



OAKVILLE

REPORT

COMMUNITY SERVICES COMMITTEE

MEETING DATE: DECEMBER 13, 2011

FROM: Environmental Policy Department

DATE: November 24, 2011

SUBJECT: Oakville's State of the Environment Report (SOER) 2011

LOCATION: Town Wide

WARD: Town wide

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RECOMMENDATION:

1. That the report from the Environmental Policy Department, dated November 24, 2011, regarding the Oakville State of the Environment Report (SOER) 2011, be received;
2. That the Oakville SOER 2011 be endorsed by Council and provided to the community; and
3. That prior to finalization the Director, Environmental Policy, be authorized to make minor edits to the Oakville SOER 2011 that do not substantially affect the substance of the report.

KEY FACTS:

The following are key points for consideration with respect to this report:

- This is the fourth annual State of the Environment Report (SOER) presented to Council.
- Information and data for the SOER is gathered from a number of town departments and external agencies such as the provincial Ministry of the Environment, Ministry of Transportation, Conservation Halton and Halton Region.
- Positive trends that were seen in air and water quality in 2009 reversed themselves in 2010, indicating the link between increasing economic activity and the effect on the environment.
- Positive trends were seen in transit use, natural gas consumption, water consumption and ecoschool certification. This demonstrates that, as a community, we are making greater efforts towards making "greener" choices

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and engaging in behaviours that will help improve the environment in the future.

- The town is actively working on neighbourhood and corporate ecological footprint programs to further assist in monitoring and representing data as a tool to improve program effectiveness.
- The five year update to the Environmental Strategic Plan (ESP) in 2011 will result in a revised set of indicators in 2012.

BACKGROUND:

On December 5, 2005, Council endorsed the town's Environmental Strategic Plan (ESP) and the implementation of recommendations within the plan 'to protect and enhance the Town's ecological environment, while maintaining a vibrant social and economic base' (from the ESP Vision Statement).

One recommended Essential Next Step was to develop indicators for monitoring and reporting on the condition of the environment in Oakville (ESP Action 6.1). An Environmental Indicators Program and the first State of the Environment Report (SOER) were developed in 2008 to establish a framework and provide baseline conditions for future reporting. A Technical Background Report was compiled as a companion piece.

This year, the fourth annual SOER provides updates on the established set of indicators and expands on the ongoing ecological footprint program. The SOER is geared toward the general public and identifies opportunities for readers to obtain further information.

COMMENT/OPTIONS:

2011 SOER Preparation

Key staff in other town departments, Conservation Halton, Oakville Hydro, Union Gas, Halton Region, the Halton Public and Catholic District School Boards, provincial ministries and volunteer agencies have all contributed data for incorporation into this year's SOER. It should be noted that as for previous editions, the data represents the last full year of data available which in this case is 2010.

Highlights of the 2011 SOER

The SOER and indicators are organized according to the six ESP goals:

1. Natural Resources: green space and biodiversity; urban forest; air quality; water quality; climate change.

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2. Resource Use: solid waste; energy conservation; water conservation.
3. Transportation: transportation choices; transit.
4. Healthy Neighbourhoods: landscape and aesthetics; access to parkland and recreation.
5. Community Engagement: outreach events; EcoSchools.
6. Best Practices: innovative environmental programs; sustainable building and development; Environmental Strategic Plan.

In addition, the latest results from the Ecological Footprint (EF) program are also highlighted. Oakville's EF tracking program was initiated at the end of 2009 and serves as an index of resource use and is complementary to the indicators in the SOER. Further details on the EF are provided later in this report.

Appendix A provides a draft of the 2011 State of the Environment Report. The 2011 SOER marks the fourth year that data has been reported which, for some indicators, provides the ability to start developing a better understanding of trends. In 2009, a number of parameters such as air and water quality showed positive improvements. This coincided with a significant decline in the economy and correspondingly lower development activity as shown through the number of building permits issued for new construction. As the economy improved in 2010, a decline in air and water quality indicators was seen. This correlation is not unexpected and provides evidence of the impact that our actions can have on our environment. While there were losses in some areas, gains were seen in others – particularly transit use, natural gas consumption, water consumption and Ecoschool certification. The positive message from this is that as a community, we are making greater efforts towards making “greener” choices and engaging in behaviours that will help improve the environment in the future. Following are highlights of key areas from the 2011 SOER:

Air quality: In 2009, PM_{2.5} values across the province showed significant signs of improvement. As noted previously, this coincided with the economic downturn and the return to increased PM_{2.5} values in 2010 indicates the importance of reducing man-made sources of fine particulate matter such as the burning of fossil fuels. In addition, the hotter, drier summer in 2010 likely had some impact as these conditions increase the ability of fine particles to remain airborne. While annual average ground level ozone has remained generally consistent in Oakville since 2004, daily spikes are responsible for the majority of smog advisories.

Water quality: Water quality, as shown by phosphorus and chloride levels in Oakville's creeks, has been variable, with the best quality and stability at Bronte Creek and the poorest in 14 Mile Creek. Phosphorus is generally more of a problem with levels approaching or exceeding the Provincial Water Quality Objectives (PWQO) of 0.03mg/L. In 2010, the Bronte, 14 Mile and 16 Mile Creeks all exceeded

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the PWQO in contrast to 2009 where all three came in under the PWQO levels. Sources of phosphorus include lawn fertilizers, atmospheric deposition, automobile exhaust, soil erosion, animal waste, detergents and wastewater treatment plants which makes it difficult to pinpoint a specific cause, however, the 2009-2010 trend may be due in part to a significant decline in development activity in 2009 compared to 2010. Most of the sources of phosphorus are non-point, making it harder to control.

While chloride levels remained below the PWQO of 250 mg/L, all three creeks showed an increase in levels from 2009 to 2010. A significant contributor to chloride levels is runoff from roadways and salt use during the winter. The town and region have been steadily decreasing their use of winter salt through a targeted Salt Management Program that includes pre-wetting salt to improve efficiency and the introduction of a pilot project involving Eco-salt that prevents the salt from bouncing off of roadways and into waterways. The high variability of chloride levels in 14 Mile Creek may be due in part to the fact that it is a much smaller creek that is more urban in nature which means it is more sensitive to the effects of runoff and less able to absorb the contaminants.

Electricity and gas use: In 2009, per capita residential gas consumption use decreased by 1% and this trend continued in 2010 with a further 9% decrease. There has been a focused campaign by all levels of government, hydro companies and environmental organizations to encourage residents to find ways to save energy, particularly in home heating which is the major component of residential gas consumption. Energy saving home improvements and better construction methods are also becoming more widespread. Residential electricity use per capita increased slightly by 3.2% between 2009-2010. The use of electricity in homes powers a wide range of items such as lighting, air conditioning, appliances and electronic equipment (televisions, computers, etc.). This makes it difficult to attribute trends to a specific cause, however, it should be noted that 2010 was a hotter and drier summer than 2009 which may have led to increased air conditioner use. Further discussion with the utilities to analyze and understand future trends will be required.

Water consumption: Residential water consumption is showing a continued downward trend on a per capita basis. A number of factors may be contributing to this, not least of which are the continued water reduction strategies offered by the region and town. These include the Outdoor Water Use Program and the annual rain barrel sale held in the spring. The continued reductions from 2009 to 2010 are particularly good news as 2010 was a hotter, drier summer which usually results in increased irrigation of lawns and gardens.

While per capita water use is decreasing, it should be kept in mind that Canada continues to have one of the highest water use rates in the world and water conservation efforts should continue to be a priority.

Garden Plots: Both the town and Bronte Creek Park offer community plots that allow residents without access to outdoor space the ability to rent land in order to plant their own gardens. This is of interest as an area of focus that is increasingly on the radar of many municipalities is the concept of food security and a desire to support a more local and/or organic base for food supplies. Garden plot rentals can encourage local small scale food production.

In 2010, the number of plots available decreased from 189 to 179. This is due to the loss of 10 plots from Bronte Creek Provincial Park. The data over time shows that the town owned plots are always fully rented and also have a significant waiting list. Those at Bronte Creek are running under capacity. There may be value in either expanding the number of town owned plots and/or partnering with Bronte Creek to promote the availability of land there.

Housing mix: ROPA 38, Halton Region's Official Plan, introduced a housing density target for new housing, stating that at least 50% of new housing units in Halton be in the form of townhouses or multi-storey buildings. In 2010, a total of 54.5% of homes built in Oakville were singles and semi-detached and 45.5% were townhouses (row-dwellings). The general trend since 2002 in Oakville has been a gradual movement toward greater density and it is expected that with development in North Oakville, this will occur more quickly in the future.

Ecological Footprint (EF)

While each indicator can represent a particular aspect of the environment, the footprint combines a broad range of data to give an easy to understand snapshot of the impact of 'Oakville' on the environment.

The concept of the ecological footprint came to the forefront in the 1990's through the work of two Canadians, Mathis Wackernagel and William E. Rees. The EF measures how much land and water area a human population requires to produce the resources it consumes and to absorb its wastes. It is now in wide use by scientists, businesses, governments, agencies, individuals, and institutions working to monitor ecological resource use and advance sustainable development. The Livable Oakville Plan incorporates the EF as part of its policy framework and as a means of measuring progress towards sustainability.

Oakville's EF program has been developed in cooperation with the consulting firm that completed the Federation of Canadian Municipalities report on the footprints of

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representative municipalities across Canada. Based on the most recent data, Oakville's footprint is approximately 9 ha per person which means in 2011, it would take approximately 16,455 km² more land than we have to provide for our current lifestyle. This is approximately twice the size of the Greater Toronto Area.

From 2010-2011 Oakville took part in a pilot project to bring the footprint down to a "Dissemination Area" or neighbourhood level. Having an ecological footprint calculated at this level of detail allows the town to closely analyze our greatest environmental impacts and with more focus, ways to improve. It offers the opportunity to develop tools and consider data in a way that was previously unexplored. Some of the potential applications that are currently being considered include:

- Piloting environmental outreach programs at a small scale to compare before and after results at a neighbourhood level before rolling them out to the larger community.
- A key indicator set out in the Livable Oakville Plan is to monitor and report on the EF of the town as a measure of the plan's success. The ecological footprint of each of the key growth areas has been calculated and will allow for the tracking of progress over time.
- Energy mapping has been completed for each of Oakville's neighbourhoods which provides a method for better targeting conservation programs to high priority areas and allows for tracking of progress over time.

In addition a corporate footprint was developed in 2011 that provides a tool for tracking the impact of the town's operations. Categories include energy use, fleet, travel, commuting, paper use, office supplies and food (catering). Work on this program is currently underway and will form a key component of tracking progress as part of the Corporate Sustainability Plan that will be brought forward to Council in 2012.

Outreach

In 2010, the SOER was made available to the public through a number of avenues. Key target audiences included schools, the general public, agencies and government departments requiring detailed information on Oakville's environment.

Strategies that were incorporated included an SOER page on the town's website, delivering SOER packages to all 66 of Oakville's public and private schools and highlighting the SOER in school newsletters and events, providing the reports at Environmental Policy outreach events and delivering copies to all of Oakville's libraries. These same strategies will be employed in the distribution of the 2011 SOER.

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After its first year of rollout, according to the results of the 2009 Community Attitudes Survey, a total of 11.5% of the population was aware of the SOER program. Staff is pleased with this number given that the program was only in its first year of distribution. Staff has been actively promoting the SOER through community outreach events and through the school boards and individual teachers.

Staff will also be continuing to dedicate resources into education and outreach, with a special section of the SOER directed towards teachers. A package, available on request, will feature curriculum links, project ideas and further information on the town's SOER and indicators to assist teachers in incorporating the SOER in the classroom.

Future Initiatives

The field of environmental indicators and environmental reporting is still relatively new. Keeping abreast of current models is done on a continuous basis through involvement with the Canadian Sustainability Indicators Network (CSIN) and maintaining an updated library of State of the Environment Reports from various municipal, provincial, federal and international indicators and reporting programs.

The environmental indicators program and the SOER offer a number of opportunities for environmental outreach, education, evaluating and focusing programs and information sharing. Some of the SOER linked initiatives that are in development include:

Review and restructure of the SOER – SOE reporting is based on the town's Environmental Strategic Plan (ESP) which is being updated in 2011. To better reflect the 2011 ESP, the SOER indicators and format will be reviewed and updated as well. The revised program will be presented to Council in 2012 as part of the annual SOE reporting process.

EPIcenter – The business case and structure for a town-wide environmental database was developed in conjunction with the IS&S Department in 2010. With the move to PB2 budgeting and an increasing awareness and demand for monitoring and performance measures, the town has an even greater need to manage its environmental data. It is anticipated that work on this initiative will resume in 2012 with a renewed focus on Open Data and the importance of accessible and consistent information.

CONSIDERATIONS:**(A) PUBLIC**

The SOER provides the community with information to make lifestyle changes and decisions that will improve Oakville's environment. The report also assists in creating public awareness of the town's activities and the state of conditions and results of our actions on the environment.

(B) FINANCIAL

There are no financial implications associated with this report.

(C) IMPACT ON OTHER DEPARTMENTS & USERS

Many departments, agencies, community groups and individuals have contributed to the environmental indicators program. Departments have a continuing role to play to support reporting on these indicators. This program in turn supports departments across the corporation in managing their environmental data and the impacts of their programs and operations.

(D) CORPORATE AND/OR DEPARTMENT STRATEGIC GOALS

This report addresses the corporate strategic goal to:

- be accountable
- enhance our natural environment
- continuously improve our programs and services
- have environmentally sustainable programs/services

(E) COMMUNITY SUSTAINABILITY

The SOER promotes environmental stewardship and responsibility by raising awareness and providing concrete steps that can assist the town and its partners in achieving greater environmental sustainability.

APPENDICES:

Appendix A: DRAFT 2011 State of the Environment Report (SOER)

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