Green. It’s the colour of nature. It’s the symbolic colour of growth. It’s the colour of environmental awareness and stewardship. Green is the colour of our signature tree logo. In London, we celebrate our identity as the Forest City and support the protection of our rich natural, cultural, recreational and aesthetic heritage.

But we need to do more.

The climate is undergoing some notable changes that are affecting how we live and will affect how we will grow. These are the facts and they are undisputable.

We know that as a city we will grow in the next 50 years. We need to be smart about how we grow to ensure we protect those elements of our city that are of most value to us.

We have heard from you that London is a great city. One of the many things that you said makes London such a great city is our unique natural environment that contributes to our high quality of life.

London sits in the Carolinian Forest, which contains the fragmented remnants of one of the most biologically diverse forest ecosystems in the temperate world. Our city’s founding location at the Forks of the Thames was chosen not only for the water supply and river transport, but also for the rich forest and soils that now support our Forest City and a booming agricultural economy. Where else in the province can you drive 25 minutes in any direction from the centre of the City and are in the heart of prime agricultural land?
This is the time for London to “think globally, act locally and plan bioregionally” (Reed Noss 2004). We need to plan and ensure as a city that we are “future ready” by taking steps today to ensure future generations will enjoy a healthy life in our city.

“Think globally, act locally, and plan bioregionally.”

– Reed Noss, 2004

What We Heard...

It comes as neither a shock nor a surprise that when the responses from the ReThink input sessions were analyzed, 45% of you listed public parks, recreation facilities and green spaces as being highly valued. In London, we have come to appreciate the rich surroundings we find ourselves in. Through both the engagement process and the recommendations from other city studies, several “green” themes emerged:

The Forest City has an urban forest that is important to everyone - neighbourhoods, businesses, industry, and wildlife. The urban forest requires strong protection and wise management given the recognized aesthetic, environmental, social, psychological, recreational, and economic values of forests, estimated to be worth $5 billion.

Green development practices should consider the ecological footprint that development creates and take action to reduce it. Mixed use and mixed density development can also reduce water and sewer infrastructure, transportation energy use and reduced emissions, by providing services within walking distances and supporting higher-order public transit. Green development practices should also allow space for trees and tree cover.

New buildings need to be “Future Ready” now by embracing principles that enable our built environment to capitalize on new digital communications, on renewable energy, electric vehicles and improved energy efficient building design. When looked at through full-cost accounting principles, “Future Ready” new buildings also provide a net economic benefit.

Consider the integration of “green” systems and technologies such as district energy systems, green buildings, stormwater management facilities, planted street trees, and permeable pavement.
Our river is rich in biological diversity, with more than 90 species of fish, 30 species of mussels and 30 species of reptiles and amphibians. These are more species than any other river in Ontario.

London is fortunate to have an inter-connected and accessible park system that borders many of our creeks and the Thames River. Parks and recreational trails achieve the protection, maintenance and enhancement of the rivers and creeks, and provides several interrelated benefits, such as riverbank protection, flood plain management, active transportation, human wellness and natural heritage corridor protection.

Green infrastructure is an interconnected network of natural and engineered green features in an urban context to maintain the ecological function at a variety of scales. These green elements are designed by humans to mimic nature in function, or to strive to reduce our impact on ecological systems. Natural green elements include all components of the natural heritage system.

Are naturally-occurring plant or animals in danger of extinction or of disappearing from the province. This biodiversity - the variety of different habitats, and types of plants, animals, fish, insects - is in trouble. Species can become at risk due to a number of reasons, including habitat loss, pollution, changing land use activities, and the spread of invasive species. The Province has identified over 160 species in Southwestern Ontario as species at risk.

A sustainable or resilient London – one where environment, economy and community are considered equal. This is referred to as the “triple bottom line”. This will require the integration of results from several studies and recommendations that have already been completed by the City, and several other studies that are underway. Combined, these efforts will result in a more resilient City, able to respond to changing environmental pressures, to changing economic pressures and to the strengthening of neighbourhoods in London.
Source water protection policies will be necessary to address existing and potential threats to our well-head protection areas surrounding the Hyde Park and Fanshawe well fields that are used as back-up water supplies.

Retrofitting existing commercial and residential buildings is the most cost-effective way for London to reduce energy use and the associated greenhouse gas and smog-forming emissions from using energy. Additionally, retrofitting buildings provides the economic benefit of job creation and reduced energy bills, in addition to every tonne of carbon dioxide that is avoided. With the exception of maintaining a healthy and sustainable urban forest, retrofitting existing buildings is also one of the most important in terms of the magnitude of emission reductions that can be achieved when compared to other strategies.

London's geographic location, surrounded by productive farmland, is a natural attribute from which we have always benefited. We are now strengthening those rural ties which will spur the marketing of locally produced farm-fresh food. Providing more opportunities to grow more food in London and providing more outlets for distribution of these products through farmer's markets and farm-gate operations has many interrelated benefits.

We use energy for everything we do. Home heating, cooling, vehicle transportation, pumping and treating water are just a few examples. We therefore need to consider how best to reduce our energy use and conserve what we have, given rising energy prices, fluctuating and/or reduced supplies and concern over greenhouse gas emissions.

Our river and its tributaries (like Dingman Creek, Medway Creek, Stoney Creek, Pottersburg Creek, Crumlin Creek Drain, Mud Creek, Kelly Creek, Stanton Creek Drain, Kettle Creek, Sharon Creek) all need attention, given their function to move both water and sediment and the inherent values of river systems. Our river is rich in biological diversity, with more than 90 species of fish, 30 species of mussels and 30 species of reptiles and amphibians. These are more species than any other river in Ontario.

Climate change adaptation strategies will recognize how all these things are interrelated, and bring all of the initiatives together.

Where We are Now...

A review of current city policies regarding the environment shows both areas of strength and vision, and areas that need improvement and strengthening.

City Council’s strategic policy states that we “value and protect our environment” and goes on to describe that “the decisions we make are environmentally responsible for today and sustainable for tomorrow. We are a community that is growing but understands it must take a careful and balanced approach to preserving and protecting our natural environment, knowing it is essential to our prosperity, sustainability and quality of life.”

Green infrastructure, green development and green building design are elements of a built environment and are relatively new terms. Below is how we will define them so that we can create clear policies.

Green development means including design elements that are more compatible with the original or existing landscape and the natural functions that presently exist, or have been lost but are now desirable to restore.
The decisions we make are environmentally responsible for today and sustainable for tomorrow. We are a community that is growing but understands it must take a careful and balanced approach to preserving and protecting our natural environment, knowing it is essential to our prosperity, sustainability and quality of life.

– City Council’s Strategic Policy

Green infrastructure means those elements of a “built environment” that by virtue of their design and function use processes found in nature (e.g. plants and plant roots, and the capture and filtering of water in soil) that contribute to the protection of the natural environment from potentially harmful inputs. Green infrastructure also means providing additional buffer and/or naturalization areas to protect and enhance the natural heritage system (such as street trees contributing to the overall urban forest).

Green Building Design is a collection of elements that can be incorporated into building materials and design to reduce demand on natural resources, implement energy and water conservation and create “future ready” capabilities.

London is also a “River City”, and how we develop along the Thames and its tributaries is important. Flood plain management policies include a variety of approaches, including the use of two-zones in places where low water flows and shallow water
depths at times of flood can provide opportunities for limited development. New climate change water resource modeling could have implications on how we might be able to use this two-zone concept in the future. Special policy areas where flood threats exist in already built-up areas have been developed (e.g. the Coves and West London); however, some changes may occur elsewhere in the city in response to climate change implications.

Our “natural heritage” systems include corridors that are being affected by things like infrastructure, residential encroachment, and lack of stewardship. Many of these impacts appear to be the result of previous decisions that were different from our present day considerations of how the natural heritage corridors provide ecological goods and services such as a unique habitat for many species, including many rare species, and serve a major route for the migration of wildlife. Going forward, we will need to implement the recommendations of the Thames River Corridor Study that includes a 100 m width corridor on either side of the river, a different means of protecting, restoring or rebuilding our natural heritage along the river, and education about stewardship activities that homeowners, businesses and schools can undertake to enhance the Thames River Corridor.

A look at what Other Cities are Doing – “Best Practices”...

York Region’s Sustainability Strategy – Towards a Sustainable Region (2007) provides a “…long term framework for making smarter decisions about growth management and all municipal responsibilities that better integrate the economy, environment and community.” It recognized that the local drivers of sustainability in York Region were numerous and include:

Pace of growth, Water and air quality, Quality of life, Agriculture, Intensification, Natural heritage, Financial resources, Public health, Infrastructure, Human services, and Energy;

The strategy also recognizes global trends such as: Aging society, ethnically diverse society, mental illness, energy use, obesity, cardiovascular disease, pandemics, increasing urbanization, resource consumption, lifestyle choices, poverty and social isolation.

These same drivers and trends recognized in York Region, located in the Greater Toronto Area (GTA), can be applied to London.
How London would respond to these drivers of sustainability should align with the five results of Council’s Strategic Plan: strong economy, vibrant and diverse community, a green and growing city, a sustainable infrastructure and a caring community.

The City of Mississauga has implemented the strategy “Going Green in Mississauga (2010)” to require the third-party green LEED-ND (Leadership in Energy and Environmental Design – Neighbourhood Development) certified Silver rating system as a guide for future development and introduced the ‘Made in Mississauga’ Stage One Green Development Standard. Mississauga strongly encourages applicants to incorporate green sustainable elements into proposed buildings, site works, construction methods and long-term maintenance programs. Further to the Stage One Standard requirements, the City also encourages applicants to pursue LEED-ND credits required to achieve Silver certification.

Guelph City Council unanimously endorsed the vision, goals and general directions of a 25-year Community Energy Initiative (2007) that will put Guelph on the cutting edge for North America for a community sustainability plan.

Under their initiative, Guelph could use less energy in 25 years than it does today – even with expected residential growth of 65,000 people – and cut its annual greenhouse emissions by nine tonnes per person (from 12 to 3 tonnes). This will put Guelph among the top energy performers in the world.

Guelph’s Community Energy Initiative has earned international attention as it is among only a handful of North American cities to undertake an energy management project of this scope. After six years of implementation, the analysis of the data is starting to show positive results.

Vancouver’s Greenest City Sustainability Plan (Vancouver, B.C. - 2012) proposed actions to shrink the ecological footprint with EcoDensity and EcoStructure. The EcoDensity initiative has started a public dialogue about how Vancouver residents can reduce their ecological footprint. That’s the Eco part of EcoDensity. The Density part of EcoDensity is because the right kind of density can be one of our best tools to help lower our ecological footprint.

EcoDensity in Vancouver is intended to achieve the following:
- make walking, transit and cycling easier for more people;
- take advantage of existing infrastructure;
- allow for new green systems that reduce and better use energy, water and materials;
- introduce urban agriculture to reduce “food miles” (the distance it takes to get food to our homes); and,
- create more complete communities by having housing diversity within walking distance of shops and services, and accessible to transit.

Where We Need to Go...

Overview

There are a number of ways that London could become a Greener City:

**Promote Green Development Principles**
- recognizing the four pillars of energy, water, waste and natural features. In addition, we must promote the incorporation of the four objectives of Green Development which include transportation mobility choices, urban design, green infrastructure and building design.

**Explore a strengthened connection to the natural heritage system with our regional partners (Middlesex County, Conservation Authorities, Thames Talbot Land Trust and Thames Canadian Heritage River) to more effectively manage London’s natural heritage system to the benefit of the overall health of ecosystems, watersheds and citizens.**

**Strengthen London’s Natural Heritage Strategy**
- by implementing the recommendations of the Thames Valley Corridor Study; implementing the recommendations of the City’s Environmental Review Lands Study that identified significant woodlands outside the Urban Growth Boundary and incorporating the revised Middlesex Natural Heritage Study recommendations.
Where We Need to Go... Making it Happen

Even before we started the ReThink London public consultation process, the City had done lots of research, completed many Plans, and began to implement the recommendations of those Plans to make London a Greener City. The following are just some of those initiatives.

The completion and implementation of both an Urban Forestry Effects analysis and an Urban Forest Strategy (UFS) provides direction on how to value, protect and expand London’s trees and woodlands. The key points from the study is to plant more, protect more and maintain better. We can achieve these goals by:

- Increasing our tree canopy target up to 32% from the present 25%;
- Site by site evaluation of development to strive for the city-wide goal of no net loss of tree canopy cover;
- Urban design guidelines prioritize the inclusion of trees and soil volumes as part of green infrastructure and private tree protection;
- Applying measures for tree planting to ensure trees are protected or replanted in a suitable removal to planting ratio; and,
- Prioritize native tree species, but acknowledge that it is not always practical or possible for native species to be planted in every urban setting.

The Thames Valley Corridor Plan recommends that more emphasis is needed on protecting our natural heritage rather than allowing things like infrastructure, residential encroachment, lack of stewardship, and fragmentation to occur. We need
Development needs to consider the principle of being “Future Ready”. Contained in this concept is the idea that we can make it easier to introduce more flexible ways for Londoners to use green technologies like solar panels, district energy, and electric vehicles. If we make simple, low cost design decisions today, it may avoid the need of costly retrofits in the future.

Mixed land uses and mixed densities assist in reducing overall energy use in all sectors including vehicle use, and home and business energy costs relating to heating and cooling.

“...The Thames Valley Corridor is London’s most important natural, cultural, recreational and aesthetic resource. The City and community partners will preserve and enhance the natural environment, Thames River health, vistas, beauty and cultural heritage while accommodating compatible infrastructure, accessibility and recreation.”

– Thames Valley Corridor Plan

High-performance new buildings (Leadership in Energy and Environmental Design – LEED and passive building design) are the preferred approach for new, green development, and should be encouraged to be built as the new standard.
In addressing Municipal Drinking Water Protection, ground water recharge, stormwater management, water conservation and water efficiency polices need to be strengthened and expanded in scope to include individual building lots with the intent to minimize impacts surrounding the site and downstream. As well, policies for protecting Source Water Protection need to include specific policies to control land use and associated activities with the well-head protection areas surrounding Hyde Park and the Fanshawe Well Fields, which are used as back-up emergency water supplies for London.

Solid Waste Management strategies include strengthening waste diversion policies. The need to grow resource facilities and initiatives more quickly and need to consider the possibility of creating an “Eco” industrial development area surrounding the landfill site. New development should be “Future Ready” for recycling and organic waste collection.

Plants species native to London and the Carolinian Life Zone must be prioritized to achieve multiple benefits including Carolinian Life Zone compatibility, natural heritage system objectives, climate change adaptation goals, and stormwater management benefits.

London’s role in regional watershed efforts such as the Thames River Clear Water Revival and the Great Lakes – St. Lawrence River Cities Initiative should be encouraged and supported to ensure recognition of London’s place in the regional context and to ensure our voice is heard and input considered.

The Carolinian Canada’s “Big Picture” Cores and Corridors cross London from east to west and to a lesser degree from north to south. This system of corridors forms a green belt around the City’s urban form and defined Urban Growth Boundary. When combined with agriculture land, this series of natural heritage corridors and cores has very few spaces or gaps as it surrounds the city, but those gaps and spaces must be protected and naturalized whenever the opportunity arises.

London’s Environmentally Significant Area policies should be strengthened to ensure that these cores of intact functioning ecosystems are preserved for
future ensuring that connections with other corridors are maintained and enhanced as land use changes.

London is located in the middle of Southwestern Ontario, in the mid-point of a continental climate landmass, and is surrounded on almost all sides by water. A changing climate will most certainly have an impact on the interaction London has with the Great Lakes. More intense and more frequent extreme weather events is the expected “new normal”. This includes intense summer storms creating higher humidity and higher night-time temperatures, increased number of extreme heat days, more flash storm events, and warmer winters with more freeze-thaw cycles. London is addressing these anticipated changes in two ways:

Climate Change Mitigation – by calculating and tracking our progress towards reducing our greenhouse gas emissions as a city, and as a community.

Climate Change Adaption – by designing projects differently today, we are able to avoid additional costs and possible hardships by anticipating the expected outcomes of a changing climate. We expect that this will assist us in responding to extreme weather events that will happen both more frequently and more intensely.

The City adopted a Community Improvement Plan for brownfields incentives in 2006. This program applies to the portion of the City within the Urban Growth Boundary, and is intended to support the remediation and redevelopment of brownfield sites in the City. Brownfields are defined as vacant, under-used or abandoned sites that were previously developed for industrial, commercial or other urban uses and may be contaminated because of those former activities.

The City’s programs are intended to remove or reduce the obstacles that would hinder the remediation and redevelopment of these sites. These incentives include contamination assessment grants, a property tax assistance program, a development charge rebate program, and a tax increment equivalent grant program. With the exception of the assessment grants, the total value of the incentives under this program is limited to the total cost of rehabilitating the lands.

Brownfields are abandoned, vacant or underutilized lands and/or buildings within the Urban Growth Area of the City of London where expansion, retrofit or redevelopment may be complicated by environmental contamination from past uses and development activity.
The following summarizes the direction that we’re headed, based on what we’ve heard from you, and the research we’ve completed to date.

More of this...

Promote Green Development Practices by considering the ecological footprint that development creates and take action to reduce it; implementing mixed use and mixed density development to support transit; providing services within walking distances; and ensuring preservation of tree cover and natural heritage features.

Climate Change Mitigation and Adaptation by calculating and tracking our progress towards reducing our greenhouse gas emissions; designing projects differently today to respond better to frequent and intense extreme weather events; make our urban environments more resilient to climate change.

Less of this...

Do not consider the long-term social, economic and environmental considerations of our City-building activities.

Disregard the importance of climate change and its potential impacts on our urban environment.
More of this...

Implement Green Infrastructure Strategies by promoting innovation in the way we construct infrastructure – such as stormwater management facilities and how we plant street trees; and promoting “Natural Capital” (woodlands, Environmentally Significant Areas – ESAs) as components of the natural heritage system for London and area.

Conserv energy by planning for energy conservation at all levels of city-building – from a city level (eg. linking transit and land use plans) to a community level (eg. street network, mix of land use, walkable streets, district energy) to a site level (xeriscaping, geothermal and solar and sustainable construction technologies).

Strengthen our Forest City by planting more, protecting more, maintaining better and engaging all citizens in strengthening and promoting our urban forest.

Less of this...

Disregard the importance of green infrastructure and allow the infrastructure gap to wide.

Consider energy conservation as “nice to have” rather than a key part of our plan to attract and retain people and investment to the city.

Consider the forest city as a non-critical factor in building a healthy city and attractive to live in.
More of this...

- Build upon our successes by conserving our natural resources; protecting and enhancing our natural heritage; and environmental management (reduce waste, promote recycling, pesticides, education).

- Strengthen our efforts to encourage Brownfield remediation by identifying creative opportunities for brownfield redevelopment; addressing necessary clean-up requirements; and providing incentives for properties to be viably cleaned and re-developed for productive purposes.

- Linking the pieces of the “green puzzle” by planning and coordinating all our efforts such as Environmental Significant Area preservation, natural heritage corridor protection, flood plain management, waste management, energy conservation, active transportation, and human wellness.

Less of this...

- Do not consider the importance of conserving and protecting our resources, environment and heritage.

- Disregard the fact that each innovative development is part of our City building legacy, and part of our offering to attract and retain people and investment to the city.

- Do not consider the integration of Natural Heritage System in our City-building activities and as a healthy, alternative way of travelling throughout the City.