



2008



City of Windsor's ROSE:  
**Report On the State**  
of our **Environment**



## Letter from the Mayor

Dear Residents,

I am pleased to present Windsor's first ROSE: A Report on the State of our Environment.

Over the past few decades, environmental issues have been launched to the forefront of public discussion and community concerns. Today, the environment has become one of the top priorities for Canadian citizens, surpassing issues such as health care and international war. Governments are elected to represent the concerns of the people, and as a result, the City of Windsor has created the Environmental Master Plan and a Report on the State of our Environment to address growing environmental concerns.

Through the constant monitoring of scientifically, credible measurements, these two documents will help us construct an effective environmental Implementation Plan, ensuring that Windsor remains a city with a quality of life second to none.

The Council for the City of Windsor has endorsed this initiative, but we can't do this alone. In order to ensure that our environment remains healthy, both residents and businesses alike will have a role to play. Each and every person can play a key role in helping our mutual cause, even if it is something as small as separating garbage from recycling. City Council is committed to moving ahead on the implementation of the Environmental Master Plan and is keen to engage the community through public consultation. An environmental website is under development that will allow the community to get information on new and upcoming initiatives as well as local events. Public surveys and forums will also be available to the public, so that we can work together to build a city that can meet any challenges that come our way.

Looking forward, we must continue to move towards environmental sustainability. We cannot leave it for future generations to fix. This is our responsibility! Through our policies and support of community members and businesses, the City of Windsor will create an environment that our children and our grandchildren will be proud to call home.

With kind regards,

**DRAFT**

Eddie Francis, Mayor of Windsor

## Executive Summary

This Report on the State of our Environment (ROSE) is the first of its kind in Windsor. The indicators used in this report will act as a baseline measurement that will be useful for comparison purposes and for tracking changes and trends in environmental conditions over time. It is proposed that the Report on the State of our Environment be reproduced every four years to monitor trends in the City's environment. It will be important for Windsor to track changes in environmental indicators in order to effectively assess whether the targets in the Environmental Master Plan are being met.

In July 2005, the City of Windsor began developing its first Environmental Master Plan (EMP), in an effort to combine the City's environmental programs, policies and initiatives. In 2007, the final EMP and Implementation Plan were approved by Council, with suggestions for future work based on gaps in service. The completion of the ROSE was one of the first steps outlined in the final EMP approved by Council.



The Report on the State of our Environment is designed to provide a look at environmental conditions for the City of Windsor in 2007, through measurements of certain environmental indicators. Environmental indicators are measurements that are considered to be scientifically credible and representative of certain environmental conditions. In addition, over the coming years the consistent measurement taking of environmental indicators allows us to keep track of trends in the state of the environment, and provides us with a method to measure sustainable development progress.

The indicators that were chosen for this ROSE were discussed with City staff and community partners and are organized under the five goals of the EMP, with a mandate to:

- Improve our Environment;
- Develop Responsibly;
- Conserve Energy;
- Maintain Infrastructure; and
- Make Transportation Efficient and Convenient.

The indicators selected by the City were chosen for their potential to be affected by City of Windsor policies and to show improvement over time.



As discussed in the Implementation Plan for the EMP, environmental reporting will be conducted in collaboration with biannual implementation status reports and an Environment Attitudes Survey (to be completed every four years).

The information obtained from future ROSEs on environmental trends will aid in a series of recommendations for the update of the EMP, and assist in determining if any changes need to be made to Windsor's strategies and policies. The status of the EMP's implementation is to be reported annually to Council members, and action plans will be looked at every four years based on the outcomes of the ROSE and Council priorities.

In addition to the ROSE, the City of Windsor's environmental website will be developed as a tool to expand on the information provided through this report. The website will be updated on a regular basis to allow citizens of Windsor an opportunity to view and track changes to the state of the environment between published reports. The website will also allow City staff a medium to announce new or upcoming initiatives or events to the public. The development of this Report on the State of the Environment will put Windsor in a position as a leader in environmental management and reporting within Ontario.

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## 1.0 Introduction

### 1.1 Background

This is the City of Windsor's first Report on the State of our Environment (ROSE). The ROSE provides a snapshot of environmental conditions in the City for the year 2007. The potential for the development of a Report on the State of our Environment stems from the Implementation Plan included in the City's Environmental Master Plan. In July 2005, the City began the process to develop its first Environmental Master Plan (EMP). The EMP was designed to bring together all of the City's current environmental programs, policies and initiatives and suggest areas for future work based on gaps in service provision. The plan was completed in the summer of 2006 and the final EMP and Implementation Plan were approved by Council in February, 2007.

A Report on the State of our Environment (ROSE) is something that was suggested in the Environmental Master Plan (proposed in Objective Ea) and Implementation Plan. It was suggested that the ROSE be developed and then updated every four years as part of the reporting structure for the EMP.



Since the commencement of the Environmental Master Plan, the environment, as a priority for Canadians, has increased greatly. For example, an Ipsos Reid study conducted in November 2006 shows that for the first time since 1990, the environment is the top priority for Canadians (26%), ahead of issues such as healthcare/Medicare (24%) and international war/conflict (14%).<sup>1</sup> The continued work by the City of Windsor on environmental issues is likely to be received as a positive move in the right direction.

In addition, the development of a Report on the State of our Environment will position the City as a leader in environmental management and reporting in Ontario. Unlike in the United Kingdom, where reporting on the state of the environment is fairly common, it is not often undertaken by municipal governments in Canada.

The purpose of the first Report on the State of our Environment is to provide baseline information to track changes to key environmental indicators over time and provide insight regarding trends and changes to EMP action plans.

### 1.2 Reporting on the State of Windsor's Environment

As discussed in the Implementation Plan for the EMP, state of the environment reporting for the EMP will be complemented by biannual implementation status reports and an Environmental Attitudes Survey (to be completed every four years). This first ROSE establishes a set of baseline environmental indicators for measurement, collecting data, and reporting changes in the indicators on a four-year interval.

Environment Canada defines reporting on the state of the environment as a way to provide "easily understood overviews of important environmental issues with more in-

depth interpretation and extensive data presentation.”<sup>2</sup> A Report on the State of the Environment is a document that tracks changes in key environmental indicators over time.

It will be important for the City to track changes in environmental indicators over time to assess how successfully and how quickly it is moving towards its sustainability goals and to determine whether the targets in the EMP are being met, or if they need to be adjusted based on progression (or regression).

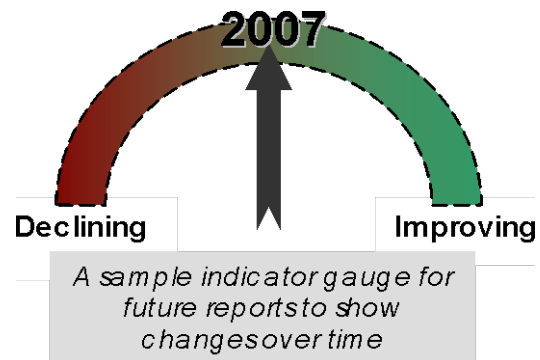
### 1.3 Linkages to the Environmental Master Plan and other City Plans

The ROSE provides strong linkages to the existing, and approved, Environmental Master Plan; for example, the indicators are organized under the five goals in the EMP. As with the EMP, the focus for the ROSE is on indicators that the City has the potential to affect and change over time. The ROSE is also connected to other city plans such as the City's Community Strategic Plan. The ROSE directly supports the fulfillment of the Environment Pillar, **Our Environment: Clean and Efficient**.

- Improve our Environment - preserve and enhance the natural environment and our urban green spaces.
- Develop Responsibly - develop land efficiently, attractively and in ways that protect the environment.
- Conserve Energy - be an energy efficient community.
- Maintain Infrastructure - improve the physical infrastructure, buildings and public structures.
- Make Transportation Efficient and Convenient - provide transportation that enhances mobility and better serves the economic and social needs of all citizens

### 1.4 Indicators

The Report on the State of our Environment includes a number of indicators to track over time. “Environmental indicators are statistics that are scientifically credible and representative of an environmental issue, and can help us to keep track of trends in the state of the environment and measure progress towards sustainable development.”<sup>3</sup> The indicators chosen to be presented in this first ROSE were discussed with a group of City staff and community partners. The indicators included in the Environmental Master Plan were used as a starting point for ideas. A large part of the process to develop the ROSE was spent refining the indicators and deciding what environmental indicators the City would like to track over time.



The indicators included in the ROSE have been grouped and presented in alignment with the five goals in the EMP Air and Water Quality; Healthy Communities; Green Windsor; Efficient Resource Use; and Education and Outreach. While developing indicators to track over time, the Working Group balanced:

- Ease of communication
- Corporate focus/ability to influence
- Strategic focus/ability to highlight progress
- Quality of data/accuracy

The indicators that were chosen focus on the priorities that Council set out for the EMP – namely, to focus on the actions of the corporation and items that the City can control, in the context of larger environmental change. The focus was also kept as “local” as possible; the Working Group has focused on indicators that reflect the health of Windsor’s environment. Therefore, there are linkages between local actions and conditions to national priorities and issues such as climate change.



The year 2007 was chosen as the baseline year. The data for the indicators is based on 2007 data when available. When 2007 data was unavailable, the closest year’s data was used.

Over time, the intent of the ROSE is to track changes in Windsor’s environment. After the baseline year, the Working Group proposes using an image such as an indicator gauge to help future readers visualize relative changes in the environment.

### ***1.5 Process to Develop the Report on the State of our Environment***

The Report on the State of our Environment was developed between 2007 and 2008 with the assistance of City of Windsor staff, Council and community partners. A key priority for the City of Windsor’s Council is forging and reaffirming partnerships. Therefore, members of the University of Windsor, EnWin and Essex Region Conservation Authority were invited to participate in the ROSE Working Group.

## 2.0 Improve Our Air and Water Quality

*To be proactive by partnering with community groups, industry and other levels of governments to improve Windsor's air and water quality*

### 2.1 Background

During the development of the City's Environmental Master Plan, air quality was the most frequently heard environmental challenge facing the City of Windsor. When asked what the single-most important environmental issue facing Windsor was, over 66% of telephone respondents to the Environmental Attitudes Survey responded "air quality."<sup>4</sup> Local industrial pollution, cross-border emissions and emissions from transportation corridors are some of the sources of air



pollution in the City. Transportation-related air quality issues remain paramount in the City; the Windsor-Detroit Gateway is the busiest international trade corridor in North America and is Canada's largest border crossing. Over 16 million cars and trucks cross the Windsor-Detroit Gateway every year.<sup>5</sup> Health and lifestyle concerns about poor air quality were raised and residents and staff turn to the City for leadership to improve the City's air quality.

Water quality of the City's waterways (i.e., lakes, rivers, streams) was the second most-frequently reported issue during a 2005 telephone survey of Windsor residents' attitudes towards the environment. The City of Windsor's northern boundary is the Detroit River, also part of Canada's border with the United States. The river is about 51 km long and is part of the Great Lakes system, linking Lake St. Clair with Lake Erie. The Detroit River's Canadian tributaries include Turkey Creek, Little River and Canard River. Good air and water quality are fundamental to the health of Windsorites and its ecosystems. The indicators associated with air and water quality highlight the importance of these issues to the community.

### 2.2 Key Indicators

#### Air Quality

Air quality is important for healthy cities. The Air Quality Index (AQI) measures air quality and the degree of smog days caused by Windsor's daily aggregated activities. The better the air quality index, the healthier Windsor is and the fewer hours per day that residents are exposed to harmful air pollution.

- In 2007, there were 274 days when the Air Quality Index (AQI) for Downtown Windsor was good or very good range.<sup>6</sup>
- Windsor West had 276 days when the AQI was good or very good range.

## Ground Level Ozone

Ground level ozone is contributed to emissions from burning fossil fuels, coal plants, factories, evaporated gas, paints and solvent fumes. Ground level ozone is the primary air pollutant responsible for smog advisories. Ozone irritates the lungs, and can cause significant health problems for people at risk.

- In 2007 there were 119 exceedances for Downtown Windsor.  
*Note: Each exceedance equals one hour.*
- Windsor West had 103 exceedances.

## Combined Sewer Overflows

The number of storms and severe wet weather events is increasing in Ontario. It is important for sewers to properly store and convey waste, so it does not end up in lakes and streams. The fewer sewer overflows that Windsor experiences, the less wastewater that ends up in our natural environment.

All bypass events received some level of treatment before discharge.

- Lou Romano Water Reclamation Plant (2007):  
960,700 m<sup>3</sup> (1.76%) or 57 plant bypass events.
- Little River (2007):  
804,429 m<sup>3</sup> (4.8%), 38 plant bypass events.

## Quality of Wastewater

Treating wastewater is vital for Windsor's water quality and quantity. Waste water treatment removes particulate matter/sediments, organic and inorganic pollutants. A sustainable treatment process is when there are limited discharges of sewage involved.

- Lou Romano (2007): *Data shows percentages of removal efficiency achieved.*  
69.8% Biological Oxygen Demand (BOD)  
82.7% Suspended Solids (SS)  
84.4% Total Phosphorus
- Little River (2007): *Data shows percentages of removal efficiency achieved.*  
97.7/97.4% Biological Oxygen Demand (BOD) 97.5/98.1% Suspended Solids (SS)  
94.2/96.3% Total Phosphorus

## Quality of Municipal Drinking Water

Drinking water is important to the health and well-being of all Windsorites. Maintaining and providing clean and safe drinking water is of the utmost importance to the City.

- In 2007, there were 25 boil water advisories due to damaged or broken water mains or service lines affecting specific locations only.

## Amount of Wastewater Treated

The amount of wastewater being treated indicates the amount of water each household is using. A lower amount indicates better water conservation on the part of the community. Additionally, this number is impacted by the stormwater collected by combined sewers and infiltration into deteriorating sewers.

- In 2007, there were 711 litres of wastewater treated per person per day in Windsor.

## Water Consumption

A lower amount of water consumption indicates better water conservation on the part of the community as a whole.

- In 2007, 685 litres of municipally treated drinking water per capita, per day.

**Detroit River Indicator**

The Detroit River Canadian Cleanup (DRCC) is a community-based partnership of industry, businesses, government, academics, environmental and community organizations that work collectively in helping to improve the health of the Detroit River.

- In 2007, the Detroit River was reported to suffer from 10 out of the 14 possible beneficial use impairments.

No.	Beneficial Use Impairment	Status
1	Restrictions on fish and wildlife consumption	Impaired (fish)
2	Tainting of fish and wildlife flavour	Unknown
3	Degradation of fish and wildlife populations	Impaired
4	Fish tumours or other deformities	Impaired
5	Bird or animal deformities or reproductive problems	Impaired
6	Degradation of benthos	Impaired
7	Restrictions on dredging activities	Impaired
8	Eutrophication or undesirable algae	Not impaired
9	Restrictions on drinking water consumption, or taste and odour problems	Not impaired
10	Beach closings	Impaired
11	Degradation of aesthetics	Impaired
12	Added costs to agriculture or industry	Impaired
13	Degradation of phytoplankton and zooplankton populations	Unknown
14	Loss of fish and wildlife habitat	Impaired

**2.3 Linkages to What's Being Done at the City of Windsor**

Some of the ongoing local initiatives in Windsor to combat air pollution and improve the health of the region's airshed include:

- **Anti-Idling By-Law** – By-law #233-2001 to Prohibit Excessive Idling of Vehicles and Boats was passed on June 18, 2001. According to this by-law, any person who causes or permit a vehicle or boat to idle for more than five minutes in an hour is guilty of an offence.
- **Community-Based Strategic Rail Study** – Proposal: Increased trade flows through the City of Windsor bring some negative impacts, most notably traffic congestion, decreased road safety and poor air quality. Review of the environmental impacts of present and future rail operations is included in the scope of the Community-Based Strategic Rail Study (Project).



- **Clean Air Day** – Transit Windsor participated in Clean Air Day on June 8, 2005 alongside the Canadian Urban Transit Association (CUTA) and a number of other government, business and health organizations to encourage Canadians to consider sustainable transportation as their contribution to a healthier environment. Clean Air Day, is part of Environment Week (June 1-7); it started some years ago in several Canadian municipalities as a day of grassroots initiatives to get out of their single-occupant vehicles and walk, bike or ride, as the first step in a commitment to use sustainable transportation and ensure an improved quality of life.
- **All Way Stop Committee** – In 2005, the All Way Stop Review Committee and City Administration made some minor changes to the City's existing All Way Stop Policy to make its policy consistent with the trends in other Ontario municipalities. These changes include the ban of all new all way stops on transit routes. All way stops will not be used as a speed control measure, and all way stops will not be allowed within 250 metres of other all way stops or traffic signals.
- **International Traffic Initiative:** City Council continues to strive to address the environmental concerns associated with international traffic.
- The creation of a **Southwestern Ontario Clean Air Council** is under consideration by the initiating municipalities of London, Woodstock, and Windsor.
- Transit Windsor is purchasing **18 hybrid buses** for 2009 which will reduce the quantity of fuel used by the City and help to improve the air quality.

### Some of the ongoing local initiatives in Windsor to improve water quality include:

- A major responsibility of the Pollution Control Laboratory is enforcing the **Sewer Use By-Law**. This by-law regulates discharges to sanitary and storm sewers. It also mandates the report of spills to City sewers and the completion of a Waste Survey Report by industry.
- The three-phased **Riverfront Pollution Control Planning Study** investigated direct municipal discharges to the Detroit River along the riverfront area in the City of Windsor north of Riverside Drive, and to develop a pollution control strategy for the Windsor Riverfront District. The recommendations from this study have been completed or are underway.
- The City's 2003 review **Solid Waste Management Master Plan** focused on providing recommendations regarding the future management of waste diversion, summarizing public acceptance and the economic implications of implementing programs to achieve Best Practices Recycling Recovery Rates, as well as on assessing current organic waste composting operations and the feasibility of expanding these operations to include household organic waste. The Essex-Windsor Solid Waste Authority (EWSWA) responsible for managing this plan – will conduct the next review of the Master Plan in 2008.
- The City spent \$110 million on the water treatment plant upgrade to secondary treatment using cutting-edge technology such as Biological Activated Filter (BAF) process and Ultraviolet Disinfection as part of the **Lou Romano Water Reclamation Plant Upgrade & Expansion Project**. The commissioning of the plant upgrades continued in 2008.
- The City is actively remediating Grand Marais Drain/Turkey Creek with key stakeholders.
- The City operates a **wastewater collection system** comprised of "separate" and "combined" sewers. Combined sewers have a tendency towards overflow, meaning that in periods of significant rainfall, the capacity of the combined sewer may be

exceeded. When this occurs, regulators are designed to let the excess flow, which is a mixture of storm water and sanitary wastes (CSO), to be discharged directly to the Detroit River. Combined sewer overflows are sometimes necessary to protect either the City of Windsor wastewater treatment infrastructure or to prevent basement flooding.

- The City of Windsor is conducting a **Downspouts Disconnection** program in an attempt to divert clean rainwater (that is ideal for use in gardens, and lawn care) before it reaches the sewers. Disconnecting downspouts reduces the amount of stormwater entering the sewer system, reducing the risk of combined sewer overflows. The City of Windsor disconnected the downspouts of 121 homes in 2007.<sup>7</sup>
- Windsor's **Sewer Use By-law** gives the City the right to prohibit, regulate and inspect the discharge of sewage into the municipal sewerage system.
- The **Essex Region Conservation Authority** (ERCA) manages the natural resources of the Essex Region in partnership with the City of Windsor, County of Essex, the Township of Pelee Island, and the Province of Ontario. By the year 2020, ERCA is committed to achieve a sustainable, balanced environment with healthy watersheds, highlighted by clean creeks and rivers, thriving natural areas and productive agricultural lands. ERCA's approach to managing natural resources is on a watershed basis.
- The City of Windsor continues to collaborate with the Great Lakes Institute for Environmental Research at the University of Windsor. Several environmental studies are initiated through this partnership including bio-monitoring of the treated waste water.

## 2.4 Trends

This is the City of Windsor's first Report on the State of our Environment. Therefore no trends in air and water quality have been established. The Report on the State of our Environment in 2012 will track changes to the baseline indicator information (Air and Water Quality Key Indicators) and will publish trends.



## 3.0 Create Healthy Communities

*To enhance the environment of our neighbourhoods by fostering healthy lifestyles and integrating environmentally friendly transportation systems*

### 3.1 Background

The quality of life of Windsorites is affected by scale of our City's neighbourhoods, the services and amenities they have access to, the walkability of our urban form and the transportation options available. Council is committed to designing a City that maximizes quality of life, while promoting healthy lifestyles. The Land Use preamble to the City's current Official Plan states that "...Council will manage development through an approach which balances environmental, social and economic considerations. As such, the Land Use chapter of this Plan promotes a compact urban form and directs compatible development to appropriate locations within existing and future neighbourhoods." Many of the indicators in this section relate to the creation of sustainable neighbourhoods.



...Council will manage development through an approach which balances environmental, social and economic considerations. As such, the Land Use chapter of this Plan promotes a compact urban form and directs compatible development to appropriate locations within existing and future neighbourhoods." Many of the indicators in this section relate to the creation of sustainable neighbourhoods.

### 3.2 Key Indicators

#### Trails

Populations that walk, bike, and participate in outdoor sports, have a more active lifestyle than those that do not. Cities with active, engaged citizens are healthier, vibrant and economically competitive places.

- In 2007, Windsor had 47.7 km of bike lanes within the pavement, 37.3 km of signed routes, 64 km of multi-use trails, and 35 km of walking trails.

#### Density

Urban density is an indicator of how sustainable a city's built form is. Density influences the design and form of the city and how people interact within it and effectiveness of transit.

- In 2007, there were 1478.4 people (population density) per sq. km<sup>8</sup>. in Windsor

#### Commuting

Commuting rates determine the number of kilometres driven, in total, by Windsorites. The greater the number of kilometres driven, the higher the impact on air quality and congestion, which impacts the health of residents and the environment.

- In 2007, Windsorites traveled 2,358,398,501 vehicle kilometres

### Illness Costs of Air Pollution

The Ontario Medical Association has linked poor air quality to specific financial and health costs. Their report projects increases in these numbers to 2026.

- The Ontario Medical Association estimates that in Essex County, there were 260 premature deaths, 900 hospital admissions and 2,750 emergency visits associated with poor air pollution in 2005.

### Sustainable Construction

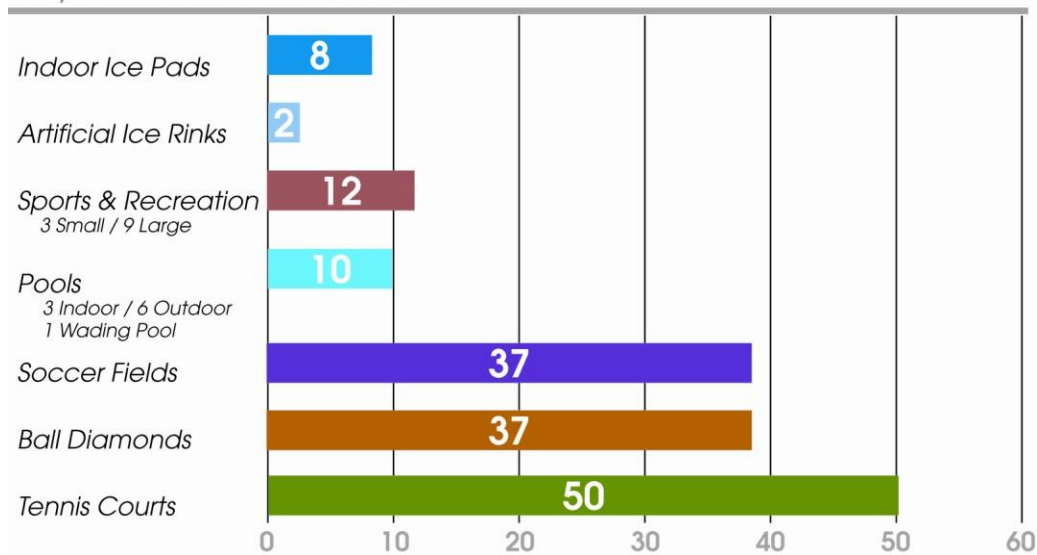
Green buildings and design, which includes LEED, Green Globes and other rating systems, are fundamental to energy-efficient, environmentally-sustainable development in Windsor. Sustainable construction practices help save water, reduce green house gas (GHG) emissions, and contribute to the health and quality of life of communities.

- In 2007 one building was proposed to be constructed to LEED standards. This building owned by Union Gas was constructed in 2008.

### Sport and Recreation Facilities

Sports and recreation centres are important places for people to participate in activities they enjoy the most. Offering a wide variety of programs and services improves the participation rate and therefore the health and vitality of the communities.

City-Owned Facilities as of 2007



### Participation Rate in Registered Programs

The number of people participating in programs is an indication of an active community. The more people that participate, generally the more active, involved and healthier the community is.

- In 2007, 7.1% of Windsor's population participated in directly provided registered programs, as a percentage of the population.

### 3.3 Linkages to What's Being Done at the City of Windsor

In 2001, The City developed a Bicycle Use Master Plan (BUMP). BUMP, a product of an extensive public consultation program intended to be a statement of the City of Windsor's commitment to develop a visible and connected cycling network that is easily accessible, safe and actively used by all types of cyclists. The Plan calls for a cycling network of bike lanes, multi-use trails and signed bike routes, and provides design guidelines along with specific strategies for improving cycling awareness, the cycling-transit link and end-of-trip facilities.

As part of the Transit Master Plan, "The Way Forward" is an initiative to seek public input on future improvements to bus services. The process will result in a Policy Document supported by all community stakeholders and utilized to govern the future development of public transit services. A Ridership Growth Strategy will detail how transit services will be improved and ridership targets met. Supporting policy and initiative areas identified for study are transit oriented land use (TOD - Transit Oriented Development), and Transportation Demand Management (TDM) and Intelligent Transportation Systems (ITS) initiatives. Recommendations will include service and technical strategies to reduce the community's auto dependence, which will in turn reduce petroleum fuel consumption and thus greenhouse gas emissions.

The Windsor-Essex County Environment Committee (WECEC) is a group of environmental-related organizations that meet monthly to ensure the ongoing health and stability of our local environment.

Environmental health is often defined as the link between changes in the environment and their effects on human welfare. In recognition of this link, the City has a number of by-laws and programs in place including:

- By-law 127-2003: A By-law to Regulate Standing Water in the City of Windsor
- Larviciding program and additional funding to fight West Nile Virus
- Move to Green Windsor section Stoop and Scoop By-law: Part IV of a By-Law 245 - 2004 (for the Registration and Licensing of Dogs and for the Control of Dogs Generally Within the City of Windsor)
- The Clean City Committee is a non-profit organization dedicated to improving Windsor's environment and economy through public education, community beautification, graffiti abatement and litter awareness programs.
- Windsor Seen: This document serves Municipal Urban Design Agenda for the Windsor community. The ideas and projects included in the plan are intended to ensure that Windsor is a competitive location: attractive to live in, move to, invest in, or visit.
- Riverfront improvements: The City of Windsor and the Essex Region Conservation Authority have completed shoreline improvement projects along the Detroit River. The City of Windsor has also completed the Riverside Drive Vista Environmental Assessment; including the addition of bike lanes.



- **Grade Separation Projects:** The Walker Road Grade Separation project is completed improving the traffic congestion caused by train delays. Bike lanes were also included as part of this project. Engineering design is currently underway for a grade separation project at Howard Avenue and CPR tracks. This project is anticipated to begin in 2009.
- **Sidewalk policy:** Our policies support the importance of sidewalks as part of a balanced, multi-modal approach to transportation planning. As a result, the City of Windsor's Official Plan includes policies to ensure safe and convenient pedestrian movement.

### **3.4 Trends**

This is the City of Windsor's first Report on the State of our Environment. Therefore no trends have been established. The Report on the State of our Environment in 2012 will track changes to the baseline indicator information (Section 3.2) and will publish trends about the health of Windsor's communities.

## 4.0 Green Windsor

*To protect and enhance the City's Greenway Systems*

### 4.1 Background



Windsor is blessed with a number of rare and unique ecological natural areas; examples of these areas include; Peche Island Natural Park, the Carolinian Oak Stand in Memorial Park and the Ojibway Tall Grass Prairie Complex which includes Ojibway Park, Joy Woods, Black Oak Heritage Park, Tall Grass Prairie Park and the Spring Garden Area of Natural and Scientific Interest. The complex also includes the Ojibway Prairie Provincial Nature Reserve (owned by the Province of Ontario but managed by the City's Department of Parks and Recreation). The City's riverfront,

much of it recently reclaimed as recreation and park lands, is also a unique feature. The term "Greenway System" is used in the Official Plan as a term to define "a planned network of natural environment and recreational elements." These include community and regional parks, recreation ways, natural heritage sites and waterfront recreation areas. For consistency purposes, this term has also been adopted in the EMP and has been expanded to include street trees, the City's urban forest and other greenspaces and green infrastructure within the City limits.

As Windsor and the surrounding areas grow, it will be important to improve the Greenway System by strengthening existing linkages and creating new ones. The benefits of achieving improved connectivity include:

- Increased opportunities for biodiversity because of increased gene flow among populations
- Provision of a mix of habitats that are needed for certain species' life cycles
- Pollution abatement
- Safe recreation areas

The indicators associated with Green Windsor create a baseline of the condition of our greenway system for comparison in 2012.

### 4.2 Key Indicators

#### Natural Areas

The amount of percentage of natural areas is one indicator of the City's ecological integrity. Natural areas help to improve air quality, help prevent flooding, store carbon, reduce water pollution impacts, and provide critical habitat for various urban flora and fauna.

- In 2005, Windsor had 5.7% of its land as natural areas; this includes woody areas, wetlands, alvars and prairie.

#### Natural Heritage

Natural heritage lands are lands with healthy, intact ecosystems that support the lifecycles of various species.

- Windsor has 595 total hectares (4.1%) of land designated as natural heritage in the Official Plan.

### City Owned Trees

Trees play an important role in the health of our city. Trees filter air and water pollution, and help prevent severe flooding. The more trees there are, the healthier the social and natural environment for us and our future generations.

- There are between 65,000 and 75,000 street trees maintained by the City of Windsor. (This figure does not include park trees)

### Amount of Maintained and Natural Parkland Available to the Public

The higher the amount of natural parkland available to the public, the greater the degree of exposure and interaction between the public and nature. Other benefits include opportunities for people to enjoy outdoor activities and recreation.

- In 2007, there were 746 hectares of park land in Windsor.

### Pesticide Use

Pesticides are harmful to the environment and to human health. They impact the quality of life of communities. The rate of pesticide used is one determinant of toxicity exposure for each community.

- In 2008, the total volume of pesticides used by City of Windsor was 10 Litres (not including golf course use).

### Brownfield Conversion

Brownfield sites are former commercial or industrial lands that are now underutilized land areas; they also represent an important opportunity to reuse these lands in a sustainable way for the community.

- Total land area of Brownfield sites remediated to healthy/clean use and number of hectares remaining to be remediated: Data Pending.

## 4.3 Linkages to What's Being Done at the City of Windsor

- The City's Official Plan is currently under review. The revised Official Plan will include policies for greenway system protection and enhancement, including a complete Natural Areas Policy Review. (<http://www.citywindsor.ca/002220.asp>)
- The City introduced By-Law #231-2005 to protect Natural Environment Areas in the City of Windsor. It is a by-law to protect natural areas regardless of ownership status (public/private). Natural Environment Areas include Environmental Policy Areas, Natural Heritage, and Candidate Natural Heritage Sites. This by-law covers the protection of trees and natural vegetation that includes woodlands, prairies and wetland areas.
- Parks and Recreation provides residents and visitors with over 1,200 hectares of green space in 180 parks featuring gardens, over 35 sculptures, numerous fountains, playing fields and picnic areas. The Department is also responsible for beautification efforts such as planting formal gardens, boulevards and the riverfront with thousands of flowers, plants, and shrubs. The Windsor Trail, an interlocking network



of biking and walking trails, currently extends along the Detroit River and links many neighbourhoods. Parks and Recreation is also responsible for the care and maintenance of the urban forest with over 65,000 street trees and an additional 35,000 trees in parks and public spaces.

- The City of Windsor has initiated a Master Planning Study and Class Environmental Assessment Master Servicing Study to determine appropriate land use for the former Sandwich South lands, this land is approximately 2,300 hectares in area and includes the Windsor Airport.
- A number of active community groups partake in clean ups, monitoring and tree planting, including One Million Trees - a coalition of community partners whose goal is to plant one million trees over ten years. It has an environmental and educational component. (<http://www.citywindsor.ca/000360.asp>)
- In 2006, the City of Windsor passed By-law 35-2006 stipulating limitations on pesticide use.
- The City of Windsor is proud of their plant and tree nurseries. Growing trees from seed or saplings within the City of Windsor reduces the long-distance transport of larger heavier trees.

#### **4.4 Trends**

This is the City of Windsor's first Report on the State of our Environment. Therefore no trends about the City's Greenway system have been established. The Report on the State of our Environment in 2012 will track changes to the baseline indicator information (Section 4.2) and will publish trends.

## 5.0 Use Resources Efficiently

To increase resource efficiency, conserve water and energy and reduce waste

### 5.1 Background

In the Environmental Master Plan, resources refer to energy use (at a household, business, and municipal level), the amount of potable water we use; waste we generate and fuel consumption. The Environmental Master Plan contains a series of actions to reduce our use of resources. Reducing our use of resources in Windsor has a multitude of benefits: from less waste going to



landfill sites to reduced greenhouse gas emissions that contribute to global climate change to lower demands on our municipal water treatment system. The indicators listed below, when reviewed together, give a baseline perspective of the use of resources by Windsorites; this will be useful for comparison purposes.



### 5.2 Key Indicators

#### Energy Use

Energy use per capita from non-renewable energy sources is one means of measuring consumption. Home heating and cooling is one of the largest sources of energy use. Energy use indicates how energy-efficient and sustainable a community is. An ethic of stewardship helps reduce energy use.

- Community sector (residential, commercial and industrial)  
3,243,633,298 annual kWh in 2005  
Population served in 2005: 218,465
- Corporate electricity use: 102,123,419 annual kWh in 2005

#### Waste

The higher the waste diversion rate, the more waste that is diverted from landfill. Preventing waste from reaching landfill through waste management benefits our health and the environment.

- The Residential and Municipal solid waste diversion rate in Windsor-Essex for 2007 was 34%

#### Fuel Usage

Fuel causes negative effects on air and negative impacts on human health. As vehicles are replaced, consideration should be given to fuel efficient types of vehicles and the right size of vehicles. In the meantime, proper maintenance of the vehicles will impact total fuel usage.

- In 2005, Windsor used litres of fuel in City vehicles on an annual basis:  
Gasoline: 790,286 L  
Diesel: 3,990,253 L  
Propane: 514,793 L  
Compressed Natural Gas: 2,119 L



## Greenhouse Gas Emissions

Greenhouse gas emissions (including carbon dioxide, nitrous oxide and methane) are linked to increases in human influenced climate change. High levels of greenhouse gases also contribute to poor air quality. The total emissions are one indicator of the sustainability of the city's operations. The greenhouse gas inventory includes electricity and natural gas consumption, fuels required for vehicles and waste disposal.

- The Corporation of the City of Windsor emitted 44,425 tonnes of total annual greenhouse gas emissions in 2005
- The community of Windsor emitted 3,690,224 tonnes of greenhouse gases in 2005.

### 5.3 Linkages to What's Being Done at the City of Windsor

- The Essex-Windsor Solid Waste Authority (EWSWA) provides waste disposal, transfer and waste reduction programs and facilities for its eight member municipalities. These include Essex-Windsor Regional Landfill, two Transfer Stations and affiliated Public Drop Off Depots, Recycling Collection, the Essex-Windsor Recycling Centre, three compositing sites and two Household Hazardous Collection Centres.
- The Household Chemical Waste (HCW) Depot and Reuse Centre where residents can drop off, free of charge, paint, fuels, pesticides, home repair and automotive waste, as well as thermometers, pool chemicals, glues, adhesives, driveway sealer, fluorescent lights, and batteries.
- In an effort to reduce costs and energy use by the municipality, an energy audit has been completed for all facilities and a proposal for a Corporate Energy Management Plan has been developed.
- The City has joined Partners for Climate Protection, a network of 173 Canadian municipal governments that have committed to reducing greenhouse gases and acting on climate change, and is working to fulfill the five milestones associated with that program (<http://www.sustainablecommunities.fcm.ca/partners-for-climate-protection/>). The City of Windsor has completed Milestone 1 – the inventory of greenhouse gases.
- The City of Windsor is converting all traffic signals over to LED technology as the old bulbs fail.

### 5.4 Trends

This is the City of Windsor's first Report on the State of our Environment. Therefore no trends about resource use have been established. The Report on the State of our Environment in 2012 will track changes to the baseline indicator information (Section 5.2) and will publish trends.

## 6.0 Promote Awareness

To foster an engaged community and staff that appreciates and protects its local environment through active communication

### 6.1 Background

Through the development and implementation of the City of Windsor's Environmental Master Plan, it has shown leadership on a number of environment initiatives. One of the major intentions of the Environmental Master Plan is to foster a community that is actively engaged in environmental issues and proud of our City's environment. The City is working to develop an environmental education strategy to focus on individual actions that staff, council and contractors can take to improve the City's environment. The indicators associated with this goal will gauge how effectively the City is in reaching out to, and engaging residents, businesses and staff through education and awareness programs.

### 6.2 Key Indicators

#### Web-Based Outreach

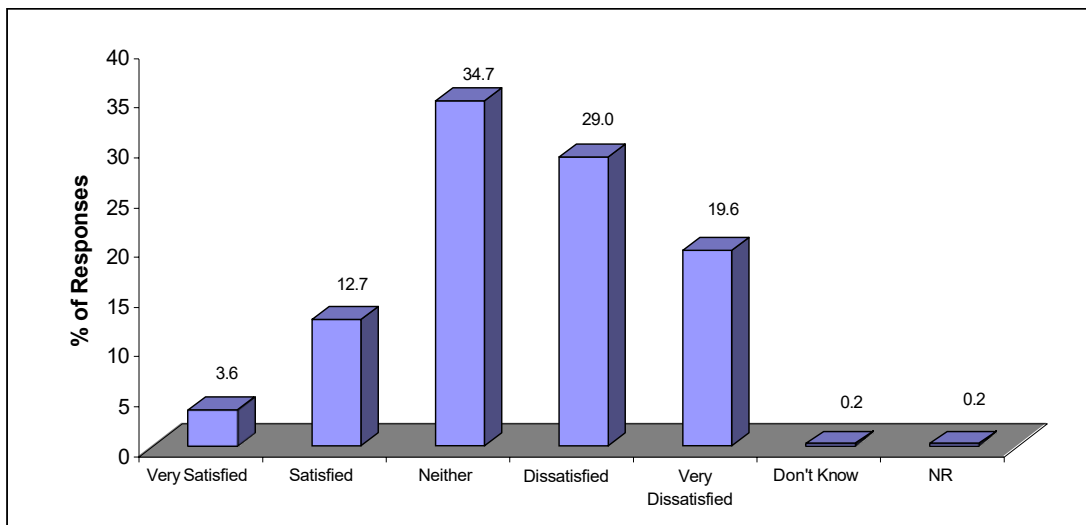
The internet is a network of users, and an important and evolving form of communication. The number of people who visit the Windsor website is one indicator of the level of public interest in Windsor's programs and projects. It can also indicate how aware people are of the City's programs/initiatives.

- A new environmental website will be launched shortly after the publication of this report (early 2009). The number of hits on the City's Environmental Master Plan website will be tracked in the future.

#### Attitudes to the Environment

The level of satisfaction with Windsor's environment, as measured by a City-wide survey.

- In a 2005 survey<sup>9</sup>, forty-nine percent of respondents stated they felt dissatisfied or very dissatisfied with the environment in the City of Windsor. Only 16.3 % of the respondents noted they were satisfied or very satisfied.

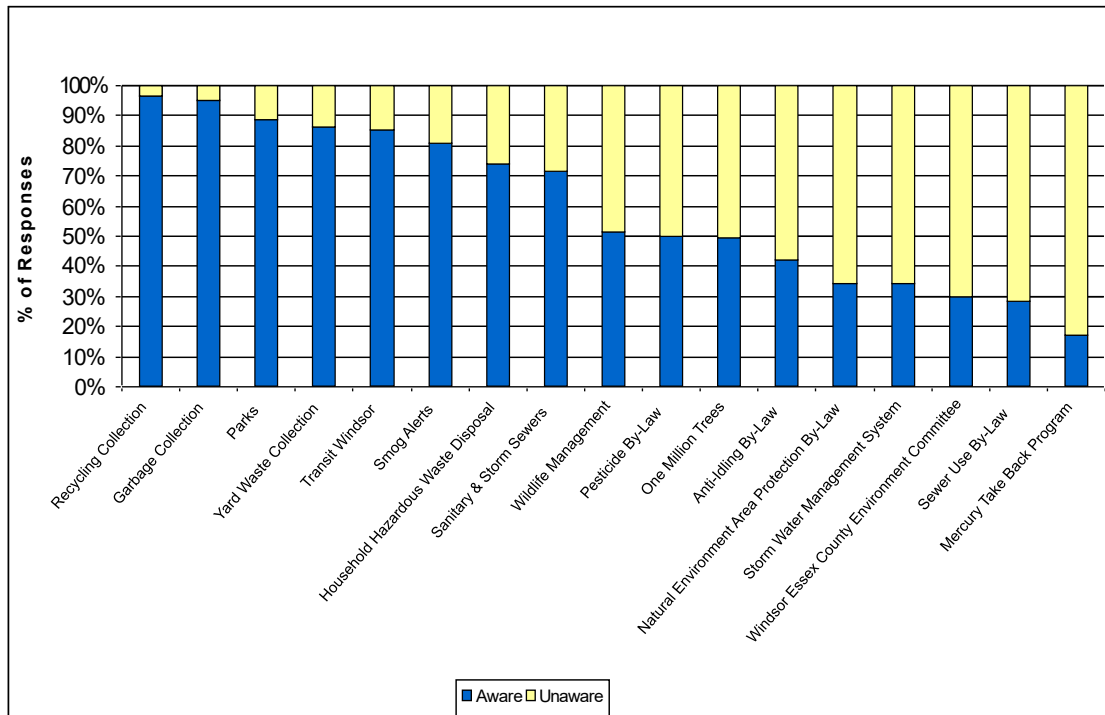


Overall Satisfaction with Windsor's Environment (n=504)

### Awareness of Environmentally-Related Programs

The awareness of environmentally-related programs and services, as measured by a City-wide survey

- During a 2005 telephone survey respondents were read a list of current environmental programs or services the City is administering and asked whether or not they were aware of them. The three programs with the highest level of awareness were Recycling Collection (96.4% awareness), Garbage Collection (95% awareness), and Parks (88.5% awareness). The three programs with the lowest levels of awareness were the Mercury Take-Back program (17.3% awareness), the Sewer Use By-law (28.6% awareness), the Windsor Essex County Environmental Committee (30% awareness).



Level of Awareness for City of Windsor Programs and Services (n=504)

### 6.3 Linkages to What's Being Done at the City of Windsor

- The City offers a comprehensive website with information about programs, policies, consultation events and community calendars: <http://www.citywindsor.ca/>
- Transit Windsor and the City participate in educational events such as Earth Day every April.
- The City advertises public consultation events such as Environmental Assessments and other projects: <http://www.citywindsor.ca/000881.asp>
- In 2008, the City hired a full-time Environmental Coordinator to implement the Environmental Master Plan
- Work is ongoing to develop a new detailed website related to environmental and energy education and workshops for staff and the community.
- To promote energy conservation, the City of Windsor has participated in Earth Hour and the Black-Out Challenge.

### **6.4 Trends**

This is the City of Windsor's first Report on the State of our Environment. Therefore no trends have been established for education and outreach activities. The Report on the State of our Environment in 2012 will track changes to the baseline indicator information (Section 6.2) and will publish trends.

## Conclusions and Next Steps

*This document is the first of its kind for the City of Windsor. The information provided in this ROSE is considered baseline material that will be useful for comparison purposes. It is proposed that the Report on the State of our Environment be reproduced every four years to monitor trends in the City's broad environmental indicators.*

The **trend information** may assist with the future refinement of targets and a series of recommendations for the update of the Environmental Master Plan. The status of the EMP's implementation will be reported to Council annually, and the action plans will be revisited on a four-year cycle, based on the outcomes of the ROSE and Council's priorities. Changes in direction of indicators, as published in the ROSE may influence any EMP revisions or priority setting.

The **City of Windsor's environmental website** will be developed as a tool to expand on the information provided in this report. The website will be updated regularly allowing the citizens of Windsor an opportunity to view changes to the state of the environment between published reports. The website will also be used to announce new or upcoming initiatives or events.



# Conclusions and Next Steps

## Appendix A: References

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