

REPORT

COMMUNITY SERVICES COMMITTEE

MEETING DATE: DECEMBER 11, 2012

FROM: Environmental Policy Department

DATE: November 23, 2012

SUBJECT: 2012 State of the Environment Report

LOCATION: Town Wide

WARD: Town wide

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RECOMMENDATION:

1. That the report from the Environmental Policy Department, dated November 23, 2012, regarding the Oakville State of the Environment Report (SOER) 2012, be received; and
2. That prior to finalization the Director, Environmental Policy, be authorized to make minor edits to the Oakville SOER 2012 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 fifth annual State of the Environment Report (SOER).
- Positive gains that were seen in air and water quality in 2009 have generally shown a reversal, indicating the link between increasing economic activity and the effect on the environment. Exceptions to this are improvements in water quality in Bronte Creek, chloride levels in creeks and average ground level ozone which has remained generally steady and increased only slightly since the baseline year of 2004.
- Positive trends were seen in transit use, residential electricity conservation and housing density for new construction. This demonstrates that, as a community, we are making greater efforts towards making “greener” choices and engaging in behaviours that will help improve the environment.
- Declines were seen in the indicators for private vehicle ownership, residential gas consumption and climate change parameters.
- Modifications to the format of the SOER were made to reflect the December 2011 update to the Environmental Strategic Plan.
- The neighbourhood Ecological Footprint (EF) model has been affected by the changes to the way census data is now being collected. Future use of

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the EF will be adapted for specific uses such as the corporate footprint and energy/greenhouse gas mapping.

- A two-page summary fact sheet has been prepared for the 2012 SOER report.

BACKGROUND:

The updated Environmental Strategic Plan (ESP) was endorsed by Council on December 19, 2011. The annual State of the Environment Report (SOER) provides a framework for establishing a baseline and for monitoring ongoing conditions related to the key goals contained in the ESP.

The SOER is based on a set of indicators. While these remain generally consistent to ensure the ability to measure changes over time, new indicators may be developed to better reflect emerging issues or to include new sources of information as they become available. The information contained in the SOER is geared to both staff and the public and encourages an open data approach towards information. This is the fifth annual SOER report. The data is provided in a publication included as Appendix A to this report which shows consolidated data in the form of charts and tables however, staff also maintain full background reports and information related to the data.

Town staff, 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 2011.

COMMENT/OPTIONS:

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

- Goal 1 To sustain and enhance our natural environment: green space and biodiversity; air quality; water quality; climate change.
- Goal 2 To reduce our resource consumption and waste production: energy conservation; solid waste; water conservation.
- Goal 3 To establish and support an environmentally friendly transportation network: transit; transportation choices.
- Goal 4 To create and support a healthy resilient community: community health and green space access; green development.
- Goal 5 To foster environmental stewardship through education and community involvement: outreach and education; ecoschools.
- Goal 6 To lead in applying best environmental management practices: towards zero waste; sustainable green fleet; sustainable purchasing; Environmental Strategic Plan.

In 2010, the Ecological Footprint (EF) program was introduced as a component of the SOER that provided a way to manage and understand aspects of our environmental data down to the neighbourhood level. A key component of neighbourhood EF model was the use of census data. The way this information is collected was significantly changed beginning with the 2011 federal census which has created issues with certain aspects of the EF tool. Going forward, we are adapting the model for the corporate footprint and specific uses such as energy use and greenhouse gas emissions. Recently, the neighbourhood EF was used in the development of a targeted community energy workshop as part of the town's Partners for Climate Protection commitments.

2012 SOER Highlights

Appendix A provides a draft of the 2012 State of the Environment Report. 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 has regained some momentum, a decline in air and water quality indicators has been observed in general. 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, residential electricity conservation and green development. 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. Details on key findings from the 2012 SOER are discussed below. Data on water consumption is pending and will be included once it has been released by Halton Region.

Greenspace and biodiversity: Although the town acquires additional lands every year to add to its open space system, because of population increases the per capita values are decreasing. In addition, as the town develops further, less land is available. In 2011, 13.25 ha of lands were added by the town, in part thanks to lands secured as a requirement of development. While increasing the amount of greenspace is important, ecological restoration of these lands and ensuring a linked and cohesive system is growing in importance. In future, we will be reviewing our indicators to determine how best to provide additional information on these qualitative measures of our greenspace system.

A new indicator for biodiversity this year is total suspended solids (TSS). These are small particles of toxins, heavy metals and minerals that are easily moved in water. In high concentrations, they can clog fish gills, bury eggs and smother smaller

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organisms. While detailed data on biodiversity is unavailable on an annual basis, measures such as TSS provide information on parameters that can negatively impact aquatic life. This can provide insight into habitat quality and areas where we may need to focus attention. As with many other natural environment indicators, TSS showed a significant decline in 2009 but since then has been increasing in the Sixteen and Fourteen Mile creeks. While the Bronte Creek TSS level increased in 2010, it has shown a decrease in 2011 which is a positive result.

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 2011, the Bronte, Fourteen and Sixteen Mile Creeks all exceeded 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. Possible factors contributing to the trend are significant declines in development activity in 2009 and lower precipitation levels which can lead to less runoff and contributions from stormwater, however, most of the sources of phosphorus are non-point making it harder to control and pinpoint specific inputs.

Chloride levels remained below the PWQO of 250 mg/L, and all three creeks showed a decrease in levels from 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. In addition, warmer winter temperatures in 2011 led to fewer road salt applications that year. The high variability of chloride levels in 14 Mile Creek may be due in part that it is a much smaller creek and more urban in nature which means it is more sensitive to the effects of runoff and less able to absorb contaminants.

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 and 2011 indicates the importance of reducing man-made sources of fine particulate matter such as the burning of fossil fuels. Hot dry conditions can increase the ability of fine particles to remain airborne. Despite the increase in precipitation in 2011, fine PM levels increased significantly making it even more concerning. While annual average ground level ozone has remained generally consistent in Oakville since 2004, daily spikes are responsible for the majority of smog advisories.

Electricity and gas use: Using 2004 as a baseline, per capita residential electricity use has shown consistent decreases with an exception in 2008. There has been a focused campaign by all levels of government, hydro companies and environmental

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organizations to encourage residents to find ways to save energy which has likely been a key factor in building awareness and action. This has allowed electricity consumption overall to remain relatively stable despite population increases. Gas consumption is another component of our energy use and is the primary source of residential heating. While a significant decrease was seen in 2010, this was short lived and 2011 saw per capita consumption rise to pre-2010 levels. This was somewhat unexpected as average winter temperatures have been steadily increasing since 2007. Further discussion with the utilities to analyze and understand future trends will be required.

Transportation choices: One of the biggest components of greenhouse gas emissions is from transportation use. In Halton, vehicle ownership has consistently outpaced population increases since 2007. In addition to the total number of vehicles increasing because of additional residents, per capita use is also increasing around 2% each year. This indicates further efforts are needed to reduce personal vehicle use.

Good news has been seen in both indicators related to transit. A continual decline in passenger trips per capita was being seen until 2009 when Oakville Transit moved to a new grid based system and undertook a number of service improvements. Ridership has shown a steady increase since then which has continued in 2011. Net costs per passenger trip have increased slightly, however, when looking at the trend from 2009-2011, these increases have been very minor which is impressive in light of the major increases in fuel and labour costs. In 2012, the town introduced a new transportation master plan, Switching Gears, which is focused on providing a sustainable transportation system and integrating key features such as improved cycle and walking infrastructure.

Green development: 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 2011, a total of 33.6% of homes built in Oakville were singles and 66.4% were townhouses (row-dwellings). The general trend since 2002 in Oakville has been a gradual movement toward greater density.

Since the significant downturn in the economy in 2009, building permits issued has rebounded. In 2011, the biggest gains were seen in the commercial sector with 141,844 sq ft of space added which represents a 43.5% increase over 2010. Building complete communities with opportunities to "live, work, play" can make a significant difference in reducing our need to travel further afield, in turn helping us reduce our greenhouse gas emissions. In addition to the positive trends seen in these indicators, the town is also doing its part through the implementation of our Sustainable Green Building guidelines and policies. The town now has three LEED

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certified buildings in its portfolio and all future construction over 500m² is required to meet or exceed this standard.

Community health and green space access: A growing field of research is linking the importance of access to green space and the outdoors to human health. In addition to the exercise opportunities that being outside offers, simply having “green” surroundings has been shown to improve both physical and mental health. Indicators include the town’s “adopt-a” programs, trails and community garden spaces offered by both the town and Bronte Creek Provincial Park.

The town’s Adopt-a-Trail and Adopt-a-Park programs continue to do well with slight increases in 2011 in the number of participants. Also, although the per capita value is decreasing due to growing population numbers, Oakville’s extensive trail system is continually being improved and in 2011, 2 kilometers of trails were added.

In 2011, the number of community garden plots remained the same as 2010, with full registration and a waiting list for those in town. Available plots decreased from 189 to 179. This is due to the loss of 10 plots from Bronte Creek Provincial Park. Those at Bronte Creek are running somewhat under capacity which may be due to their more remote location. An additional program initiated in Spring 2012 was a joint initiative between the town and the Oakville Sustainable Food Partnership to develop a community orchard at Kingsford Gardens. In 2013, the town will also be adding 13 more community garden plots to address the growing demand.

Outreach

The SOER is made available to the public through a number of avenues. Key target audiences include schools, the general public, agencies and government departments requiring detailed information on Oakville’s environment.

Strategies that are incorporated include an SOER page on the town’s website, delivering SOER packages to all of Oakville’s public 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 2012 SOER. In addition, we have added a new double-sided single page report card format to provide information “at a glance”. The one page report card also includes a rating system for each of the key areas to indicate the status of the focus area (improving, worsening or no change). A copy of the draft report card is provided in Appendix B. Staff will also continue to dedicate resources for education and outreach, with a special section of the SOER directed toward 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 integrating the SOER in the classroom. The SOER provides a valuable resource for staff and the community as

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a repository of environmental information and a tool for analyzing trends in key areas over time.

CONSIDERATIONS:

(A) PUBLIC

The SOER provides the community with information to support making 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: State of the Environment report (draft)
Appendix B: State of the Environment report card (draft)

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