

## What is Sustainable Community Design?

Sustainable community design often conjures images of green roofs and solar panels, and while these technologies are crucial components of sustainable communities, they are but pieces in a larger puzzle. Planning for sustainability requires a comprehensive approach to all elements of city building, which allows for the realization of synergies, and a harmonious interaction of constitutive elements. The way we move around the city, the infrastructure that makes the city hum, the public realm in which we interact and the process by which all these things come together are crucial city-building elements which must be taken into consideration. Sustainable community design:

- Looks at the total land resource and ensures that what is used for development is used effectively and efficiently and what is not used for development is appropriately protected and preserved.
- Is a way of planning, building and creating places for living and working that allows the community and its citizens to contribute to the on-going, long-term health of the city and the natural environment.
- Is about providing, not precluding, opportunities for those who live and work in the community to make choices that contribute to a lifestyle that has low impact on the environment.

## How will Vaughan become more sustainable?

With the new provincial policy context (see Citizen's Bulletin Issue X), the City of Vaughan has seized the opportunity to create a more sustainable planning framework for future growth. The City has started to address this by establishing the Vaughan Tomorrow Growth Management process and commissioning a series of Master Plans that will each be guided by a new Environmental Master Plan (EMP). The EMP will establish principles for sustainability that touch all areas of the City's responsibility. The next key component of the Vaughan Tomorrow process is the creation of a new Official Plan (OP) that will establish policies for how land is used in the City. Building on the environmental ethic that is being established for the City in the EMP, the policies in the OP will be based on the concept of sustainable community design.

## A "Made in Vaughan" Plan

Making a sustainable city over the next 25 years and on into the future will need visionary thinking and a willingness to act upon that thinking. Thinking big can start with the Vaughan Tomorrow process and the creation of new land use policy in the new Official Plan. By acting on the initiatives noted below, Vaughan has the opportunity to be known as:

1. The Headwaters City of Lake Ontario: managing clean water as a key asset and critical resource
2. A City that Walks: A City that Works
3. The Greengrocer for the Greater Toronto Area: a mecca of local food production
4. A City and A Countryside: Preserving the remarkable ecological and landscape qualities of its countryside to sustain a high quality of life and competitive advantage
5. A Transit-first Community: make transit investment a first priority, not a planned priority
6. A Zero Waste Community: designing to encourage full waste diversion
7. A Carbon Neutral Community: an energy efficient city

## Next Steps

Achieving true sustainability will be a challenge for Vaughan, but it is certainly one that the City is capable of meeting. It will require changes in the way land use planning and development are carried out in the City, and fundamentally new approaches to urban design, but it does not mean no-growth, nor does it mean sky scrapers on every street corner. If Vaughan chooses to embrace sustainable community design it will do so as a way to better manage the tremendous growth that is expected so that the city, and its current and future residents benefit from this exciting time in Vaughan's history.

**For updates and more information, please visit the project website: [www.vaughtantomorrow.ca](http://www.vaughtantomorrow.ca)**

## Vaughan Tomorrow

The City of Vaughan is undertaking an ambitious three-year process to create a new Official Plan. The Official Plan is part of Vaughan's integrated Growth Management Strategy. It will address all elements of effective, sustainable and successful city-building while managing projected growth over the next 25 years.

## Sustainable Community Design

Sustainable community design is not a new or radical idea – it is in fact more connected to the traditional way of organizing a community and is evident in the vestiges of the four original villages that have grown to become Vaughan: Maple, Woodbridge, Thornhill and Kleinburg developed organically around main streets with connections to the river valleys, wood lots and farmlands that literally "sustained" the inhabitants of those places. The design of sustainable communities requires more than a piecemeal approach to development. Indeed, well planned and designed cities become sustainable cities.

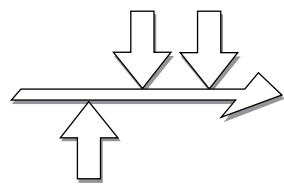


## The Sustainability Imperative

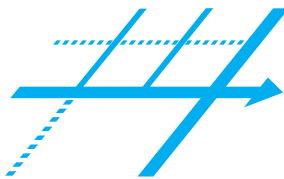
Vaughan has experienced rapid growth in the last 15 years, primarily in the form of large tracts of single-purpose uses. Residential subdivisions have been separated from office parks and shopping plazas and then connected by extensive automobile infrastructure. Recently, however, there has been increasing awareness that the way the city has grown to date may not be the best model. Vaughan is expected to continue to grow, with the number of people living and working in the city expected to nearly double by 2031. As Vaughan grows, both the existing communities and new community land base becomes increasingly valuable and it will be critical to manage and to plan for these areas in a manner that ensures that in the future all of Vaughan's citizens reside in a healthy, liveable community.

# Elements of Sustainable Communities

Understanding sustainability also means understanding the interconnectedness of all natural systems, even the ones that don't look very natural any more as a result of significant human intervention. This can be a daunting realization! Initiatives for creating more sustainable communities can be more easily understood by considering how they contribute to key city-building elements: **Process**; **Movement**; **Public Realm**; **Land** and **Infrastructure**. The following are descriptions of the elements and examples of sustainability initiatives.



process



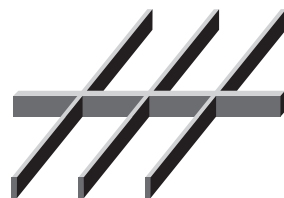
movement



public realm



managing land



infrastructure

**Process:** Planning for sustainability must start at the community or regional scale, which requires interaction between the local community, municipal stakeholders and design teams from the beginning and throughout the planning process. Thorough integration of infrastructure, public realm, natural systems, and community services is critical to the creation of sustainable communities. One tool to encourage sustainable community design is the Integrated Design Process (IDP). IDP is a multi-disciplinary team approach to addressing technical requirements to achieve high performance sustainable development. It requires bringing all related disciplines to the table at the start of a development project so all processes can be accommodated as necessary and innovation and opportunity are not precluded by decisions made in the early stages.



**Land:** Sustainable community design must respond appropriately to a range of urban contexts including the creation of complete new greenfield communities, urbanizing suburban communities and capturing brownfield and infill development opportunities to create complete, vibrant and contemporary places to live, work and visit. The way we use and design our land resource has some of the most significant and tangible impacts on sustainable community design. Typically sustainable communities are built at higher densities than traditional subdivisions but more that that they are designed with a range of housing types and tenures well integrated with commercial and community uses to create complete communities. The grain of streets is finer in these designs offering more choices for walking or cycling routes to reach key community destinations such as office and shops at transit stops, schools, and parks. Traditional communities, and pre-war cities, quaint towns and villages exhibit a natural completeness or mix of uses. This approach is not a new way of doing things but rather a revival of a time-worn practice.



**Movement:** Movement and transportation play defining roles in the development of all communities. How people arrive at -- and move around in -- a sustainable community may be significantly different from typical communities. Planning for sustainable movement includes consideration for pedestrians of all abilities, cyclists, transit and automobiles. Sustainable communities offer a multitude of mobility choice starting with pedestrian friendly streets that have broad sidewalks, shade trees and street furniture and are lined with interesting uses at ground level. A continuous and connected off-road bicycle trail system can be used for both recreational and commuting cyclists. A network of on-road dedicated bicycle lanes will increase the attractiveness of that mode on major arterials by minimizing the potential for conflicts with fast moving vehicles. Well lit and sheltered bicycle parking facilities on both public and private property are also necessary to increase movement by bike. An efficient and reliable transit system is necessary as a viable alternative to the private vehicle. Municipal and Regional authorities can support the basic functions of the system by designing streets with transit priority in mind, and by establishing the appropriate form and intensity of land use around major transit stops and along primary routes to create a critical mass of demand for the services. Public transit works best when there is a critical mass of riders going between concentrated destinations. In a suburban context it is not always easy to achieve critical mass at the home-ends of many trips, but the system can be improved by taking advantage of strategic activity nodes.

**Infrastructure:** Compact, mixed use development goes hand in hand with engineering standards that, compared to traditional suburban standards, put more emphasis on the quality of the place and less on simply moving people, water or waste. This means reduced parking ratios, wider sidewalks, narrower paved roads and driveways, and a range of alternative approaches to traditional municipal services. Consideration of these elements in early planning phases, and tailoring the plan to local context, greatly increases the sustainability potential in community design. Such initiatives include harnessing the earth's naturally renewable energy sources through more local use of wind, solar and geothermal technologies. Vacuum waste (tubes connected to each building in a neighbourhood "suck" waste to a local plant for pick up) and district energy systems (heating and cooling for a neighbourhood is generated at a local plant and distributed to each building, eliminating individual furnaces) both strive to create efficiencies by localizing what are usually individual building issues. The local watershed can be improved by reducing the amount of storm water runoff in a city. This is usually achieved by reducing impervious surfaces (such as paving). Using green roofs instead of typical roofs and replacing traditional curbs and gutters with bio-swales (a shallow, landscaped depression at the roadside that slows, transports and treats runoff) manage storm water at its source requiring less reliance on hard infrastructure (sewers, treatment plants).



**Public Realm:** The public realm forms the seams that hold the fabric of communities together. It is the place where citizens interact and the space in which culture evolves. Well-planned (and well-used) open space is an important element of the public realm, with benefits ranging from increased physical activity to clean air. Equally important are those public spaces in between, including sidewalks, street corners, and other open space. These places support informal interaction and encounters, which are essential for community building. A sustainable public realm includes a well connected parks and trails system that leads to key local destinations. Public open spaces do not have to be lushly landscaped. Hard-scaped civic squares and plazas, replete with public art installations, are where the city meets to celebrate, debate, and be inspired. These types of spaces should be designed in areas of significant residential and commercial concentration so that they are regularly populated and vibrant with the natural flow of civic life.