potential expansion of the existing post-secondary educational facilities into the other municipalities in the Region (s.5.3.1).



Region of Durham Official Plan Regional Structure, Schedule A (May A-4)

City of Oshawa Official Plan

The majority of the lands being studied are within the City of Oshawa and their land uses, open space, and transportation networks are directed through the City of Oshawa's Official Plan (2013, Office Consolidation). The lands include the Windfields Farm lands north of Conlin Road, and UOIT's downtown Oshawa location. Durham College has a location within the Town of Whitby, which is under the jurisdiction of the Town of Whitby Official Plan (1994). The land use designations and related Official Plan policies were reviewed in both Plans in reference to the entirety of the lands operation by Durham College and UOIT.

The shared Oshawa campus, including a portion of the Windfields Farm lands north of Conlin Road, is designated as Institutional. The lands west of Oshawa Creek are designated Industrial. The Windfields Farm lands north of Conlin Road are also part of the Windfields Part II Plan Area (OPA 89).

UOIT's downtown Oshawa location is within the Main Central Area and is designated Central Business District which is to be the major concentration of retail, office, service, cultural, institutional and transportation uses.

Durham College's Whitby campus is designated "General Industrial" in the Whitby Official Plan. General Industrial areas are to be primarily used for the manufacturing, processing, assembly, servicing, storing of goods, and raw materials, and similar uses (s. 4.6.3.2.1). The Town of Whitby is currently undertaking an Official Plan Review. The draft Official Plan Amendment for urban land uses indicates that the Durham College Whitby campus' lands will be redesignated as "Prestige Industrial". Prestige Industrial areas permit a range of uses including technical schools.

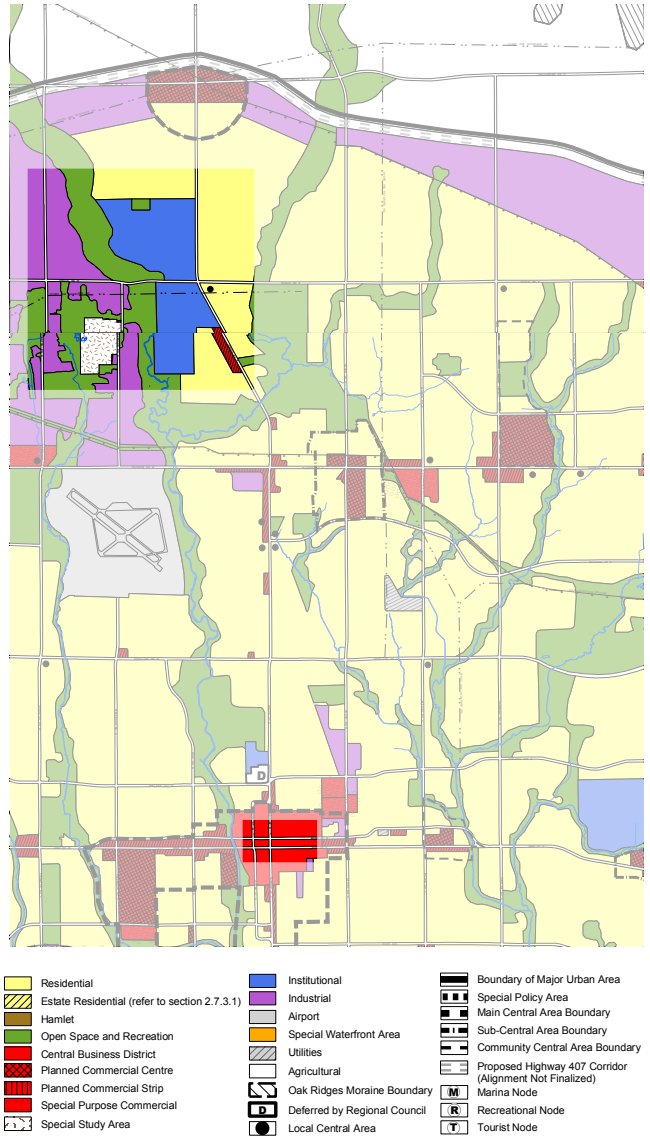
Institutional

Institutional policies in the Oshawa Official Plan encourage institutional uses to be placed and designed to adequately meet the needs of the population (s. 2.5.1.1). Official Plan policies consider the relationships of institutional uses with surrounding residential, indicating that they should be designed to ensure that traffic does not penetrate adjacent residential neighbourhoods (s. 2.5.2.1). Institutional policies relating to the shared Oshawa campus are expanded upon in the Windfields Planning Area Part II Plan.

Industrial

Industrial area policies emphasize the City's intent to ensure that Oshawa remains positioned as a major industrial centre in the Region of Durham and in the Province (s. 2.4.1.1).

Lands designated industrial are generally to be used for: manufacturing, warehousing and storage, assembly, processing, utility functions



City of Oshawa Official Plan, Land Use Schedule

and transportation terminals. The policies allow for greater flexibility in the uses, should these uses be consistent with the zoning by-law. Land uses proposed as part of the Master Plan will be consistent with those permitted in this designation.

Transportation
Conlin Road is designated as a Type B arterial road and is under the jurisdiction of the City of Oshawa. The road runs east-west and has a two-lane cross-section with a posted speed limit of 50 km/h. Type B arterial roads are to accommodate moderate volumes of traffic.

Windfields Planning Area, Part II Plan (OPA 89)

The Windfields Planning Area consists of approximately 500 hectares of land bounded by Conlin Road on the south, the west top-of-bank of the West Branch of the Oshawa Creek, the south limit of the future Highway 407 roadway, and the lands designated as Industrial in the Part I Plan (see map). In total, the lands designated as Residential in Windfields Planning Area is to accommodate 13,000 people. This does not include the additional population generated by the potential residential uses that are permitted within the lands designated as "Planned Commercial Centre - Main" or the future resident student population associated with Durham College and the University of Ontario Institute of Technology.

The Windfields Planning Area is to be developed as a mixed use community that integrates major residential, commercial and institutional components as well as necessary community support facilities such as schools, parks, open space and other commercial and community facilities.

The community structure is based on a set of principles which incorporate the institutional lands and integrate those with the future mixed use community. Principles include:

- Design emphasis is to be placed on the "interface and linkages between land uses, particularly between residential uses and the Windfields Main Central Area, the University of Ontario Institute of Technology campus and adjacent industrial areas"; and

- An attractive University campus which "exhibits a high quality urban design and is integrated with the surrounding community and sensitive to the transition to abutting uses" (s. 8.6.2.1).

The Master Plan will implement these principles and ensure that the institutional and mixed use land uses integrate with and complement the Windfields community.

The Part II Plan provides more specific direction on the future development of these lands and these policies and requirements will be important considerations during the development of the Campus Master Plan. This policy structure, together with the Master Plan design principles will establish the framework for Phase 2 of this project.

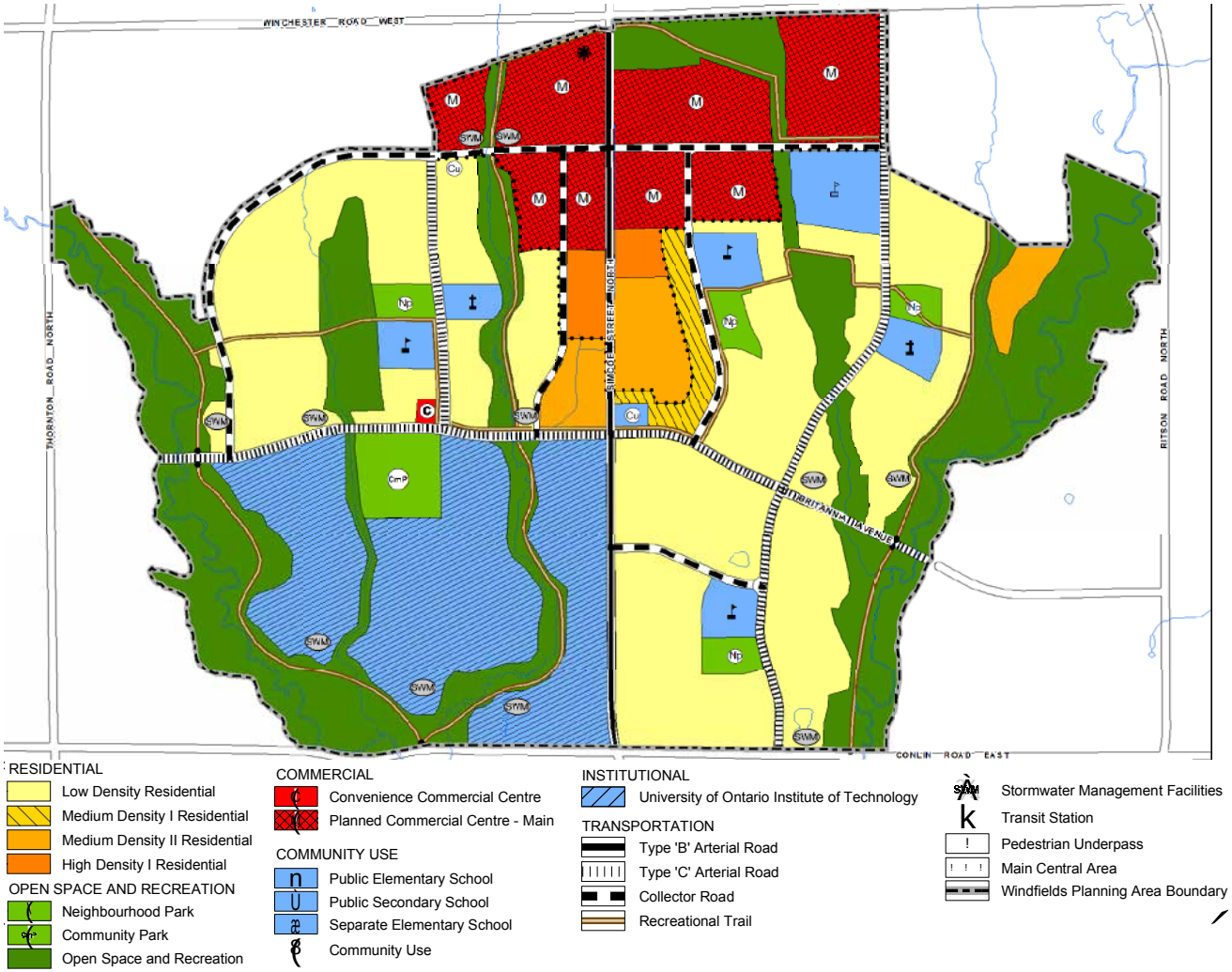
The following summarizes the land use context in the Windfields Planning Area as it relates to the Campus Master Plan and the Windfields Farm lands north of Conlin Road:

- The Institutional lands are to be used for campus uses and related activities, including City and University recreational facilities and commercial uses serving students and City residents (8.6.7.1).
- The campus is to develop in accordance with the provisions of the Official Plan, Institutional Land Use designation policies of Section 2.5 (noted above) (8.6.7.2).
- A campus master plan is to be developed for these lands prior to any substantial campus development. The Plan will address,
  - » Distribution of land uses;
  - » Compatibility with, and linkages to, adjacent lands and land uses;
  - » Recognition and protection of cultural heritage resources on the site;
  - » Internal transportation routes and linkages to the external system;
  - » Urban design considerations, that are to be further developed in a separate Urban Design Study;
  - » Servicing considerations;
  - » Stormwater management considerations;
  - » Natural environment considerations; and
  - » Linkages to the Oshawa Creek Trail system to the south and the trail system in the

remainder of the Planning Area (8.6.7.3).

- The Community Park located at the north end of the DC-UOIT lands is to be a minimum of 7.2 hectares (17.8 ac.). It is intended to provide the space for a greater range of recreational facilities and programming and to provide the opportunity for the shared use of facilities with the institutions (8.6.9.3.2).
- Recreational trails and linkages are identified within the Oshawa Creek corridor and may be integrated into the Master Plan concept (8.6.9.4.1).
- The focus of mixed use and retail development in the Part II Plan Area is the area directly south of the Highway 407 corridor, along Simcoe Street (8.6.3 and 8.6.4).
- A transportation analysis will be required prior to undertaking substantial development on the Windfields Farm lands north of Conlin Road (8.6.11.5).
- Development within the Windfields Planning Area is to be guided by Urban Design Guidelines that were developed during the Part II Plan process. As noted above, an urban design study, separate from the Master Plan is to be developed for the Durham College and UOIT lands.

The Windfields Planning Area Part II Plan and its associated design, community character and policy objectives will be integrated into the Master Plan. Further, the implementation of the Master Plan will incorporate the requirements for further study identified in the Part II Plan and noted above.



City of Oshawa Official Plan, Windfields Planning Area Part II Plan: Land Use and Road Plan (May 2013)

4.4.3 City of Oshawa Zoning By-law

The City of Oshawa Zoning By-law No. 60-94, provides further direction and provisions for the type and form of development. The majority of the lands are zoned “Major Institutional”; however, the lands west of the Oshawa Creek are zoned “Urban Reserve”. The downtown Oshawa campus properties are zoned Central Business District (CBD) with site specific zoning.

Uses permitted within a Major Institutional Zone include:

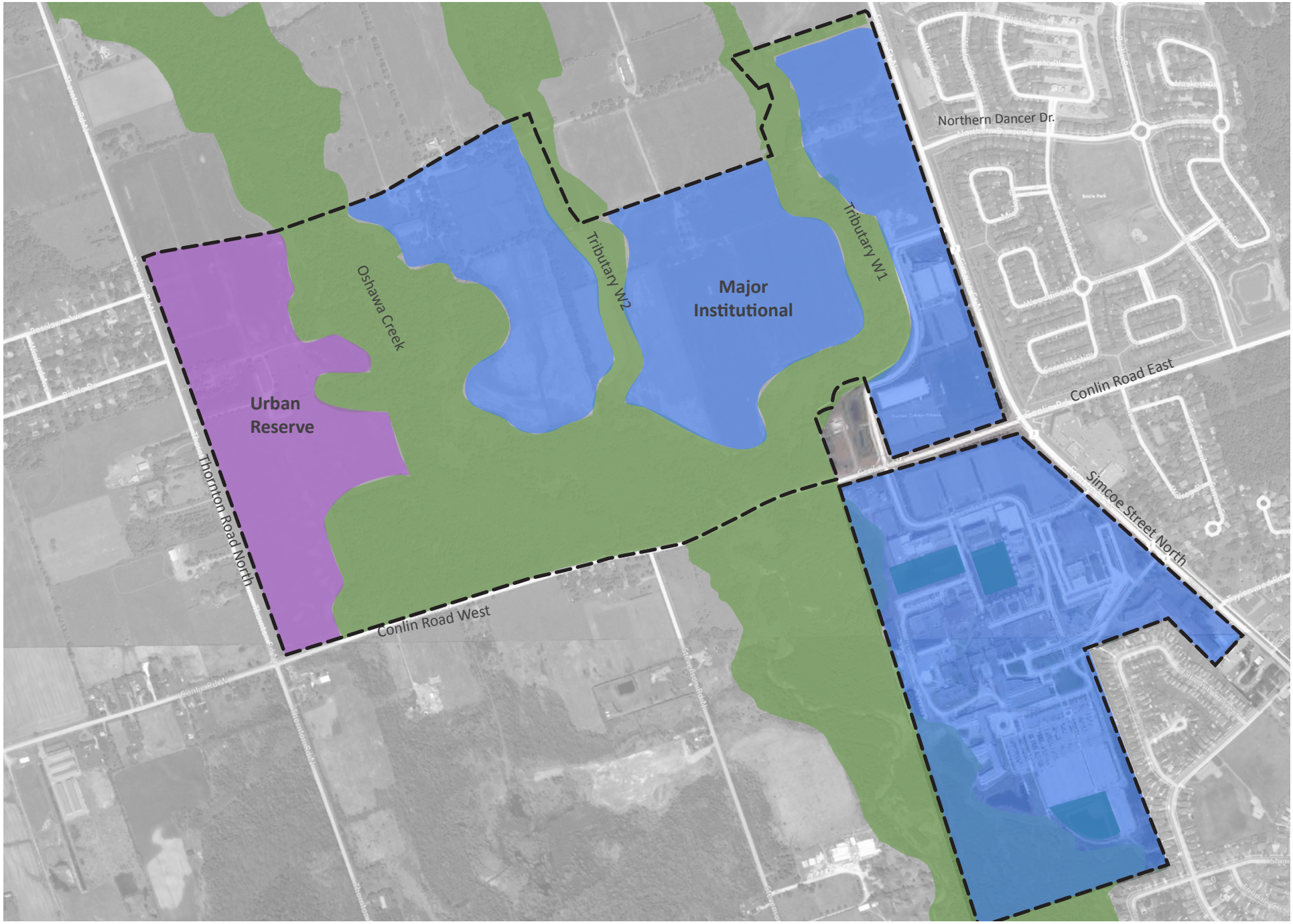
- Art gallery
- Home for the aged
- Hospital
- Museum
- Nursing home
- Parking garage or parking lot
- Post-secondary school
- Supervised student residence
- Any use permitted in the Community

Institutional Zone: Assembly hall, children’s shelter, church, club, excluding a nightclub, day care centre, elementary school, private school, and secondary school.

The maximum height permitted in a Major Institutional Zone is 40 metres. Additional specific zone provisions apply to development within Major Institutional Zones that will be reviewed prior to development.

Uses permitted in the Urban Reserve Zone are quite limited and include: Agricultural uses, but not new farm dwellings; existing uses, located in existing buildings or structures, provided such uses continue in the same manner and for the same purpose, new one storey accessory buildings ; and outdoor recreational uses without any buildings or structures.

Properties at UOIT’s downtown location are zoned Central Business District. Uses permitted in this zone are quite extensive and generally consistent with the mixed use retail nature of this area of the city. Prior to any development on existing or newly acquired property in downtown Oshawa, the specific provisions of this zone should be reviewed.



Zoning By-law

4.4.4 Additional Planning Considerations

Simcoe Street North Corridor Land Use, Urban Design and Transportation Study

This study describes the land use and urban design framework for a section of Simcoe Street North between Conlin Road and Oshawa Creek. Simcoe Street (Regional Road 2) is a Type B arterial road within the study area. The road characteristics in this study area include:

- An urban cross-section (curb and gutter on both sides)
- Four through traffic lanes
- Pavement width of 18 m
- Right-of-way of approximately 26 m
- A posted speed limit of 60 km/hour

A recommended transportation plan was developed to improve safety, accessibility and operations in the study corridor. A 26 m ROW is recommended for the short term. The ROW would feature a shared two-way left turn lane, if required, and a 2.5 m wide multi-use path. A 33 m ROW would be provided in the long term with an 18 m pavement width, 1.5 m bicycle lane and 2.0 m concrete sidewalk.

Hydro Transmission Line

An electrical transmission line transects the shared Oshawa campus. The line runs east-west and crosses the campus directly south of Conlin Road.

Oshawa Airport Zoning Regulations

The Oshawa Airport is located approximately 1.5km south and slightly west of the shared Oshawa campus. The Federal Government enacted the Oshawa Airport Zoning Regulation in 1984 to protect the operations of the existing Oshawa Airport as well as to ensure that potential and future development surrounding the airport remains compatible with the airport operation.

Due to its proximity to the Oshawa Airport, the Airport Zoning Regulation applies to the shared Oshawa campus and the Windfields Farm lands north of Conlin Road. The Zoning Regulation boundary is approximately 1,110 metres north of Conlin Road. As a result, there are building height restrictions that exceed that of the Zoning By-law. According to the Oshawa Airport Zoning Regulation, the height restriction results in an imaginary surface located at a common plane established at a constant elevation of 45m above the assigned elevation of the airport reference point.

The manager of the Oshawa Airport has indicated that the maximum building elevation within the height restriction boundary for the campus is 180m above sea level. However, in areas where the existing elevation is greater than 171m above sea level the top of building elevation can exceed 180m as long as the building height does not exceed 9m.

According to the Ministry of Natural Resources Topographic mapping in the City of Oshawa, the Airport lands are between 135 m and 140 m above sea level. The south end of the shared Oshawa campus is approximately 150 m above sea level, and the northern portion of the Windfields Farm lands north of Conlin Road is approximately 155 m above sea level.

If the maximum building elevation is permitted to be 180 m above sea level, then buildings on the shared Oshawa campus may be a maximum of 30 m in height; and buildings on the Windfields Farm lands north of Conlin Road may be a maximum of 25 m in height. This translates to approximately 6 storeys on the shared Oshawa campus and 5 storeys on the Windfields Farm lands north of Conlin Road. For the purposes of the Framework Plan and Master Plan, it is assumed that a maximum building height of 4 storeys will be permitted.

Transmission Corridor Transecting the shared Oshawa campus

Land Use Planning Recommendations:

PL1: Promote intensification along the Simcoe Street and Conlin Road corridors. This ensures that land is used efficiently to promote walkability and protection of natural features.

PL2: Ensure that the Master Plan is consistent with the land use, transportation, and cultural heritage policies contained in the Region of Durham and City of Oshawa Official Plans and the Windfields Planning Area Part II Plan.

PL3: Ensure that the Master Plan is consistent with the land use and built form provisions identified in the City of Oshawa zoning by-law. Although retail uses are not permitted in the Major Institutional Zone, the Master Plan should seek to determine the appropriate locations for retail uses and recommend the approvals required to permit such uses.

PL4: Building heights, locations and setbacks will consider: the proposed road cross section along Simcoe Street, the opportunity for burying the hydro transmission line and the height restrictions associated with the Oshawa Airport.

4.5
Cultural Heritage


NO TRACTORS

4.5 Cultural Heritage

The Windfields Farm complex is a cultural heritage landscape dating from the mid-19th century. Originally settled as farmland by individual landholders, the land was gradually consolidated into several large farms in the twentieth century. Landscape elements such as parts of an orchard, several drives and buildings still exist from the farming families present here during the nineteenth century. The original property is bisected by Simcoe Street, a large road that runs North from Oshawa, and is remembered to historically have had many large trees that bordered it until the road was widened. The property's grid lines of fences, trees, and hedgerows established in the mid-twentieth century have changed little over time. The significance of the site as a cultural heritage landscape stems from the well-known landowners who played a huge part in shaping the equestrian industry of Canada.

In the early 1900's the McLaughlin family began purchasing property in north Oshawa. Beginning in 1916, George W. McLaughlin purchased lands on the east side of the current Simcoe Street (Lot 12). In 1927, George's brother Colonel Sam McLaughlin purchasied the lands currently owned by Durham College and UOIT on the west side of Simcoe Street. These lands were then sold to Edward Plunkett (E.P.) Taylor in 1950. These lands became the National Stud Farm allowing horse operations that had developed on the property to continue. E.P. Taylor was a Canadian Horse Racing Hall of Fame inductee who was a large figure behind the building up of horse racing culture in Ontario and a well-known racing horse breeder. National Stud would change its name to Windfields Farm and the stables in north Oshawa become home to North America's most successful breeding farm and to Canada's most famous thoroughbred horses, including Northern Dancer.

Due to encroaching development, planned expansion of Highway 407 and the development of UOIT, the Taylor family recognized that the horse operations at Windfields Farm would have a limited life. The City of Oshawa and the Region of Durham have identified the area for redevelopment with mixed low, medium and high density residential, industrial and commercial use. As such, Windfields Farm ceased operations in 2009.

A Heritage Impact Study Report was completed by Unterman McPhail Associates in 2002 to document the heritage features of the site and the impact of the City of Oshawa's proposed Windfields Part II Plan on these features. The plan calls for the removal of most of the heritage buildings on site but recommended the retention of six structures which included: D-25: House 40; the former Shand farmhouse (the 'Stone House'); A-3: Barn No. 6; Foaling Barn; and A-19: Arena and Barn No.1. Also to be retained will be the horse cemetery, located between Barn No.6, the Foaling Barn and the New Stallion Barn, and another horse burial site north of the new stallion barn.

Supporting Planning Policy

The City of Oshawa's Part II Plan policy recommendations for the area clearly identify the Windfields Farm site as significant, citing the heritage resources as "integral components of the area's historical rural legacy and their maintenance, conservation and preservation are of primary importance. Accordingly, unless it is demonstrated to the satisfaction of the City that it is not otherwise feasible, development shall conserve built heritage resources and be designed to integrate such resources into the community so that the scale, form and character supports and complements the heritage values, attributes and integrity of the resources."

In order to recognize the importance of these resources and give them further protection, the City of Oshawa's Official Plan states that "the City shall encourage and support the identification and preservation of heritage resources by designating properties, buildings and other structures which are

of cultural heritage value or interest in accordance with the Ontario Heritage Act."

Future Use of Windfield Farm Lands

The University and College currently own the core of the Windfields Farm lands north of Conlin Road, including a number of buildings ranging in scale from residential buildings to barns and an arena.

The significance of the Windfields Farm in terms of cultural heritage value has been established, and the institutions have obligations with respect to the maintenance of specific buildings and landscape features such as the horse gravesites.

The maintenance and management of Windfields Farm represents a significant investment for the institutions, and as such, a clear path forward must be established in order to ensure the resource is managed both physically and fiscally.

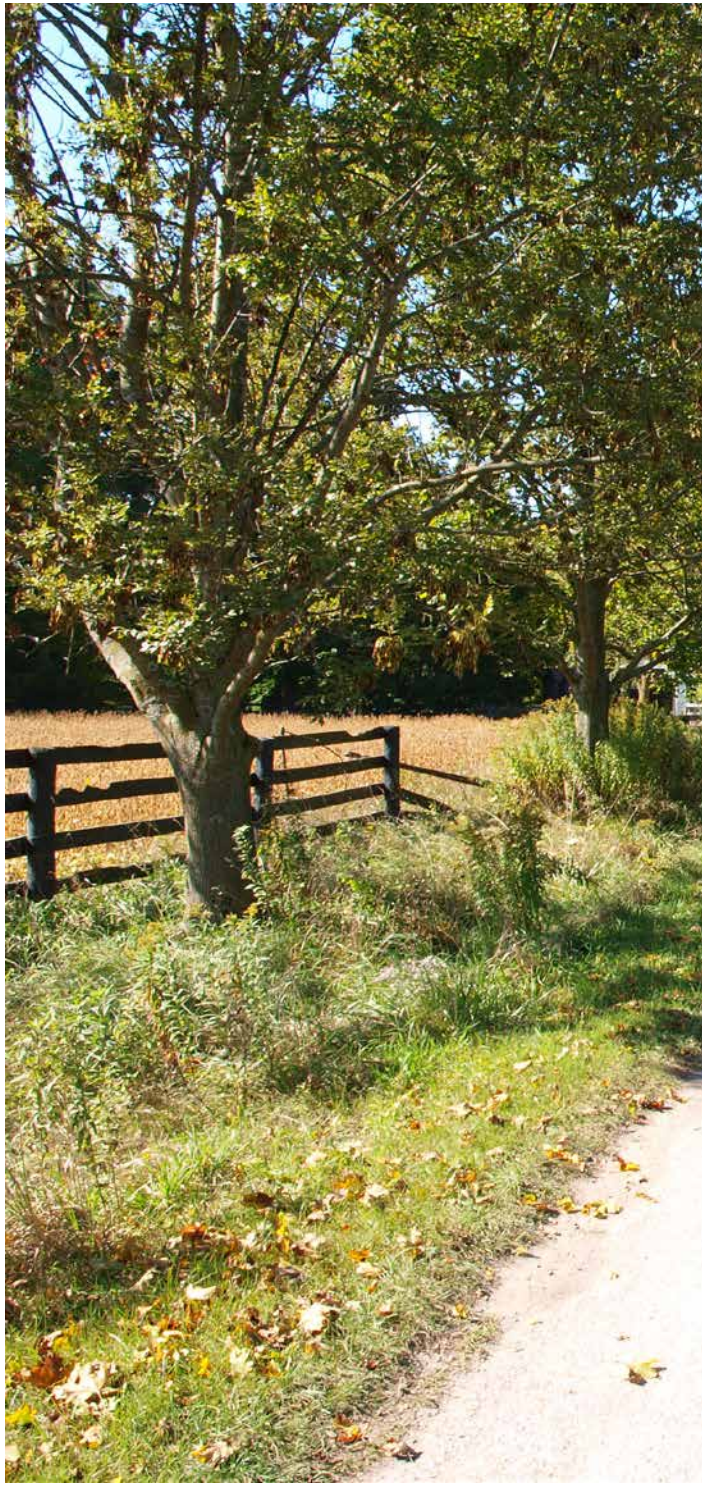
Heritage buildings that remain unoccupied for long periods of time are at risk through general deterioration as well as threats of vandalism and arson. As the City of Oshawa's Park II Plan policy states, "the preferred approach to the conservation and preservation of any built heritage resources documented in the Heritage Impact Study Report shall be their retention in situ, through integration and/or adaptive re-use."

If the current layout and orientation of heritage buildings is proved to be unsuitable for future development, the policy does allow that "if it is demonstrated to the satisfaction of the City that retention in situ is not feasible, the preferred secondary approach shall be relocation to a different location on the same property for adaptive re-use or, if such is not feasible, relocation off-site for adaptive re-use."

As the agricultural setting contributes to the cultural landscape of which these buildings are a part, consideration must demonstrate how they will still relate to the site if they are relocated on or off-site.

Durham College's Horticulture – Food and Farming and Horticulture Technician program, focusing on topics ranging from plant propagation and soil and plant nutrition, to aspects of growing plants outdoors, indoors and in a greenhouse environment, may be included in this part of the expanded shared Oshawa campus.

Finally, after careful consideration and documentation of all heritage resources as recommended by Unterman McPhail Associates in their Heritage Impact Study, the policy states that "Only after it is demonstrated to the City's satisfaction that these approaches are not feasible should an application to demolish a built heritage resource be submitted, whereupon appropriate opportunities for salvage should be pursued." The City notes however that they "may take appropriate actions including imposing conditions of approval on the development application to ensure the continued protection of identified built heritage resources."



Recommendations

CH1: Reoccupying some of the buildings on the farm may help to stabilize the site, avoid possible vandalism and deterioration, and address shortages in space that both institutions face. Where development timing and funding align, larger buildings such as the barns will be investigated to determine if with renovations they could be converted for other uses. Other programmatic elements, such as agricultural education, may be planned for this part of the expanded shared Oshawa campus.

CH2: In order to continue to express the legacy of E.P. Taylor and Windfields Farm through the Campus Master Plan, it is important to conserve the cultural heritage landscape where possible. Preserving the evidence of past agricultural land use could be accomplished through the incorporation of tree lines and hedgerows into future access roads and walkways. One of these walkways could enhance the connection to the existing horse cemetery and woodlot burial ground. These green linkages create a strong visible identity for the campus while increasing walkability throughout campus and beyond to the community.

4.6
Transportation


N WILLEY BUILDING
8524
Transit

4.6.1 Transportation Network

Introduction

The success of the joint Campus Master Plan relies, in part, on the ability to provide an integrated, multi-modal transportation network that safely accommodates all travel modes and supports, over time more sustainable, non-auto modes of travel, such as public transit, pedestrians, and bicycles.

Much of the focus of this analysis is the shared Oshawa campus, including the land north of Conlin Road because the majority of projected future student enrolment growth will be accommodated in this area. Transportation issues associated with the Durham College Whitby campus and the UOIT downtown location are touched on briefly.

External Road Network

The surrounding road network serves the broader community as well as Durham College and UOIT. Two main arteries serve the shared Oshawa campus: Simcoe Street North (regional road), Conlin Road (city road). Thornton Road (city road) also exists to the west and Winchester Road (regional road) is located to the north.

Britannia Avenue will be extended west from Simcoe Street approximately 750 metres. This extension is to be constructed over the course of the next few years. It will serve the new residential development north of the Windfields Farm lands owned by the two institutions, and will allow for connections south into the institutionally owned Windfields Farm lands north of Conlin Road. This future road will serve as the main entry and access to the DC/UOIT Windfields Farm lands located north of Conlin Road.

As noted below, studies are being undertaken to determine the alignment of Britannia Avenue further west towards Thornton Road. The alignment of Britannia Avenue between Simcoe Street and approximately 800m west of Simcoe Street has been established.

As the communities surrounding the Windfields Farm lands north of Conlin Road develop and the extension of Highway 407 East (located approximately 2.5 km north) is constructed, there will be increased pressure on the road network around the campus. In anticipation of the increased pressure, a number of Environmental Assessment (EA) Studies are underway. These studies are generally undertaken to assess the need for improvements to a transportation corridor. The process provides an opportunity for input from stakeholders, property owners, agencies and the public.

Simcoe Street (Regional Road 2), from Conlin Road to Winchester Road (Regional Road 3) Municipal Class Environmental Assessment Study

This study was initiated in January 2013 to assess the need and justification for modifications to Simcoe Street (Regional Road 2) from Conlin Road northerly to Winchester Road (Regional Road 3).

The findings of the traffic study completed as part of the EA indicate that a four lane cross-section will accommodate the projected traffic volumes in the 2021 horizon year while a six lane cross is expected to be required in the 2031 horizon year. Cross-sections of the proposed road include on-street bike-lanes, sidewalks, a centre median and allowance for additional transit facilities. This EA is still nearing completion.

Conlin Road West Class Environmental Assessment Environmental Study Report

This environmental study addresses Conlin Road in the section from: 385 m west of Simcoe Street North to the City of Oshawa boundary with the Town of Whitby. Results of the process to date suggest that Conlin Road be re-constructed and widened to a four lane urban cross-section with a raised centre median from east of Stevenson Road to west of Founders Drive. This EA is still in progress.

Britannia Avenue Functional Alignment Study

This study addresses the functional alignment of Britannia Avenue between Simcoe Street North and Thornton Road. Britannia Avenue is a Type C arterial under the jurisdiction of the City of Oshawa. Presently, it features an urban two-lane

cross-section and terminates on the east side of Simcoe Street. A four-lane cross-section is proposed for the westerly extension of Britannia Avenue.

Britannia Avenue West Environmental Assessment
This study will define the alignment of westerly alignment of Britannia Avenue (as noted in the Functional Alignment Study) from 800m west of Simcoe Street to the Oshawa-Whitby border. The EA recently posted a Notice of Study Commencement. It is expected to be completed in 2015. The alignment of Britannia Avenue West at the intersection with Thornton Road is particularly relevant to the joint Campus Master Plan.

Thornton Road Class Environmental Assessment
The City of Oshawa recently initiated a Class Environmental Assessment Study to investigate the needs for improvements to Thornton Road North, from Taunton Road West to Winchester Road West. The EA is being undertaken in response to deteriorating pavement conditions, safety and drainage issues and to address the expansion of UOIT/Durham College, the extension of Hwy 407 East and future growth planned for the area.

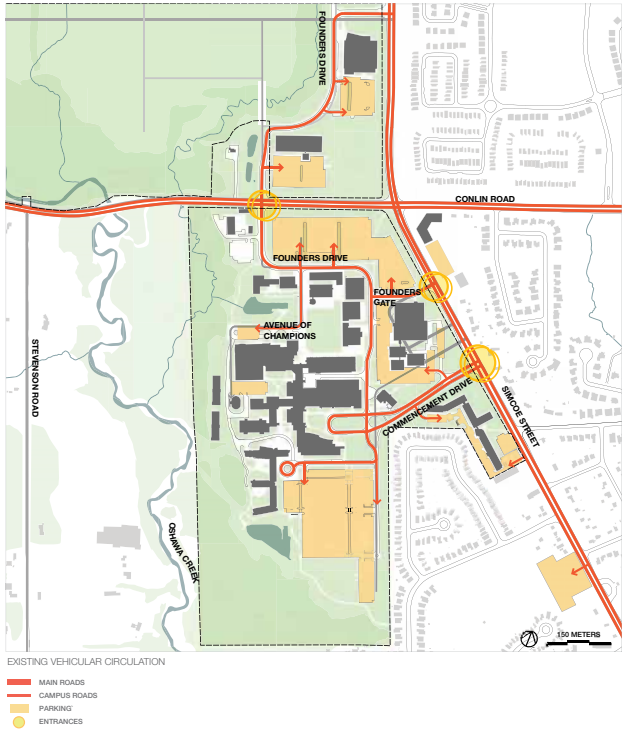
Traffic Data Review

Detailed traffic data was not collected as part of this Master Plan process; however, a number of transportation studies in support of development applications in the area were reviewed including:

- Simcoe Street North Study;
- Transportation Impact Study, North Central Commercial Lands: Windfields Planning Area (RioCan Property Service Trust), 2012;
- Conlin Road West Class EA Environmental Study Report;
- Simcoe Street (Regional Road 2), from Conlin Road to Winchester Road (Regional Road 3) Municipal Class Environmental Assessment Study (Public Information Centre Documents); and
- Britannia Avenue Functional Alignment Study.

The Simcoe Street North Study determined that traffic operations along Simcoe Street in the vicinity of the campus are not considered to be a significant issue. The study does note; however, that "left turns onto Simcoe Street North at the unsignalized intersections experience high delays due to a lack of two-way gaps in the through traffic."

Annual average daily traffic data (AADT) for Simcoe Street North and Conlin Road provides an overall indication of how busy these corridors are. Data from 2004, indicated that Simcoe Street North, south of Conlin Road has an AADT of 14,500. It is



(Source: Sasaki Master Plan, 2010)

anticipated that the current AADT would be slightly higher. AADT data from 2009 for Conlin Road West is as follows:

- From Founders Drive to Stevenson Road 10,759
- From Stevenson Road to Thornton Road 9,663
- From West City Limits to Thornton Road 7,627

The Transportation Impact Study (Source: RioCan Traffic Study) for the proposed North Central Commercial Lands determined that the level of service (LOS) at the Simcoe Street North / Conlin Road intersection is B (20.0 seconds of delay/ vehicle) during the a.m. peak hour and C (20.1 seconds of delay/vehicle) during the p.m. peak hour. The analysis indicates that this intersection operates at a good level of service using the

performance measure of average delay per vehicle. It is noted that there are various accepted performance measures for intersection analysis.

The Conlin Road West Class EA Environmental Study Report determined that the level of service at the Conlin Road/Founders Drive intersection is B (0.33 volume-to-capacity) during the a.m. peak hour and B (0.45 volume-to-capacity) during the p.m. peak hour. The analysis indicates that this intersection operates at a good level of service using the performance measure of volume-to-capacity ratio. It is noted that there are various accepted performance measures for intersection analysis.

Future Traffic Projections

Future traffic projections were developed at the Simcoe Street North/Conlin Road intersection in the Transportation Impact Study (RioCan, March 2012) for the 2016, 2021, 2026 and 2031 horizon years. For the long-term 2031 horizon year, two scenarios were considered:

- Scenario 1: Higher order transit operating in mixed traffic.
- Scenario 2: Higher order transit operating in an exclusive median transitway.

These scenarios consider the following transportation impacts:

- Improvements in the road network such as the widening of Simcoe Street to provide additional through traffic lanes and the extension of Highway 407 to Simcoe Street and beyond
- Background traffic growth based on the Region of Durham travel demand forecasting model, which reflects the phasing schedule of the Highway 407 East extension; technical assumptions were made to develop a detailed intersection-level trip assignment
- Traffic related to background developments within the Windfields Planning Area including the proposed UOIT Windfields Farm lands north of Conlin Road

According to the study, the 2031 future intersection levels of service (LOS) are as follows:

- For Scenario 1, the LOS is anticipated to be B during the a.m. peak hour and D during the p.m. peak hour.
- For Scenario 2, the LOS is anticipated to be C during the a.m. peak hour and D during the p.m. peak hour.

In general, levels of service D or better are considered to be acceptable. In each case, it is expected that some critical movements will approach or exceed theoretical capacity during the p.m. peak hour.

The Simcoe Street EA is currently being undertaken and improvements of some form will help to improve the transportation network serving the campus. Where additional improvements are required to address elements of the Campus Master Plan, additional technical justification will be required.

UOIT Downtown Oshawa Campus

A Transportation and Parking Strategy was undertaken for the UOIT downtown Oshawa campus in March 2011 that analyzed the existing road network. It indicates that Simcoe Street/Centre Street is the main north-south transportation corridors. King Street/Bond Street are “one-way couplets” and function as the main-east-west transportation corridors. The overall grid system is quite tight, and typical of an urban centre where some intersections are as close together as 75m.

Operational reviews have been undertaken to assess the one-way couplet of King Street and Bond Street; however, these concluded that converting these corridors to two-way streets was not desired. Recommendations regarding the one-way couplet’s on King Street, which includes three of the five downtown Oshawa campus buildings, will be addressed as appropriate in the Campus Master Plan.

Durham College Whitby Campus

The Durham College Whitby campus is directly north of Highway 401 offering strong vehicular connections to the GTA and visibility from Highway 401; however, it can only be accessed via Champlain Avenue, either from the east or west. The dLab Urban Design Study (2013), indicates that there

are approximately 400,000 daily traffic trips along this stretch of Highway 401. To improve campus connections, the Study recommended extending Consumers Drive west from where it intersects with Thickson Road to connect it to Thornton Road in the west. This would help to improve east-west connections across these lands, as well as provide increased connection to the future GO Transit Station.

Internal Road Network

The shared Oshawa campus has an internal network of roadways that connect to the external public road network.

Founders Drive is the primary roadway on campus. It is generally aligned in a north-south direction and intersects internally with Commencement Drive, directly east of the bus loop. Founders Drive intersects externally with:

- Conlin Road, 300 m west of the Simcoe Street. This is a full movement signalized intersection;
- Simcoe Street via Founders Gate, 200 m south of Conlin Road. This is an unsignalized intersection with a prohibition on outbound eastbound left-turn movements;
- Simcoe Street, 440 m north of Conlin Road intersection, north of the Campus Ice Centre. This is currently a full movement, non-signalized intersection. It is anticipated that this access will prohibit outbound eastbound left-turn movements or become a right-in/right-out once the signalized intersection at Northern Dancer Dr. is constructed. The intersection of Northern Dancer Dr. and Simcoe Street is 610 metres north of Conlin Road.

Commencement Drive is the main access point into campus intersecting with Simcoe Street at a full movement signalized intersection located 405 metres south of Conlin Road. Commencement Drive also currently provides transit access including bus laybys and the bus loop. Private vehicles use Commencement Drive to access on campus parking lots.

Avenue of Champions runs south from Founders Drive directly west of Polonsky Commons. Avenue of Champions provides access to the West Residences and the Campus Recreation and Wellness Centre.

Existing internal roads and entrances to the shared Oshawa campus may be fixed at their current locations; however, there may be opportunities for improved internal road function through updated pavement markings, traffic management and parking re-configuration. The feasibility of additional turning movements, north-south vehicular connections or intersection signalization will require supporting technical studies.

Transportation Network Recommendations

TN1: Two full movement signalized intersections with Simcoe Street, south of Conlin Road could help to establish a safer and more efficient interaction between pedestrians, vehicles and the external road network. Any technical work required to justify signals at Founders Gate would have to be completed and presented to the Region for consideration.

TN2: The Founders Drive and Conlin Road signalized intersection could be leveraged to provide on-going connection between the north of Conlin Road lands and the existing campus, in order to avoid placing additional traffic at the Simcoe/Conlin intersection.

TN3: Britannia Avenue West and an extension of Northern Dancer Drive intersection provides capacity and connectivity to the Simcoe Street corridor.

TN4. The future internal campus road network off of Britannia Avenue West could align with the planned north-south road connections serving the development north of Britannia Avenue West.

TN5: Access to the land west of the Oshawa Creek north of Conlin Road could primarily be provided via Thornton Road and Conlin Road due to the Oshawa Creek and limitations associated with crossing the creek.

4.6.2 Transit

Context

Transit services of good quality, increased frequency and improved comfort are important in fostering sustainable travel to/from and throughout the campus. The transit strategy should ensure that campus staff and student population directly benefits from the planned rapid transit investments in the City.

Current Transit System

The campus currently serves as a major transit hub. The existing transit level of service on Simcoe Street North is among the highest in the Region. A total of five bus routes, operated by Durham Region Transit (DRT) currently serve the main campus. GO Transit also provides bus service to the campus.

The Universal Transit Pass (U-Pass) is included as part of the yearly academic tuition which gives all students unlimited travel across the DRT system and across the GO Transit system within Durham Region. Metrolinx has identified financial incentives to expand the use of the U-Pass programs currently in use by many regional transit providers in the Big Move document.

The March 2011 UOIT downtown Oshawa Framework and Action Plan, Transportation and Parking Strategy estimated that approximately 30 percent of students use transit as their primary mode of transportation to commute to/from the campus. Half of the transit trips are made on the GO Transit system. Observations and anecdotal comments from students indicate that current DRT routes servicing the campus are beyond capacity with students waiting for long periods as full buses pass them by.

The following transit improvements that have potential impacts to the campus have been identified:

- Simcoe Street is designated Regional Corridor to support higher order transit services and pedestrian-oriented development in the Durham Region Long-Term Transit Strategy Study, March 2010. Exclusive median BRT corridor is planned to be completed for Simcoe Street from downtown Oshawa to future 407 by 2018/2019. The migration of BRT on Simcoe Street to LRT has been assumed to take place from 2024 – 2027.
- The Durham Long-Term Transit Strategy Study also identifies future 407 transit stations at the future 407 interchange at Simcoe Street and potential exclusive “transitway” along the Highway 407 corridor across the Region, however, the timing is uncertain.
- Conlin Road is identified as a Transit Spine in the Durham Region Official Plan, Schedule C, Map C3.

The existing transit modal split at the shared Oshawa campus is about 30%. There is the potential to further increase the transit modal split, which in turn could help to maintain and possibly reduce, over a period of time, the amount of automobile traffic and parking demands as the shared Oshawa campus grows to accommodate projected enrolment. A combination of improvements to the Region’s transit network and travel demand management initiatives on the shared Oshawa campus will be required.

The Master Plan undertaken in March 2010 indicated that the transit hub at the shared Oshawa campus needs to be able to accommodate at least eight to ten bus bays while also minimizing the transit vehicle circulation on campus. The transit hub also needs to be conveniently located to serve the majority of staff and students and be within a comfortable walking distance of key campus activity centres.

Transit Recommendations

TR1: Explore the opportunities to relocate the existing bus loop and/or for the Simcoe Street and Founders Gate intersection to be used for bus access/egress only with possible transit priority signals at the intersection.

TR2: Identify locations for a transit hub, potential transit stops and ensure transit access for the future campus on the Windfields Farm lands north of Conlin Road. This will provide transit access that is within a reasonable walking distance (not exceeding 400 metres) to the campus facilities. Transit stops and facilities could be designed with amenities such as shelters, benches and information on route destinations and timing, with passenger comfort in mind. The transit stops should be conveniently located to serve key activity centres and easily accessible by sidewalks.

TR3: Consider establishing an internally connected road, pedestrian and cycling network to create a strong and safe transportation network. An internal shuttle should also be explored once parking re-configuration commences and development north of Conlin Road reaches a significant milestone.

TR4: Monitoring ridership volumes on a yearly basis along the routes serving the campus, would provide information for the transit service to be more responsive to the varying needs of the campus population. Route scheduling should allow maximum coordination of bus arrivals and departure.

TR5: Provide input to Durham Region Transit with respect to the process of designing future bus routes along Britannia Avenue West and Conlin Road, and potentially on select internal campus roads to service and connect the existing shared Oshawa campus with the Windfields Farm lands north of Conlin Road.

4.6.3 Parking

Context

The location of DC/UOIT campuses and the composition of student and staff who attend these campuses results in many private vehicle trips and a resulting high demand for on-campus parking. Users of the existing parking lots enjoy relative convenience and slightly higher costs in comparison to other institutions. The challenge is that existing surface parking in close proximity to learning space is consuming prime land and proving expensive for students.

A total of 3,248 parking spaces are available at the shared Oshawa campus, including permit, visitor and public surface parking lots (see table). The existing parking supply ratio is estimated to be 0.21 spaces per full time equivalent (FTE) student, on the basis of 15,472 combined DC/UOIT FTE students on campus. Site observations and staff confirm that the surface parking lots at the campus core are generally operating at 100% capacity with waiting lists. The utilization levels are lower at parking lots in the periphery area of the campus, such as the parking lot near the Sports Arena and Simcoe Street south, and during non-peak hours.

Land for Parking

Limited surplus land is available in the existing campus south of Conlin Road to support further development. Most future development south of Conlin Road is likely to occur on existing surface parking lots, recognizing the need to re-configure parking spaces so as to still provide convenient parking on campus.

As noted in the 2010 Master Plan, shifting parking spaces from the existing surface parking lots to structured garages associated with new building development will help to free up valuable development land in the campus core. Replacement surface parking located outside the core combined with improved transit service over time and improved internal transportation options (i.e.; paths, wayfinding, and shuttle) will help to balance the need for on-campus parking with broader principles of sustainability that encourage compact form, pedestrian friendly development and less reliance on automobiles.

Sensitivity Analysis of Future Parking:

A sensitivity analysis was undertaken to look at the potential impact of future growth in enrolment on parking supply under two different scenarios:

- Scenario 1: maintain the existing parking supply in the order of 3,248 spaces; and
- Scenario 2: maintain the existing parking supply ratio of 0.21 spaces/FTE students.

Scenario 1 (i.e., maintain the parking supply in the order of 3,248) represents a parking management approach based on principles of sustainability including reduced reliance on the automobile and pedestrian friendly development. It must be recognized that substantial improvements to the public transit network serving the campus are needed, over time, in order for this scenario to be successful in the long term. Scenario 2 requires an additional parking supply of approximately 2,600 spaces in order to support the student population of 27,947 on campus by 2030 at the parking supply ratio of 0.21 spaces/FTE students.

Approaches to Reduce Parking Demand

Achieving reductions in parking demand ratios is challenging, particularly in the case of DC and UOIT where the location and student population has traditionally focused on private automobile transportation. That said, in order to remain true to sustainability principles and address the reality of costs associated with structured parking (a new parking garage typically ranges between $25,000 to $35,000 per space), some consideration should be given to how to reduce parking demand over time.

Parking strategies that help reduce parking demand include:

- Travel Demand Management (TDM) programs: TDM programs are created to help influence and manage how and when people travel in an effort to improve efficiency. Both Durham College and UOIT are members of Smart Commute Durham. Both institutions need to continue to work with Smart Commute Durham to promote alternatives to driving alone. For instance, Smart Commute Durham provides carpool matching services online.

Number of Parking Spaces by Lot

Name of Parking Lot	Number of Parking Spaces
Champions Lot	116
Commencement Lot	1,129
Founders 1 Lot	240
Founders 2 and 3 Lots	1,116
Founders 6 Lot	235
Founders 7 Lot	241
Simcoe Village Residences	171
Total Parking Spaces	**3,248**

Impact of Future Enrolment Growth on Parking Rates and Supply on the Shared Oshawa Campus

Magnitude in Enrolment* Growth on Shared Oshawa Campus (FTE Student)	Scenario	Parking Supply Ratio	Parking Supply
x 1.00 (15,472, students)	-	0.21	3,248
x 1.36 (20,988 students; 2020 horizon)	Scenario 1	0.15	3,248
	Scenario 2	0.21	4,407
x 1.58 (24,455 students; 2025 horizon)	Scenario 1	0.13	3,248
	Scenario 2	0.21	5,136
x 1.81 (27,947 students; 2030 horizon)	Scenario 1	0.12	3,248
	Scenario 2	0.21	5,869

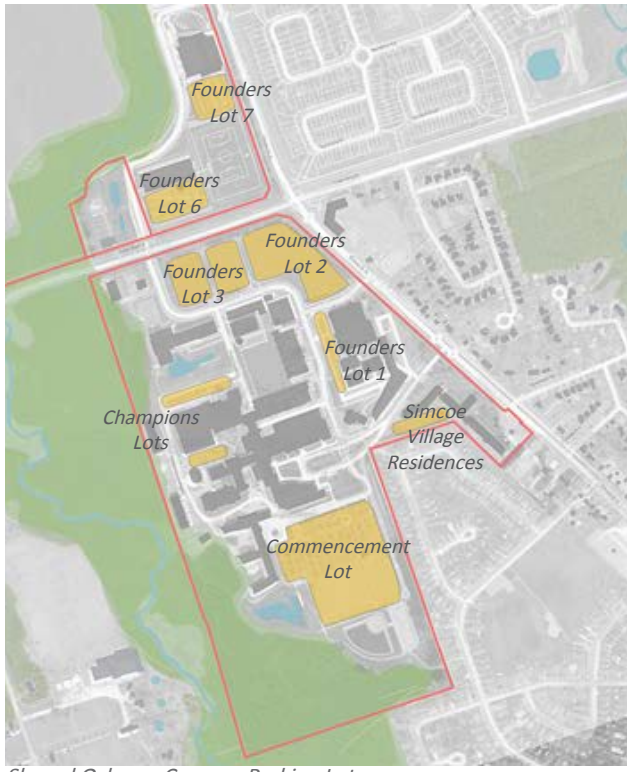
** The existing enrolment and forecast growth are based on the revised enrolment projections provided to MMM on June 25, 2014.*

- Currently about 6% to 7% of students carpool to school, according to the 2011 National Survey of Student Engagement (NSSE). To further promote carpooling, parking spaces at priority locations may be designated for registered carpooling vehicles only.
- Gradually increasing parking pricing: According to the UOIT website, short-term parking is available at a rate of $4/hour in Pay and Display parking areas, while daily parking is at a rate of $10 - $12/day in all gated parking lots (except Founders 1 lot). The 2013 parking permit rates range from $450 - $600 annually or $225 - $300 per semester. A summary of parking pricing for surface parking at comparable Ontario Universities is shown in the table below.

As shown, the hourly rate and permit parking rate at the campus are generally consistent or at the high end as compared with those at the other institutions reviewed. The daily parking rate of $10 - $12 at the campus is found to be at the middle of the daily parking rate range observed in other institutions. Based on this, there would appear to be some opportunity to increase the daily rate particularly in lots that are in the campus core.

Parking Pricing for Surface Parking at Comparable Ontario Universities and Colleges

	Hourly Rate	Daily Rate	Monthly (Permit)	Semester (Permit)	Annual (Permit)
Durham College/UOIT	$4.00	$10.00 - $12.00	-	$225.00 - $300.00	$450.00 - $600.00
Carleton University	$3.50	$10.00 - $13.00	$39.00 - $135.00	$44.28 - $102.78	$10.00 - $303.35
Humber College	$4.00 (< 4 hrs)	$7.00 (> 4 hrs)	-	-	$578.00 (8 month)
McMaster University	$5.00	$3.00 - $20.00	$17.00 - $101.00	-	-
Queen's University	$1.00 - $1.25	$5.00 - $14.00	$50.85 - $90.40	-	-
Sheridan College	$3.00	$10.00	$95.00	$235.00	$495.00
Trent University	$1.00	$7.00	$36.05 - $50.35	$50.95 - $174.35	$153.50 - $521.70
University of Western Ontario	$3.00	$6.00 - $7.00	$31.60 - $111.90	$110.30 - $420.25	$379.20 - $1342.80
University of Waterloo	-	$5.00 - $6.00	$38.00	$150.00 - $169.50	-
University of Windsor	$2.00 - $3.00	$8.00	$70.35	-	$390.00
York University	$3.00 - $3.50	$5.00 - $20.00	-	$292.00 - $449.00	$876.00 - $1483.80



Shared Oshawa Campus Parking Lots

Parking Recommendations

PA1: Parking should continue to be provided both north and south of Conlin Road. Over time and as public transit access improves, demand for parking may decrease. The Campus Master Plan will acknowledge that on-campus parking will be required.

PA2: Promote the use of structured parking lots in association with new building development as a method to provide the necessary parking while minimizing the total land required for that use.

PA3: Parking lots should be distributed throughout the campus, such that the walking distance between the parking lot and destinations is within reasonable walking distance of 400 metres wherever possible.

PA4: Provide wayfinding signs, maps and other design methods to direct visitors from parking lots to various campus destinations. Improved wayfinding and signage should be used to assist drivers in finding available parking.

PA5: The view of parking from key pedestrian corridors and high visibility external areas should be minimized.

PA6: Parking lot design should reflect best current practices in terms of aesthetics, convenience, safety, environmental impact reduction, and asset management.

PA7: Collect and monitor parking utilization data. This information could be crucial in future decision-making pertaining to parking supply, location and pricing.

PA8 Develop and implement a comprehensive strategy, comprising preferential parking programs, increased parking rates, differential parking pricing, transit and Travel Demand Management (TDM), with the objective of over time, maintaining or reducing parking demand as the campus grows and transit service improves.

4.6.4 Active Transportation

Context

Active Transportation covers the pedestrian and cycling modes. It is of key importance in terms of how students and staff reach the campus and how they circulate around it. Attractive open spaces and accessible linkages across the site also enhance the quality of the student and staff experience.

Active Transportation Background Review

The 2012 Durham Regional Cycling Plan was reviewed to identify on-road facilities proposed on Simcoe Street and Conlin Road. The 2012 Durham Regional Trail Network plan was consulted regarding proposals to extend the Oshawa Creek Trail; it also shows another trail running south of Conlin Road East through the Samac Lake area. Reference was made to the 2008 Oshawa Walking and Cycling Master Plan, which includes the latest City of Oshawa proposals for on and off-road facilities in the area.

Travel distances for students living in residences on campus and in the immediate surrounding areas to the south, east and northeast of the site are such that most will be capable of walking to university and college buildings on the shared Oshawa campus (south of Conlin Road). This is evidenced by pedestrian volumes on the cut-through linking Dalhousie Crescent to Commencement Drive. With the planned expansion of the Windfields Farm lands north of Conlin Road, cycling will become a more feasible mode of transportation, particularly for students who live to the south of campus and for those that make multiple trips a day.

Improved cycling links will increase the area in which students could live without the need for a car. As the campus expands, auto-related capacity will be constrained by both the road network and campus parking lots. Daytime parking is restricted on Niagara Drive and connecting residential streets to the south of the main campus. Therefore, non-auto modes should be promoted as a means of reaching campus. Once there, staff and students should be able to circulate freely by bike or on foot.

Opportunities

The off-road facilities shown in the 2012 Durham Regional Trail Network plan will improve external access to the campus:

- The proposed extension of the Oshawa Creek Trail will link to the residential area south of the Cedar Valley Conservation Area.
- A trail is shown running south of Conlin Road East through the Samac Lake area.

The 2012 Durham Regional Cycling Plan proposes on-road facilities on all four approaches to the Simcoe Street / Conlin Road intersection:

- Conlin Lane West will feature a cycling lane. With an adequate ramp connection, this will increase the reach of the Oshawa Creek Trail extension.
- On the southern Simcoe Street arm, the existing multi-use path on the western side (which currently terminates at the bridge over the Cedar Valley) will be extended south to Taunton Road. This will improve access to residential areas along Taunton Road and links to the south.
- A buffered cycle lane is planned on Conlin Road East, facilitating cycling from the Kedron and Windfields Farm residential areas, as well as the housing to the east of Samac Lake.
- The existing multi-use path on the east side of Simcoe Street north of Conlin Road joins the south of Conlin Road campus to the Windfields Farm lands north of Conlin Road.

The 2008 Oshawa Walking and Cycling Master Plan shows links that will connect and maximize the reach of the aforementioned regional facilities:

- From the point where the regional Oshawa Creek trail will cross under Conlin Road, the City proposes an additional trail running northeast along the spur of the creek. This will allow cyclists to access the Windfields Farm lands north of Conlin Road without having to use either Conlin Road or Founders Drive and will provide connections to bicycle facilities that are proposed further north. As the creek will limit road access to adjacent developable areas, the trail may be the most direct route.
- An east-west trail will be constructed along the Cedar Valley from the Oshawa Creek Trail to the north-south spine proposed along a hydro corridor east of Ritson Road. This also connects to the planned regional trail through the Samac Lake area to Conlin Road East.

- A link is shown connecting the regional trail proposed around Samac Lake with the east side of Simcoe Street. Although this area is currently signed as private property operated by Scouts Canada with no public access, the feasibility of opening this link should be investigated.

Campus Active Transportation Challenges

There is a need to reconcile vehicular movements with those of pedestrians and cyclists. Some of the specific areas of conflict include:

- On Founders Drive there are vehicles entering and exiting the parking lots.
- Buses travel along Commencement Drive and round the loop outside the Willey Building.
- Heavy vehicles use Commencement Drive and/or Founders Drive to reach the delivery vehicle access on the southern side of the UOIT science building.

The main north-south pedestrian movement has a covered, enclosed corridor through the Willey Building. While this provides a degree of protection in inclement weather, the physical constraints may result in there being insufficient space to manage the pedestrian flows, particularly as the campus expands and overall student and staff numbers increase.

Bicycle parking is available at multiple locations around the campus; however, there are locations such as the UOIT Business and IT building where racks are over-subscribed and the adjacent railings are used as overflow parking. Bikes were observed chained to trees, signs and other infrastructure not intended for that purpose, particularly around Polonsky Commons. It appears such objects may be chosen in preference to some formal facilities, which may be considered 'wheel benders' due to the lack of support they offer a bike's frame.

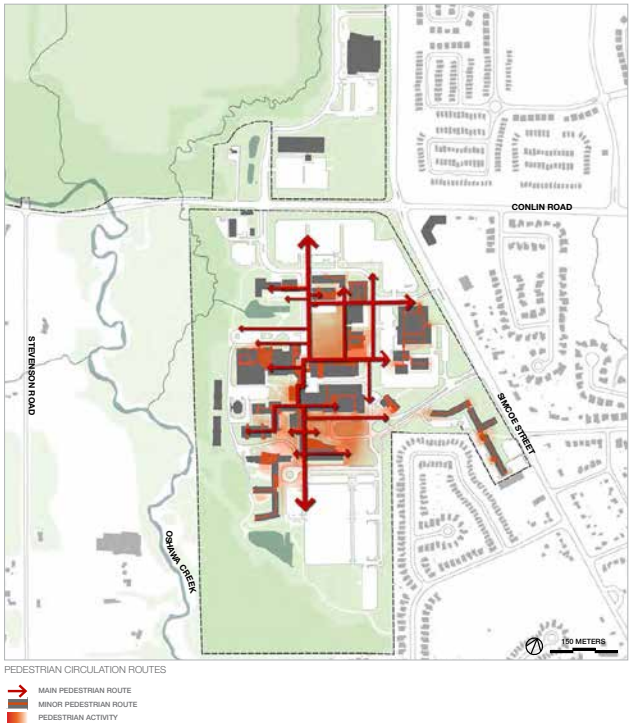
Although there is a north-south path running behind the Ice Centre, it is too narrow for mixed use, does not reach Conlin Road and there is no provision for either crossing Conlin Road or accessing crossing facilities at the existing signalized intersections.

Active Transportation Recommendations:

AC1: Design of an enhanced pedestrian and cycling circulatory system that is connected and provides signage and other wayfinding tools to aid circulation within campus and link to the external Regional and City networks would be beneficial. The risk of conflict with motorized vehicles should be mitigated, particularly across Simcoe Street and Conlin Road.

AC2: Work to create an interior and exterior pedestrian network to link the campus south of Conlin Road to the former Windfields Farm lands north of Conlin Road. Sidewalks are planned for implementation on Simcoe Street and Conlin Road bordering the Windfields Farm lands north of Conlin Road which will improve the pedestrian experience and encourage walkability.

AC3: Bicycle parking facilities could be improved by increasing availability, type and distribution throughout the campus.



(Source: Sasaki Master Plan, 2010)

AC4: The natural corridors of Oshawa Creek and the tributaries are an asset and can promote active transportation within and beyond the campus. The proposed facilities shown in the Durham Regional Cycling Plan, Durham Regional Trail Network and the Oshawa Walking and Cycling Master Plan could be incorporated into the Master Plan. These are subject to implementation by Durham Region and the City of Oshawa; however, DC and UOIT could work actively with the City and Region to promote this implementation.

AC5: Promote active transportation, as well as carpooling, transit, bike sharing programs, and other transportation demand management options.

4.7
Servicing

4.7.1 Stormwater Management

Existing Services

North of Conlin Road there is an existing 975mm storm sewer that has been constructed on Founders Drive up to the existing Campus Ice Centre. This sewer drains south and outlets to an existing stormwater management (SWM) pond located just north of Conlin Road on the east side of Tributary W1. Both the pond and the sewer have been sized to accommodate the post development flows from the Campus Tennis Centre, soccer field, Campus Ice Centre, associated roads and parking lots and the block of land located north of the Campus Ice Centre between Simcoe Street and Tributary W1. The sewer and pond are privately owned and maintained by UOIT/DC.

There is also an existing 1500mm storm sewer located at the west end of the site, just south of the proposed Britannia Avenue West, which outlets directly into West Oshawa Creek. This sewer drains the existing residential development on the west side of Thornton Road consisting of Roselawn Avenue, Winifred Avenue and Bickle Drive.

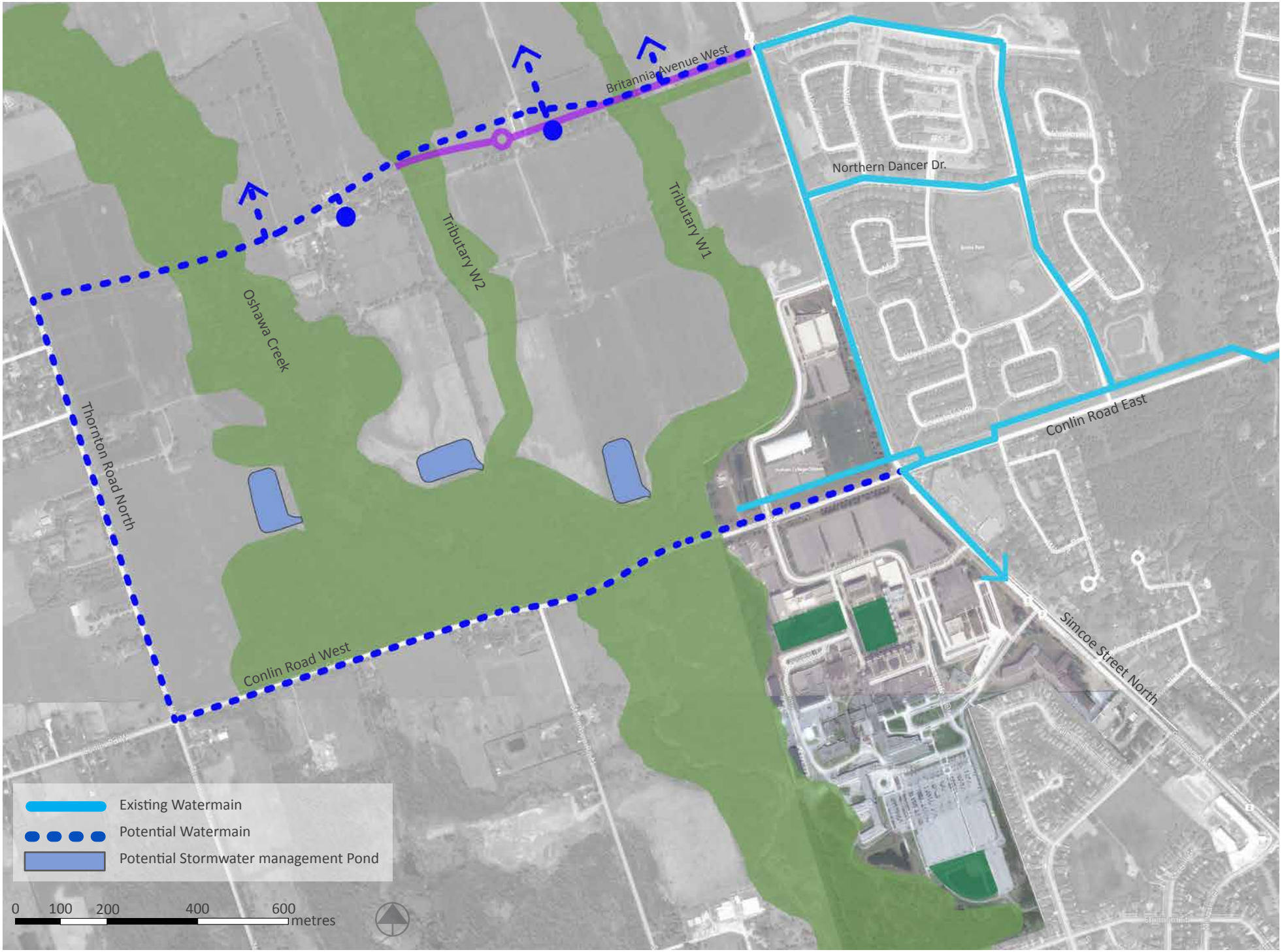
South of Conlin Road there are two existing SWM ponds. One is located at the northwest corner of the campus directly behind the General Motors of Canada Automotive Centre of Excellence Building. The other pond is located at the southwest corner of the campus just south of the South Village Residence Building. Both of these ponds outlet to West Oshawa Creek.

Future Services

Three new SWM ponds will need to be constructed to accommodate development north of Conlin Road. These ponds were identified in the previously approved Master Environmental Servicing Plan (MESP) for the Windfields Planning Area West (February 2012) and as such will be constructed at the south limit of the development lands adjacent to the three creeks (Oshawa Creek West Branch, Tributary W1 and Tributary W2).

South of Conlin Road it is expected that new storm sewers will only be required to connect to any new structures being proposed. Since the South Campus lands are essentially fully developed with hard surfaces (i.e. buildings and parking lots) it is expected that the existing ponds can accommodate any redevelopment proposals on these lands without the need for any serious upgrades or new ponds. If the imperviousness level of the site changes it is expected that the upgrades would be modest and could be accommodated by making minor adjustments to the ponds such as revisions to outlet pipes or structures and possible excavation to achieve additional storage.

The MESP for the Windfields Planning Area West identified the potential for low impact development (LID) to be incorporated into the plan. This will help to mitigate reductions to groundwater recharge due to the increase in imperviousness caused by the proposed development.



Existing and Potential Water Servicing and Stormwater Management

4.7.2 Sanitary Drainage and Water

Existing Sanitary Sewers

Sanitary sewage from UOIT/DC drains south toward Lake Ontario via a series of trunk sanitary sewers constructed along city streets and through valleys where it is treated at the Harmony Creek Water Pollution Control Plan (WPCP) prior to discharging to Lake Ontario.

The lands south of Conlin Road outlet at the south-east corner of the campus through a 375mm sewer that connects to a 450mm sewer on Niagara Drive. This sewer flows south-east along Sheridan Street and Canadore Crescent to the Simcoe Street North Sanitary Pumping Station. The pumping station discharges through a 300mm forcemain to the trunk sewer on Ritson Road.

The Windfields Farm lands north of Conlin Road are part of the Windfields Part II Plan area which is tributary to the Conlin Road Sanitary Pumping Station. The pumping station was constructed in 2002/2003 and discharges through a 450mm forcemain to the trunk sewer on Ritson Road. In 2003 UOIT/DC developed the recreation facilities (soccer field, Campus Tennis Centre and Campus Ice Centre) at the northwest corner of Conlin Road and Simcoe Street North.

This included the construction of a 525mm sewer on Founders Drive which terminates in the cul-de-sac just north of the arena. This sewer was designed to accommodate all of the UOIT/DC lands located between Tributary W1 and Simcoe Street. This sewer drains south and west to outlet at the Conlin Road pumping station. The pumping station has a rated capacity of 365 l/s (based on discharging through the existing 450mm forcemain to the Ritson Road sewer) and is sized to accommodate all of the Windfields Planning Area. The Region has advised that the available capacity of the Ritson Road sewer is 320 l/s; however, since there are other development areas that are tributary to the Ritson sewer it is understood that additional downstream sanitary upgrades may be required in order to service the entire Windfields Planning Area. Timing of DC/UOIT development and the other developments which drain to the Ritson sewer will dictate any required upgrades. Sanitary sewage capacity is assigned by the Region at the time of signing a Subdivision Agreement and it is allocated on a first come first serve basis.

Future Sanitary Sewers

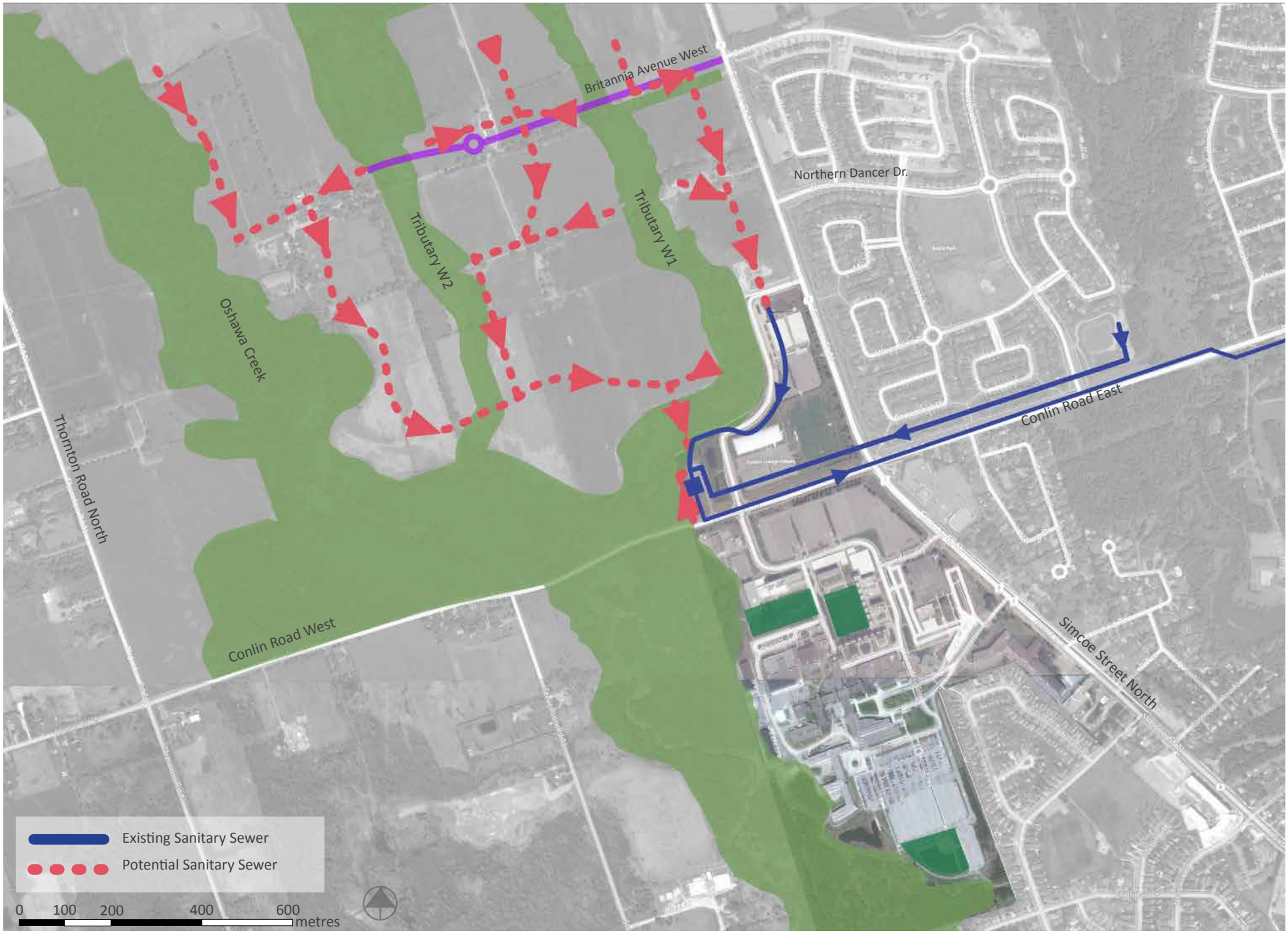
North of Conlin Road

The existing 525mm sewer on Founders Drive is expected to be extended north to Britannia Avenue West by December 2013. This sewer has been designed and will be funded and constructed by the land owner to the north.

The sewer will be constructed along the west edge of the campus development block (east edge of Tributary W1) and is designed at sufficient depth to accommodate future development within the UOIT/DC block north of the arena.

In order to service the UOIT/DC lands located between Tributary W1 and the West Oshawa Creek it will be necessary to construct a trunk sewer across Tributary W1 just north of the Conlin Road Pumping Station. There is a 1350mm diameter sewer entering the north side of the pumping station. This sewer was constructed with an allowance for a future 1200mm diameter sewer to be constructed across Tributary W1. The sewer connections will include a manhole with an invert of 142.43m and will provide sufficient depth to drain by gravity beneath the creek elevation (approximately 146.0m). The sewers within this central area of UOIT/DC will drain by gravity along future internal roads on either side of Tributary W2 following the slope of the land. The sewer on the west side of Tributary W2 will cross Tributary W2 and combine with the flows on the east side of Tributary W2. This trunk sewer is oversized to accommodate future flows from within the Windfields Part II Plan as well as flows from Columbus, the industrial lands west of Windfields and flows to be diverted from Brooklin. The Region of Durham will be responsible for oversizing costs beyond the minimum size required by UOIT/DC.

The lands on the west side of West Oshawa Creek between the creek and Thornton Road are also tributary to the Conlin Road Pumping Station. Servicing these lands will require a sewer syphon to be constructed beneath West Oshawa Creek. The syphon will be constructed within UOIT/DC



Existing and Potential Sanitary Servicing

lands approximately 300m north of Conlin Road. This sewer will also be a trunk sewer as it will accommodate flows from the industrial lands west of Thornton Road.

Easements in favour of the Region of Durham will be required where the above mentioned 525mm trunk sewer, 1200mm trunk sewer, and sewer syphon pass through the DC/UOIT lands. These trunk sewers will be owned and maintained by the Region of Durham, similar to the existing 525mm sewer located in front of the Campus Ice Centre and Tennis Centre. All other local sewers will be private sewers and will be owned and maintained by UOIT/DC.

As mentioned above the Conlin Road Pumping Station was originally designed and constructed to handle a flow of 365 l/s. This can accommodate the entire Windfields Part II Plan area. Future expansion will be required to accommodate additional flows outside of the Part II Plan area. This would include the most westerly UOIT/DC lands located between West Oshawa Creek and Thornton Road.

According to the Regional Development Charge Background Study (March 19, 2013), the Region is expecting to do the EA for the Conlin Road Pumping Station expansion in 2015 with construction to follow in 2016.

South of Conlin Road

As mentioned above, the shared Oshawa campus lands (south of Conlin Road) drain to the Simcoe Street North Pumping Station located on Simcoe Street North just north of East Oshawa Creek. The Region of Durham has advised that this pumping station has experienced capacity issues over the last few years. The pumping station was originally equipped with 3 pumps; however, one of the pumps has experienced frequent plugging and has become damaged. The Region has just recently replaced the faulty pump and added a fourth pump for greater capacity. This was completed in August/September 2013. In 2014 the Region expects to further upgrade this system by replacing a bottleneck section of 250mm forcemain (located beneath the creek) with a new 400mm forcemain. This will further increase capacity at the station. The Region has indicated that the Simcoe Street North Pumping Station now has a rated capacity of 140 l/s and with the forcemain upgrade scheduled for 2014, the Region expects that the new station capacity will be increased to 170 l/s.

The Region has confirmed in a meeting on November 13, 2013 that the recent and proposed upgrades to the Simcoe Street North Pumping Station and forcemain are being completed to allow for expected intensification along Simcoe Street. UOIT/DC's previously allocation of 40 l/s for the south campus lands remains in place. Based on a one month flow monitoring exercise undertaken by UOIT/DC in February 2013 it would appear that sanitary flows are actually less than 15 l/s. Although these results are promising, the Region will require a full year of monitoring results to ensure all seasonal anomalies are accurately captured. The Region will need to be fully satisfied that the existing flow rates are well below the 40 l/s cap before they allow new buildings to be constructed.

An alternative to the above involves redirecting a portion of the south campus flows to the north to outlet to the Conlin Road Pumping Station. This would entail installing a pumping station approximately mid-block of the south campus to divert flows from the northern half of the south campus to Conlin Road. This would free up some capacity in the southern portion of the site to allow for additional growth to drain south to Simcoe Street. Directing additional flows to Conlin Road from the south campus could trigger the need for the upgrade to that pumping station if total flows exceed 365 l/s.

Water System

Water for the UOIT/DC lands originates at the Oshawa Water Supply Plant located on Ritson Road South at Lake Ontario. A series of trunk watermains constructed north along the City's major roads and some easements delivers water to the campus.

Any new watermains required for future campus development can simply connect to the existing adjacent watermains without the need for any pressure reducing valves or booster pumping stations. South of Conlin Road there is a 300mm watermain on Simcoe Street with two connections to the campus. The section of watermain just south of Conlin Road is reduced to a 150mm pipe. On Conlin Road there is a 400mm watermain between Ritson Road and Simcoe Street. West of Simcoe the watermain is downsized to a 150mm pipe and extends west as far as the Conlin Road Pumping Station. This watermain was constructed in 2003 to provide water to the Pumping Station.

North of Conlin Road there is a 400mm watermain within the west boulevard of Simcoe Street which has been constructed as far north as Britannia Avenue West. This main is expected to be extended approximately 300m further north in 2014 by the land developer located north of UOIT/DC. The land developer is also expected to construct a new 300mm watermain on Britannia Avenue West from Simcoe Street to just east of Tributary W2 in 2014. Ultimately the main on Britannia Avenue will be extended all the way to Thornton Road. The Regional Development Charge Background Study (March 19, 2013) indicates that the EA will be completed for this main in 2016 with construction occurring in 2017.

The Regional Development Charge Background Study also indicates that a new 900mm Zone 3 feedermain will be constructed on Conlin Road between Simcoe Street and Garrard Road. This work is also scheduled for an EA in 2016 and construction in 2017.

Watermains that are 300mm or larger will be constructed on all of the major roads surrounding this site. The UOIT/DC lands will require private connections as these lands are privately owned. The Region has previously confirmed that they will determine what is deemed a "Private Connection" at a later date when development applications are made accompanied by a servicing plan. Due to the large size of this property it is expected that the land will be developed through multiple blocks or parcels of land and be phased over many years.

Hydrant and valve locations will be confirmed at the detailed design stage to the satisfaction of the Region of Durham and the City of Oshawa Building Department. Final watermain sizes for the Site will be confirmed through discussion with Region of Durham staff at the time of detailed design. The water system will be designed in accordance with Region of Durham criteria.

Servicing Recommendations:

SS1: Align development phasing, when possible, to leverage both existing sanitary, storm and water servicing along Simcoe Street and the servicing improvements proposed as part of the development north of Britannia Avenue West.

SS2: The full year flow monitoring south of Conlin Road should be completed, to support priority building projects and intensification efforts on the existing south campus.

SS3: Monitor EA's (anticipated in 2015 and 2016) for the Conlin Road Pumping Station Expansion and Britannia Avenue West watermain extension, providing all input required to protect and implement the joint Campus Master Plan.

4.8
Sustainability

4.8 Sustainability

What is Sustainable Development?

Sustainable development has been defined in many ways, but the most frequently quoted definition is from "Our Common Future", also known as the Brundtland Report: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs"

This definition captures two important tenets of sustainability; responsibility of one generation to the next and the inter-dependencies between our social, economic and ecological systems. These principles can be applied on a community or city-level, as well as to the scale of the campuses. The dialogue around sustainability is evolving as people are beginning to understand that sustainability is more than just a "buzzword" and that there are tangible benefits to sustainable design. This is visible at colleges and universities as institutions continue to incorporate green features in current and future campus buildings.

In much of today's discussions around buildings and campuses for higher education, sustainability is touted for its positive environmental impact; however, sustainable design can, and should, be about more than just responsible earth stewardship.

In addition to offering tremendous educational and environmental advantages to a college or university, sustainability also delivers significant business and financial benefits and makes sound economic sense. When designed correctly, sustainable features can not only contribute to the long term livability of the planet, but also save on operating costs, support and improve student learning, and even promote change in students' behavior. As well, many institutions now find that sustainability is one of the things potential students look for when deciding which school to attend.

Context

Durham College and UOIT have demonstrated an ongoing commitment to sustainability on their campuses. Both institutions have undertaken several initiatives to implement their green policy objectives. Some of these include:

- Durham College has achieved a bronze rating under the AASHE STARS program.
- New buildings constructed for UOIT incorporate green roofs, high levels of thermal mass, and solar reflective windows.
- Green roofs have been installed on several buildings including the Library, Business and IT Building and the Science Building.
- A geothermal system is used to heat and cool UOIT's buildings including the ACE building as well as the athletics facilities.

A two-megawatt cogeneration facility is located on the northwest corner of the campus. The cogen plant is owned by the City of Oshawa. Electricity is sent to the grid and the hot water is used by the campus. Rainwater harvesting of roof run-off has been implemented for these buildings and the rainwater is used for irrigation and sewage conveyance.

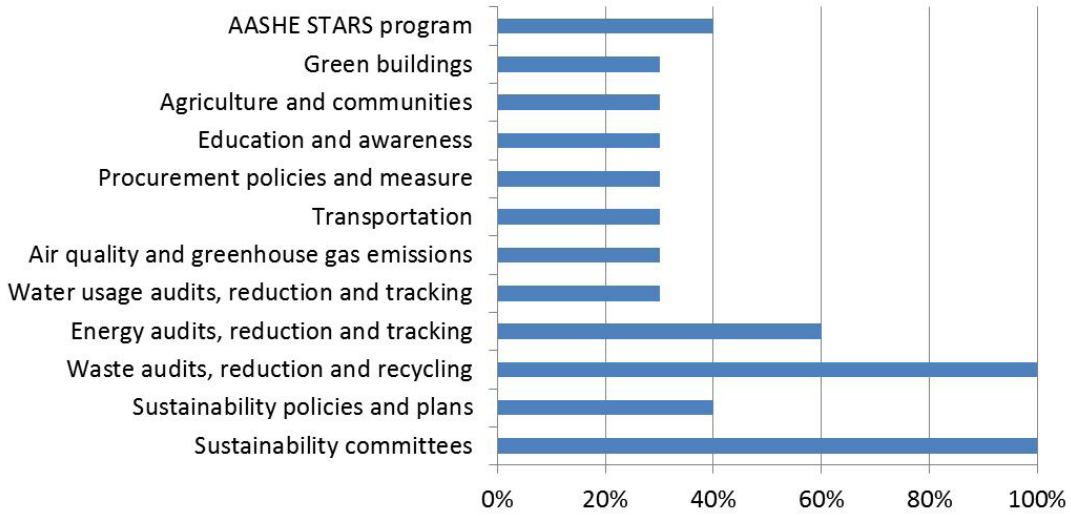
Best Practices in Ontario Campuses

A review of best practices in sustainability at campuses throughout Ontario was undertaken to provide a high-level overview of current sustainability initiatives that are in place at a number of colleges in Ontario. The colleges examined were selected for their similarity in size, population and structure to Durham College and the combined shared Oshawa campus. The following colleges were included in the review:

- Sheridan
- Georgian
- Humber
- Niagara
- Mohawk
- Fleming
- Centennial
- St. Lawrence
- Conestoga
- Algonquin

It was found that a variety of sustainability initiatives have been implemented as part of the overall sustainability strategy. The sustainability initiatives were reviewed and grouped under the following broader categories. DC and UOIT have already implemented many of these initiatives:

- Sustainability committees
- Sustainability policies and plans
- Waste audits, reduction and recycling
- Energy audits, reduction and tracking
- Water usage audits, reduction and tracking



Overview of Sustainability Initiatives at Institutions in Ontario

- Air quality and greenhouse gas emissions
- Transportation
- Procurement policies and measures
- Education and awareness
- Agriculture and communities
- Green buildings
- AASHE STARS program

The corresponding chart provides a snapshot of which categories were most often pursued by the colleges reviewed. The chart appears to indicate that, although the individual initiatives may vary, there are three general categories identified for sustainability improvements by greater than 50% of the institutions examined. These include energy audits, reduction and tracking; waste audits, reduction and tracking; and implementation of a sustainability committee.

Lessons Learned

Based on the analysis undertaken, the following summarizes the applicable lessons that should be considered when developing the DC/UOIT Master Plan:

- The Master Plan should make a significant difference in sustainability for the institutions relative to conventional plans in order to be meaningful.
- Master Plan's sustainability guidelines and standards need to be simple yet comprehensive, allow for innovation and applied to all, and shouldn't reinvent the wheel, but rather reference existing and equivalent standards when appropriate.
- Education is important for all involved, and must start at the beginning of the initiative and flow all the way to students, staff and the surrounding community to ensure sustainable objectives are achieved.
- Implementation and monitoring is essential to ensure actions are being taken and to measure success or failure of the policies and standards so that corrective action can be taken if necessary.

Sustainability Recommendations:

Sus1: Maintain and expand where possible existing green building initiatives.

Sus2: Sustainable "neighbourhood" measures including transportation and urban design should be woven into the Master Plan creating a holistic approach to the campus development.

Sus3: Much of the focus currently is on environmental sustainability. This limits the scope of sustainability to only one of the three recognized components – social, economic and environmental. The social and economic sustainability in a higher education context should be considered to be equally important.

Sus4: Establish a joint approach to sustainability; a seamless, integrated and cooperative approach would allow for greater success to be achieved and may encourage greater support from the community including potential partners.

Sus5: To continue to be considered leaders in sustainability, include initiatives that address some of the key areas that other schools are not currently tackling. These include the areas of green buildings, transportation, air quality, procurement and education.

Sus6: Clear targets or metrics aligned with the key principles and/or objectives should be established to better manage sustainability initiatives. The lack of consistent and defined metrics and measures for campus sustainability makes it difficult to track progress and celebrate successes.

4.9
Precedents


5 minute walk
Approx. 400m
Simcoe Street

4.9.1 Introduction

Introduction

An important part of the background research was studying other institutions which have undergone comparable growth and/or have attributes that are similar to the shared Oshawa campus. Precedent studies provide important lessons which can inform the Framework Plan for Durham College and UOIT.

This section includes case studies on the following institutions;

- York University
- University of Toronto
- University of British Columbia; uTown

The case studies provide a brief overview of the following topics:

- Information on relevant planning policy and how this effects the Institution and its development approach
- The institution's approach to parking
- The layout and scale of the campus in terms of walkability and density
- The campus public realm
- Institutes's relationship with developers and public private partnerships
- Funding strategies

4.9.2 York University

York University

York University established in 1959, in a relatively suburban location in Toronto's north-west end.

York University has experienced considerable growth and is now Canada's third largest university.

Development of the Yonge Subway extension line which is due to open in 2016, on which York University will have its own station will contribute to York's future development. It is predicted that the subway extension will bring an additional 150,000 people over the next 30 years to the area.

York Secondary Plan Update

The York Secondary Plan identifies the need to create mixed use communities, and for the Campus to create strong links to become part of the wider community.

York University is surrounded by open space and the Secondary Plan recognizes that these open spaces can stitch the campus and community together. The Plan also highlights the need to protect the natural environmental systems and that the landscape should provide a sense of place to the Campus. New buildings at York are intended to have a strong relationship with the surrounding landscape which will help reinforce the sense of place.

Parking

York University has established a clear approach to reduced car parking. The Plan promotes the use of public transit by car-pooling, subsidizing transit passes and providing cycling provision. A "balanced approach" is taken between car park provision and public transit; there is a shuttle bus service as well as limitations to parking availability. Importantly, the York Plan states that once public transit improvements and the subway are achieved the University will undertake a review of its parking allocations. The Plan is very clear that the priority should be to replace existing surface parking lots with below grade lots and that the priority should be to remove parking lots "adjacent to heritage buildings and cultural heritage landscapes".

Figure Ground

For comparative purposes the figure ground of building footprint for York University has been overlaid onto the shared Oshawa campus. This diagram clearly illustrates that the form of development and building spacing at York is realistic in a shared Oshawa campus context. The Figure ground Plan illustrates that the urban fabric is denser than in the shared Oshawa campus; however, the north south axis can be identified within the campus and the majority of the campus buildings are within a 5-10 minute walk. Buildings at York University front directly onto the street and create strong boulevards and a higher quality of public realm.

Figureground of York University superimposed on shared Oshawa campus

(Source: York Campus Master Plan, 2013)

4.9.3 University of Toronto

The University of Toronto was established in 1827 and is one of Canada's most famous universities. It is located in downtown Toronto, predominantly between College and Bloor Streets.

U of T is a campus university fully integrated into the surrounding community. Both students and the public walk through the campus and open spaces as part of their daily experience of the city.

Character and Landscape

U of T has a strong sense of character and identity within the downtown. Clearly, this is due to the age and architectural style of the buildings, but also the existing open spaces and walkways which have been established through the campus.

Despite its downtown setting the University is recognized for its green spaces and walkways through the campus. These open spaces help connect the campus to the surroundings. Tree lined walkways such as 'Philosopher's Walk' create intricate spaces and link key buildings in and around the campus.

The main open spaces; Queen's Park and King's College Crescent are part of a wider open space network which is linked by a number of pedestrian routes.

In addition to the numerous footpaths through the site, efforts have been made to reduce the vehicular and traffic effects on the streetscape by closing some of the quieter roads within the campus to traffic.

Additions to the streetscape such as planters at Willcocks Street add an interim café close the street to vehicular traffic and help create a more pedestrian friendly public realm throughout the campus.

Figure Ground

For comparative purposes the figure ground of building footprint for U of T has been overlaid onto the shared Oshawa campus. As with York University the figureground illustrates that the shared Oshawa campus has the capacity to create a similar urban environment to that of U of T.

The figure ground illustrates the strong north-south routes between College Street and Bloor Street, with the majority of buildings concentrated on Huron Street, St George Street and other buildings dispersed around King's College Crescent.

The majority of buildings in the campus are within a 10-15 minute walk.

Figureground of University of Toronto superimposed on shared Oshawa campus

4.9.4 University of British Columbia

The University of British Columbia (UBC) established the “UBC Properties Trust” (UBCPT) in 1988 to ‘acquire, develop and manage real estate assets for the benefit of the University’. The Trust created seven neighbourhood plan areas. The neighbourhoods are collectively referred to as "uTown".

UBC also established a Campus + Commuity Planning department which is comprised of urban planners, engineers, building inspectors, sustainability experts, and supporting staff. The department is responsible for long-range planning, land use regulation, campus and landcape design, permitting, transportation and community-building activities. They are also accountable for ensuring that decisions made with regards to university land, buildings, infrastructure and transportation support the campus’ short and long-term goals. The department plays an important role in the uTown implementation of the uTown neighbourhood plans.

Six of the seven uTown neighbourhoods are in development, under construction or complete. Hampton Place was the first neighbourhood developed. It has had a net gain of $81 million for UBC. This level of success led to the release of a further 200 acres to be transformed into neighbourhoods, with a mix of housing, parks, shops and amenities.

Following Hampton Place, UBCPT followed with the development of Hawthorn Place, Chancellor Place, East Campus and now Wesbrook Place. From this, UBC will see an endowment contribution estimated at $2 billion over the next 20 years.

Wesbrook Place

This ‘urban village in the woods’ is the largest of the uTown neighbourhoods and includes a new community centre, new secondary school, the UBC farm, cafés, services, grocers and restaurants.

The supermarket and commercial/ office building are in the heart of Wesbrook Place and used by the immediate and wider community. The built form encourages a mixed use environment with commercial uses at grade and residential above.

Wesbrook Place is governed by three groups, including the University Neighbourhood Association (UNA), the Vancouver School Board (VSB); and UBC's Campus + Community Planning. Each group has a specific role in ensuring that the community is managed effectively.

UBC's approach to the management of their lands and to development effectively illustrates how the institution has leveraged their assets to further enhance and grow academic spaces, while also providing community benefit and residential spaces.

(source: http://www.wesbrookvillage.com/ and http://planning.ubc.ca/vancouver/about-us)

University of British Columbia Campus Map and Neighbourhoods (source: http://www.wesbrookvillage.com/)

University of British Columbia uTown Development Examples

4.9.5 Humber College

Humber College Institute of Technology and Advanced Learning (Humber) is a polytechnic college in Ontario. Humber provides more than 27, 000 full-time and 56, 000 part-time students with 170 full time programs and 200 continuing education programs. The college offers a range of career-focused credentials including bachelor degrees, diplomas, certificates, and postgraduate certificates. Further, Humber has partnered with the University of New Brunswick and the University of Guelph to provide collaborative and integrated degree-diploma programs at their North Campus.

Humber consists of three campuses: Humber North Campus, Humber Lakeshore Campus, and Humber Orangeville Campus. The North and Lakeshore campuses are located in Toronto and the Orangeville campus is located in Orangeville, Ontario. In June 2008, Humber initiated a campus development plan for its North and Lakeshore Campuses to guide development to 2013 and beyond.

The Campus Development Plans act as a guide for all development projects and are based on the following three priority focuses: student space, faculty space, and future growth. Humber is becoming an urban institution; it is evolving from a suburban institution to an urban one. In particular, the North Campus Development Plan identified similar challenges to those experienced at the shared Oshawa campus. The challenges noted below and the related guidelines and recommendations in the Campus Development Plan are relevant to the Joint Campus Master Plan in that they illustrate potential solutions that may be explored during Phase 2 of the planning process.

Key site challenges for Humber's North Campus include:

- Parking Lots and Hard Surfaces – a large portion of the campus is used for parking lots, roads and other hard surfaces
  - » Creates challenging external circulation routes for pedestrians to reach the main campus entrances
  - » Provides a reserved and distant campus entrance rather than an approachable and inviting one
  - » Encourages sprawl like conditions as a result of low density requirements and the abundance of available land
- Campus Densities – the campus consists of low density development
  - » Results in increasing pedestrian travel distances between buildings
  - » Stand-alone building footprints require an increasing number of bridges to connect them, fragment the campus, and are not as green as desirable
- Exterior Transportation Networks – there are a number of issues with the exterior transportation networks, pedestrian paths, and campus servicing zones
  - » Lack of clearly defined transportation paths leas to conflicts between pedestrians, cyclists, and motorists
  - » Crowded road networks limit frequency of mass transportation, encourage single person car use, and limits efficiencies

To guide development in the appropriate direction on the North Campus, a set of guidelines have been created under the three North Campus Development Plan priority focuses (i.e. student space, faculty space, and future growth). The following guidelines have been developed for Humber's North Campus:

- "New buildings need to be taller, to make better use of the limited land that is available.
- Site and building design must encourage use of public transit to reduce the amount of land required for parking and roadways for private transportation.
- For buildings which will house specialized functions, the design should incorporate expansion either internally, horizontally or vertically."

Specific to the above-mentioned site challenges, a list of recommendations within the North Campus Development Plan have also been established. The recommendations for dealing with parking lots and hard surfaces, campus densities, and exterior transportation networks include:

- “Parking Lots and Hard Surfaces
  - » Create a more compact campus by bringing public transit closer to the core of campus
  - » Encourage building development, which provide closer connections with existing infrastructure while promoting a sense of place.
- Campus Densities
  - » Encourage higher density development of at least three and preferably four storeys.
  - » Integrate a range of uses in buildings that tie in and have synergy with neighbouring functions.
- Exterior Transportation Networks
  - » Integrate transportation networks to reduce conflicts and promote easier campus access.
  - » Appropriately locate transit stops and bus lay-bys along sidewalks for people movement.
  - » Avoid or minimize service access conflicts.”

4.9.6 Seneca College

Seneca College of Applied Arts and Technology (Seneca) is a polytechnic college with campuses across the Greater Toronto Area. Campuses include Jane Campus, King Campus, Markham Campus, Newnham Campus, Peterborough Aviation Campus, Seneca@York Campus, and four additional Community Campuses. The college has approximately 17,000 full-time and 90,000 part-time students, making it the largest college in Canada. Seneca offers students more than 150 full-time and 130 part-time programs and credentials that include degrees, diplomas and certificates.

In December 2010, Seneca College launched a Campus Master planning process for the first time in the College's history for the King, Markham, and Newnham Campuses*. The master plans serve as a broad vision for the future development of the various campuses. The vision for the Newnham Campus Master Plan, for example, is one that "responds to the density of an intensifying area, while at the same time creating an open, welcoming environment that is compatible with the neighbourhood character that surrounds it". The Newnham Campus Master Plan, due to campus' location and urbanizing context, addresses opportunities similar to those offered by the DC/ UOIT shared Oshawa Campus.

To achieve the vision for Newnham Campus Master Plan, planning principles have been established through the Campus Master planning process. The following list of principles will be used to guide the development of the above-mentioned vision:

- (2) Newnham Campus will be an urban compact campus. Seneca has the opportunity to establish a clear structure for outward growth towards the community, as well as vertical growth.
- (4) Newnham Campus will accommodate all modes of transportation, but will place high regard for pedestrians as a priority in the movement system.
- (5) Newnham Campus will be an accessible and transit friendly destination.

To achieve the vision and to build on the list of principles, a list of design strategies for the Newnham Campus has been established. One of the design strategies, for example, describes the need for a new parking strategy that allows "for sensible and sustainable transition from surface parking" as the campus development and growth intensifies. The Newnham Campus Master Plan considers the negative visual and physical impact of surface parking on the campus and surrounding community. The master plan describes the need for the surface parking footprint to be reduced and proposes a structured parking facility and below grade parking on the campus (i.e. as part of new development). The Newnham Campus Master Plan also proposes the need for consideration of a parking strategy that includes on-street parking, locations for pocket parking, and service lay-bys.

Seneca's Newnham Campus is facing many of the similar challages that the shared Oshawa campus is facing. The Newnham Campus is in an urban part of the City of Toronto; however, the campus layout and reliability on personal vehicles remains to have a more suburban character. The Newnham Campus Master Plan principles and strategies for tackling these issues provide a useful reference in the development of the Joint Campus Master Plan.

**Newnham Campus accommodates more than 10,000 full-time students and approximately 17,000 part-time students.*

5.0
Space Needs Analysis

5.1 Space Needs Analysis

Introduction

The planning horizon for the Campus Master Plan is 2030 at which time it is estimated that both Durham College and UOIT student enrolment will be almost double what it is in 2013. In order to fulfill their strategic objectives and meet commitments ranging from academic and social space to opportunities for community and business partnerships, additional buildings and infrastructure will be required to keep pace with the projected student enrolment. The Campus Master Plan is the tool to translate functional space requirements into a meaningful physical form.

Educational Consulting Services (ECS) undertook a high-level space needs analysis for the shared Oshawa campus, downtown Oshawa location and Whitby campus to determine the space needs to 2030.

The following tables identify the projected space needs for each institution. These projections consider and respond to a number of specific factors. While both institution's enrolment is projected to grow at a similar rate, it is understood that the space needs for each institution are unique. This is due, in part, to UOIT's requirement for extensive research laboratory space to complement learning areas. However, it has been agreed that all future building projects on campus must be done equitably and in the best interests of both institutions. Both are currently dealing with increasing space shortages and their respective plans to grow must be given equal consideration in the approach to Campus Master Plan phasing and in a manner that enhances the synergies between related academic and research activities in each institution and between the two institutions.

This section will provide an overview of the methodology for determining future space needs, including student enrolment projections, and summarizes the space needs at each campus. Based on this analysis, the number of buildings was translated to the Framework Plan for the shared Oshawa campus and summarized for use in planning at the UOIT downtown Oshawa location and Durham College Whitby campus. The complete report created by ECS is included in Appendix A of this Report.

Student Enrolment Projections

Durham College and the University of Ontario Institute of Technology have defined long range enrolment projections that show significant future increases in student population. The student enrolment projections drive the space needs component and are the primary data input for the space projections.

Four incremental planning horizons were used as benchmarks in the student enrolment projections. These included: Year 2015, Year 2020, Year 2025 and Year 2030. Student enrolment projections were then divided according to the shared Oshawa campus, downtown Oshawa Location, and the Whitby campus. Student enrolment projections that concern the shared Oshawa campus are particularly important to the development of the Campus Master Plan given that that campus has the greatest capacity for physical growth and is home to the majority of programs offered at Durham College and UOIT.

DC and UOIT also requested that the planning horizon analysis be undertaken based on an enrolment growth, as opposed to by year. This approach illustrates the space requirements as the student population grows, instead of based on set time frames. The three enrolment horizons that describe future space requirements for the shared Oshawa campus are 20,000, 25,000 and 29,000 FTE students.

It should be noted that student enrolment is described throughout the space needs analysis in Full Time Equivalent (FTE) students even though many Durham College and UOIT students attend class part time. Adjustments have been made to the enrolment figures to account for the consistent presentation of information as FTE.

Table 5-1 summarizes the student population growth by incremental planning horizon year.

Methodology

The translation of student enrolment projections into future space requirements requires three key data inputs. The first being the student enrolment projections; the second being the existing space inventory broken down by program and institution; and finally, standard for the space requirements broken down by program. Two methods were used to generate space requirement estimates for DC and UOIT because Colleges and Universities have different standards. The two methods included:

- For Durham College, the "Colleges Ontario Facilities Standards & Inventory (COFSI) Guidelines" were used to generate space requirement estimates. COFSI was recently adopted by Colleges Ontario (March 2013) to describe existing inventories and space needs. COFSI allows meaningful comparisons between institutions and creates a reference framework for discussion about the building spaces used by Ontario's 24 Colleges.
- For UOIT, a Hybrid Model Combining a "Detailed Activity Model" and "Council of Ontario University (COU) Standards" was used to generate space requirement estimates. Instructional space needs were estimated based on a detailed activity model prepared by UOIT that assumes changes in the way the University delivers its programmes (with more emphasis in certain faculties on outcome and project based learning). UOIT space requirement estimates for non-instructional spaces were generated using COU's space standards and methodology.

It is important to emphasize the high level nature of the estimates undertaken for the Campus Master Plan. In due course, and on the basis of every future capital project undertaken by DC and UOIT, more detailed needs assessments and functional space programming will have to take place to precisely describe actual space needs.

Further details of the analytical methodology for the space needs are provided in Appendix A.

Implications for the Master Plan

Tables 5-2 and 5-3 summarize the space needs for each institution according to their individual campus requirements.

Table 5-1 Full Time Equivalent (FTE) Students to 2030

	Campus/Location	Current (2013)	2015	2020	2025	2030
UOIT	Shared Oshawa Campus	6,618	7,405	9,469	11,706	14,058
	Downtown	2,149	2,330	3,007	3,709	4,428
	Total	**8,768**	**9,735**	**12,476**	**15,415**	**18,486**
DC	Shared Oshawa Campus	8,854	9,761	11,519	12,749	13,889
	Whitby	1,659	1,907	2,529	3,094	3,693
	Total	**10,513**	**11,668**	**14,048**	**15,843**	**17,582**
Totals	Shared Oshawa Campus	15,472	17,166	20,988	24,455	27,947
	All Campuses	**19,281**	**21,403**	**26,524**	**31,258**	**36,068**

Table 5-2 University of Ontario Institute of Technology: Space projections for the Shared Oshawa Campus and Downtown Location

	(Current) Year 2013		Year 2015		Year 2020		Year 2025		Year 2030	
	Required Space	*Surplus or Shortfall*	*Required Space*	*Surplus or Shortfall*	*Required Space*	*Surplus or Shortfall*	*Required Space*	*Surplus or Shortfall*	*Required Space*	*Surplus or Shortfall*
Shared Oshawa Campus: Total Area of Inventory (GSM): 74,622										
Student Population (FTE)		*6,618*		*7,405*		*9,469*		*11,706*		*14,058*
Classrooms, lecture halls, laboratories, and learner support	*59,257*	*-18,805*	*66,995*	*-26,543*	*86,079*	*-45,627*	*107,408*	*-66,956*	*130,236*	*-89,784*
Academic operations, student services and administration	*15,529*	*1,017*	*17,374*	*-828*	*22,218*	*-5,672*	*27,467*	*-10,921*	*32,987*	*-16,441*
Campus services	*9,669*	*-7,443*	*10,817*	*-8,592*	*13,832*	*-11,607*	*17,101*	*-14,876*	*20,537*	*-18,312*
TOTAL	**84,454**	**-25,231**	**95,186**	**-35,963**	**122,129**	**-62,906**	**151,976**	**-92,753**	**183,760**	**-124,537**
Downtown Location: Total Area of Inventory (GSM): 15,621										
Student Population (FTE)		*2,149*		*2,330*		*3,007*		*3,709*		*4,428*
Classrooms, lecture halls, laboratories, and learner support	*7,448*	*-429*	*9,436*	*-2,418*	*12,072*	*-5,053*	*15,063*	*-8,044*	*18,290*	*-11,272*
Academic operations, student services and administration	*5,671*	*102*	*6,148*	*-375*	*7,933*	*-2,160*	*9,786*	*-4,012*	*11,683*	*-5,910*
Campus services	*3,140*	*-1,800*	*3,404*	*-2,064*	*4,392*	*-3,052*	*5,418*	*-4,078*	*6,468*	*-5,128*
TOTAL	**16,259**	**-2,127**	**18,988**	**-4,857**	**24,397**	**-10,265**	**30,267**	**-16,134**	**36,441**	**-22,310**
UOIT TOTAL	**100,713**	**-27,358**	**114,174**	**-40,820**	**146,526**	**-73,171**	**182,243**	**-108,887**	**220,201**	**-146,847**

Notes: (1) Student and campus life space is not included. (2) Residence space accounts for 55,191m² which is shared between UOIT and DC on the shared Oshawa campus. (3) Source of Total Area of Inventory : Table 3-2 , "Long-Term Space Requirement Estimates to Inform the Development of a Joint Campus Master Plan", December 2013.

Table 5-3 Durham College: Space projections for the Shared Oshawa Campus and Whiby Campus

	(Current) Year 2013		Year 2015		Year 2020		Year 2025		Year 2030	
	Required Space	*Surplus or Shortfall*	*Required Space*	*Surplus or Shortfall*	*Required Space*	*Surplus or Shortfall*	*Required Space*	*Surplus or Shortfall*	*Required Space*	*Surplus or Shortfall*
Shared Oshawa Campus: Total Area of Inventory (GSM): 70,463										
Student Population (FTE)		*8,854*		*9,761*		*11,519*		*12,749*		*13,889*
Classrooms, lecture halls, laboratories, and learner support	*36,507*	*-2,712*	*40,246*	*-6,451*	*47,497*	*-13,702*	*56,638*	*-22,842*	*61,207*	*-27,906*
Academic operations, student services and administration	*21,819*	*-5,017*	*23,840*	*-7,038*	*27,759*	*-10,957*	*30,499*	*-13,698*	*33,040*	*-16,238*
Campus services	*8,512*	*-3,274*	*9,241*	*-4,003*	*10,655*	*-5,416*	*11,643*	*-6,405*	*12,559*	*-7,321*
TOTAL	**66,838**	**-11,003**	**73,327**	**-17,492**	**85,911**	**-30,075**	**98,780**	**-42,945**	**106,806**	**-51,465**
Whitby Campus: Total Area of Inventory (GSM): 25,077										
Student Population (FTE)		*1,659*		*1,907*		*2,529*		*3,094*		*3,693*
Classrooms, lecture halls, laboratories, and learner support	*17,182*	*4,161*	*19,755*	*1,588*	*26,196*	*-4,853*	*32,044*	*-10,701*	*38,247*	*-16,904*
Academic operations, student services and administration	*2,345*	*187*	*2,670*	*-137*	*3,484*	*-952*	*4,222*	*-1,690*	*5,005*	*-2,473*
Campus services	*1,819*	*-686*	*2,018*	*-886*	*2,518*	*-1,385*	*2,972*	*-1,839*	*3,453*	*-2,321*
TOTAL	**21,346**	**3,662**	**24,443**	**565**	**32,198**	**-7,190**	**39,238**	**-14,230**	**46,705**	**-21,698**
Durham College TOTAL	**88,184**	**-7,341**	**97,770**	**-16,927**	**118,109**	**-37,265**	**138,018**	**-57,175**	**153,511**	**-73,163**

Notes: (1) Student and campus life space is not included. (2) Residence space accounts for 55,191m² which is shared between UOIT and DC on the shared Oshawa campus. (3) Source of Total Area of Inventory : Table 3-2 , "Long-Term Space Requirement Estimates to Inform the Development of a Joint Campus Master Plan", December 2013.

By 2030, UOIT's space shortfall on the shared Oshawa campus will be 124,537 GSM and 22,310 GSM at the Downtown Oshawa Location. At both locations, UOIT will have a total space shortfall of 146,847 by 2030. At the north campus, UOIT will need to provide approximately 14 new buildings that are 8,750 m^2 GSM. This is approximately the size of the Energy Systems Research Centre (ERC) building on the shared Oshawa campus.

By 2030, Durham College's space shortfall on the shared Oshawa campus will be 51,465 GSM and 21,698 GSM at the Whitby Campus. At both campuses, Durham College will have a total space shortfall of 73,163 by 2030. At the north campus, Durham College will need to provide approximately 6 new buildings that are 8,750 m^2 GSM, approximately the size of the Energy Systems Research Centre (ERC) building on the shared Oshawa campus.

Table 5-4 summarizes the space needs for the shared Oshawa campus as well as the total shortfall across all campuses. The combined space shortfall for the University of Ontario Institute of Technology and Durham College on the shared Oshawa campus will be 176,002 GSM by 2030. The total space shortfall would require that additional 20 buildings of approximately 8,750 GSM be constructed at the shared Oshawa campus.

Table 5-4 University of Ontario Institute of Technology and Durham College Total Space Requirements and Shortfall

	(Current) Year 2013		Year 2015		Year 2020		Year 2025		Year 2030	
	Required Space	*Surplus or Shortfall*	*Required Space*	*Surplus or Shortfall*	*Required Space*	*Surplus or Shortfall*	*Required Space*	*Surplus or Shortfall*	*Required Space*	*Surplus or Shortfall*
TOTAL Shared Oshawa Campus	**151,292**	**-36,234**	**168,513**	**-53,455**	**208,040**	**-92,981**	**250,756**	**-135,698**	**290,566**	**-176,002**
Shared Oshawa Campus Shortfall represented as Number of Buildings Equivalent to ERC		*4.1*		*6.1*		*10.6*		*15.5*		*20.1*
TOTAL All Campuses / Locations	**188,897**	**-34,699**	**211,944**	**-57,747**	**264,635**	**-110,436**	**320,261**	**-166,062**	**373,712**	**-220,010**

NOTE: Shortfall represented as Number of Buildings Equivalent to ERC is calculated by taking the shortfall in Gross Square Metres and dividing by the GSM of the ERC building (8,750 m^2)

The space needs analysis does not consider space for the following:

- The replacement, over time, of temporary (such as Building U5 at UOIT), provisional (such as Simcoe Building) or leased premises (such as Campus Corners) with permanent, purpose-built facilities for use by DC and/or UOIT.
- UOIT leases or occupies temporary or provisional spaces at the shared Oshawa campus totaling 6,934 GSM
- DC leases or occupies temporary or provisional spaces at the North / Oshawa location totaling 7,226 GSM
- UOIT leases 13,437 GSM at its downtown location.
- The addition of residences at any of the campuses. Further discussions with the two institutions are required to understand their plans for these types of buildings. Table 5-5 summarizes the space requirements for the future residences based on the assumption that the current provision of 0.1 residence bed for every student (10% student to residence-bed ratio) is maintained.
- Additional buildings or infrastructure required for a research or innovation park, if for the use by a third party research partners. The analysis only includes space needs generated by DC's and UOIT's own research activities.

Table 5-5 Estimate of the Projected Student Residence Space At the Shared Oshawa Campus in 2030

Number of Residence Beds	Existing Residence GSM	GSM / Bed	2013 shared Oshawa campus Student Population	2013 Ratio of Residence Beds per Student	Approximate No. of Residence Beds, 2030	Approximate Residence GSM, 2030
1,576	*55,192*	*35*	*15,472*	*0.1 bed / student*	*2,795 beds*	*97,814.5*

Space Needs Analysis Recommendations:

SN1: The Campus Master Plan will accommodate the space to meet the projected total space shortfall of 176,002 GSM at the shared Oshawa campus, 22,310 GSM at the Downtown Oshawa Location, and 44,008 GSM at the Whitby Campus. The total space shortfall is the equivalent of an additional 25 buildings of approximately 8,750 GSM across all campuses, or an additional 20 buildings of the same size at the shared Oshawa campus, 3 buildings at the UOIT downtown location and 2 buildings at the Durham College Whitby Campus.

SN2: It should be assumed, when developing the Campus Master Plan, that a removal from the space inventory of temporary, leased or permanent facilities near the end of their life cycle (such as the Simcoe Building) calls for the replacement of that building space at a minimum of a "one-to-one" (1:1) basis.

SN3: In addition to the academic space requirements, the Campus Master Plan will provide residences at a rate of 0.1 bed to every FTE student at the shared Oshawa campus. The residences currently provide 35 GSM per residence bed.

SN4: In addition to the academic space requirements, the Campus Master Plan will provide approximately 30,000 GSM of space for the innovation park. Shared innovation and academic research spaces will also be considered.

6.0
Consultation and SWOT Analysis

Contextual Analysis
Breakout Session Questions
Future pedestrian landscape
Pedestrian links
Public transit spine
Key intersection
Opportunity 1
Opportunity 2
Opportunity 3
Long term or alternative
Green nodes
Green natural system
Colquitt Road

6.1 Summary of Consultation

Summary of Consultation

Consultation is an integral part of the Master Planning process. The consultant project team has worked collaboratively with a project team made up of representatives from Durham College and the University of Ontario Institute of Technology. In addition, the project team has worked together with a Project Advisory Committee, Senior Administrators and Boards of Governors from both institutions, and with the student, faculty and surrounding community. The role and membership of each group is identified below:

- Project Team: A group of senior representatives from Durham College and UOIT who are responsible for providing ongoing input to the Master Plan process. The consultant team has been and will continue to meet with the project team on a regular basis to present updates on the status of the master planning process and obtain key strategic input.
- Advisory Committee: The Advisory Committee is comprised of faculty, student and senior representatives from both Durham College and UOIT, as well as representation from the Region of Durham and the City of Oshawa. The Advisory Committee is responsible for providing oversight and input to the Master Planning process as well as providing an opportunity for the faculty, students and municipality to be involved.
- Senior Administrators: The Senior Leadership teams from both Durham College and University of Ontario Institute of Technology have provided strategic input into the process.
- Board of Governors: Durham College and the University of Ontario Institute of Technology each have a Board of Governors who's role is to govern and manage the affairs of the institutions. Although each institution has an independent Board of Governors, two individuals are cross-appointed to sit on both Boards. The project team is responsible for providing updates to the Boards of Governors at their regular meetings.

In addition to the ongoing consultation noted above, over the course of the Master Planning process, two Public Open Houses will be held. The purpose of these meetings will be to present the Master Plan Vision, Directions and Framework Plan developed during Phase 1 of the study and to present and obtain feedback on the Master Plan concepts during Phase 2. The Public Open Houses will be held at the shared Oshawa campus. Students, faculty, and the broader community will be invited to both Open Houses to review the material available and provide feedback. A project website will also be established as a method for broader consultation, and information on the project. Comments can be submitted through the project website.

Workshop Summaries:

Early in the Master Plan process, workshops were held with the Project Team, Senior Administrators and Advisory Committee. A vast amount of information has been collected through meetings and consultation over the course the project. The following sections provide an overview of the key outcomes from these meetings.

A detailed Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis was undertaken during the Project Team and Senior Administrators meetings. The SWOT analysis is a valuable tool to gain a better understanding of issues and priorities in a group. Strengths are the advantages that the institutions have over other institutions, campuses, programs, etc. Weaknesses are disadvantages relative to other institutions, campuses, programs, etc. Strengths and weaknesses are identified based on the current state, as opposed to being forward thinking. These could be elements of the campus that exist currently and should be continued into the future or should be improved in the future. Opportunities are elements on the campus or at the institutions that should be exploited as an advantage. Threats are elements on the campus or at the institutions that could cause trouble, or pose a risk to the project. Opportunities and threats are generally forward-thinking and pro-active.

SWOT Analysis

STRENGTHS

Buildings / Facilities:
- Commons: gives traditional feel
  - » Gathering place
  - » Provide a university feel
- Student Services Building
  - » Welcoming gate
  - » First place to learn about school
  - » Some gathering space here as well
- Clean lines of buildings
  - » Newer design
  - » Parallel to roads

Campus Design
- Good mix of open space, buildings and parks

Campus Borders
- Street frontage
  - » Conlin/Simcoe
  - » 100's of meters of frontage
  - » Visibility
- Welcome integration with broader community
  - » what else can be done?
  - »

Governance
- Time has been spent building the relationship

Sustainability and Environment
- Geothermal
- 'walking the talk' for some of the programs offered
- Feels like an advantage for students, especially students studying environment/sustainability
- Boundary by the CLOCA lands
  - » Trail debate has been ongoing
  - » City wants ownership of valley lands
  - » Fear of disconnecting the campus if City owns valley lands
  - » Potential of trails being a unifying feature

Campus Life / Walkability
- Still a small campus
- Currently able to walk campus in 5-10 minutes

Unique and Integrated Identities
- Conceptual separation between UOIT and DC
  - » Even though it is one campus, the two institutions are recognized
- Sustainability is part of the physical identity
- Campus integration
  - » can be challenging
  - » Government supports the idea
  - » There are 'efficiencies'

WEAKNESSES

Entry
- Points of entry to campus
- Barbed wire fence with surrounding area
- Not good connection with surrounding area
- Pedestrian connections to services (plaza) are dangerous
- Region focusing on Simcoe as a transportation spine which makes having a "community" in the middle of it challenging from a connection perspective
- Clash of movement for morning/evening entrance and exits
- Lack of front door to the campus

Suburban Location
- North Oshawa not considered 'Downtown TO'
- Ability to attract students from GTA is affected
- Consider City's thoughts on locations of parks

Student Housing
- Lack of options
- Onsite housing is at capacity, off site at 60%
- Not a lot of options for staff/ faculty and grad student housing

Governance
- North of Conlin Road land ownership
- Positioning of buildings

Space
- Can only fit so many people on campus
- Lab space
  - » Haven't followed through on promises to current faculty
  - » Tough to attract good faculty without research space and facilities

Student Life / Services
- Not a lot of services for students
- Groceries; really only thing close is the grocery section of Shoppers Drug Mart
- Restaurants; a new wing place and subway
- Not a lot of opportunities for student jobs in the area

Transit/Transportation
- Lack of good commuter options
- Cost of Public Transit is up

Private Partnership Opporunities
- Developer incentives has created lots of inventory
- May need to work with private sector to address space

OPPORTUNITIES

Partnerships
- Not just little quadrants
- Incubator space is key
- Nibbles only on this concept to date
- Whitby Campus: UOIT, DC and Trent – dLab collaboration

City of Oshawa
- City is anxious to have UOIT/DC drive evolution of the city

Transit
- GO stations relocation
  - » Major industrial/commercial spine to build on

Location in GTA
- Could live, work and study here more than ever with transportation linkages
- Location is closer than downtown Toronto especially with improved highway linkages coming

New Businesses
- attracting businesses into the campus community

Growth
- Growth is happening
- If we want to be big we can be really big
- Shape the area is entirely realistic….it is already happening

THREATS

Relationships
- Have to work at the relationship between UOIT and DC
- Staff okay
- Sometimes lose focus on 'big picture'

Vision of Campuses
- President similar vision
- What is on DC/UOIT vision/priority list

Ownership of land
- North of Conlin

Priorities
- What are the priorities for meeting needs
  - » Has to be student focused

Expectations / Implementation
- Go through planning process and don't receive funding to make it happen
- Master Plan has to be realistic in order to be built with limited/unknown funds

Funding
- UOIT is too young for a donor base as at other universities

Innovation
- Campus 3.0
- Explore or invent the next version of campus development

Summary of SWOT Analysis

Information for the SWOT analysis was collected and compiled over the course of two meetings. The SWOT results illustrate that threats and weaknesses can be also be considered to be opportunities and strengths, depending on how the comment or discussion is positioned. The results of the SWOT analysis have been integrated into the Master Plan Design Principles, Vision, Directions and Master Plan Framework Plan.

Advisory Committee Design Workshop

The consulting team hosted a design workshop as part of the Advisory Committee meeting which included both a campus design component and a cognitive mapping component. A summary of these programs is included below.

Participants were asked to divide into groups to discuss and respond to four questions:

1. What are the most important aspects of the campus in terms of buildings, open spaces, routes?
2. What is lacking on campus? Where should it go?
3. How should you get to and around on campus?
4. How should the campus interact with the surrounding community? How can this interaction be improved?

Each group reported back to the Committee on their discussions. The information collected during this workshop was extensive and valuable to the master plan process. The most commonly noted items included:

- The importance of Polonsky commons as the centre of the shared Oshawa campus and an important open, leisure and meeting space.
- The stormwater management pond is a feature of the shared Oshawa campus and links well with Polonsky Commons.
- Transit connectivity is critical. The existing bus loop functions as it is today; but could be improved. Transit connectivity at the campus functions most effectively for those riders who do not have to transfer between services or routes.
- Traffic on Simcoe Street should slow down.
- Pedestrian connections across Simcoe Street should be improved.
- Parking will need to be accommodated in the future.
- Unique and identifiable buildings and architecture should be considered. The existing architecture is a feature of the campus.
- Windfields Farm and cultural heritage are important.
- The campus is lacking:
    - Retail, services and restaurants, including healthy / affordable options.
    - Job opportunities for students
- The campus can better integrate with the community by providing retail, services, and restaurants, as well as congregation and large meeting spaces (for events).

The information collected during this workshop was incorporated into the Framework Plan and will be carried forward to the Master Plan concepts as outlined below:

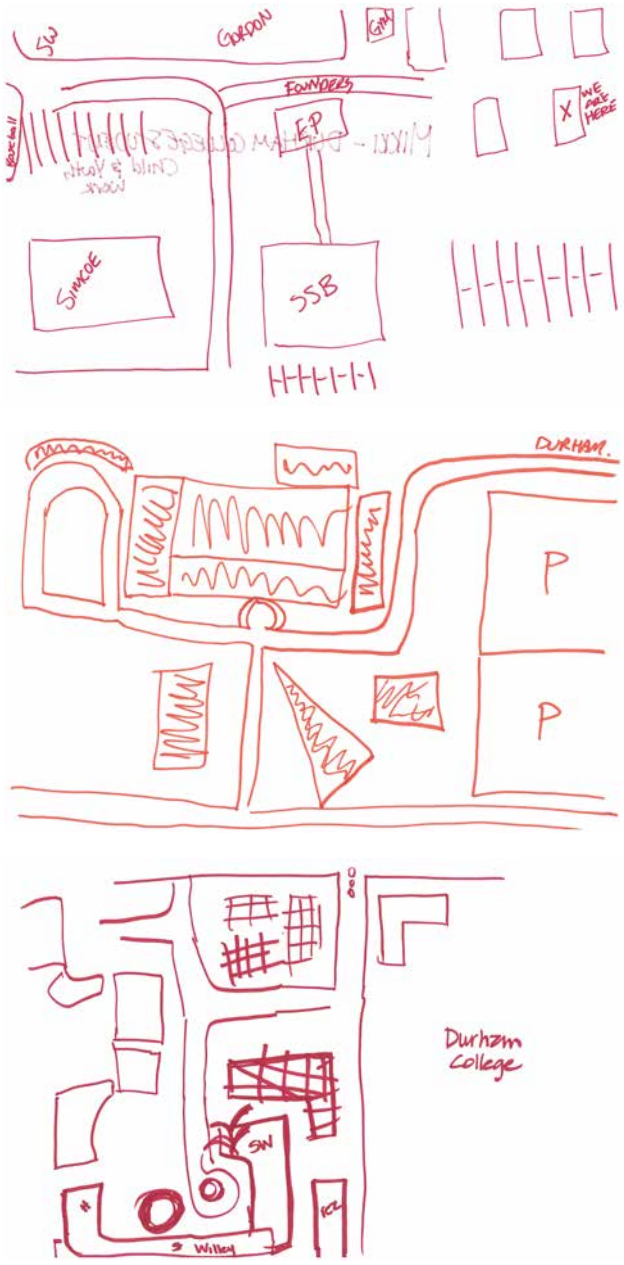
- Green spaces as well as a strong pedestrian network should be provided to link the existing and future campus north of Conlin Road.
- Pedestrian connections across Simcoe Street and Conlin Road should be strengthened through streetscaping, visual queues, and wayfinding.
- Retail, restaurant and other community services are recommended to be provided in key locations on the campus. These uses can serve the institutions, as well as the community. Opportunities exist for partnerships with the private sector.
- The space needs analysis has determined current space shortfalls and future space needs. The additional academic space required will be accommodated through a mix of infill development south of Conlin Road and new development north of Conlin Road.
- Opportunities for transit integration and access on the Windfields Farm lands north of Conlin Road will be explored.
- Parking will continue to be accommodated on campus; however, consideration has been given to the movement towards and prioritization of structured parking lots.
- Future development should address Simcoe Street N. and Conlin Road creating visual landmarks and a strong identity for the institutions.
- Both vehicular and pedestrian connections to the Windfields Farm site should be created.

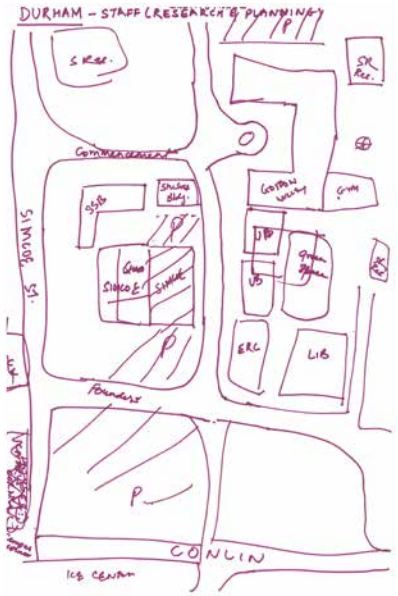
6.2 Cognitive Mapping

Cognitive maps are mental representations of physical locations. Our brains make mental maps of spaces and places that we experience, and we draw on them to find our way and to help us recall important features of the environment. A pattern of spatial behaviours emerges through routine activities such as driving to work or going grocery shopping, activities in which we make hundreds of complex choices and decisions based on spatial considerations. In many cases we do not rely on external references such as maps to navigate through space, we draw upon our previously acquired spatial understanding of our environment, our cognitive map. Cognitive maps record our memories, ideas, and perspectives of a particular place.

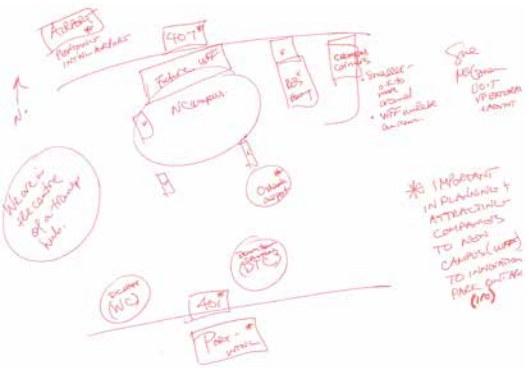
There is no right or wrong way to draw a cognitive map, as they are based on entirely personal perspective. Cognitive maps are used to identify places that people frequently visit, feel are important or significant in some way, like or dislike, feel safe or comfortable, etc.

Participants in this exercise were asked to draw feature maps (i.e. a sketch of a place completed away from the place or at least in a location where key features are not visible) of the location/campus as they perceive it, on an 11 by 17 sheet.

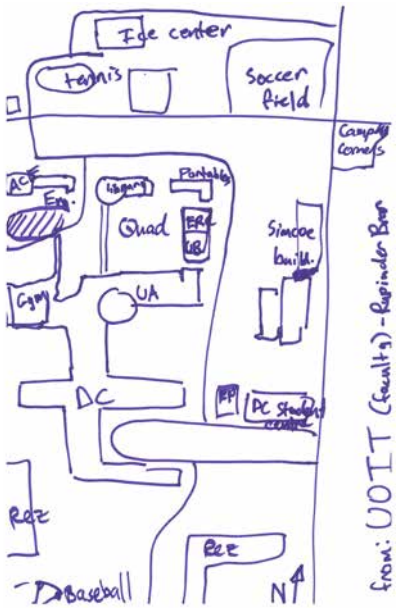


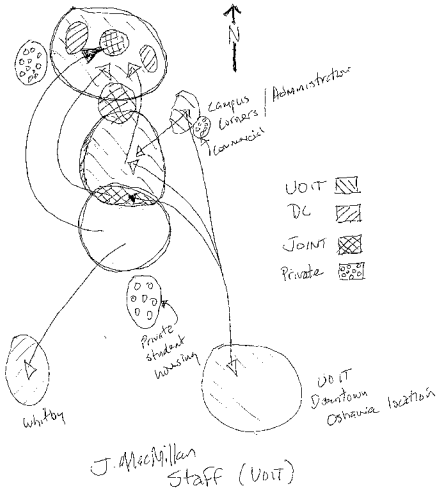

DURHAM – STAFF CONSULTATION & PLANNING
CONLIN
Founders


RESIDENCES
CRWC.
ACE
ENGR.
LIBRARY.
PARKING.
UA
UB
ERC.
SIMCOE BLDG.

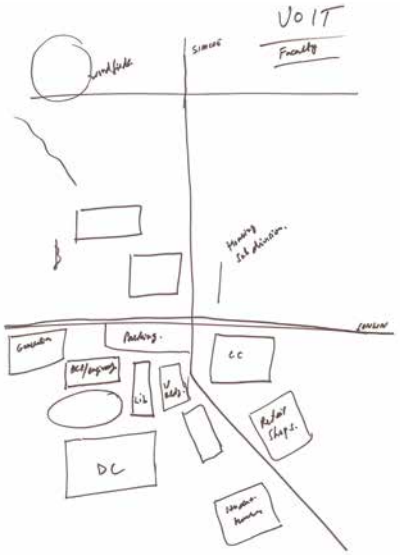


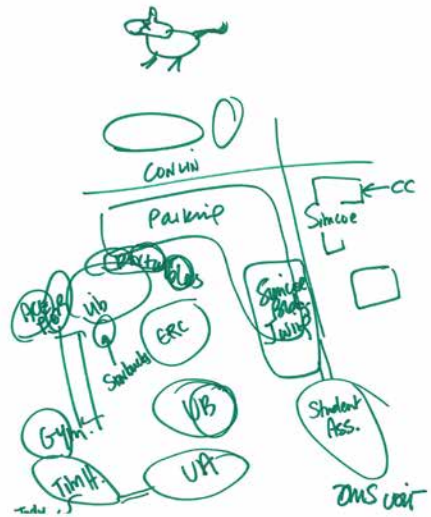

Future Brittania
Brittania
Northern Dancer
Conlin
Thornton Creek

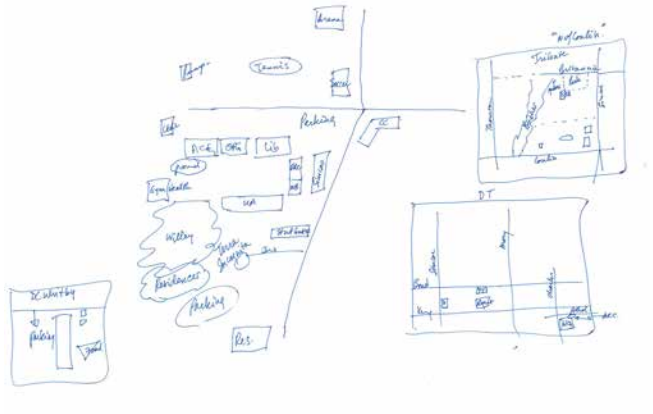

Ice center
tennis
Soccer field
Campus corners
Quad
Simcoe bldg.
UA
Gym
DC
Rec
Baseball
from: UOIT (faculty) - Rapinder Brar


Campus Corners / Administration
UOIT
DC
JOINT
Private
Private student housing
UOIT Downtown Oshawa location
Whitby
J MacMillan
Staff (UOIT)


TC
Arena
Soccer field
CC
ACE
UOIT
DC
GSB
Simcoe


UOIT
Faculty
Simcoe
Landfill
Parking
CC
DC


CONLIN
Parking
CC
Simcoe
ERC
UB
UA
Student Ass.
Gym
Tim H.


Parking
DT
Simcoe

Summary of Results:

Cognitive mapping can reveal perception and preference as it relates to a space, as well as people's notions of proximity, distance and layout. Several patterns emerged once the cognitive maps were analysed. Almost all of the participants focussed on the shared Oshawa campus, while only one participant drew portions of the Whitby campus.

As expected, it is clear there are different levels of understanding of the sites based on the stakeholder's relationship to the place, and the differing ways they experience it. The level of detail on the maps ranged from showing only portions of the Windfields Farm lands north of Conlin Road site, while at the other end of the spectrum some maps situated the campus within its larger regional context – South to Lake Ontario and North to the proposed Highway 407 extension.

The majority of maps include the two closest intersecting streets of Conlin Road and Simcoe Street as well as detail the many parking lots present, possibly alluding to the most common form of transportation – the car – for people accessing the campus. Almost all maps label campus corners at this intersection, showing the common awareness of the closest commercial centre to the campus. Another differentiating factor between maps is internal site circulation features such as roads. Maps that included roads again speak to whether the user usually experiences the site as a pedestrian or through a vehicle.

Several, but relatively fewer maps illustrated the bus loop. The inclusion of this element in the mapping may indicate mode of transportation for map makers, the loop being the first element that stakeholders encounter through arrival by transit or allude to its visual impact on the campus. Around a third of maps show open space – commonly the green space within the bus loop, Polonsky Commons and the soccer fields to the North. Several also illustrate the pond to the west of the Commons as well as the Oshawa Creek running North to South on the West side of the campus. The inclusion of green space in the mapping indicates its relative importance in terms of the imageability of the campus, and the significance of these elements to individuals in terms of their experience of the campus.

Of note in terms of campus identity is that none of the participants indicated important architectural features or landmarks, rather, they noted building function or name. Much of the mapping varied in terms of scale, drawing important relationships between buildings. Interestingly almost no maps illustrate the immediate surroundings of the campus, such as the surrounding suburban residential community to the South or East, or the former horse breeding site of Windfields Farm to the North. Remarkably, one campus map is drawn using land use labels distinguishing between Durham College, UOIT or privately owned places, focusing on the ownership of the building as opposed to its physical shape. Some maps illustrate student residences, while others do not, inferring that map makers may have lived in residence at some point, or are somehow associated with the planning or operations from the institutional perspective. Finally, only a few maps actually name particular destinations on the map such as Starbucks (on campus), the tuck shop, or Shoppers Drug Mart at Campus Corners, while the remainder either focus on building shapes with no labels or label with the campus abbreviations such as UA or ACE. One map shows a building with the Star of David, possibly referring to the Jewish Hillel student group active on campus.

While direct conclusions cannot be drawn from these maps, the cognitive mapping exercise provides important insights into how different stakeholders experience the campus, which elements are significant to them, and where important physical relationships exist between people and place.

References:

Planning and Quality Growth, Georgia Department of Community Affairs (PQG), Atlanta, Georgia
Lynch K. The image of the city. Cambridge, MA: M.I.T. Press (1960)
Michiel de Lange, The Mobile City (8.05.09)
Edward Steinfeld http://www.acsu.buffalo.edu/~arced/arch&society/cogmap/cognitiv.htm

7.0
Framework Plan

7.1 Framework Plan

Introduction

The Framework Plan creates the foundational elements to guide the concept plan development in Phase 2 of the Campus Master Plan project. The Framework Plan illustrates the broader recommendations in a graphic and illustrative manner to demonstrate how the recommendations and Master Plan Principles will be incorporated and implemented in Phase 2. The Framework Plan does not account for phasing and illustrates an "ultimate" scenario of potential land uses. Phasing will be addressed during Phase 2 once a detailed Concept Plan has been developed.

It highlights the importance of the natural environment and role in framing the future development of the Windfields Farm lands north of Conlin Road, development opportunity areas, nodes and focal points of the shared Oshawa campus, scale of development, strengthening of pedestrian routes throughout the campus and strong links from the campus south of Conlin Road to the future campus north of Conlin Road, importance of the existing open spaces within the campus and mirroring those open spaces and campus focal points north of Conlin Road; and improvements in both visual and physical connections with Windfields Farm.

The key features of the Framework Plan are described below as they relate to the Master Plan Principles. These will be further elaborated and developed in the Master Plan concepts in Phase 2. Key features include:

Principle 1: Student Focused Institutions

- Mixed-use development and the integration of student services will enhance the student experience on campus.

Principle 2: Research, Experiential Learning and Scholarship

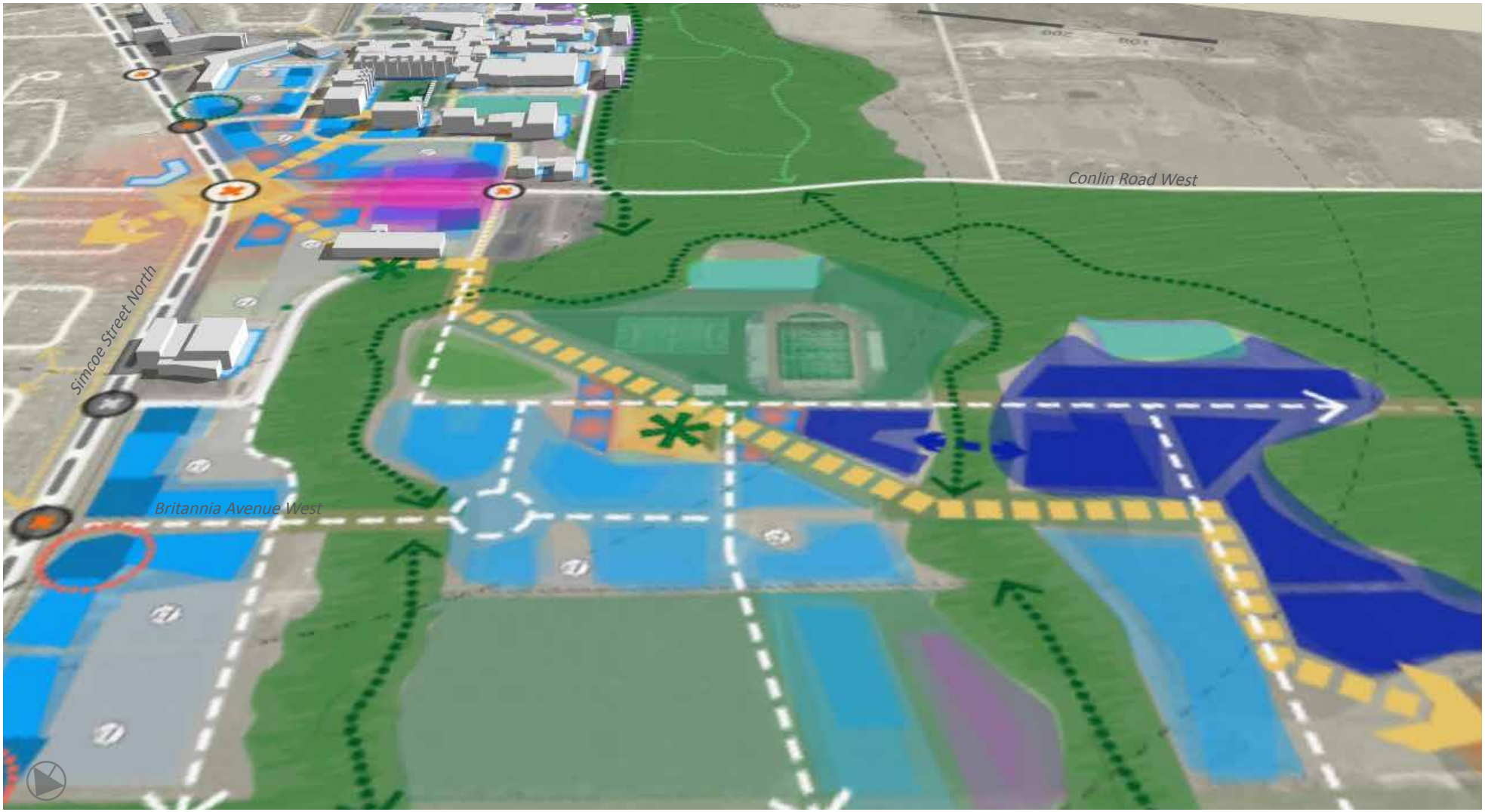
- Future building development will allow for the integration of spaces that promote experimental learning, research and scholarship.

Principle 3: Contemporary Planning

- As the campus has grown and changed, development patterns have emerged. Infill and greenfield development should respond to these patterns.
- The Campus should grow from the existing central core, focused around Polonsky Commons.
- New development areas should first focus on infill in the lands south and directly north of Conlin Road and secondly, on provision of compact, pedestrian-oriented development in undeveloped Windfields Farm lands north of Conlin Road.
- The identity created by Polonsky Commons should be reflected in additional open space focal points on the Windfields Farm lands north of Conlin Road.
- Intersection of Conlin Road and Simcoe Street could be the gateway to the joint shared Oshawa campus. Development at this intersection is located on existing parking lots and the sports fields and could feature a mix of commercial (retail and service) and shared academic spaces.
- New development could be oriented towards Conlin Road and Simcoe Street to create an urban street edge.
- Strong pedestrian connections from the lands south of Conlin Road to the Windfields Farm lands north of Conlin Road should be established.
- Broader pedestrian network could integrate the campus into the surrounding neighbourhoods.
- Institutional identities could be created through coordinated streetscape enhancements along the length of Conlin Road and Simcoe Street N.

Principle 4: Vision Grounded in Practicality

- Development blocks meet the future academic space needs of Durham College and UOIT, as well as accommodating spaces for residences, parking, athletic and innovation office and partnership spaces.
- New roads in the Windfields Farm lands north of Conlin Road should align with existing and



3D Model of Existing Campus overlaid on the Revised Framework Plan (NTS)

proposed surrounding road network.
- Land uses proposed on the "Major Institutional Lands" north of Conlin Road are generally consistent with the City's Official Plan and Zoning. Commercial uses proposed require modifications to the existing zone permissions which will be further defined in the Master Plan.
- Development blocks take advantage of existing servicing capacity in the lands south of Conlin Road as well as the land at the north-west corner of Conlin Road and Simcoe Street.
- Development should focus as infill on the lands south of Conlin Road and as new development on the land north of Conlin Road, fronting onto Simcoe Street N.
- Buildings should include active ground floors combining commercial uses and academic support uses.
- Gateway sequences should provide access to the existing campus south of Conlin Road and new campus buildings to the north.
- Integration of residences, office and commercial uses, retail etc. at Simcoe Street/Conlin Road node should occur.

Principle 5: Walkability

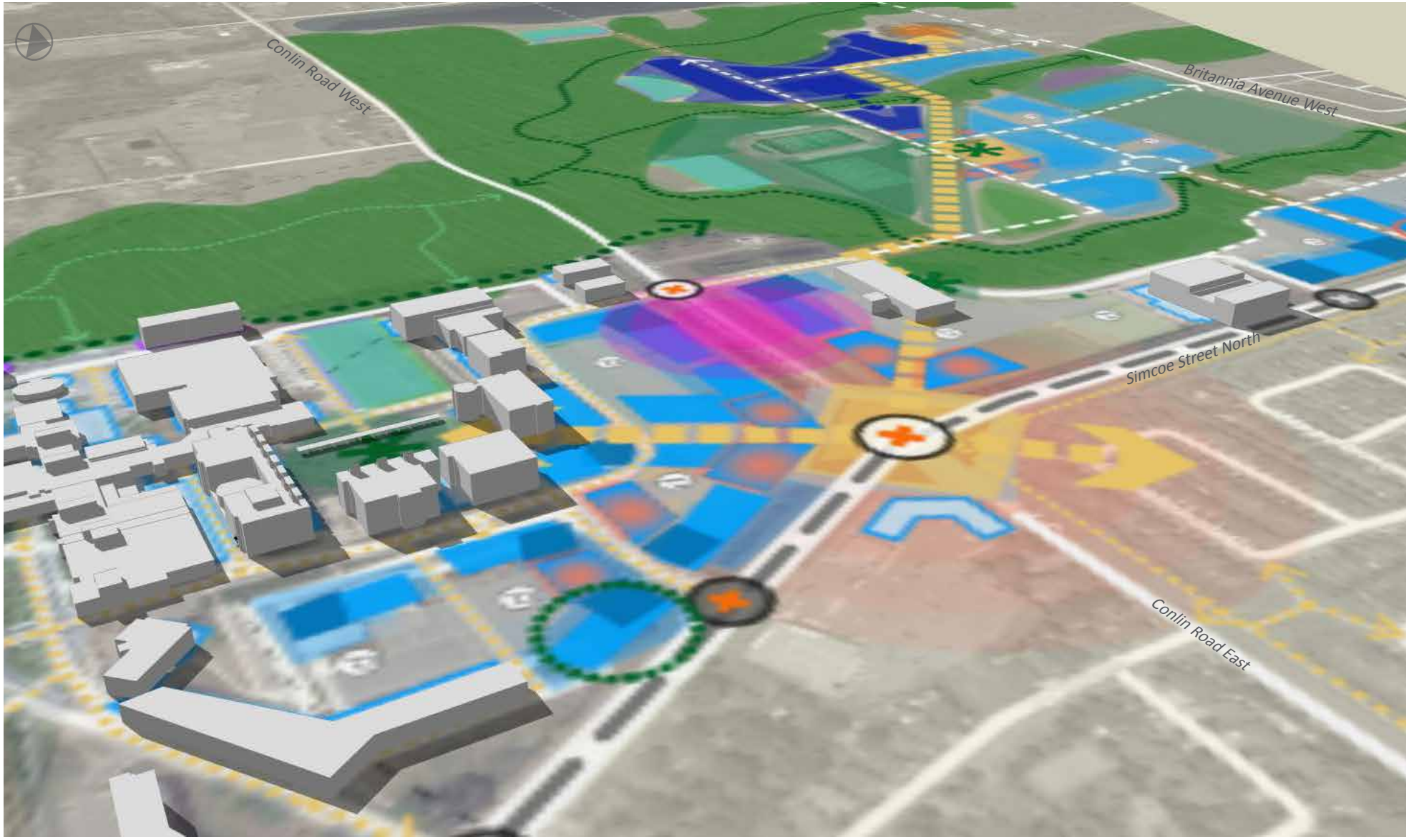
- Key pedestrian routes should connect through the existing campus and extend to the Windfields Farm lands north of Conlin Road.
- Two pedestrian transects should radiate north-west and south-west from the shared academic spaces at Conlin Road and Simcoe Street.
- The diagonal pedestrian networks establish visual and physical connection to Windfields Farms and to the existing Polonsky Commons.
- Permeability to the Windfields Farm lands north of Conlin Road could be achieved through the provision of pedestrian crossings over the natural corridors.
- The existing pedestrian routes along Founder's Drive and the Avenue of Champions could be enhanced and further pedestrianized.
- Proposed development areas could front onto the key pedestrian routes, as well as onto Simcoe Street and Conlin Road creating a vibrant and walkable campus.
- The Avenue of Champions bisects through Polonsky Commons and the stormwater management pond, which has been identified as a focal point of the existing shared Oshawa campus.
- Focusing pedestrian connections at key intersections provides safe access across Simcoe Street and Conlin Road.
- A planting, streetscape and lighting strategy along key pedestrian routes will improve the pedestrian environment at these locations and create a high quality public realm.
- Signalized crossings within a 500 metre radius of the Simcoe Street and Conlin Road intersection could be considered to provide safe pedestrian crossings.

Principle 6: Transportation and Transit

- The existing public transit loop at Commencement Drive may be maintained and enhanced or potentially relocated to another area within the broader campus lands.
- The proposed public transit improvements could be integrated along Simcoe Street and transit could be accommodated in the Windfields Farm lands north of Conlin Road.
- Integration of higher order transit stops over time from Bus Rapid Transit to Light Rail Transit.
- Parking will continue to be required on campus; however, the Plan allows for the transition of a reduction in vehicle parking over time as public transit improvements occur. Commencement Lot could remain and additional parking will be provided as new buildings are constructed. Land will be dedicated on the Windfields Farm lands north of Conlin Road for parking, acknowledging that this should transition to structured parking over time.
- Functionality of Simcoe Street N. as a Regional arterial roadway is maintained.
- New roads in the Windfields Farm lands north of Conlin Road should align with existing and proposed surrounding road network.

Principle 7: Green Connections

- Green conections on the campus south of Conlin Road should be enhanced and extended into the Windfields Farm lands north of Conlin Road. Green nodes throughout the campus act as landmarks along the improved pedestrian links and provide a high quality public realm environment for pedestrians.
- Green connections will be established between the campus and the surrounding lands. The three protected 'green corridors' have the potential to be a powerful and iconic image for the shared Oshawa campus.
- Setbacks from key environmental features should maintained and features are integrated into the campus framework. These are fundamental factors that shape the existing Campus and will shape any future development.
- Corridors should be framed and faced by buildings over time with network of top of bank pathways, and a network of local and regional trails within the valleys.



3D Model of Existing Campus overlaid on Framework Plan (NTS)

- Streetscaping along main pedestrian through-ways enhances connections with the green corridors.
- The crossings of the valley via pedestrian or multi-use structures have the potential to serve as iconic structures contributing to the collective campus identity.

Principle 8: Interactions

- Opportunities for integration with the surrounding community through development and partnership could be established at the corner of Conlin Road and Simcoe Street.
- Create a vibrant, dynamic and walkable campus that is accessible to and part of the wider community.
- Programming and facilities will continue to serve, as well as engage and interact with the wider community.
- Long term connections will be identified to facilitate eventual integration with surrounding areas to north and west

Principle 9: Identity

- UOIT and Durham College landmark buildings create unique and identifiable gateways to the individual institutions, while the collaborative academic spaces along Conlin Road provide a transition and joint focus for the two institutions.
- A strong wayfinding system will be developed for each campus, ensuring better function and enhancing the campus experience for staff, students and visitors, as well as contributing to the campus identity.

Principle 10: Use Land Efficiently

- Buildings of a greater scale are focused at key intersections and locations on the campus.
- Infill development in existing parking lots and underutilized areas on the campus lands south of Conlin Road is encouraged. Existing surface parking should be replaced.
- Additional academic spaces are accommodated in the lands between Tributaries W1 and W2. These development areas are focused on a central open space and oriented towards the pedestrian link that transects the lands.
- Parking is provided adjacent to development blocks and allows for the opportunity for structured or below-grade parking lots in the future, if determined appropriate.
- Student residence space is provided on the Windfields Farm lands north of Conlin Road.
- Innovation and technology park space is accommodated in the lands located between the Oshawa Creek corridor and Tributary W2. Innovation spaces that are to be integrated with academic spaces are accommodated in the lands directly east of Tributary W2.
- Development should be concentrated at the existing Campus along Simcoe Street and in the land directly north of Conlin Road.

Principle 11: Partnerships

- Community and commercial uses create opportunity for development partnerships.
- Future commercial development at Simcoe Street and Conlin Road compliments Campus Corners, on the south-east corner of that intersection.
- The Innovation Park will allow for future partnership opportuntiies and will be integrated with the campus and its networks, with easy pedestrian access to promote synergies and interrelationships

Principle 12: Enrolment Growth and Diverse Student Needs

- Development blocks provide sufficient space to accommodate the future academic space needs of Durham College and UOIT to the year 2030.
- Commercial uses provide space for services to meet the social and service needs of students and the community.

Principle 13: Sustainability

- Compact development form and infill that use green technologies promote sustainability.
- The new features of the campus will be knitted into the surrounding natural environment in terms of both form and function, providing enhanced green infrastructure.
- The campus will continue to develop in anticipation of alternative and increasingly sustainable modes of transportation

Principle 14: Innovation and Technology

- Innovation and technology park space is accommodated and allows for integration with the academic spaces for both institutions.

Principle 15: Decision Making Process

- A clear decision-making process will be outlined during Phase 2.

Principle 16: Cultural Heritage and Diversity

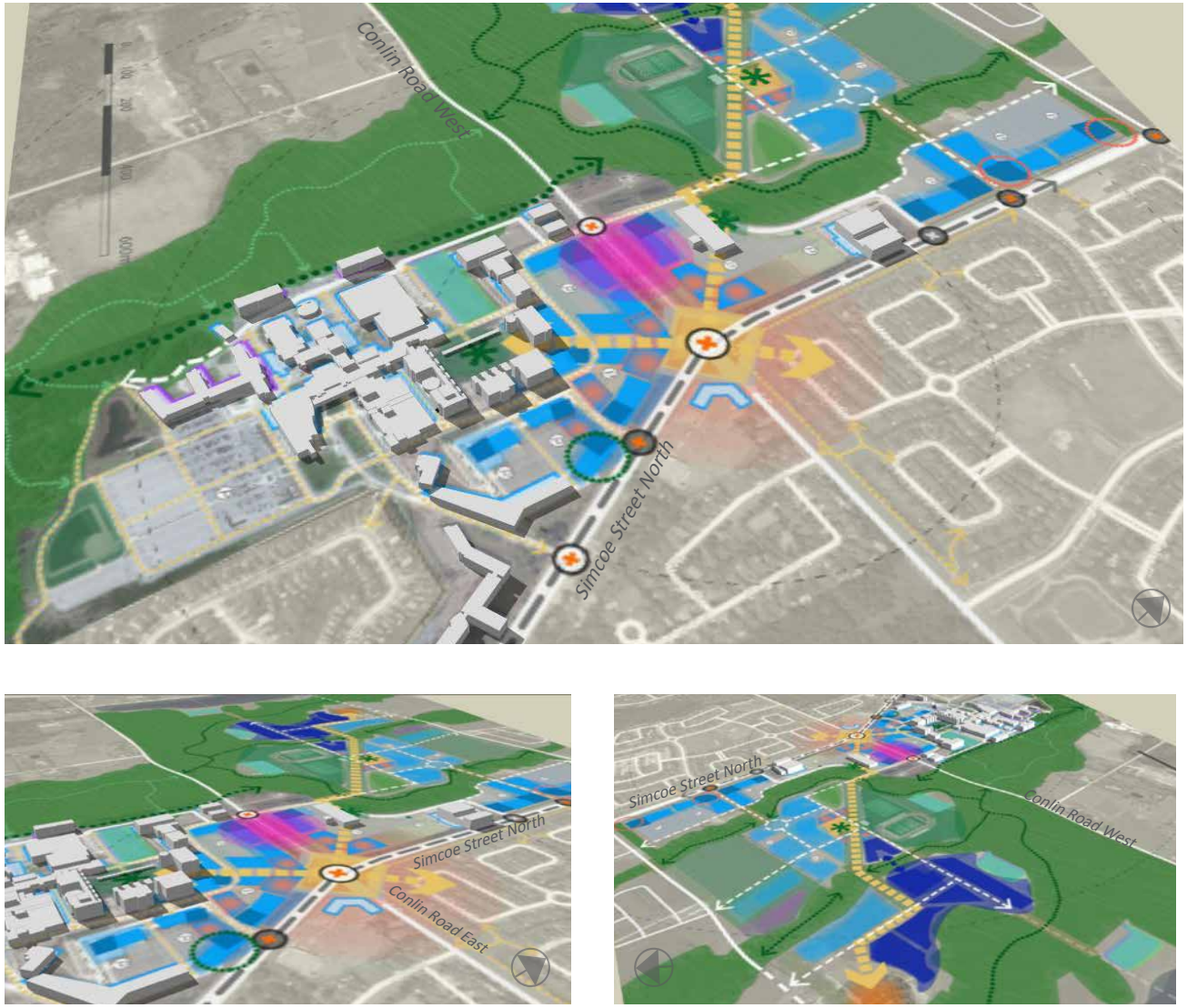
- A defined vision for the re-purposing of Windfields Farm will be investigated, breathing new life into these old spaces, and working towards the site remaining useful.
- Clear linkages with the Windfields Farm site are established from the main campus gateway at Conlin Road and Simcoe Street. Britannia Avenue West extension provides direct vehicular access to Windfields Farm.
- Improved pedestrian links to this culturally significant site links it more strongly to the heart of the campus, and enhances the imageability of the shared Oshawa campus and its institutional identity.

Principle 17: A Plan that works for the Short, Medium and Long term

- Identifies priority development areas and establishes an immediate context for next generation of investment by the College and University
- Locates next projects and identifies necessary incremental infrastructure improvements to support them within those identified 'precincts' – circulation, servicing and public realm
- Establishes long term moves and relationships to be pursued to ensure integration with the broader emerging context of public and private development and infrastructure investment surrounding the campus

Phasing

Phasing will be outlined during in the Phase 2, Campus Master Plan process.



3D Model of Existing Campus overlaid on the Framework Plan (NTS)

7.2 Innovation Park

UOIT and Durham College are committed to the fostering of innovative and entrepreneurial industries through the provision of space specifically for this purpose on the shared Oshawa campus.

UOIT is committed to maintaining its focus on science and technology. One of the Institutes's three overarching strategic priorities is to build strength and capacity through research, innovation and partnerships. Expansion of the research park beyond the Automotive Centre of Excellence and Energy Research Centre in order to enhance research opportunities and business incubation is one way to realize this objective.

Durham College's Strategic Plan, 2013 - 2016 identifies a strong commitment to the community and ensuring that the college is contributing to the economic and social prosperity of the community. More specifically, Durham College will:

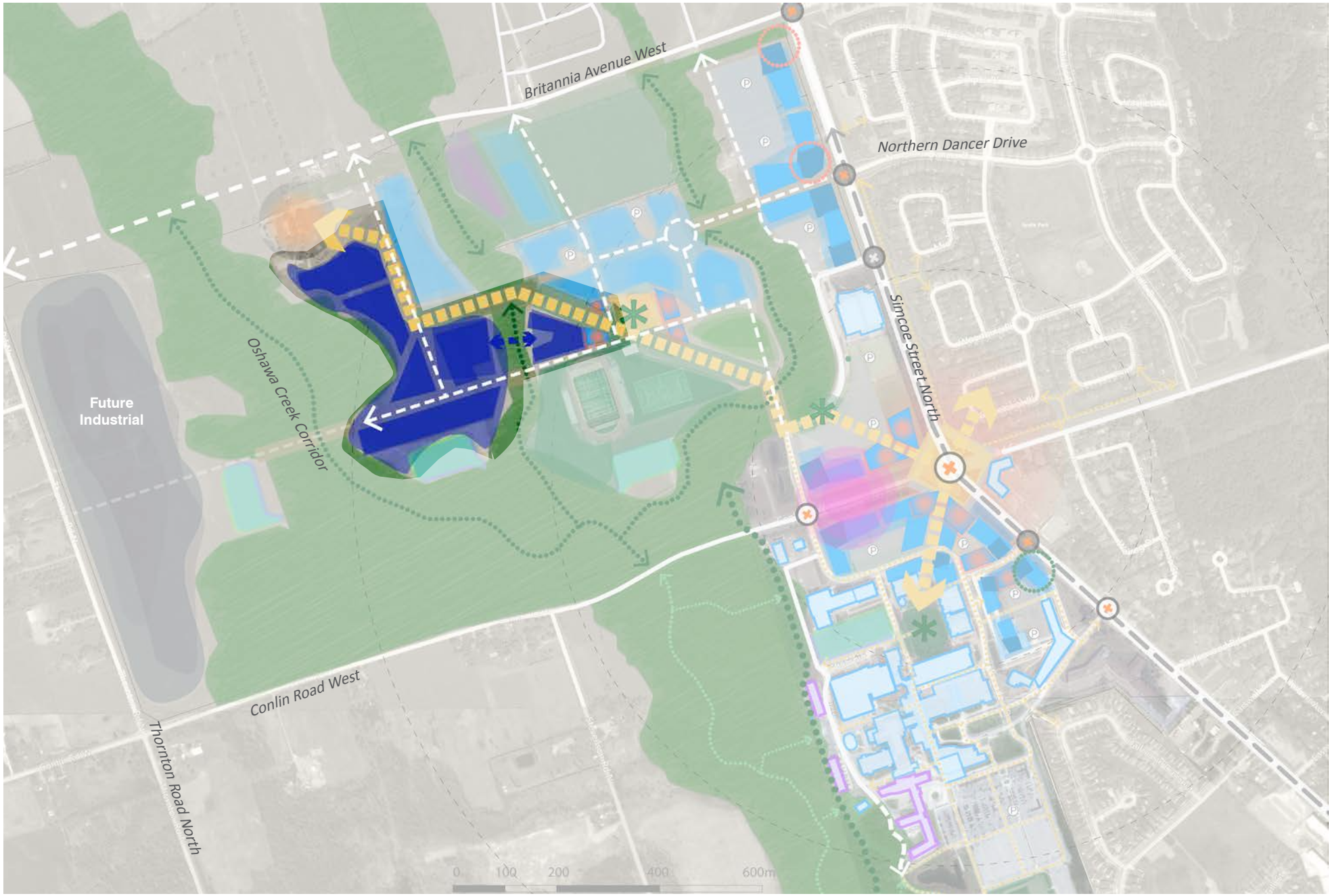
- "foster a spirit of entrepreneurship in students and link them with partners to advance ideas and innovation in the community" ; and
- "Advance innovation and the economic well-being of the community through industry-led applied research targeted to small- and medium-sized enterprises."

An innovation park with spaces to be used by both DC and UOIT is planned to be integrated within the campus on the former Windfields Farm lands north of Conlin Road. As the name suggests, the park will aim to foster collaboration between private sector, government and university researchers and educators. Based on work completed to date, the intent is for Innovation Park Ontario to be a hub of activity focused on advanced manufacturing: engineering, science and energy.

There is a strong desire for strong linkages to clusters of campus learning as well as linkages to the evolving innovation corridors in Durham Region, including but not limited to: Lakeridge Health (clinical trials), Core 21 (private incubator), Trent, UOIT (existing ACE and ERC), and the Durham Learning and Business Innovation Park (dLab), located at the Whitby Campus.

It is estimated that approximately 32,200m^2 of space will be required at full build out; acknowledging that development of the Park will be phased over time, addressing both advancement of private partnerships as well as growth and development of the Campus. The location adjacent to the future core of the campus north of Conlin Road was selected because it provides the best opportunity for integration with academia, students as well as providing access to amenities that will support on-going development of the desired vibrant and collaborative environment that fosters success.

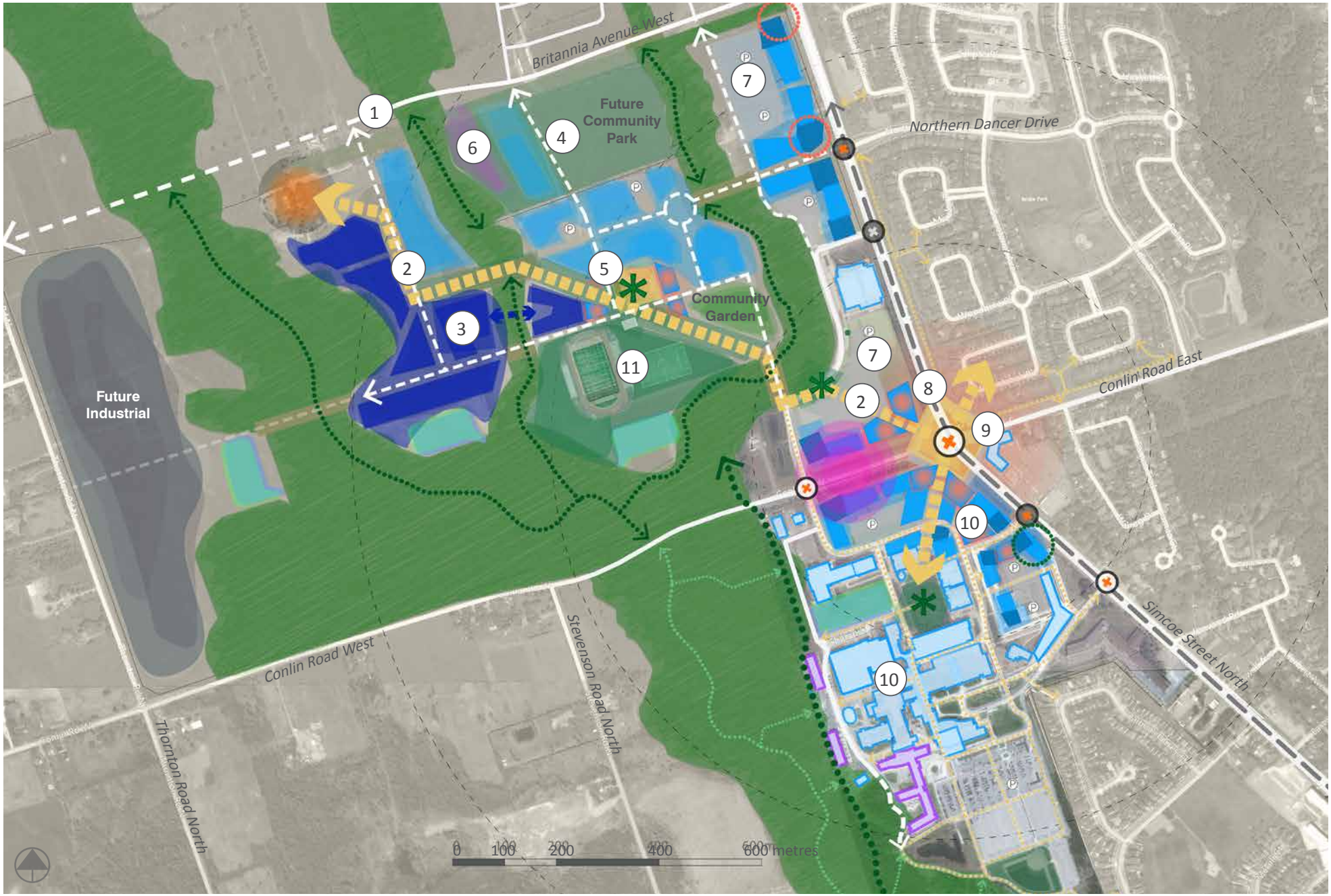
In time, business ventures that are born out of the Innovation Park may require additional space or dedicated manufacturing space. The institutions also own lands east of Thornton Road and west of Oshawa Creek. These lands are designated as Industrial and may, in time, evolve to accommodate Innovation Park ventures that have outgrown the integrated campus setting.



Innovation Park location on Framework Plan

7.3 Framework Plan Key Ideas

1. Britannia Avenue West Extension - Proposed alignment to be confirmed.
2. A pedestrian focused link from the existing campus creates a strong visual and movement connection to Windfields Farm lands north of Conlin Road.
3. The Innovation Park will have vehicular access to Britannia Avenue West and east over Tributary W2.
4. Open space will accommodate city park land as well as active recreation space. Road connections to lands north of Britannia Avenue West will be provided.
5. The Windfields Farm lands north of Conlin Road quad focuses around a central open space. Uses in this area will primarily be institutional, however commercial uses will be provided at key locations. Research/Innovation space to compliment the innovation park will also be located here. Development fronting onto the open space will be up to 4 storeys with surrounding developments of 2-3 storeys.
6. Student residences will front onto the open space and natural environment.
7. Parking areas are located north of the quadrant associated with buildings that front onto Simcoe Street North.
8. Bus stops will be located along Simcoe Street for the proposed BRT and other public transit improvements. The stops should be located in close proximity to the campus locations. Internal transit hub location will be determined.
9. Simcoe Street and Conlin Road intersection will be the shared focal point and gateway to the joint campus. Shared institutional and commercial uses will serve the institutions and broader community. Views and pedestrian connections will be maintained into Windfields Farm and the south of Conlin Road. Specific built form will be determined in the Phase 2, Joint Campus Master Plan document. Building heights will vary and will not exceed 4 storeys in height.
10. Additional commercial uses to be integrated throughout the existing Campus. Building heights will vary and will not exceed 4 storeys.
11. Additional athletic facilities (ex: athletic fields and field house) will be provided within the Windfields Lands north of Conlin Road. As the campus develops, the soccer field currently located at the north-west corner of Simcoe Street and Conlin Road will be relocated.



Framework Plan (revised June 2014)

7.4 Next Steps

Next Steps

Phase 1 of this Master Plan process sets the contextual foundation and design framework for the Joint Campus Master Plan. The series of recommendations included in this report have been illustrated in a conceptual manner in the Framework Plan, and will be more fully developed into master plan concepts in Phase 2. The Master Plan Design Principles will be carried forward into Phase 2 to ensure that these are achieved and strongly represented within the concept plans. The final Master Plan will be determined through consultation with Durham College, UOIT, the project Advisory Committee and the broader community to ensure that it truly is a joint vision the balances the interests and visions of both institutions.

Sources:

City of Oshawa, "Trails" << http://www.oshawa.ca/mun_res/trails.asp>>

City of Oshawa, 2013 Office Consolidation. "City of Oshawa Official Plan".

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