

AGENDA



ENVIRONMENTAL ADVISORY COMMITTEE

THE CORPORATION OF THE CITY OF MISSISSAUGA

TUESDAY, JUNE 4, 2013 – 9 A.M.

COUNCIL CHAMBER

SECOND FLOOR, CIVIC CENTRE

300 CITY CENTRE DRIVE, MISSISSAUGA, ONTARIO, L5B 3C1

www.mississauga.ca

Members

Councillor George Carlson, Ward 11 (CHAIR)

Michael DeWit, Citizen Member (VICE-CHAIR)

Councillor Jim Tovey, Ward 1

Councillor Frank Dale, Ward 4

Dr. Brad Bass, Citizen Member

Elaine Hanson, Sheridan College, Office for Sustainability

Lucas Krist, Peel Environmental Youth Alliance

Lea Ann Mallett, Citizen Member

Val Ohori, Citizen Member

Maureen Ricker, Citizen Member

Carl Rodgers, Citizen Member

Lucia Salvati, University of Toronto Mississauga

Diana Yoon, Peel Environmental Youth Alliance

Agency Liaison

Stephanie Crocker, EcoSource

CONTACT PERSON: Julie Lavertu, Legislative Coordinator

Office of the City Clerk, Telephone: 905-615-3200, ext. 5471; Fax 905-615-4181

Julie.Lavertu@mississauga.ca

CALL TO ORDERAPPROVAL OF AGENDADECLARATIONS OF DIRECT (OR INDIRECT) PECUNIARY INTERESTPRESENTATIONS/DEPUTATIONS

- A. Item 3 Olav Sibille, Planner, Long Term Planning, and Project Lead, Natural Heritage & Urban Forest Strategy, Mirek Sharp, North South Environmental, and Lead Consultant, Natural Heritage & Urban Forest Strategy, and Margot Ursic, Beacon Environmental, and Lead Consultant, Urban Forest Management Plan, with respect to an update on the Natural Heritage & Urban Forest Strategy (NH&UFS) and upcoming public consultation.
- B. Item 2 Julius Lindsay, Community Energy Specialist, with respect to the “Greening Our Fleet” Program analysis.

MATTERS TO BE CONSIDERED

1. Approval of Minutes of Previous Meeting

Minutes of the meeting held May 7, 2013.

RECOMMEND APPROVAL

2. “Greening Our Fleet” Program Analysis

Corporate Report dated May 24, 2013 from the Commissioner of Community Services with respect to the “Greening Our Fleet” Program analysis.

RECOMMENDATION

That the report dated May 24, 2013, from the Commissioner of Community Services, entitled “Greening Our Fleet” Program Analysis be received for information.

RECOMMEND APPROVAL

3. Update on the Natural Heritage & Urban Forest Strategy (NH&UFS) and Upcoming Public Consultation

Memorandum dated May 23, 2013 from David Marcucci, Manager, Park Planning, Community Services Department, with respect to an update on the Natural Heritage & Urban Forest Strategy (NH&UFS) and upcoming public consultation.

(3.) RECOMMEND RECEIPT

4. Upcoming Agenda Items and Environmental Advisory Committee (EAC) Role

Chart from Environment staff with respect to upcoming agenda items and Environmental Advisory Committee (EAC) role.

RECOMMEND RECEIPT

5. Status of Outstanding Issues from the Environmental Advisory Committee (EAC)

Chart dated June 4, 2013 from Julie Lavertu, Legislative Coordinator, Environmental Advisory Committee, with respect to the status of outstanding issues from the Environmental Advisory Committee.

RECOMMEND RECEIPT

INFORMATION ITEMS

DATE OF NEXT MEETING – Tuesday, September 3, 2013 at 9 a.m., Council Chamber

OTHER BUSINESS

ADJOURNMENT

JUN 04 2013



MINUTES

ENVIRONMENTAL ADVISORY COMMITTEE

THE CORPORATION OF THE CITY OF MISSISSAUGA

TUESDAY, MAY 7, 2013 – 9 A.M.

COUNCIL CHAMBER

SECOND FLOOR, CIVIC CENTRE

300 CITY CENTRE DRIVE, MISSISSAUGA, ONTARIO, L5B 3C1

www.mississauga.ca

MEMBERS/AGENCY LIAISONS

PRESENT:

Councillor George Carlson, Ward 11 (CHAIR)
 Michael DeWit, Citizen Member (VICE-CHAIR)
 Councillor Jim Tovey, Ward 1 (arrived at 9:13 a.m. due to Other
 Municipal Business)
 Councillor Frank Dale, Ward 4
 Dr. Brad Bass, Citizen Member
 Stephanie Crocker, EcoSource
 Elaine Hanson, Sheridan College, Office for Sustainability (departed
 at 10:48 a.m.)
 Lucas Krist, Peel Environmental Youth Alliance
 Lea Ann Mallett, Citizen Member
 Rahul Mehta, EcoSource
 Val Otori, Citizen Member
 Maureen Ricker, Citizen Member
 Carl Rodgers, Citizen Member
 Lucia Salvati, University of Toronto Mississauga

MEMBER ABSENT:

Diana Yoon, Peel Environmental Youth Alliance

STAFF PRESENT:

Mary Bracken, Environmental Specialist
 Wendy Law, Deputy City Solicitor
 Julius Lindsay, Community Energy Specialist
 Andrea J. McLeod, Environmental Specialist
 Brenda Osborne, Director, Environment
 Annie Thuan, Legal Counsel
 Lisa Urbani, Environmental Research Assistant

CONTACT PERSON: Julie Lavertu, Legislative Coordinator

Office of the City Clerk, Telephone: 905-615-3200, ext. 5471; Fax 905-615-4181

Julie.Lavertu@mississauga.ca

**NOTE: The Committee changed the order of the Agenda during the meeting.
These Minutes reflect the order of the meeting.**

CALL TO ORDER – 9:05 a.m.

APPROVAL OF AGENDA

The Chair said that the order of the agenda would be changed to accommodate deputants and other attendees who are arriving late and/or leaving early due to various reasons.

Approved as Amended (F. Dale)

DECLARATIONS OF DIRECT (OR INDIRECT) PECUNIARY INTEREST - Nil

MATTERS CONSIDERED

1. Introduction of New Environmental Advisory Committee Citizen Members

The Committee's two new Citizen Members, Ms. Mallett and Mr. Rodgers, briefly introduced themselves to the Committee.

PRESENTATIONS/DEPUTATIONS

- B. Item 4 Ruwanthi (Ru) Halwala, Intern, International Holistic Tourism Education Centre, with respect to the prevention of plastics from Mississauga entering rivers and the Great Lakes.

Ms. Halwala gave a PowerPoint presentation, dated May 7, 2013 and entitled "Mississauga Plastic Litter: The Prevention of Plastics from Mississauga Entering Streams, Rivers, the Great Lakes, and the Ocean," and discussed the International Holistic Tourism Education Centre (IHTEC), Captain Charles Moore and his Plastic Ocean book, land to ocean issues, throwaway economies, the impact of plastic litter on whales and sea birds, Mississauga, Erindale as a case study for plastic litter, current litter initiatives in Mississauga and the Region of Peel and gaps and further research needed, international and IHTEC recommendations, future implications, and IHTEC's educational materials.

Councillor Tovey arrived at 9:13 a.m.

Committee members raised various issues including:

- The sources of plastic litter on Highway 403 ramps in Mississauga, Erindale and the barriers associated with cleaning up various types of litter from highways;

- IHTEC's recommendation regarding educational programs in schools and universities and associated advantages, challenges, and logistics;
- Sheridan College's energy and zero waste initiatives and the possibility of Ms. Halwala making a presentation to Sheridan College's operational group to explore possible linkages and to discuss IHTEC's plastic litter case study and research;
- IHTEC's plastic litter work vis-à-vis possible initiatives in the City;
- Current litter-related initiatives, school-based programs, and research by various organizations in the Region of Peel and whether IHTEC is aware of these various organizations and their work and intends to partner with them in the near future;
- Research on plastic pollution within freshwater ecosystems and the Great Lakes by Dr. Sherri A. Mason, Associate Professor of Chemistry, The State University of New York Fredonia, and an upcoming meeting with Professor Mason;
- The challenges of plastic litter and the importance of raising public awareness;
- IHTEC's contact with the federal and provincial governments regarding this matter and the possibility of forwarding Ms. Halwala's PowerPoint presentation and recommendations to the federal and provincial governments for their review;
- The types of plastic litter in Lake Ontario versus highways and other locations;
- The importance of involving the plastics industry in the debate on plastic litter so that they can offer solutions and address this issue via programs, funding, etc.;
- The possibility of Ms. Halwala connecting with, and further discussing, environmental stewardship and sustainable procurement practices with Ms. Ohori;
- The psychological profile of "litterbugs" and whether any research has been done on the effectiveness of fines and other means to decrease littering;
- A recent litter clean-up in Streetsville and the need for the provincial government to invest funds in highway litter clean-ups at least three or four times per year; and
- The importance of using creativity to conceptualize a zero waste environment.

Ms. Halwala and Ms. Osborne answered the Committee's comments and questions.

The Chair thanked Ms. Halwala for her deputation and efforts in this regard.

The Committee dealt with Item 4 at this time.

4. Plastics Near Highway Exits

Email messages dated April 23, 2013 and March 27, 2013 from Julia Morton-Marr, Founding President, International Holistic Tourism Education Centre, and Ward 8 resident, with respect to plastics near highway exits.

Recommendation

EAC-0015-2013

1. That the PowerPoint presentation, dated May 7, 2013 and entitled "Mississauga Plastic Litter: The Prevention of Plastics from Mississauga Entering Streams, Rivers, The Great Lakes and The Ocean," by Ruwanthi Halwala, Intern, International Holistic Tourism Education Centre, to the Environmental Advisory Committee on May 7, 2013 be received and that the recommendations in Ms. Halwala's PowerPoint

presentation be forwarded to the federal and provincial governments for their information and review; and

2. That the email messages dated April 23, 2013 and March 27, 2013 from Julia Morton-Marr, Founding President, International Holistic Tourism Education Centre, and Ward 8 resident, entitled "Plastics Near Highway Exits," be received.

Received/Direction (J. Tovey)

MATTERS CONSIDERED

8. Pipeline Proposals in Mississauga

Memorandum dated April 25, 2013 from Jeff Smylie, Environmental Engineer, Environmental Services, Transportation and Works Department, with respect to pipeline proposals in Mississauga.

Ms. Law introduced Ms. Thuan, the City's new environmental lawyer. Ms. Thuan expressed excitement about joining the City and working with the Committee. Ms. Bracken gave an overview and said that there are three proposed pipeline projects in the City and that Council will consider this matter during its meeting on May 8, 2013.

Councillor Tovey discussed the matter, the importance of knowing the proposed location and status of pipelines in the City, and a pipeline explosion in Malton in October 1969. He expressed concern about the proposed Enbridge pipeline 9b flow reversal and capacity increase and encouraged Committee members to research this matter for their reference.

Recommendation

EAC-0016-2013

That the Memorandum dated April 25, 2013 from Jeff Smylie, Environmental Engineer, Environmental Services, Transportation and Works Department, entitled "Pipeline Proposals in Mississauga," be received.

Received (J. Tovey)

PRESENTATIONS/DEPUTATIONS

- A. Christopher LI. Morgan, PhD, Program Manager, Environment & Energy Office, City of Toronto, with respect to Toronto's Future Weather & Climate Driver Study: Outcomes Report.

Mr. Morgan gave a PowerPoint presentation, dated May 7, 2013 and entitled "Toronto's Future Weather & Climate," and discussed the Study's justification and purpose, new approach, elements, questions, methodology, results, expected changes for extreme rainfall and heat, implications and next steps (e.g., objectives, costs, responsibilities, and partnerships), various weather and climate issues and adaptations, and main conclusions.

Committee members raised various issues including:

- The Study and its data, implications, value, and status for the City of Toronto and municipalities, especially vis-à-vis infrastructure and costs, whether Study staff are tracking their monitoring, the advantages and disadvantages of the local model approach and alternative models, whether a peer review was done, whether conservation authorities were consulted, whether the Study considered the impacts on water levels in the Great Lakes from evaporation due to the extra heat, the possibility of undertaking sensitivity analyses via other models and/or scenarios, further investigations regarding the tracking of different weather systems, and the possibility of implementing a communications plan to ensure continuing changes from citizens in order to decrease greenhouse emissions and energy use;
- The Cooksville Creek flood in August 2009 and associated issues and costs;
- The value of weather-related data from the Toronto Pearson International Airport;
- Risk management and the Study's techniques, the Ontario Power Authority and provincial government's risk management approaches vis-à-vis the Study's; and
- Peak electrical demand and the importance of offering incentives to consumers to install windows with a solar heat gain coefficient to reduce peak cooling loads.

Mr. Morgan answered the Committee's comments and questions.

The Chair thanked Mr. Morgan for his deputation and work in this regard.

Recommendation

EAC-0017-2013

That the PowerPoint presentation, dated May 7, 2013 and entitled "Toronto's Future Weather & Climate," by Christopher L.I. Morgan, PhD, Program Manager, Environment & Energy Office, City of Toronto, to the Environmental Advisory Committee on May 7, 2013 be received.

Received (L. A. Mallett)

MATTERS CONSIDERED

2. Approval of Minutes of Previous Meeting

Minutes of the meeting held March 5, 2013.

Approved (F. Dale)

3. Enforcement Action Plan – Idling Control By-law 194-09

Corporate Report dated April 24, 2013 from the Commissioner of Transportation and Works with respect to the Enforcement Action Plan – Idling Control By-law 194-09.

Recommendation

EAC-0018-2013

That the Environmental Advisory Committee supports the enforcement action plan outlined in the Corporate Report dated April 24, 2013 from the Commissioner of Transportation and Works entitled "Enforcement Action Plan – Idling Control By-law 194-09."

Approved (Dr. B. Bass)5. Lakeview Waterfront Connection Environmental Assessment

Memorandum dated April 26, 2013 from Kate Hayes, Project Leader, Restoration and Stewardship, Credit Valley Conservation, with respect to the Lakeview Waterfront Connection Environmental Assessment.

In response to Councillor Tovey, Ken Dion, Senior Project Manager, Toronto and Region Conservation Authority, provided an update and discussed the overall project and, specifically, the second Public Information Centre for the Environmental Assessment (EA) that was held on April 3, 2013 and upcoming public engagement opportunities.

Committee members requested clarification on the timelines for the EA and construction, the project's coordination with the overhaul of Marie Curtis Park, and the preferred alternative for an island beach. Mr. Dion and Ms. Hayes said that the EA is expected to be submitted in late July 2013, that construction is projected to begin in mid-2014, and that the project is being coordinated with the overhaul of Marie Curtis Park, Inspiration Lakeview, and other initiatives in the area. They also discussed the various types of construction materials required for the preferred alternative for an island beach.

Councillor Tovey thanked Mr. Dion and Ms. Hayes for their work on this project. He also discussed the importance of reinstituting a wetland, fish spawning, and the natural environment in the area, modelling of the Ontario Power Generation site by University of Toronto students, and support for the project at the provincial level. He also spoke about the importance of the EA being promptly approved so that construction can begin in June 2014 and the fact this project will connect Etobicoke Creek with the Adamson Estate.

Recommendation

EAC-0019-2013

That the Memorandum dated April 26, 2013 from Kate Hayes, Project Leader, Restoration and Stewardship, Credit Valley Conservation, entitled "Lakeview Waterfront Connection Environmental Assessment," be received.

Received (J. Tovey)6. Natural Areas Survey 2012 Update

Memorandum dated March 19, 2013 from John Calvert, Director, Policy Planning Division, Planning and Building Department, with respect to the Natural Areas Survey

2012 update.

The Chair said that this topic was of great interest to Peter Orphanos, a former Citizen Member on the Committee and the former Chair of the Sierra Club – Peel Region Group.

Recommendation

EAC-0020-2013

That the Memorandum dated March 19, 2013 from John Calvert, Director, Policy Planning Division, Planning and Building Department, entitled "Natural Areas Survey 2012 Update," be received.

Received (J. Tovey)

7. Update on the Development of a Recognition Program

Memorandum dated April 25, 2013 from Andrea J. McLeod, Environmental Specialist, Environment Division, Community Services Department, with respect to an update on the development of a recognition program.

Ms. McLeod gave an update, noting that this matter was discussed at the Committee's December 2012 meeting. She said that three existing award programs were reviewed and associated organizations were consulted regarding the Committee's recommendation. Ms. McLeod said that modifying the current award processes or adding a new "Living Green" award is not advisable for various reasons. She noted that Streetscape Mississauga has renamed the Alternative Gardens class of their contest the "Mississauga Living Green Ecogardens" class. Ms. McLeod said that the Committee could help promote the existing award programs and, beginning in 2014, host an annual celebration and networking event in the spring to coincide with the annual reporting out of the Living Green Master Plan.

Committee members discussed the advantages, logistics, and scheduling of an annual celebration and networking event by the Committee, the importance of promoting and growing the three existing award programs, the possibility of recognizing developers and existing building owners for building and/or maintaining energy efficient buildings, the Mississauga Urban Design Awards and associated categories, and the possibility of highlighting the achievements of the winners of the three existing award programs in various locations across the City to increase awareness, recognition, and promotion.

The Chair discussed the annual celebration and networking event by the Committee and emphasized the need for the event to be non-competitive without set winners. He added that the Committee could revise and adjust its event as it sees fit throughout the years.

Recommendation

EAC-0021-2013

That the Memorandum dated April 25, 2013 from Andrea J. McLeod, Environmental Specialist, Environment Division, Community Services Department, entitled "Update on the Development of a Recognition Program," be received.

Received (L. Salvati)

Ms. Hanson departed at 10:48 a.m.

9. Upcoming Agenda Items and Environmental Advisory Committee (EAC) Role

Chart from Environment staff with respect to upcoming agenda items and Environmental Advisory Committee (EAC) role.

Recommendation

EAC-0022-2013

That the chart from Environment staff, with respect to upcoming agenda items and Environmental Advisory Committee (EAC) role, be received.

Received (F. Dale)

10. Status of Outstanding Issues from the Environmental Advisory Committee (EAC)

Chart dated May 7, 2013 from Julie Lavertu, Legislative Coordinator, Environmental Advisory Committee, with respect to the status of outstanding issues from the Environmental Advisory Committee.

Recommendation

EAC-0023-2013

That the chart dated May 7, 2013 from Julie Lavertu, Legislative Coordinator, Environmental Advisory Committee, with respect to the status of outstanding issues from the Environmental Advisory Committee, be received.

Received (L. A. Mallett)

INFORMATION ITEMS – Nil

DATE OF NEXT MEETING – Tuesday, June 4, 2013 at 9 a.m., Council Chamber

OTHER BUSINESS

“I Will If You Will” Challenge Campaign Video

Ms. Osborne introduced the City’s “I Will If You Will” (IWIYW) challenge campaign which is an extension of the Earth Hour event in April. She discussed the Mayor’s pledge to take the winner of the City’s IWIYW campaign for a ride in her electric vehicle if 500 people register for the Let Your Green Show campaign. Ms. Osborne showed the Mayor’s IWIYW pledge to the Committee and added that the campaign will be promoted via public service announcements, the City’s website, library screensavers, and other means.

Importance of Public and Private Natural Areas in the City of Mississauga

Mr. DeWit discussed the importance of promoting, expanding, and improving natural areas on residential and commercial properties, not only on the City's property.

Mississauga Urban Design Awards Matter in Status of Outstanding Issues Chart (Item 10)

In response to Councillor Tovey, Ms. Osborne said that Ms. Bracken is working with Planning and Building Department staff to establish a green development award complementary and linked to the existing Awards and that it may be announced this fall, but will not begin until 2014. Councillor Tovey discussed the current Awards criteria vis-à-vis green development and the recent construction of a LEED Gold building in Ward 1.

One Million Trees Mississauga Program

Ms. Ricker asked if the above-noted Program will partner with the City's horticultural societies, noting that they could be valuable ambassadors and assist with the Program's promotion. Ms. Osborne said that she would share this feedback with Jessika Corkum-Gorrill, Natural Areas and One Million Trees Project Coordinator. Councillor Tovey discussed the City's existing partnership with the Cloverleaf Garden Club.

Streetsville Litter Clean-Up Event

The Chair said that 150 Cadets, Scouts, young people, and others recently volunteered for Streetsville's litter clean-up event and did a great job cleaning up Streetsville.

City of Brampton's Natural Heritage Strategy Stakeholder Workshop

Ms. Osborne said that the City of Brampton is seeking a Committee member to attend the above-noted Workshop. Ms. Ohori responded that she would be interested in attending.

Recommendation

EAC-0024-2013

That the email message dated May 2, 2013 from Michael Hoy, Environmental Planner, City of Brampton, entitled "City of Brampton's Natural Heritage Strategy Stakeholder Workshop," be received.

Received (J. Tovey)

Toronto's Future Weather & Climate Driver Study: Outcomes Report Deputation

Committee members discussed the above-noted deputation and its value. The Chair suggested that a thank you letter be sent to Mr. Morgan. Ms. Osborne said that General Committee will consider a Corporate Report on this matter in the near future.



Corporate Report

Clerk's Files

Originator's
FilesEnvironmental Advisory
Committee

JUN 04 2013

DATE: May 24, 2013

TO: Chair and Members of Environmental Advisory Committee
Meeting Date: June 4, 2013

FROM: Paul A. Mitcham, P.Eng., MBA
Commissioner of Community Services

SUBJECT: "Greening Our Fleet" Program Analysis

RECOMMENDATION: That the report dated May 24, 2013, from the Commissioner of Community Services, entitled "Greening Our Fleet" Program Analysis be received for information.

**REPORT
HIGHLIGHTS:**

- The "Greening Our Fleet" program has been an environmental and financial success.
- By 2012, the program was reducing greenhouse gas emissions by 193 tonnes of equivalent carbon dioxide annually and had avoided approximately \$550 000 in fuel costs cumulatively over the program's seven years despite an increase in the number of fleet vehicles and the number of kilometres travelled.
- The program has right-sized 129 vehicles, exceeding the original plan of 113.
- The principles of the "Greening Our Fleet" program have become business as usual for the City, further increasing the overall fleet's fuel efficiency.
- Staff is considering options for the next phase of the "Greening Our Fleet" program.

BACKGROUND:

The City of Mississauga is a member of the national Partners for Climate Protection (PCP) program. In April 2005, Council adopted the City Clean Air Strategy, which is based on a local action plan to reduce greenhouse gas (GHG) emissions through energy conservation. The Clean Air Strategy identified, among other emission reduction objectives, a need to study the City fleet to find emissions reduction opportunities. A City Fleet Emissions Reduction Study was initiated in the fall of 2005, and an interdepartmental staff team was formed. The "Greening Our Fleet" program was designed to reduce emissions from City fleets during a five-year period from 2006 to 2011.

The four main vehicle fleets operating at the City were assessed in order to understand the resulting emissions from operations. They are described, as they apply to the "Greening Our Fleet" program, in the following table.

| Fleet | Description |
|---------------------------|---|
| Fire Fleet | Vehicles assigned to Mississauga Fire & Emergency Services Division, Community Services Department. |
| Transit Fleet | Vehicles assigned to Transit Division, Transportation and Works Department. |
| Parking Enforcement Fleet | Vehicles assigned to Parking Enforcement, Enforcement Division, Transportation and Works Department. |
| Corporate Fleet | Vehicles managed by the Service Centre, Engineering and Works Division, Transportation and Works Department, but may be assigned to other departments and divisions that do not also fall into one of the above categories. |

Prior to completing the City Fleet Emissions Reduction Study, the City set a reduction target of 12 percent from 1998 levels by 2012. To achieve this target, City fleets were estimated to require an emission reduction of approximately 940 tonnes of equivalent carbon dioxide. This was to be achieved over the duration of the five-year program by

right-sizing vehicles, in addition to switching to B5 grade biofuel, and implementing programs and practices to reduce fuel consumption.

Throughout this report, the terms “right-sizing” and “equivalent carbon dioxide emissions” appear. When replacing vehicles and considering appropriate vehicles for the job by downsizing some vehicles and/or converting to fuel-efficient or hybrid vehicles, the process is referred to as “right-sizing”. Equivalent carbon dioxide (eCO₂) emissions is the common unit of measure for climate change and refers to a measure of environmental impact resulting from emissions of a given greenhouse gas, using a functionally equivalent amount of carbon dioxide as the reference. In simple terms, it measures the impact of the emissions on climate change.

The City’s fleet was assessed, and out of the 500 licensed, light- and heavy-duty vehicles, 211 light-duty vehicles were considered as part of the five-year assessment. Of these vehicles, 113 opportunities for right-sizing were identified. These vehicles were scheduled to be right-sized between 2006 and 2011 as part of the “Greening Our Fleet” program. The program was projected to save 548 tonnes of equivalent carbon dioxide. The “Greening Our Fleet” program was also projected to save \$446 000 over the five years of the program as well as an ongoing \$125 000 year over year in fuel costs. Note that large vehicles and buses were excluded from this group, only vehicles in the three-quarter tonne (0.83 tons) and under group were considered.

It should also be noted, notwithstanding the scope restrictions of the study to three-quarter tonne (0.83 tons) vehicles or less, all new larger fleet vehicles acquired by the Corporation during this evaluation period have met newer more restrictive industry emission standards. New models, technologies, materials, and manufacturing processes all influence the efficiency of newer models. These have further added to the City’s overall corporate greenhouse gas savings.

COMMENTS:

The “Greening Our Fleet” program has achieved positive results and can be categorized as a success. The results of the program are examined below.

1. Number of Vehicles Right-Sized

As shown in the following table, the program right-sized more vehicles than was originally projected.

| | Plan/Opportunities | 2012 |
|---------------------------|--------------------|------|
| Corporate Fleet | 67 | 73 |
| Fire Fleet | 8 | 11 |
| Transit Fleet | 27 | 33 |
| Parking Enforcement Fleet | 11 | 12 |
| Total Vehicles | 113 | 129 |

These numbers include executive vehicles that were right-sized.

2. Greenhouse Gas Reductions

The amount of GHG emissions and fuel used were reduced despite a significant increase in the number of fleet vehicles. This demonstrates the environmental benefits and the effectiveness of the program.

For the vehicles slated for green fleet replacements, annual equivalent carbon dioxide emissions were reduced by approximately 193 tonnes by 2012 (18 percent). The Corporate and Parking Enforcement Fleets reduced emissions, while the Transit and Fire Fleets saw increases. This reduction happened despite two significant increases in the fleet. The first is that the applicable portion of the fleet has grown 28 percent since 2006. The second is that this portion of the fleet travelled 10 percent more kilometres (km) in 2012 than in 2006.

Despite these two increases, fuel usage was reduced by almost 16 percent (445 000 litres (L) (118 000 gallons) to 376 000 L (99 000 gallons)). Additionally, the overall efficiency of the fleet went from 14.8 L/100km (15.89 miles per gallon) to 11.3 L/100 km (20.82 miles per gallon), a 24 percent increase. This is similar to a conversion from a 4X4 full size pick-up truck to a family-sized sedan.

3. Results of the Original Plan

The original program did not take into account the size of the fleet increasing. Because of business requirements and departmental needs, the number of vehicles in the applicable classes has expanded. Examining the results of the original plan only, and discounting any additions to the fleet, the results are positive.

The changes prescribed in the original plan resulted in an annual 412 tonnes eCO₂ reduction. This achieves 75 percent of the original target. Within this segment, there was a 19 percent reduction in kilometres travelled (3 020 000 km (1 870 000 miles) to 2 450 000 km (1 520 000 miles)), and a 37 percent reduction in fuel used (445 000 L (118 000 gallons) to 280 000 L (74 000 gallons)).

4. Application of “Greening Our Fleet” Principles

As stated above, there has been a 28 percent increase in the number of vehicles that this program applies to. Of those vehicles that were additions to the fleet, 90 percent were as fuel-efficient as or better than the fuel-efficient models identified in the original study. This shows that the program has become business as usual for the City. The purchase of the Nissan LEAFTM also demonstrates a willingness to keep the fleet as fuel-efficient as possible.

5. Biodiesel

The City has converted all of its diesel usage to biodiesel. In 2012, the City consumed 17 597 182 litres (4 648 684 gallons). The City currently purchases B5, which consists of five percent of biodiesel. This means that in 2012 the City avoided approximately 2 375 tonnes eCO₂ it would have emitted if it had used regular diesel.

6. Other Program Results

There were a number of other recommendations of the City Fleet Emissions Reduction Study. These included some that were built into the programs mentioned above such as acquiring hybrids and biodiesel. Also included were some programmatic and logistical recommendations.

A discussion of the results of these recommendations is contained in Appendix 1.

7. Analysis Limitations

Some of the data used in the original review of the fleet, and to create the targets in 2006, was unavailable. In light of this, maintaining the consistency of the results, as well as having them be meaningful was the priority. The results of this analysis are based on staff's best judgement and the best and most reliable information available.

OPTIONS:

Staff is considering options for the next phase of the “Greening Our Fleet” program. Further savings and greenhouse gas emission reduction opportunities will be found using different options than the ones considered in the original study. Things to consider going forward include:

- Are hybrids and/or electric vehicles the right choice for the next five to 10 years, and how will the City monitor new vehicle technologies and alternative fuels and evaluate their suitability for use in the fleet?
- Should the City consider a cap on the number of fleet vehicles?
- How can the City overcome end user bias and shift the culture to get more drivers into smaller more fuel-efficient vehicles?

FINANCIAL IMPACT:

The fleet experienced an overall fuel cost increase due to the rising price of gasoline and diesel. The average price paid per litre on gas in the fleet went from \$0.78 in 2005 to \$1.07 in 2012, a 36 percent increase. However, had the program not been undertaken, the City would have incurred much higher fuel costs. Avoided fuel costs of vehicles in the original program total approximately \$400 000 cumulatively over the life of the program (2006-2012). Expanded to include new vehicles of this size added to the fleet, the total avoided cost rises to approximately \$550 000.

CONCLUSION:

The “Greening Our Fleet” program has been and continues to be a significant overall accomplishment for the City both environmentally and financially.

The City right-sized 129 vehicles. By 2012, this resulted in a reduction of 193 tonnes of equivalent carbon dioxide from annual emissions. This also resulted in a cumulative overall total fuel cost avoidance of approximately \$550 000 over the seven years of the program. These savings were achieved despite a 28 percent increase in the size of the fleet and a 10 percent increase in the kilometres travelled by the fleet.

The environmental and financial results, as well as the fact that 90 percent of vehicles that were added to the fleet were as fuel-efficient as or better than the fuel-efficient models identified in the original study, shows that the program has become business as usual for the City.

Options for continuing the program are being considered. Further savings and greenhouse gas emission reduction opportunities will be found using different options than the ones considered in the original study, options such as exploring new vehicle technologies, or influencing the size of the fleet.

ATTACHMENTS:

Appendix 1: Original Recommendations of the City Fleet
Emissions Reduction Study



Paul A. Mitcham, P.Eng., MBA
Commissioner of Community Services

Prepared By: Julius Lindsay, Community Energy Specialist

Appendix 1

Original Recommendations, and Results of the City Fleet Emissions Reduction Study

| Recommendation | Green Fleet Program - Present Status |
|---|--|
| Staff should continue to monitor other jurisdictions' use of higher grades and other alternative fuels, as well as others' use of hybrid diesel buses in their fleets. | Ongoing. |
| Acquire hybrid electric vehicles as fleet vehicles are due for replacement. | Sixty-seven hybrid electric vehicles are currently in the fleet. |
| Mark new vehicles identified as a "green fleet" vehicle where appropriate. | Some new vehicles were identified with a "Greening Our Fleet" marking. |
| Continue to monitor higher grades and other types of alternative fuels as they become available and feasible. | Ongoing. Groups are at the very preliminary stage of considering use or expansion of other alternative fuel types in the fleet (i.e. electric cars, natural gas, etc.). |
| Supply City fleet vehicles for employee groups whose job functions involve mileage claims greater than an average 15 000 kilometres per year (9 321 miles per year). | Ongoing. Fleet managers have been tracking and are considering mileage claims when making decisions on vehicle replacement. |
| Monitor employees with mileage claims between 10 000 - 15 000 kilometres (6 214 - 9 321 miles) for future consideration for fleet vehicles subject to approved capital funding. | Ongoing. Fleet managers have been monitoring employees for conversion to fleet vehicles. |
| Review fleet drivers with low annual mileage. | Ongoing. Fleet managers have been monitoring employees for low annual mileage; replacements have been put on hold due to low mileage. |
| Incorporate "Greening Our Fleet" principles into a corporate procurement policy. | The new Materiel Management Procurement Request Form asks: "Are there opportunities for "GREEN" procurement". However, still outstanding. |
| Implement an Employee Driver Awareness program. | A limited number of training sessions were run. No formal program was ever established. |
| Conduct a financial analysis to determine the feasibility of accelerating the fleet replacement schedule. | The fleet replacement schedule was not accelerated because of low mileage usage in some vehicles. However, new right-sized vehicles were added to the fleet prior to the end of the program. |
| Investigate possible partnership opportunities to bulk purchase vehicles with other municipalities and agencies. | Currently, vehicles are not being bulk purchased. |
| Investigate potential employee incentives to purchase hybrid vehicles, including partnership with vehicle manufacturers. | Not implemented. Market is mature enough now not to warrant this. |
| Conduct a right-sizing assessment of all seasonal/rental vehicles (approx. 80) to determine fuel-efficient vehicle choices per job function. | Still outstanding. |
| Create an interdepartmental Green Fleet Advisory Committee. | Committee was shut down in 2007. Under review. |



JUN 04 2013

Memorandum

Community Services Department
201 City Centre Drive, Suite 900
Mississauga ON L5B 2T4

TO: Members of Environmental Advisory Committee (EAC)

**FROM: David Marcucci, Manager, Park Planning
Community Services Department**

DATE: May 23, 2012

FILE: EC.10.NAT

**SUBJECT: Update on the Natural Heritage & Urban Forest Strategy (NH&UFS)
and Upcoming Public Consultation**

I am pleased to provide you with an update on the Natural Heritage & Urban Forest Strategy (NH&UFS) study. This update builds upon the presentation to the Committee on November 6, 2012.

Development of the Natural Heritage and Urban Forest Strategy is well underway and has received input from staff in various City departments, the Region of Peel, local conservation authorities, stakeholders and the public. A draft of the Natural Heritage and Urban Forest Strategy is complete. An overview of the draft Strategy is attached as Appendix 1. A key component of this project is the preparation of an Urban Forest Management Plan that will guide City's forestry activities over the next 20 years.

A presentation to the Environmental Advisory Committee is scheduled for June 4. Also, a corporate report is being submitted to General Committee which will be followed by a presentation on June 12.

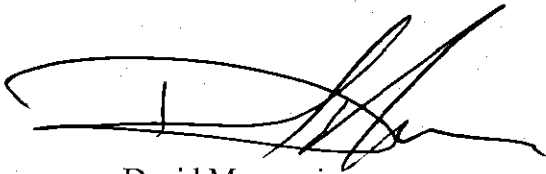
The study will continue to engage stakeholders and the public mainly through stakeholder meetings, public meetings and online information. The second open house is scheduled for Thursday, June 20, 2013 at the Living Arts Centre (Bank of Montreal room), from 6:30 pm to 8:30 p.m. A summary of the Strategy will be shared with the public for consultation.

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The agenda of the second open house includes:

- An introduction to the project, City team and consultant team, and the intent of the public consultation sessions;
- Preliminary Natural Heritage and Urban Forest Strategy vision and guiding principles;
- A summary of the recommended strategies;
- A summary of the recommended actions from the Urban Forest Management Plan;
- A high level status report; and,
- Next steps.

We encourage you to continue to follow progress of this important City initiative. Should you have any questions please contact Olav Sibille, Planner, Community Services, at olav.sibille@mississauga.ca or (905) 615.3200 x 4943.



David Marcucci
Manager, Park Planning

- c:
- P. Mitcham, Community Services
 - L. Piette, Parks and Forestry, Community Services
 - J. Calvert, Policy Planning, Planning and Building
 - B. Osborne, Environmental Management, Community Services
 - G. Longmuir, Forestry, Community Services
 - A. Wickens, Parks Operations, Community Services
 - L. Kan, Environmental Services, Transportation and Works
 - E. Kliwer, Policy Planning, Planning and Building
 - M. Bracken, Environmental Management, Community Services



DRAFT Natural Heritage & Urban Forest Strategy (NH&UFS)

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Introduction

Mississauga's natural areas and urban forest are found throughout the city within its parks and open spaces, along its valley and stream corridors, across its lakeshore, and within its built-up areas on a wide range of public and private lands. These green spaces and elements represent a shared natural and cultural heritage, and are a vital connection to Mississauga's past, and its future.

While many municipalities have undertaken either Natural Heritage Strategies or Urban Forest Strategies, Mississauga is the first to fully recognize the close relationship and overlap between natural heritage and the urban forest, particularly in a city, by addressing them in a joint Strategy. This Strategy is also one of the first to look at these components from a more holistic perspective in terms of their relationship to other "green" elements in the city.

In its Official Plan (2011), the City of Mississauga identifies a "Green System" that includes the Natural Areas System, Natural Hazard Lands and Parks and Open Space on both private and public lands. This Green System was immediately recognized through this Strategy as the perfect framework for (a) conveying the interrelatedness of the various system components, (b) illustrating the connections between the people who live, work and play in Mississauga, and the natural heritage and urban forest around them, and (c) looking for opportunities for protecting, enhancing, expanding and restoring the city's natural heritage and urban forest. Two key recommendations made through this Strategy to improve this framework are:

1. to change the label "Natural Areas System" to "Natural Heritage System" to be more consistent with Provincial policy direction, and
2. recognize the urban forest as a cornerstone of the Green System.



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DRAFT Natural Heritage & Urban Forest Strategy (NH&UFS)

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Figure 1 conceptually illustrates the interrelatedness of the Natural Heritage System and the urban forest, as well as their overlap with other components of the City's Green System, and the central importance of the City's Green System within Mississauga as a whole. This figure has evolved over the course of this Strategy and been developed based on input from City staff, stakeholders and the public.

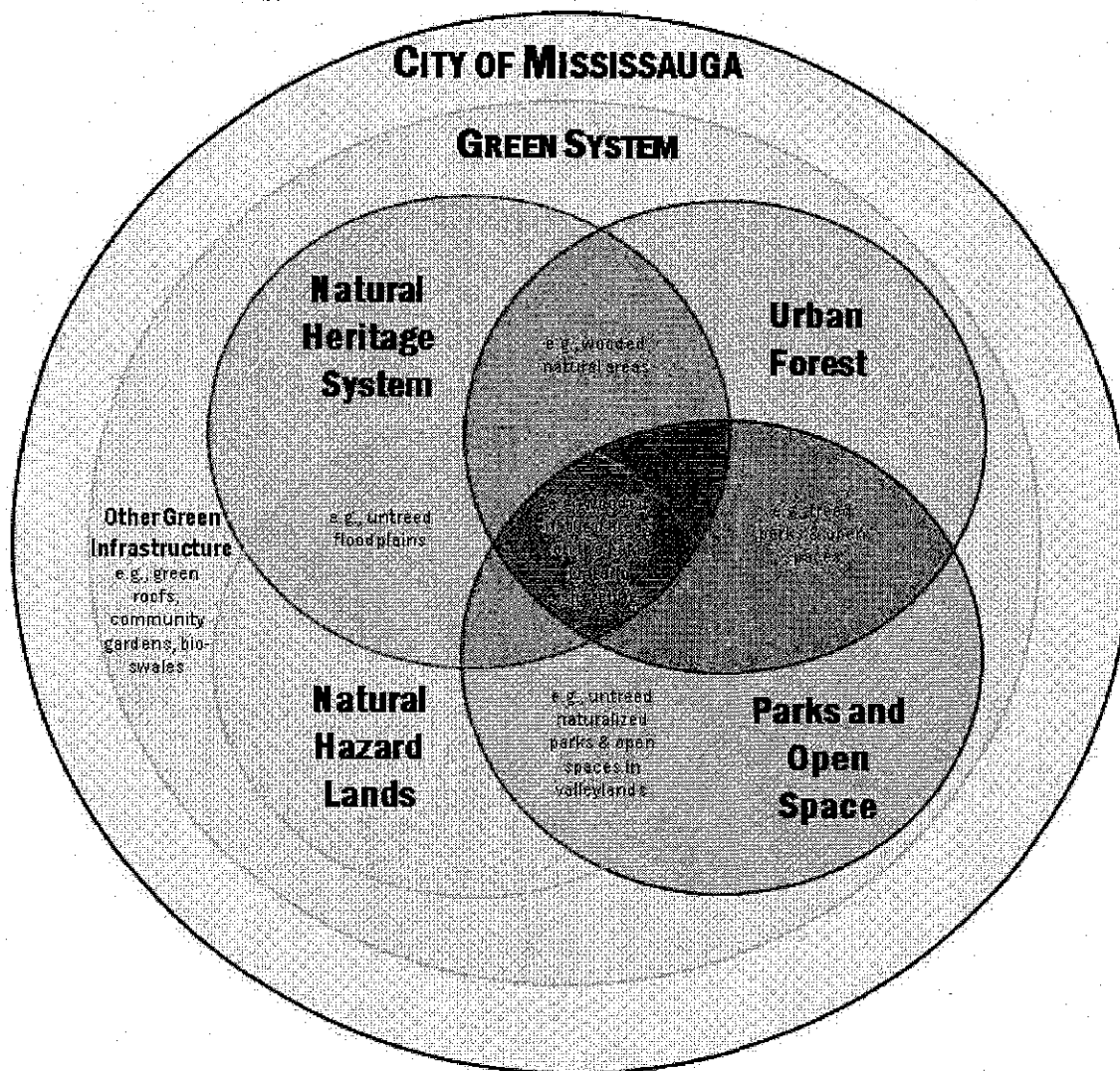


Figure 1. Conceptual illustration of the interrelatedness of the Natural Heritage System and the urban forest with each other, and with other components of the City's Green System, and the central importance of the City's Green System within Mississauga as a whole. *All of the components illustrated include private as well as public lands.*



DRAFT Natural Heritage & Urban Forest Strategy (NH&UFS)

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Strategy Development

This Strategy has been developed based on:

- a critical review of all the relevant data, mapping, legislation, policies, plans and guidelines
- a review of the City's relevant operational and procedural practices
- consideration of relevant best practices and precedents, as well as the current technical and scientific literature, and
- input from City staff, the City's Environmental Advisory Committee and representatives from other City committees, Peel Region's Urban Forest Working Group, a wide range of stakeholders¹, and representatives for the community at large.

The direction in this Strategy (the NH&UFS) has also been informed by relevant Federal, Provincial and Regional policies and several key City plans, while its implementation is directly supported by the City's Urban Forest Management Plan (the UFMP), which has been developed in tandem with this Strategy. The two documents share a vision, guiding principles and strategic objectives (as presented below), but stand alone documents can generally be distinguished as follows:

- The NH&UFS is the overarching document for both natural heritage and the urban forest that includes planning direction as well as strategies addressing opportunities with respect to external planning, management, engagement and partnerships, and tracking (including targets). It includes 30 strategies (summarized below).
- The UFMP is a more detailed and technical document focused on the operational, technical and tactical aspects of urban forest and natural heritage management required to implement many of the actions related to the broader strategies identified in the NH&UFS. It includes 24 Actions (summarized below).



Figure 2. Illustration showing the key City guiding documents for the Natural Heritage & Urban Forest Strategy, and the close relationship between the NH&UFS and the Urban Forest Management Plan.

¹ Stakeholders representing a range of local groups and organizations invited to participate in this process include representatives from: aboriginal organizations, government and agencies (including adjacent municipalities and local conservation authorities), committees to City Council, local educational institutions, environmental groups, community groups and residents associations, recreational facilities, business and development organizations, local utilities and transit, and arboriculture firms.

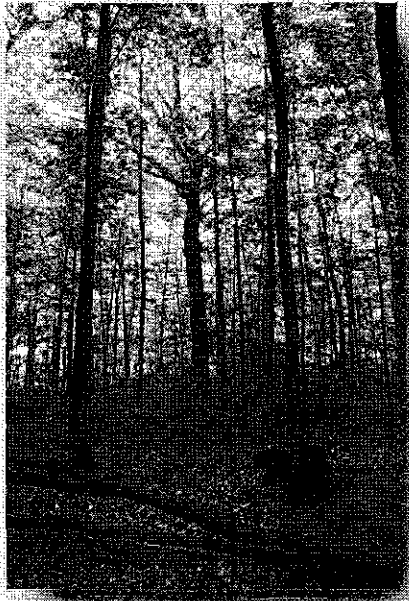


DRAFT Natural Heritage & Urban Forest Strategy (NH&UFS)

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Mississauga's Natural Heritage System



Mississauga's Natural Heritage System was originally conceived in 1996. Since that time it has evolved and been refined in response to changes in Provincial and City policy direction, increased involvement of the conservation authorities in natural heritage planning, an increase in the availability and accuracy of information related to the natural environment, and changes in the approach taken to protect natural heritage.

Currently, Mississauga's Natural Heritage System comprises 2737 ha including woodlands, wetlands, watercourses, valleylands, and covers more than 9% of the city (excluding the recently acquired Ninth Line Corridor lands). The system consists of: remnant natural areas, linkages, residential woodlands and special management areas. The breakdown of the area within each category, and its relative proportion of the system and the City, is provided in **Table 1**.

Table 1. Components of Mississauga's Natural Heritage System.

| | Area ha (acres) | % of NHS | % of City* |
|---------------------------------|--------------------|------------|------------|
| Natural Areas | 2147 (5305) | 78.4 | 7.4 |
| Residential Woodlands | 232 (573) | 8.5 | 0.8 |
| Contributing Linkages | 186 (459) | 6.8 | 0.6 |
| Special Management Areas | 172 (426) | 6.3 | 0.6 |
| TOTALS | 2737 (6763) | 100 | 9.4 |

*Note: Percentages based on an area of 29,213 ha, which excludes the recently acquired Ninth Line Corridor lands

Major trends identified through the annual update reports since 1996 include: (1) a decrease in the area of tableland and smaller wetland natural areas in the City, (2) a gradual decrease in the quality of the vegetation communities, (3) a City-wide decline in the diversity and abundance of amphibian species, and (4) an increase in naturalization projects undertaken by the City, usually as part of community based stewardship initiatives (which, in some cases, have contributed to small expansion of the Natural Heritage System).

These trends point to the need for: (1) stronger protection for natural areas – particularly woodlands and smaller wetlands, (2) more active management of protected areas (at least those that are City or conservation authority owned), (3) habitat enhancement and, where possible, expansion, as well as mitigation as it relates to amphibian breeding, overwintering and movement, and (4) continued and expanded stewardship efforts.



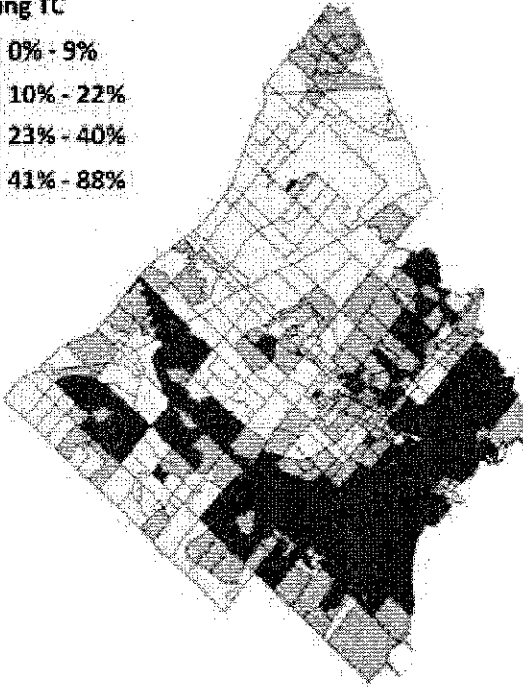
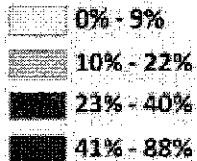
DRAFT Natural Heritage & Urban Forest Strategy (NH&UFS)

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Mississauga's Urban Forest

Existing TC



Mississauga's urban forest is fundamental to the City's environmental, social and economic well-being. The City's estimated 2.1 million trees provide valuable environmental services such as pollution filtration, flood control, and carbon storage, many other benefits to mental and physical health, as well as economic spin-offs. The urban forest includes all the wooded areas within the Natural Heritage System, plus all the trees outside this system, within the city's boundaries (e.g., street trees, trees in parks, residential yards, business parks, commercial lots, school grounds, hospital grounds, golf courses, cemeteries, etc.).

Figure 3. Existing tree canopy cover (TC) by small geographic units (from *City of Mississauga Urban Forest Study, 2011*).

In addition to the data collected in Mississauga's wooded natural areas through the City's Natural Areas Surveys (ongoing since 1996), recent urban forest studies undertaken by the Peel Region Urban Forest Working Group² have provided additional useful data about Mississauga's urban forest as a whole. Key findings include: (1) Mississauga has an urban forest canopy cover of approximately 15% which is not evenly distributed across the city, (2) most of Mississauga's trees are in relatively good health, but small in stature (e.g., about 60% are 15 cm in diameter or less), (3) the dominant trees in the city are maple and ash, with ash accounting for about 18% of the trees in residential areas and 10% of the street trees, and (4) more than half of the city's canopy cover is located in residential areas.

These facts point to: (1) the need to target tree establishment to areas with relatively low canopy cover, (2) the importance of establishing and maintaining recently planted trees so that they are able to mature to canopy producing stature, (3) the need to increase the diversity of tree species being planted on public and private lands so that the urban forest is more resilient to the next invasive pest or pathogen that arrives, and (4) the important role of residential areas and the remaining natural areas in sustaining and expanding the current canopy cover.

² The Peel Region Urban Forest Working Group is comprised of the Region of Peel, City of Mississauga, City of Brampton, Town of Caledon, Toronto Region Conservation Authority and Credit Valley Conservation.



DRAFT Natural Heritage & Urban Forest Strategy (NH&UFS)

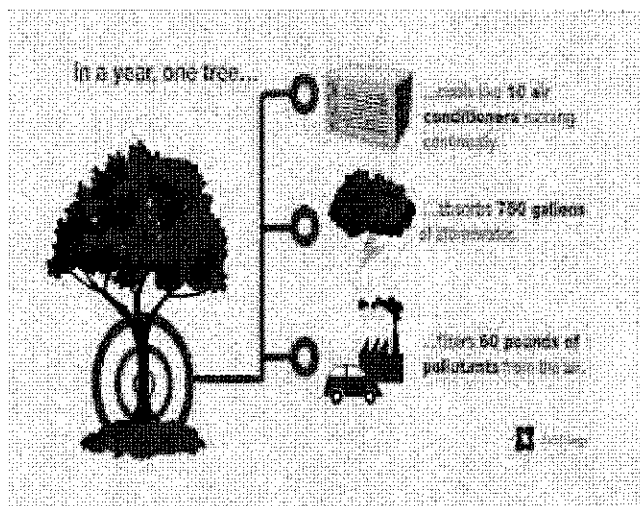
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Ecosystem Services Provided by Mississauga's Green System

As illustrated in Figure 1, Mississauga's Green System includes the Natural Heritage System and the urban forest, as well as natural hazard lands, parks and open space, and other green infrastructure elements such as green roofs. Together, these provide what are called "ecosystem services". "Ecosystem services" is a term used to describe the processes of nature needed to support the health and survival of humans. While ecosystem services are required and used by all living organisms, the term has been coined to capture their direct value (quantified or not) to humans. Critical ecosystem services provided by the Green system include:

- flood and drought management
- air and water purification
- carbon storage and sequestration
- pollination of crops and other vegetation
- safer cities
- human physical health
- human mental health and spiritual well-being
- social networking opportunities
- habitat for native biodiversity, and
- ecological connectivity.



One research paper reported a 46% decrease in crash rates across urban arterial roads and highways after landscape improvements were installed.

Naderi, J. R. (2003)

Research in Portland Oregon found that the presence of street trees, on average, added \$8870 to the sales price of the house and reduced the time on the market by 1.7 days.

Donovan, G. H. and D. T. Butry. 2010. "Trees in the city: Valuing street trees in Portland, Oregon". Landscape and Urban Planning 94: 77-83.

Researchers at Columbia University have found that for every additional 343 trees per square kilometer, asthma rates drop by 25% in young children.

... [P]hytonicides (essential oils derives from trees) have been suggested to exert a preventative effect on cancer generation and development.

A Healthy Dose of Green (Trees Ontario 2012)



DRAFT Natural Heritage & Urban Forest Strategy (NH&UFS) EXECUTIVE SUMMARY

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Natural Heritage System and Urban Forest Targets

Indicators and targets are recognized as useful tools in measuring performance in relation to established objectives. This Strategy builds on the direction provided in the City's Strategic Plan (2009) and Living Green Master Plan (2012) and has developed six targets which can serve as bars against which the City can measure its progress in over the next 20 years (2014 and 2033).

Table 2. Recommended Natural Heritage System (NHS) and urban forest targets.

| Target Type | Current Status | Recommended Target |
|--|--|--|
| 1. NHS Size | 9.4% of the City | 12% of the City (note: target is still under review) |
| 2. NHS Linkage | a. 62% of the watercourses have vegetation for at least 30 m on either side b. XX% (TBD) of Significant Natural Areas are linked through the NHS | a. 75% of the watercourses have vegetation for at least 30 m on either side b. 100% of Significant Natural Areas to be linked through the NHS or other components of the Green System |
| 3. NHS Quality | Conservation Plans / Management Plans have only been completed for a few Significant Natural Areas | Conservation Plans / Management Plans to be completed and implemented for all Significant Natural Areas |
| 4. Urban Forest Canopy Cover | approximately 15% | 15% to 20% |
| 5. Urban Forest Quality (of City Street and Park Trees) | a. About six species account for 42% of the urban forest b. Invasive Norway maple accounts for about 8% of the urban forest c. Current City tree inventory is not up to date, is missing some key metrics, and excludes naturalized portions of City parks | a. No tree species represents more than 5% of the tree population City-wide or more than 20% on a given street b. Gradual reduction of non-native, invasive trees on City lands** c. The inventory includes all City street and park trees, including data on their condition and health |
| 6. Urban Forest Canopy Distribution | Current canopy cover distribution in the city is very uneven. | To improve the distribution of forest cover by focusing more efforts in areas where it is currently below the City-wide target. <i>(More specific targets to be developed if possible).</i> |

* Data Source: City of Mississauga Urban Forest Study (2011) and subsequent analyses by the Peel Urban Forest Working Group.

** It is not possible to develop a metric before the street and park tree inventory has been updated and actual percentages of non-native invasive trees are confirmed.



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The targets developed are intended to be ambitious but achievable within the 20-year lifespan of this Strategy. *Notably, Targets 3, 5 and 6 only apply to City and conservation authority lands.*

TARGET 1: The target of 12% Natural Heritage System cover is the most ambitious target set by this Strategy. Small incremental increases in the City's Natural Heritage System have been occurring annually since 2006, and more substantial increases will occur over 2013 with the addition of the natural areas in the Ninth Line lands and the various additions to public lands identified through this Strategy (see **Map 1**). Going forward, further expansions are anticipated through: annual Natural Areas updates, updates to the Residential Woodlands (to capture areas where canopy cover has matured since the original mapping was done), and the expansion of Special Management Areas along watercourses as opportunities arise.

TARGET 2: Although the connectivity of Mississauga's Natural Heritage System is constrained by the built environment, there remain opportunities to enhance and improve it (a) along the watercourse and (b) by recognizing the linkage functions of the other components of the Natural Heritage System as well as of the Green System in supporting natural connectivity (see **Map 2**).

TARGET 3: Within urban areas, the primary two factors that impair the quality of natural areas are invasive species and over-use. However, both these factors can be addressed through management, therefore it is recommended that short Natural Area Conservation Plans focused on operational needs (Strategy #13) be developed for all Significant Natural Areas.

TARGET 4: In reality, increasing canopy cover in an urban area is more challenging than might be expected. Even with ongoing tree planting efforts, a target of 15% to 20% is considered realistic for Mississauga because: (a) emerald ash borer, a pest that kills almost all ash trees, is established in Mississauga and will peak over the next few years, (b) many lands have existing zoning that permits some type of development, (c) infrastructure still needs to be improved or expanded, (d) hazard trees must be removed, (e) most of the City's trees are small and will not start contributing substantially to canopy cover for at least 10 to 20 years, (f) some trees, in the past, were planted in poor conditions, (g) it is a challenge to maintaining newly planted trees under conditions of climate change (e.g., more intense periods of drought, more frequent storms).

TARGET 5: Improving the diversity of native street and park trees, and having a comprehensive and well-maintained inventory of all these trees will be critical to ensuring the City's urban forest is more resilient to climate change and other stressors.

TARGET 6: Strategically targeting tree planting efforts to areas that have, or are expected to have, lower than average canopy cover in the City will contribute to overall canopy cover targets, and also help ensure that access to the range of ecosystem services provided by tree cover are provided more equitably across the city.



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Vision, Guiding Principles and Objectives

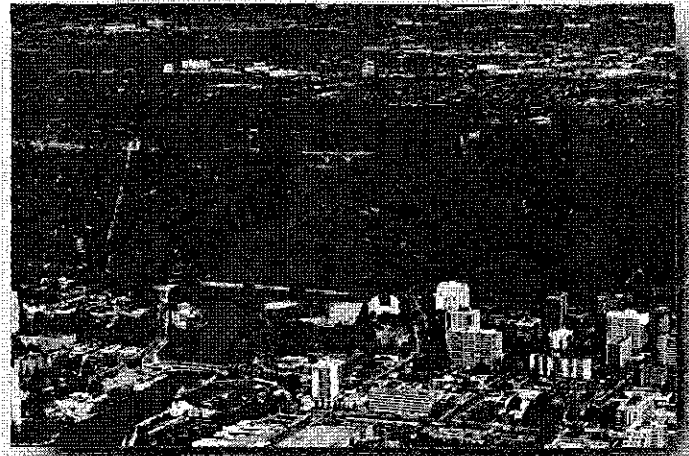
The following vision, guiding principles and objectives are intended to provide the “big picture” direction for this Strategy over the document’s 20 year lifespan.

VISION: *The City, private and public stakeholders, and members of the community are working together to protect, enhance, restore, expand and connect Mississauga’s Natural Heritage System and urban forest so that native biodiversity and the ecological services essential for a healthy community are sustained for present and future generations.*

Key themes in the guiding principles include: taking a “conservation first” approach, maximizing native biodiversity, building on past successes, learning from others, viewing the NHS and urban forest within the city’s broader Green System, recognizing the value of the ecosystem services provided by this system, making stewardship part of daily living, integrating climate change and adaptive management, pursuing opportunities for protecting / enhancing / restoring / expanding the NHS and urban forest, and tracking performance.

The nine strategic objectives recognize different approaches are required for public versus private lands and include the following direction:

1. Increase internal (within the City) and external (among the community and other stakeholders) awareness
2. Expand the NHS on public and private lands
3. Build on existing, and develop new, public and private sector partnerships.
4. Undertake regular monitoring of the NHS and urban forest
5. Protect the NHS and urban forest on public lands through proactive management, enforcement of applicable regulations, and education
6. Enhance and restore the NHS and urban forest on public lands by improving their condition and connectivity, and establishing more trees and creating habitats
7. Support the NHS and the urban forest by managing public open spaces to maximize their ecological functions (while maintaining their primary uses)
8. Protect the NHS and urban forest on private lands through education, implementation of applicable policies and regulations, the development review process, and enforcement
9. Enhance and restore the NHS and urban forest on private lands by promoting stewardship, naturalization, restoration, tree planting and proactive tree care with creative outreach and incentives





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Recommended Strategies and Supporting Actions

A total of 30 STRATEGIES, summarized below, have been identified to support the vision and objectives, as well as guide the City in achieving the established targets, under the following four themes: (1) planning, (2) management, (3) engagement and (4) tracking. These Strategies are shown with the more detailed supporting ACTIONS (24 in total), identified through the Urban Forest Management Plan.

PLANNING FOR THE NATURAL HERITAGE SYSTEM AND URBAN FOREST

STRATEGY #1: Improve interdepartmental coordination and information sharing on natural heritage and urban forest issues

- **Action #3:** Formalize involvement of City Forestry staff in the City planning and information sharing related to trees
- **Action #19:** Improve and maintain awareness among City departments about current natural heritage and urban forest policies, by-laws and technical guidelines

STRATEGY #2: Make the City's Official Plan Green System framework more comprehensive

STRATEGY #3: Revise Official Plan policies related to the Natural Heritage System to be more consistent with Provincial and Regional policies

STRATEGY #4: Clarify and strengthen Official Plan policies related to the Natural Heritage System

STRATEGY #5: Refine Official Plan policies to better support connectivity within the Natural Heritage System

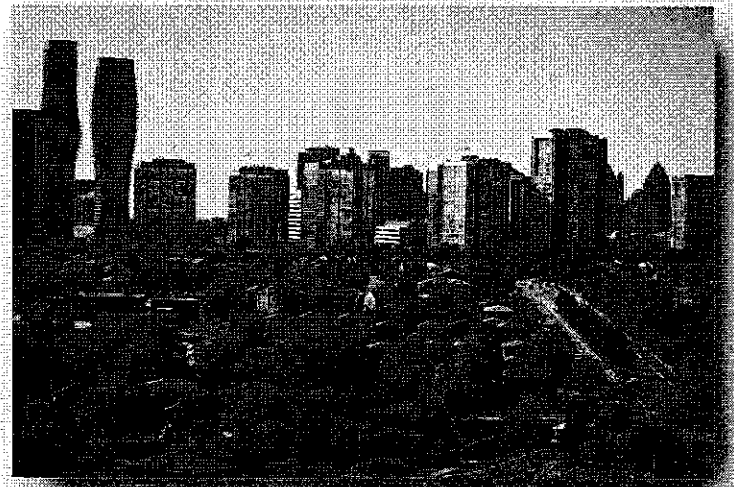
STRATEGY #6: Strengthen Official Plan policies related to the urban forest

STRATEGY #7: Strengthen Zoning Approaches to better support urban forest objectives

STRATEGY #8: Strengthen existing by-laws to improve their ability to support natural heritage and urban forest objectives

- **Action #12:** Update Public Tree Protection by-law to better support urban forestry objectives
- **Action #13:** Update Erosion Control by-law and the Nuisance Weeds by-law to support urban forestry and natural heritage objectives
- **Action #14:** Update the Private Tree Protection By-law to better support urban forestry objectives

STRATEGY #9: Develop selected policies and guidelines that extend outside of but will support the Natural Heritage System and the urban forest





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PROTECTION AND MANAGEMENT OF THE NATURAL HERITAGE SYSTEM AND URBAN FOREST

STRATEGY #10: Pursue opportunities to enhance and expand the Natural Heritage System

STRATEGY #11: Use a range of approaches to improve Natural Heritage System connectivity

STRATEGY #12: Formalize the role of naturalization/stewardship initiatives as support for the Natural Heritage System and urban forest

STRATEGY #13: Develop and Implement Natural Area Conservation Plans

- **Action #17:** Develop and implement City-owned woodland management through Natural Area Conservation Plans

STRATEGY #14: Develop and implement an urban forest expansion plan

- **Action #10:** Work with City staff and external partners to implement urban forest expansion

STRATEGY #15: Improve tree establishment practices on public and private lands

- **Action #4:** Develop consistent and improved City-wide tree preservation and planting specifications and guidelines
- **Action #5:** Improve the inventory of City street and park trees
- **Action #11:** Implement improved tree establishment practices

STRATEGY #16: Improve tree health and risk management practices on City lands

- **Action #5:** Improve the inventory of City street and park trees
- **Action #6:** Improve street and park tree maintenance operations
- **Action #7:** Implement a young tree maintenance program
- **Action #8:** Develop and implement a tree risk management protocol
- **Action #9:** Implement an urban forest pest management plan

STRATEGY #17: Seek opportunities to integrate aquatic management needs with ongoing natural area management

STRATEGY #18: Continue strategic acquisition of high priority natural areas

STRATEGY #19: Ensure effective implementation and enforcement of natural heritage and urban forest policies and by-laws on public and private projects

- **Action #15:** Increase effectiveness of tree preservation as part of private projects
- **Action #16:** Increase effectiveness of tree preservation as part of municipal operations and capital projects

ENGAGING THE COMMUNITY IN CARING FOR NATURAL HERITAGE AND THE URBAN FOREST

STRATEGY #20: Leverage the City's website and social media resources as a promotional tool

- **Action #18:** Develop a short video series and make the City's tree inventory public to support outreach, education and stewardship

STRATEGY #21: Use daily planning, operational and enforcement activities as opportunities to demonstrate and educate

- **Action #20:** Improve and maintain awareness among external stakeholders about current natural heritage and urban forest policies, by-laws and technical guidelines



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STRATEGY #22: Build on current outreach programs with a variety of initiatives specifically targeted to local arborists, local developers, private open space uses, and youth

- **Action #20:** Improve and maintain awareness among external stakeholders about current natural heritage and urban forest policies, by-laws and technical guidelines
- **Action #21:** Support various partners and organizations in their efforts to undertake targeted engagement of local businesses and schools

STRATEGY #23: Develop and undertake a campaign to promote public natural areas

- **Action #18:** Develop a short video series and make the City's tree inventory public to support outreach, education and stewardship

STRATEGY #24: Use the One Million Trees Program as a platform for expanding stewardship on lands not owned by the City

- **Action #22:** Continue to work with various partners to undertake stewardship on public and private lands

STRATEGY #25: Develop and expand partnerships with the Region, agencies, institutions and nearby municipalities to support information gathering, analysis and coordinated responses

- **Action #23:** Partner with local agencies and institutions to pursue shared research and monitoring objectives
- **Action #24:** Build on existing partnerships with the Region of Peel and nearby municipalities to facilitate information sharing and coordinate responses to environmental issues

STRATEGY #26: Pursue funding from a range of sources to support natural heritage and urban forest, and support non-profit organizations and institutions in doing the same

STRATEGY #27: Identify cost-effective incentives to support the implementation of NH&UFS objectives

TRACKING THE STATE OF THE NATURAL HERITAGE SYSTEM AND URBAN FOREST

STRATEGY #28: Track the status of the Natural Heritage System's size, connectivity and quality

STRATEGY #29: Track the status of Mississauga's canopy cover and distribution, as well as the species diversity and condition of its street and park trees

- **Action #1:** Adopt the three-tiered UFMP framework to implement action items and monitor their status
- **Action #2:** Monitor the status of the urban forest

STRATEGY #30: Report on the Status of the NH&UFS every four years

Implementation guidance related to each of these strategies will be developed as part of project completion.

Detailed implementation guidance (e.g., estimated resource requirements, responsible parties, priority, etc.) related to each of these strategies will be developed as part of project completion.

JUN 04 2013

Upcoming Agenda Items and Environmental Advisory Committee (EAC) Role

| Legend: Potential Role for EAC | |
|---|--|
| Comments (Provide feedback for consideration.) | Leadership (Participate in event or lead external group participation.) |
| Community Engagement (Champion LGMP awareness campaign, promote Living Green blog, etc.) | Receive (For information.) |
| Direction (Provide direction to staff.) | Recommendation (To General Committee.) |
| Deputation (Present to General Committee, Council, other.) | Sub-committee (To further develop or research initiative.) |

| Year Quarter | Item | Description | Potential EAC Role |
|-----------------------|--|---|---------------------------|
| 2013 Q3 | Oakville-Clarkson Air Zone Management Advisory Committee | Update on the Oakville-Clarkson Air Zone Management Advisory Committee (OCAZMAC). | Receive |
| | Public Art Project | Update on public art project along Burnhamthorpe Rd. | Receive |
| | Our Municipality Can Help Stop Climate Change | Update subsequent to the March 5, 2013 Environmental Advisory Committee meeting. | Recommendation |
| 2013 Q4 | Feed-in Tariff Program | An update on the Feed-in Tariff (FIT) Program. | Receive |

| Other Anticipated Items | |
|---|---|
| Item | Description |
| Nuisance Weed and Tall Grass Control By-law | The City's Nuisance Weed and Tall Grass Control By-law is scheduled to be revised as per the LGMP. |
| Green Development Strategy (GDS) | An update on GDS implementation. |
| Waste Management | An update on various waste-related initiatives. |
| Drive-Throughs | An update on drive-throughs. |
| Quest 2013 | Ontario Caucus Conference. |
| Corporate Energy Conservation Plans | The new Provincial <i>Green Energy Act</i> (2009) requires municipalities to provide corporate energy conservation plans for all municipally owned and operated buildings and to report annually on actual performance against plans. |
| Stormwater Quality Control Strategy Update | Update of the City's strategy for managing and improving the quality of stormwater runoff. |
| Corporate and Community Greenhouse Gas (GHG) and Criteria Air Contaminant (CAC) Inventories | Updated GHG and CAC inventories' results will be presented and used to benchmark and prioritize future efforts to reduce local sources of emissions. |

STATUS OF OUTSTANDING ISSUES FROM THE ENVIRONMENTAL ADVISORY COMMITTEE (EAC)

Prepared by Julie Lavertu, Legislative Coordinator, for the June 4, 2013 EAC Agenda

| EAC MEETING FIRST DISCUSSED | ISSUE | EAC RECOMMENDATION/DIRECTION | STATUS |
|-----------------------------|---|---|--|
| Feb/12 | Transportation Strategy Presentation | Michael DeWit, Vice-Chair, indicated that a presentation on the transportation strategy would be beneficial to the Committee. | May 1/12 EAC Meeting Update: Ms. Osborne added that she did not have a specific timeline for the transportation strategy at this time. |
| Sept/12 | Potential Ban of Plastic Shopping Bags in Mississauga | EAC-0039-2012 1. That the Corporate Report dated July 26, 2012 from the Commissioner of Community Services, entitled "Potential Ban of Plastic Shopping Bags in Mississauga," be received; and 2. That the Environmental Advisory Committee recommends that the potential ban of plastic shopping bags in Mississauga be referred to the Region of Peel's Waste Management Committee for further research and recommendations to the Region of Peel's Regional Council and the City of Mississauga's Council. | |
| Dec/12 | Urban Design Awards | Councillor Tovey noted that the Urban Design Awards should include green building and Ms. Bracken noted that the categories and criteria would have to be strengthened. It was suggested that a report could be written to make a recommendation with respect to creating a green award in Urban Design. | May 7/13 EAC Meeting Update: In response to Councillor Tovey, Ms. Osborne said that Ms. Bracken is working with Planning and Building Department staff to establish a green development award complementary and linked to the existing Awards and that it may be announced this fall, but will not begin until 2014. |

| EAC MEETING FIRST DISCUSSED | ISSUE | EAC RECOMMENDATION/DIRECTION | STATUS |
|--------------------------------------|---|--|--|
| Dec/12 | Environmental Advisory Committee November 2012 Off-Site Meeting Summary | <p>EAC-0068-2012</p> <ol style="list-style-type: none"> 1. That the Memorandum, dated November 26, 2012 from Brenda Osborne, Director, Environment Division with respect to the off-site meeting held on November 24, 2012; be received; and 2. That staff work with the Environmental Advisory Committee to develop a recognition program and a community environmental grants program. | <p>May 7/13 EAC Meeting Update:</p> <p>Ms. McLeod gave an update, noting that this matter was discussed at the Committee's December 2012 meeting. She said that three existing award programs were reviewed and associated organizations were consulted regarding the Committee's recommendation. Ms. McLeod said that modifying the current award processes or adding a new "Living Green" award is not advisable for various reasons. She noted that Streetscape Mississauga has renamed the Alternative Gardens class of their contest the "Mississauga Living Green Ecogardens" class. Ms. McLeod said that the Committee could help promote the existing award programs and, beginning in 2014, host an annual celebration and networking event in the spring to coincide with the annual reporting out of the Living Green Master Plan.</p> |
| Feb/13 | Stormwater Financing Study (Phase 1) | <p>EAC-0003-2013</p> <ol style="list-style-type: none"> 1. That the PowerPoint presentation by Lincoln Kan, Manager, Environmental Services, entitled "Stormwater Financing Study (Phase 1)," to the Environmental Advisory Committee on February 5, 2013 be received; and 2. That staff be directed to prepare an update regarding the Stormwater Financing Study (Phase 1) for consideration at a future Environmental Advisory Committee meeting. | |