



**CITY OF VAUGHAN  
REPORT NO. 1 OF THE  
SMART CITY TASK FORCE**

***For consideration by the Committee of the Whole  
of the City of Vaughan  
on September 15, 2020***

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The Smart City Task Force met at 9:04 a.m., on June 30, 2020.

**ELECTRONIC PARTICIPATION**

**Present:** Mayor Maurizio Bevilacqua, Chair  
Cr. Sandra Yeung Racco, Vice Chair  
Nabila Alibhai, Alectra  
Rob Brickman  
Pina D'Agostino, Osgoode Hall Law School  
Liana Di Marco  
Judy Farvolden, University of Toronto  
Vivek Khopkar  
Thano Lambrinos, QuadReal  
Ted Maulucci, SmartOne  
Julie Morin, Microsoft  
Mary Proc  
Mark Singh  
Richard Tam, Mackenzie Health

**Also Present:** Kathy Kestides, Director, Transformation and Strategy  
Raphael Costa, Acting Director, Economic and Cultural Development  
Frank Di Palma, Chief Information Officer  
Stephen Spracklin, Director Legal Services and Deputy City Solicitor,  
Litigation and Municipal Law  
Michael Genova, Director, Corporate and Strategic Communications  
Kitty Yung, Project Manager, Smart City Business Program  
Mae Caldarelli, Stakeholder and Community Engagement Specialist  
John Britto, Council / Committee Administrator

**Also Present:  
(Guests)** Dr. Amir Asif, York University  
Lucy Casacia, WSP Canada.  
Daniel Hengeveld, Toronto Global

The following items were dealt with:

**1. INTRODUCTIONS**

**The Smart City Task Force advises Council:**

- 1) That the Chair and the Vice Chair provided opening remarks and welcomed the members to the Smart City Task Force.**

**2. NEW MEMBERS**

**The Smart City Task Force advises Council:**

- 1) That the members introduced themselves;**
- 2) That the Declarations of Office were Virtually Commissioned by the Deputy City Clerk; and**
- 3) That a copy of the meeting rules and procedures was previously emailed to all members of the Smart City Task Force by the Council/Committee Administrator.**

**3. SMART CITY AND DIGITAL STRATEGY – BACKGROUND INFORMATION**

**The Smart City Task Force advises Council:**

- 1) That the presentation by the Project Manager, Smart City Business Program and the Chief Information Officer was received.**

**4. VISIONING FACILITATION - WHAT DOES SMART CITIES MEAN FOR VAUGHAN?**

**The Smart City Task Force advises Council:**

- 1) That a discussion session was facilitated by the Stakeholder and Community Engagement Specialist, Corporate and Strategic Communications.**

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The meeting adjourned at 11:06 a.m.

Respectfully submitted,

Mayor Maurizio Bevilacqua, Chair



## SMART CITY BACKGROUND INFORMATION

### Smart City Background:

According to the [UN](#), cities are home to more than half of the world's population, and they are expected to add another 2.5 billion new residents by 2050. This creates major stresses in existing urban areas such as transportation, infrastructure, environmental, safety concerns and healthcare.

Smart City offers an opportunity to help meet these challenges. There is no globally recognized definition of a "smart city". Although early smart city initiatives were largely driven by technology, cities are beginning to shift their strategies to focus on citizens and capture this in the evolving definitions. A smart city approach should leverage technology to improve services and is driven by the community need rather than technology. It is about using technology and data purposefully to make better decisions and deliver a better quality of life for all citizens.

### News and Resources:

- [Evergreen – How to be a smart\(er\) in mid-sized cities in Ontario \(PDF\)](#)
- [Open North – State of open smart communities in Canada \(PDF\)](#)
- [Future Cities Canada – Resources](#)
- [Canadian Urban Institute – Smart Planning for Smart Cities](#)
- [Smart Cities World – News](#)
- [Smart Cities Council – Global News](#)

### About City of Vaughan:

With a population of about 335,000 residents, the City of Vaughan has been one of the fastest-growing communities in Canada and continues to be an emerging world-class place to raise a family, start a business and enjoy many attractions and amenities. It is anticipated that by 2031, Vaughan will grow to more than 416,000 people and 266,000 jobs. It is home to more than 12,000 businesses that employ more than 222,000 people.

The quality of life is unrivalled. In fact, the results from the 2018 Citizen Satisfaction Survey reveal 97 per cent of residents agree the quality of life is good here. The majority of citizens also cite a strong sense of community and belonging, with 92 per cent saying they are proud to be from Vaughan and 91 per cent saying it is a welcoming city.

- [Government Structure](#)
- 2018-2022 Term of Council [Strategic Priorities](#)
- [Performance Dashboard](#)
- [2019 Momentum Report](#)
- [Vaughan Data](#) (demographics, economic overview)
- [Budget](#)



# Smart City Task Force



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## SMART CITY BACKGROUND INFORMATION

### Selected Reports and Links:

- [Major Projects and Reports](#)
- [Digital Strategy 2.0](#)
- [Activate!Vaughan Innovation Program](#)
- [Green Directions Vaughan](#)
- [Vaughan Healthcare Centre Precinct feasibility study](#)
- [2018 Active Together Master Plan Review and Update](#)
- [Pedestrian and Bicycle Master Plan](#)
- [Vaughan Transportation Plan](#)
- [York Region Broadband Strategy](#)

### Public Engagement Results:

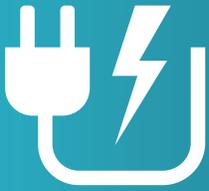
- [2018 Citizen Satisfaction Survey Results](#)
- [2018 Business Sector Survey Results](#)

### Appendix:

- Smart City Advisory Task Force Findings Report
- 2018 Smart Cities Challenge Submission

Mayor Maurizio Bevilacqua

# Smart City Advisory Task Force



# Findings Report



[vaughan.ca/SmartCity](http://vaughan.ca/SmartCity)



## Letter from the Chair of the Task Force

Smart City initiatives have been a key component in the ongoing evolution of the City of Vaughan. With our City in the midst of inspiring, generational change, we know that a Smart City approach must shape the decisions we make today and well into the future.

As a City, we will continue to build on the momentum of our application to the Federal Government's Smart Cities Challenge, in which the City highlighted the need for increases in social cohesion and civic participation.

As Mayor, I created Vaughan's Smart City Advisory Task Force to continue to make a significant impact on every aspect of city life. Now, as Chair of the Task Force, along with Vice-Chair, Councillor

Sandra Yeung-Racco, I believe it is vital to our city-building efforts that we continue this important work.

The attached report contains a robust set of recommendations that will feed into Vaughan's Smart City initiatives and roadmap. They include:

- Incorporating a Smart City focus in the City's next Term of Council Service Excellence Strategy Map.
- Developing a Smart City communication plan and strategy for citizen engagement and continued feedback from Vaughan residents.
- Continuing the Smart City Advisory Task Force for the next term of Council.
- Creating a Smart City unit within Economic and Cultural Development, Chief Corporate Initiatives and Government Relations Portfolio, with dedicated staff.
- Preparing a multi-year Smart City business plan by City staff, and this should include a strategic roadmap, a governance model terms of reference, and budget for inclusion in the 2019 Budget process.

Technology has played a vital role in Vaughan's renaissance and it is critically important that, as a City, we set in place a legacy of sound Smart City initiatives. By doing so, we can help ensure a brighter future for current and future residents of the City of Vaughan.

Yours sincerely,

Hon. Maurizio Bevilacqua, P.C.  
Mayor



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# FOREWORD

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**Bill Hutchison, Facilitator**

Mayor Maurizio Bevilacqua Smart City Advisory Task Force

## **Background**

The massive wave of new developments in telecommunications, computing and software is enabling the world's rapidly growing "Smart City" transformation. Today, the annual investment in Smart City transformations is \$1 trillion, growing to \$3 trillion by 2023. This astounding growth illustrates the urgency of global urban efforts to become more competitive, create new knowledge jobs and attract incoming investments while transforming cities and towns into better places to live- with happy citizens as an ultimate goal. As in the industrial revolution and other transformation movements, cities have a choice: Join the race or fall behind.

With a history of 25 years of smart urban transformation, there are many examples of what works and what does not work in the transformation process. We are not automating a factory and Smart City transformation is not primarily a technology initiative. Successful Smart Cities focus on ensuring the most effective outreach and ongoing engagement with their citizens, businesses and all others in the community. New ideas and suggested outcomes are collected in a wide range of themes, such as health and wellness, energy, environment, digital and social inclusion, innovation and new company development as a few examples. A credible process for prioritizing the feedback has to be created and the prioritized results are then passed to City Council for their review.

## **The Vaughan Process**

In June 2017, Vaughan adopted a Smart City planning and prioritizing process similar to one used by cities that have previously won global "Smart City" awards. Two of the most important

elements in the process are an intensive outreach to citizens, through surveys, interviews and workshops, requesting their big ideas and priorities for their city's future and the creation of a Smart City Advisory Task Force (SCATF). Vaughan's SCATF is comprised of seven "Citizen" appointees and 35 "Stakeholders" who are leaders with recognized leadership and experience in themes of likely importance for Vaughan's "Smart" future transformation.

Another important element has been Mayor Maurizio Bevilacqua's agreement to Chair the SCATF and Councillor Sandra Yeung-Racco's agreement to be Vice-Chair. This level of leadership and demonstrated commitment has been important when attracting the high caliber of Task Force participants and it sends a strong message of Vaughan's Smart City priority, which is important for attracting future incoming investment. The Mayors of other award-winning Smart Cities are also visibly leading their transformations.

I was honoured when Vaughan retained me to be the Facilitator for the creation and facilitation of their SCATF and related activities. Since 1994 I have been the strategic advisor or executive leader of a number of award-winning Smart City initiatives in Asia/Pacific, North America, Europe and Eurasia while implementing a process very similar to Vaughan's. For the past six years it has been my pleasure to also be an Advisory Partner or Board Chair for three different ongoing research programs, led by faculty at the University of Toronto and involving up to 10 other Canadian universities, all focused on economic, environmental and social concepts for future Smart Cities. My role as a Distinguished Research Fellow at the U of T's Munk School is also relevant to future Smart Cities.

# FOREWORD

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## **The Strategic Advisory Task Force**

Seven Vaughan Citizens on the SCATF responded to a public call for participation and the 35 Stakeholders were carefully selected from the Toronto Region and beyond to ensure a wide level of experience and leadership in areas such as health services, sustainability, community engagement, construction and development, diversity and inclusion, energy, technology and communications, new fintech opportunities, research and innovation. Eleven of the 35 Stakeholders also happen to be Vaughan citizens and 69 per cent of Stakeholders are CEOs or C-suite executives.

Input for subsequent review and suggested prioritization by the SCATF has come from a wide range of citizens using direct interviews, social media, surveys and direct letters, with a combined exposure to 32,000 Vaughan citizens. In addition, there have been seven, two-hour focus group workshops with approximately 20 participants in each workshop with themes listed above. The combination of ideas and suggested outcomes were subsequently organized for reviews and ranking by the SCATF, based on members' broad perspectives and experience across many themes. The recommendations and this findings report are the results of the entire process, including the SCATF's final deliberations.

As the Facilitator of the SCATF, I commend the excellent work by the Task Force members and the leadership of Mayor Bevilacqua as the Chair and Councillor Sandra Yeung-Racco as the Vice Chair. I fully endorse the recommendations made by the Task Force in this Findings Report, the City of Vaughan's process has been collaborative and citizen driven with expertise from leading industry and community stakeholders.

## **Ongoing**

The SCATF members, combining the Stakeholders and Vaughan citizens represent a depth and breadth of very relevant Future Smart City knowledge and experience among the very best in the world. It is vital that the work of the SCATF continue, I recommend that Council re-establish the Task Force for another term as this group of experts can provide valuable input and ideas as the City moves forward with its Smart City transformation and evolution.

Respectfully submitted,



**Bill Hutchison** P.Eng. FCIPS. FWAPS.

Distinguished Research Fellow, Munk School,  
University of Toronto

Chair, i-CANADA Alliance

Facilitator, Mayor Maurizio Bevilacqua's Smart City  
Advisory Task Force

# BACKGROUND

The City of Vaughan is in the midst of a transformation with major city-building initiatives underway, including a new downtown core and Canada's first Smart Hospital. The City of Vaughan is at a critical juncture to think about its future through a Smart City approach.

There are hundreds of definitions for what a Smart City is and cities are now adopting their own definitions. Key elements that are common among the various definitions include the use of technology and data, an emphasis on collaboration and partnerships, citizen engagement, a culture of sharing and a focus on sustainability and resilience. The main goal of a Smart City is to improve overall quality of life and to make service delivery more seamless and efficient with the most optimal use of resources. The Federal Government of Canada has simplified a Smart City approach to one that uses data and connected technology to improve quality of life.

The International Organization for Standardization (ISO) under the Technical Committee on Sustainable Cities and Communities defines a Smart City as: one that increases the pace at which it provides

social, economic, and environmental sustainability outcomes. Smart cities respond to challenges such as climate change, rapid population growth, and political and economic instability by fundamentally improving how they engage society, apply collaborative leadership methods, work across disciplines and city systems, and use data information and modern technologies to deliver better services and quality of life to those in the city (residents, businesses, visitors), now and for the foreseeable future, without unfair disadvantage of others or degradation of the natural environment.

“Vaughan citizens are one of the most important assets because they embody the spirit of this City. They have a kindness and generosity that is real, genuine and infectious. As we continue to build Vaughan, we need to keep the human connection in mind. Working to be a Smart City is a chance to encourage greater civic engagement, accelerate economic growth and generate government efficiencies. Being a Smart City puts Vaughan on the leading edge of innovation to adapt to a growing community that values sustainability and creativity.”

– Mayor Maurizio Bevilacqua



# A Smart City has the potential to enhance:



Infrastructure and technology by having the right communication infrastructure (fibre broadband) and cyber-security in place to support innovation



Citizen living by improving access to health care (online access anywhere, anytime, enabling seniors to live in their own homes longer), education (quality education available online), social infrastructure (better access to information and consolidated services), and more equal opportunities



Governance by improving transparency and accountability with open data, changing the way local governments interact and offer services to citizens through digital democracy and participatory government processes



Economy by diversifying industry and changing the way people work through collaboration, co-working, remote working and support for start-ups



Safety by faster reactions to public safety threats, more integrated services, use of sensors and surveillance cameras, better flow of traffic and better lighting of public spaces



Mobility by changing the way we move goods and people, lowering congestion and making optimal use of transportation infrastructure



Environment by more effective monitoring for resource conservation and efficiency, green technology and infrastructure



Data is often at the core of many Smart City definitions. A Smart City is about making smarter choices, taking on a holistic approach to problem solving and implementing smarter solutions that impact all sectors and data is the main driver for this approach. Under the leadership of Mayor Bevilacqua who is strongly committed to open data, the City of Vaughan is building a culture of data. The Mayor has been part of the World Council on City Data (WCCD) leadership since 2011, helping to spearhead and lead the efforts locally and internationally on open data and using data for informed decision-making. As a result of this effort, the City of Vaughan has engaged in international benchmarking and learning from other key international cities since 2011. International benchmarking promotes economic development and enables the City to identify common issues and themes to learn and share best practices with cities globally.

The WCCD's Global City Registry for ISO 37120 Sustainable Development of Communities - Indicators for City Services and Quality of Life is the first international standard for cities on open data, and the City of Vaughan has been a Platinum certified city since 2015, demonstrating its commitment to global efforts for standardized open data and confidence in its data. The City of Vaughan has been selected by the WCCD to become one of the first cities to pilot a new international standard for Smart Cities - ISO 37122.

## Digital Transformation

Vaughan is at the onset of its digital transformation, developing a prototype for open data, expanding online service delivery and evaluating and investing in new digital technologies to enhance productivity and support key public initiatives. Vaughan's Smart City developments and initiatives will further build on this digital transformation.

The City of Vaughan's Digital Strategy defines how Vaughan will interact with citizens digitally, including communications, access to data and content, public connectivity, digital literacy and mobile applications. At the core of Vaughan's digital transformation is

understanding staff and citizens, their needs and motivations, and implementing change within the City to design more human services. Through this digital transformation, the City is adopting a new approach and way of thinking about services and service design, challenging the status quo, encouraging collaboration across departments to break down silos and seek out solutions.

Smart City initiatives complement and further support the City of Vaughan's digital transformation that is already underway and aligns with the four focus areas identified in the Digital Strategy:

- An engaged community – a Smart City enables citizens to be more aware and informed of what's happening in their community and providing the resources for citizens to be fully engaged in the City.
- Citizens can do business with the City through digital channels – a Smart City provides seamless and efficient digital services for citizens to do business with the City.
- Be an open and transparent government – a Smart City uses open data to facilitate dialogue with citizens and for informed decision making.
- Internal transformation and modernize city processes – a Smart City changes the way the City of Vaughan staff work and interact and engage with citizens and adopting a culture of data.



# Vaughan's Current Reality - A Need for a Smart City Approach

## Vaughan is one of the fastest growing municipalities



Vaughan's population reached over 335,000 in 2018 — a **13.9% increase from 2011**

- Vaughan needs to be smart about how to deal with this growth and challenges that are associated with rapid growth
- Planning for more high density communities
- Ensuring there are viable housing options and job opportunities

## Vaughan is extremely diverse



**46.3% of residents born outside of Canada and 105 different languages spoken**

- Vaughan needs to celebrate its diversity to increase a sense of belonging and social cohesion
- Leveraging Vaughan's diversity to build a more vibrant communities

## A strong entrepreneurial spirit in Vaughan



**15.2% of the labour force self-employed**, which is the highest rate of self-employment when compared to other Ontario cities with a population of 250,000

- More co-working spaces along with incubators/innovation hubs to help support entrepreneurs
- Start-up and scale-up ecosystem

## Very large commuter population



**63% of the workforce travel outside the city or region for work.**

Vaughan is also a net importer of jobs, drawing in more workers each day from across the Greater Toronto Area than the resident labour force, resulting in many people commuting into the city for work

**84% travel to work in a private vehicle**  
**13% use public transit**  
**3% walk, cycle or use another mode of transportation for their commute**

- Opportunities for shared mobility options
- Promote a culture of sharing where residents are empowered to carpool and take transit
- Change the way people work by promoting more remote working and satellite offices in co-working spaces in Vaughan to reduce commuting

## Vaughan is aging



**14.2% of Vaughan residents are seniors and there has been a 35% increase in the past five years**

- Having the right infrastructure and support system in place to improve accessibility for aging
- Better solutions for seniors to get to their medical appointments for those that cannot drive
- Families need to be empowered so they can properly care for their aging family members and so that seniors can stay in their homes longer

## Mayor Maurizio Bevilacqua's Smart City Advisory Task Force

The Mayor's Smart City Advisory Task Force has been established and held its inaugural meeting on Tuesday Dec. 12, 2017. Since then, the SCATF has met a total of five times.

The Smart City Advisory Task Force, Chaired by Mayor Maurizio Bevilacqua along with Councillor Sandra Yeung Racco as Vice Chair, is comprised of 42 members. This includes 35 leading Canadian and U.S. leaders in social, economic and environmental subjects of future Smart City importance and seven citizen members. A majority, 69 per cent of Task Force members, are C-Suite-level individuals directly responsible for affecting change within their organization. The Task Force is facilitated by William Hutchison, Chair, i-CANADA Alliance and Distinguished Research Fellow at the Munk School, University of Toronto, with more than 20 years experience in building Smart Cities.

The membership of the Task Force is carefully selected to reflect a holistic approach to city-building, including seven citizen members who provide a critical voice for Vaughan residents. Members have been selected from the following sectors:

- Education
- Transportation
- Social Welfare
- Arts & Culture
- Health Care and Medical Community
- Research & Innovation
- Information, Communications and Technology Companies
- Financial Services Industries
- Construction Industry
- Environment

## Canada's Smart Cities Challenge

The Federal Government of Canada launched the Smart Cities Challenge in Fall 2017 and the City of Vaughan responded to this Challenge with the help of the Task Force and Vaughan citizens. The Challenge calls on communities to address local issues through new partnerships, using a Smart Cities approach. This means achieving meaningful outcomes for residents through the use of innovation, data and connected technology. The competition is open to all municipalities, local or regional governments, and Indigenous communities across Canada.

Vaughan could qualify to win one of two prizes of up to \$10 million for communities with populations under 500,000 people. Vaughan's application was submitted on April 24, 2018. In Summer 2018, the federal government will announce a short list of 20 qualifying communities who will be given a \$250,000 grant to create a feasible action plan. The winners will be announced Spring 2019.

Extensive consultations including seven focus group workshops were held to engage citizens and gather input from all Vaughan residents.



# CITIZEN ENGAGEMENT



Figure 1: Citizen engagement feedback loop

Over the past year, extensive citizen engagement has been undertaken to give residents a voice in defining issues and challenges with regards to Vaughan's future. Input from the citizen engagement process also informed Vaughan's application to the Federal Government's Smart Cities Challenge and provided the foundation for the recommendations made in this report by the Task Force.

City staff created a comprehensive engagement and outreach strategy with a full feedback loop, consisting of city-wide outreach, focused workshops, input and feedback from the Task Force, Vaughan staff and citizen verification to ensure citizen priorities and needs were reflected in the Smart Cities Challenge application and the recommendations of the Task Force.

## **Citizen-wide surveys were conducted to solicit citizen needs and priorities**

The City reached out to residents by traditional email blast through various networks, including: Vaughan Business Enterprise Centre (2,700); Vaughan Chamber of Commerce (900); City of Vaughan internal staff (City of Vaughan Social Media Channels: Twitter – 12,843, Facebook – 4,722, Instagram – 2,519). Vaughan Councillors also reached out to

their respective constituents with a survey emailed to 8,000 residents and businesses. Surveys were also conducted at Winterfest with more than 100 citizens.

The wider citizen survey asked Vaughan residents to identify the theme and area that the City should focus on for its Smart Cities Challenge application. The six themes identified by Infrastructure Canada were: healthy living and recreation, economic opportunities, environmental quality, safety and security, empowerment and inclusion and mobility. Citizens were also asked to share their big idea for Vaughan's Smart Cities Challenge.

Seven focused workshops were held based on a number of themes, including millennials, arts and culture, inclusion and empowerment, environmental sustainability, industry and innovation, health and wellness and an open community engagement.

The digital transformation tool for decision-making processes, PowerNoodle, was used during the workshops in order to facilitate meaningful conversations with stakeholders. To obtain the expertise of a wide spectrum of experts, the City held six focused workshops and a community engagement workshop, which were open to all residents. The seven workshop were each comprised of approximately 20

leaders in the subject, and output from the workshops and feedback from the citizen surveys and related interviews provided input to the Task Force. Task Force members then collaboratively used their senior-level experience to provide input and feedback for recommendations on Vaughan's Smart City priorities, as outlined in this report.

An art inspired curated Smart City event, called "smARTcities: Exploring the Digital Frontier" offered Vaughan residents a unique engagement opportunity.

Artist Ron Wild integrated Vaughan-centric imagery into a symbolic visual vocabulary to envision the transformative role that technology and the Internet of Things (IoT) can play. The City used art as a medium to educate, and facilitate conversations with residents on Smart Cities. As part of this exhibit, the "smARTcities SALON Night" was an engaging discussion held with an expert panel consisting of artist Ron Wild, Oren Berkovich, CEO, SingularityU Canada Summit, Lilian Radovac, Urbanist Professor, University of Toronto and the City of Vaughan CIO, Frank Di Palma. Members of the audience contributed to an engaging discussion about art, innovation and city-building, filtered through the context of Smart City transformation. As part of this process, Vaughan citizens were encouraged to submit digital interpretations illustrating the transformative potential for Smart City technologies and all submissions will be integrated into an original MEGAsmARTcities digital map remixed and composed by Ron Wild.



# FINDINGS AND RESULTS



## Feedback from Citizen Engagement and Consultations

During the April 24, 2018 Task Force meeting, members assessed and ranked the top five outcomes from each of the seven workshops, i.e., assessing 35 outcomes. The following top priorities as identified by Vaughan citizens through the focused workshops along with their ideas and opportunities to address these priorities have been ranked and prioritized by members of the SCATF. The following is the compilation of top-ranked community priorities:

### Top Community Outcomes Ranked

- Accessible community hub that integrates wellness, food, gardening, entrepreneurship & art to citizens
- Better informed decision making and awareness with Data for optimizing what is in place and future needs
- Enhance the technology infrastructure
- Renewable energy and energy efficiency
- Viable and affordable housing options
- Improve Education Capacity and Capability

- Create healthy work-life balance in the workplace with wellness programs.
- Disrupt the current governance model to have a more meaningful and transformative engagement loop
- Make Vaughan an international destination for innovative technology companies
- Improve service delivery and innovative collaboration
- Family oriented programs instead of focusing on one particular population
- Improve community infrastructure
- Improve traffic flow to keep people and goods moving
- Commitment to decreasing the digital divide

The following chart is a mapping of citizens' needs identified during the consultation process along with some examples of outcomes, ideas and opportunities as generated during the focused workshops and SCATF meetings.

What we heard from Vaughan Citizens	Outcomes, Ideas and Opportunities
<p><b>Improve traffic congestion and better flow of traffic</b></p>	<ul style="list-style-type: none"> <li>• Vaughan traffic app with real time data and updates</li> <li>• Integrated traffic light system</li> <li>• Promote remote working and staggering work schedules</li> </ul>
<p><b>More arts and culture and programming to create a more vibrant city</b></p>	<ul style="list-style-type: none"> <li>• Digitally rich "expo" style cultural centre</li> <li>• Online broadcast of events</li> <li>• Portal with information on events</li> <li>• Encourage community to organize more events and programming</li> <li>• Front yard festival</li> </ul>
<p><b>More connected communities, everyone identifies within their own communities – no sense of Vaughan as a whole</b></p>	<ul style="list-style-type: none"> <li>• Events to bring the communities together</li> <li>• Promote the Vaughan Metropolitan Centre as the new meeting place for Vaughan residents</li> <li>• Complete streets and village living</li> </ul>



What We Heard from Vaughan Citizens	Outcomes, Ideas and Opportunities
<p><b>More access to information and services</b></p>	<ul style="list-style-type: none"> <li>• One Vaughan Portal – consolidated information and services</li> <li>• Vaughan app</li> <li>• Enhance the technology infrastructure</li> <li>• Commitment to decreasing the digital divide</li> <li>• Disrupt the current governance model to have a more meaningful and transformative engagement loop</li> <li>• Citizen dashboard</li> </ul>
<p><b>Focus on data informed decision making – data for businesses, sensors for monitoring environmental quality, plan for future needs etc.</b></p>	<ul style="list-style-type: none"> <li>• Better informed decision making and awareness with Data for optimizing what is in place and future needs</li> <li>• IoT sensors on streetlights</li> <li>• Citizen dashboard</li> </ul>
<p><b>Participation and inclusion of all communities (including marginalized, youth, aging, newcomers etc.)</b></p>	<ul style="list-style-type: none"> <li>• Family-oriented programs instead of focusing on one particular population</li> <li>• Improve community infrastructure</li> <li>• Viable and affordable housing options, including co-living and sharing opportunities</li> </ul>
<p><b>Need for mental health awareness</b></p>	<ul style="list-style-type: none"> <li>• Create healthy work-life balance in the workplace with wellness programs</li> <li>• Accessible community hub that integrates wellness, food, gardening, entrepreneurship and art to citizens</li> <li>• Vaughan corporate wellness challenge</li> </ul>
<p><b>More jobs in Vaughan, prevent brain drain and make Vaughan the place to go to and not only the place to leave</b></p>	<ul style="list-style-type: none"> <li>• Make Vaughan an international destination for innovative technology companies</li> <li>• Viable and affordable housing options</li> <li>• Start-up/Scale-up ecosystem</li> </ul>

## Smart City Vision and Guiding Principles

Extensive citizen consultations revealed that Vaughan's vision and definition for a Smart City is inclusive and vibrant. Collaboration, through a culture of sharing and learning, is the core value of Vaughan's Smart City work. A Smart City is a result of smarter solutions across all sectors, therefore requires a holistic approach to city-building. It is not the traditional siloed approach.

As described in the City's Strategic Plan, Vaughan Vision 2020, Vaughan will continue to be a city of choice that promotes diversity, innovation and opportunity for all citizens, fostering a vibrant community life that is inclusive, progressive, environmentally responsible and sustainable. Since the City of Vaughan is committed to its citizens and ensuring no one is left behind, this means policies and programs are inclusive and enable every resident an equal opportunity to participate. The main goals of a Smart City are to increase economic growth and improve quality of life while ensuring sustainability. The City is committed to improving the daily lives of residents, making Vaughan one of the most livable cities in Canada with a quality of life that is second to none.

**A Smart City ensures better use of resources, cost savings, more informed decisions based on the use of data, more efficient and seamless services, community collaboration and partnerships, improvements to safety and security, ease of doing business and equal opportunities for all citizens.**

Communication and continuous citizen engagement is an important component for successful Smart City implementation. The City of Vaughan's updated strategic plan Vision 2040 should include a Smart City approach that is shaped and informed by citizens. The City of Vaughan needs to continue its citizen engagement with a strategic communication plan to promote awareness of the benefits of a Smart City.

## Smart City Infrastructure

**Communication infrastructure is the foundation for a Smart City.**

In order for any Smart City initiative or project to be successful, the right communication infrastructure need to be in place. Infrastructure is more than just hard physical infrastructure that



consists of roads and bridges. More importantly, a Smart City requires the right communication infrastructure. High-speed fibre networks and points of presence to connect IoT across the city need to be in place for Smart City technology and projects to be built upon.

Having the right infrastructure in place for Smart City initiatives requires the City to work closely with partners and businesses, including developers, engineers, architects and technology providers to ensure communication infrastructure is in place before it's too late. Once hard infrastructure is built, it is too difficult and costly to integrate communication infrastructure. This must be considered at the initial planning stage. The City of Vaughan must consider long-term needs, and plan ahead.

It is also important for the City of Vaughan to participate in international Smart City networks. The City of Vaughan is in discussions with U.S.-based Smart Gigabit Cities "SGC" Cluster to become the first Canadian city to participate in this network. The SGC Cluster includes 20 U.S. mid- and smaller-sized cities, along with the City of Adelaide, Australia. Created by U.S. Ignite, a not-for-profit agency initiated by the Obama White House to stimulate innovation, the SGC project was one of the U.S. government's Smart Cities Challenge initiatives in 2015. Cities in the cluster each have a very high bandwidth innovation district for start-ups, and each city commits to creating two new Smart City Apps

and sharing them with the other cities in the Cluster, thereby creating and sharing a total of 40 new Smart City Apps. The City of Vaughan will become a full participant using high-bandwidth, low-latency technology called SAVI that is seamlessly compatible with the U.S. technology. Participating in this cluster will provide a unique opportunity for start-ups in Vaughan to collaborate with start-ups in the 20 U.S. cities. It will also facilitate collaboration and engagement between Vaughan's socially focused organizations, to share ideas and easily arrange online high-bandwidth collaboration and discussions using the gigabit networks in each participating city.





## Sarah's Story

Residents shared their experiences of being part of the “sandwich generation,” which revealed, first-hand, the impact to their well-being and productivity. One resident, Sarah, told us her story about the stresses of looking after her mother and her young children. She is an entrepreneur, who often spends countless hours commuting to Waterloo or Toronto to work because of the lack of incubators in Vaughan. The pressures of her Vaughan-based home life will often create conflict with her commute-based work life. The result is an overall decrease in her productivity and well-being. She explained the frustration of being stuck in traffic, missing a day of work, all compounded by having to deal with an already stressful situation. She is often driving her children to their activities and her mother to her medical appointments. Sometimes her mother calls with an emergency and she is all the way in Waterloo and with the traffic it is difficult for her to rush back to Vaughan to take care of her mother's needs. This adds to her already stressful situation.

A future Vaughan with Smart City initiatives will allow Sarah to stay in Vaughan and work at one of the many co-working and incubator spaces which offer support for her to scale up her business. Her business is growing because she is now able to get her products to her customers faster and more efficiently through the use of drone delivery.

Sarah can arrange for alternative mobility options including the use of autonomous vehicles to help take her mother to medical appointments and children to their activities, so this will free up more of Sarah's time to grow her business. She schedules her mother's medical appointments and children's activities using the Vaughan app. Sarah is also able to check in on her mother through a monitor and receives alerts if her mother falls and is in need of help. Sarah can now work in peace without having to constantly worry about her mother.

With one click on her phone Sarah is able to monitor her energy use in her home, turning off lights she may have forgotten. Sarah's daughter suffers from asthma and she is able to monitor the air quality within her home. She also receives alerts when the outdoor air quality index is high so she knows to monitor her daughter's outdoor activities.

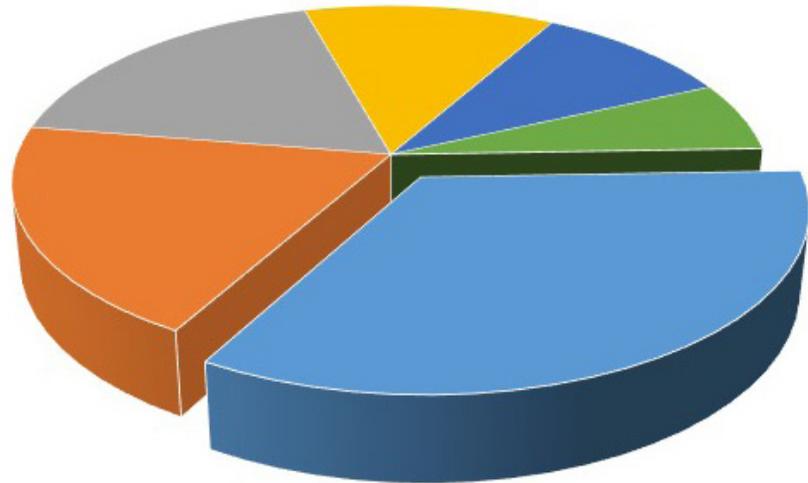


Figure 2: Survey results on focus area for the Smart Cities Challenge

## Focus Areas

- Healthy Living + Recreation
- Economic Opportunities
- Environmental Quality
- Safety + Security
- Empowerment + Inclusion
- Mobility

### SCATF Ideation for Smart Cities Challenge

Citizens identified healthy living and recreation as the focus area for Vaughan’s Smart Cities Challenge. Based on the healthy living and recreation focus and the inputs from the citizen engagement process the City of Vaughan identified mental well-being through building social cohesion as the main goal for its Challenge.

During the third meeting of the Task Force on March 25, 2018, the findings and results from the citizen engagement and consultation process were presented to Task Force members for consideration. The information was analyzed and summarized by City Staff and presented to Task Force members for input. Task Force members worked in break out groups to discuss findings and citizen priorities to identify solutions and projects for the Smart Cities Challenge.

### Six Big Ideas Were Generated By The Working Groups

1. Accessible Digital Gateway to help provide on demand services with real-time information through a citizen dashboard.

2. Build co-working space infrastructure across Vaughan starts-up and larger corporations outside of Vaughan.

3. Digitally rich “expo” style cultural centre with a digital footprint accessible from anywhere. Multiple pavilions: for seasonal, cultural, multi-use facility events for all citizens.

4. Shared economy place to live. Providing affordable housing to bring people together especially the marginalized populations.

5. Vaughan Corporate Wellness Challenge. Getting everyone in the City involved with physical fitness which links to mental well-being.

6. Create an interactive (physical and digital) community hub. That includes: digital space, physical space, wellness, micro agriculture, connecting the younger population to older populations and create Town Halls that are not “corporate” but for the people.

## Digital Garden

The suggested ideas from the Task Force members and findings from the citizen engagement process were consolidated by City staff into a “Digital Garden” proposal for Vaughan’s Smart Cities Challenge application. The proposal calls for the creation of a Digital Garden; an online platform to build social cohesion and create a more connected and engaged city through the Vaughan LaunchPad as the main community/innovation hub located in the Vaughan Metropolitan Centre and the five Local Gardens representing the community hotspots. Much like the concept of community gardens, the Digital Garden is a collaborative community initiative, with which citizens come together to plant fruits and vegetables for the community. However, in this case, data and ideas can be used by the City and the community to generate solutions. Much like community gardens, the Digital Garden will be a platform for sharing knowledge and learning, getting residents engaged and cultivating a culture of sharing, serving the greater community and building a sense of community belonging. The concept of the Digital Garden will be an online platform, however, the LaunchPad will be a physical space where people come together to work and share ideas. It will be the new meeting point for Vaughan residents. This will break down silos between Vaughan staff, local businesses, community organizations and residents. The Digital Garden will cement and cultivate a “One Vaughan” sentiment and make Vaughan one of the most connected and socially cohesive cities.

## Task Force Discussion on Smart City Governance and Management Framework for Vaughan

The Task Force discussed possible governance frameworks to be included as recommendations going forward to Council on Vaughan’s Smart City initiatives. The main take-aways from the Smart City governance structures discussion were: Smart City initiatives need to be driven from a central office/division that report to the head of the organization, Smart City priorities

and action items need to align with Vaughan’s Smart City vision and strategic direction, there needs to be a sense of urgency and the model must be sustainable, citizen engagement and communication is key, community collaboration is vital and projects must be measurable.

The following is a summary of the discussion on Smart City governance during the April 24, 2018 Task Force meeting:

**Executive Leadership:** Smart City initiatives must be driven by one person with an executive leadership role reporting directly to the head of the organization. There must be strong central leadership and executive ownership in order for Smart City initiatives to be implemented and successful. This could be a Smart City Office or Smart City Division, it is important that this office/division has the authority and capacity to coordinate Smart City initiatives across the City. Since politicians and city staff are risk averse, executive leadership needs to drive down management objectives and these must be in sync with strategic objectives. It was noted that some cities have called the role Chief Transformation Officer and the Mayor mentioned that Dubai has a central Smart City office.

**Roadmap and Strategic Priorities:** Community priorities identified are broad, they must align with Vaughan’s Smart City strategic direction and vision. A Smart City strategy will help identify high-level principles and strategic pillars for Vaughan’s Smart City direction.

**Citizen Engagement:** There must be continuous citizen engagement and consistent communication with citizens. There needs to be a continuous feedback loop with citizens. It would be important for citizens to be involved and included in the governance model to give them a sense of ownership.

**Community Collaboration:** Community and neighbourhood assets should be leveraged to support Smart City initiatives. Community networks need to be partners in Vaughan Smart City platform.

**City Collaboration – locally and internationally:**

A Smart City is about collaboration, being innovative, efficient and resourceful. This means learning and sharing with municipalities locally and globally. A Smart City is about connecting ideas and moving forward efficiently. It is important to share resources and collaborate with local municipalities as this will bring more benefits to citizens.

**Sustainable Model:** There must be a sustainable model in order for Smart City projects and initiatives to be successful. Smart City projects are not one-time initiatives. There needs to be an ecosystem and model in place to promote buy in from the community and citizens. Partners are an important part of the ecosystem and they need to contribute to the Smart City platform.

**Sense of Urgency:** A sense of urgency must be created for Smart City initiatives to move forward. This is not a ‘nice to have’. There needs to be a sense of urgency, we are creating a city that can react quickly.

**Communication:** It is important to communicate to both staff and citizens. Smart City initiatives need to be included in Vaughan’s strategic plan so this can be top of mind for all staff. Smart City initiatives must be communicated in a way that is understood by citizens and staff. Benefits of a Smart City need to be conveyed clearly to citizens in order to obtain their buy in. Vaughan’s Smart City journey is being captured and disseminated to citizens through the website [Vaughan.ca/SmartCity](http://Vaughan.ca/SmartCity)

**Risk Averse Culture of Cities:** Governments are traditionally risk averse and are not willing to try new processes because they are afraid to fail. Leadership should take some risks and if the direction is set by leadership, staff are more willing to take on risks.

**Must be Measurable:** The progress and success of projects and initiatives must be measurable. It is important to assess which projects will

bring the biggest results and impacts. Citizens will not measure success by going through Vaughan’s strategic plan, but citizens will measure by their experience.

**Infrastructure is Important:** The right infrastructure needs to be in place to provide a supportive environment for Smart City initiatives. It was recommended that when speaking of infrastructure, other forms of infrastructure need to be included, not just roads, bridges and transit. It should also include technological infrastructure, such as broadband, which is important for Smart City initiatives and social infrastructure, such as community services and public facilities.

**Data Governance, Intellectual Property and Privacy Issues**

Big data and sensors are synonymous with Smart Cities and therefore data governance and intellectual property, resulting from Smart City initiatives, need to be examined and taken into consideration. Smart City technology and initiatives should be implemented for the greater good of citizens, and therefore data and intellectual property need to be protected to ensure this happens and to prevent misuse. Lessons should be taken from the Toronto Waterfront and Sidewalk labs experience with regards to data governance and privacy issues.

**Continuation of the Smart City Advisory Task Force**

The City of Vaughan is in the midst of an important transformation and there is a strong sense of urgency for Vaughan to adopt a Smart City approach and implement Smart City initiatives. In order to maintain this momentum, it is important for the Mayor and Council to continue to take on a leadership role in driving this transformation. It is vital that the Mayor’s Smart City Advisory Task Force continue into the next term of Council in order to continue moving the Smart Cities movement forward in Vaughan.

# RECOMMENDATIONS & NEXT STEPS

Based on the findings and results from the citizen engagement and consultation process, the Smart City Advisory Task Force recommends the following:

- 1** The City of Vaughan recognize and incorporate Smart City as a priority in the 2019-2023 Term of Council Service Excellence Map;
- 2** A Smart City citizen engagement plan be developed;
- 3** Continuation of the Mayor's Smart City Advisory Task Force for the next term of Council;
- 4** The Economic and Cultural Development department be identified in the Corporation's Organizational Structure as the lead for all Smart City initiatives; and
- 5** Staff in the Economic and Cultural Development prepare, a multi-year business plan, strategic roadmap and budget for inclusion in the 2019 Budget process.

**The Business plan should include the following priority action items:**

- Conduct a survey and mapping of existing Smart City initiatives that are already underway within the various city departments and divisions to identify strengths and gaps. This mapping will help form a basis for the development of a Smart City roadmap.
- Identify best practices from cities around the world that have implemented successful Smart City initiative to solve challenges based on citizen priorities.
- Consider and actively pursue alternative funding models and opportunities for Smart City initiatives, such as crowdsourcing and fundraising. Options could include the creation of a Smart City fund, which would include contributions from businesses, community partners, City of Vaughan, York Region and other government sources. Another option may be to include dedicated Smart City funding in the City's annual budget.
- Examine and investigate policies around data governance and intellectual property of Smart City developments.
- Create an innovation platform for businesses, entrepreneurs, community partners, and cities to provide input and feed into the City of Vaughan's Smart City roadmap.
- Vaughan to create its own "Supercluster" for innovation.
- Establish a start up/scale up ecosystem to support Vaughan entrepreneurs.
- Establish Vaughan sponsored co-working/incubator space, that can also be an event space for people to collaborate in the sharing of ideas.
- Investigate the demand and need for expanded communication infrastructure network investments required to support Smart City developments.
- Develop a "One Vaughan Portal" and App with real-time information on traffic, events and other services.
- Create a Vaughan Smart City 3D model to communicate to citizens what a Smart City would look like and the potential benefits.
- Consider Smart City pilot projects in the Vaughan Metropolitan Centre, in order to capture unique opportunities for seamless integration while the City's new downtown is still at the development stage.



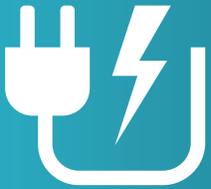
**City of Vaughan**

Office of the Chief Corporate Initiatives  
and Intergovernmental Relations

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2141 Major Mackenzie Drive  
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L6A 4Y1

Canadian Federal Government  
Smart Cities  
Challenge



City of Vaughan  
**Application**



[vaughan.ca/SmartCity](http://vaughan.ca/SmartCity)

April 24, 2018

The Honourable Amarjeet Sohi  
Minister of Infrastructure and Communities  
Re: Smart Cities Challenge



180 Kent Street, Suite 1100  
Ottawa, Ontario K1P 0B6

Dear Minister,

The City of Vaughan is in the midst of a transformation with major city-building initiatives underway. As the City continues its evolution, my vision for Vaughan has always been clear: finding new ways to adapt to change, improving the citizen experience and enhancing the quality of life.

With that in mind, I created Vaughan's Smart City Advisory Task Force to continue to make a significant impact on every aspect of city life. As Chair of the Task Force, I am joined by an impressive group of 35 well-respected Canadian and U.S. leaders in social, economic and environmental sectors.

With that in mind, the City of Vaughan agrees with the Federal Government in its pledge to support mental health and the well-being of people as one of the most pressing challenges we face, and believe positive impacts can be accomplished through the use of technology and data.

Technology has played a vital role in our evolution. We have embraced the World Council on City Data, and in January 2016 Vaughan became the second municipality in Canada to be WCCD ISO 37120 Platinum Certified and will be the first city to pilot the new Smart Cities standard ISO 37122. Our community has also fully embraced the new Mackenzie Vaughan Hospital. When complete, it will be the first hospital in Canada to feature fully integrated "smart" technology systems and medical devices. Canada's first smart hospital!

I'm confident our "Digital Gardens" concept, highlighted in our application, will strengthen and increase social cohesion and civic participation in Vaughan. Both are key elements when discussing mental health and well-being. The positive outcomes, driven by our Smart Cities Challenge proposal, can be realized in many communities throughout Canada, with whom we share numerous commonalities.

I applaud the Federal Government for this opportunity to empower municipalities to think about the future which will accelerate and mainstream innovative programs that focus on the achievement of outcomes that address complex economic, environmental and social problems. Working to become a Smart City is a chance to encourage civic engagement, accelerate economic growth and generate efficiencies. It puts Vaughan on the leading edge of innovation to adapt to a growing community that values sustainability and creativity — a community in which everyone has their rightful opportunity to succeed and no one is left behind.

On behalf of the City of Vaughan please find enclosed the City's submission to the Federal Government's Smart Cities Challenge.

Yours sincerely,

A handwritten signature in blue ink that reads "Maurizio Bevilacqua".

Hon. Maurizio Bevilacqua, P.C.  
Mayor

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- 20** **Q10:** Describe the partners that are or will be involved in your proposal. Where partners are not yet determined, describe the process for selecting them.

# Proposal Summary (200 words max)

The Smart Cities Challenge proposal by the City of Vaughan, in collaboration with our citizens, builds off the leadership of our Federal Government in placing mental well-being at the forefront of its agenda.

By leveraging leading-edge technology, expertise from our Mayor's Smart City Advisory Task Force and invaluable insight from engaged Vaughan residents, we will implement a Digital Gardens concept to produce scalable, positive outcomes.

Vaughan's identity is closely linked to a number of smaller communities, with which many of our residents closely identify. The Digital Garden is a collaborative sharing platform for data, ideas and solutions. Through a centrally located Vaughan LaunchPad, in our new downtown core, our proposal

seeks to use data and citizen collaboration to foster connections linking Vaughan's five communities through Local Gardens.

We are confident this will drive social cohesion and enhance a sense of belonging, while improving accessibility to City services, information and events.

The concept of the Digital Garden will change the way we live, work, play and move around, placing Vaughan citizens at the cutting edge of transformation. This will cement and cultivate a "One Vaughan" sentiment and make the City of Vaughan one of the most connected and socially cohesive cities.



## Q1: Please provide the following information on your community.

---

Name of community: City of Vaughan

Population: 306,233

Province/Territory: Ontario

Indigenous community: No (Yes/No)

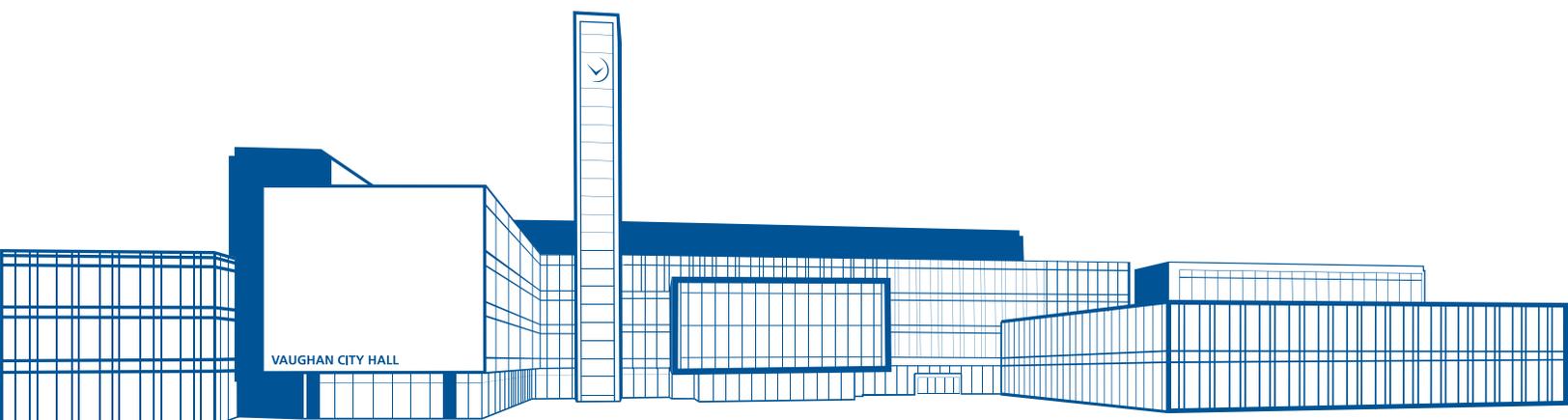
## Q2: Please select a prize category.

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\$50 million (all population sizes)

\$10 million (population under 500,000 residents)

\$5 million (population under 30,000 residents)



**Q3:** Define Challenge Statement in a single sentence that guides preliminary proposal. It should describe the outcome (or outcomes) you hope to achieve. (50 words max)

Vaughan will continue to blend its five historic communities into “One Vaughan” with connected and engaged citizens to strengthen social cohesion and increase a sense of belonging by 10 per cent while creating new levels of accessibility to services, information and events, thereby supporting mental well-being for all Canadians.



## Q4: Describe the outcome (or outcomes) your proposal seeks to achieve by elaborating on your Challenge Statement. (2500 words max)

### Why A Smart Cities Approach

The City of Vaughan's definition of a Smart City is one that is citizen-centric with the goal of sustainability at the core, and a focus on collaboration and working together with the community to address challenges and transform traditional approaches targeting prosperity, inclusivity and resiliency to ensure long-term economic vitality. Vaughan's proposal for the Digital Garden (which will be elaborated on in question 6) supports our definition of a Smart City by using data and technology to create more connected and engaged citizens to improve social cohesion, thereby supporting mental well-being and improving quality of life of Vaughan residents. Our proposal is scalable and, if adopted by other municipalities, will have similar benefits extending to all Canadians.

The City of Vaughan's consultations, through city-wide engagements and focused workshops with stakeholders, revealed that the main challenge(s) identified by residents were feeling disconnected, a lack of social cohesion and lack of "One Vaughan" identity. Residents wanted to see a more inclusive and vibrant Vaughan. Like many cities across Canada, the City of Vaughan is geographically dispersed, and most residents stay within their local communities and neighbourhoods. Our proposal provides a platform to address these challenges.

Social cohesion is the glue that holds a community together. Fostering social cohesion means greater inclusiveness, more civic participation and creating opportunities for upward mobility. Promoting social cohesion requires strong community partners and collaboration to implement meaningful collective action and, therefore, the need for a smart city approach.

### Social Cohesion to Support Mental Well-Being of Our Citizens

Canada is a country built on immigration, which continues to be a strong driver of our economy with 75 per cent of our population growth due to immigration (Conference Board of Canada, 2017). Building social cohesion and a sense of belonging is important for the continued growth and success of Vaughan and Canada. It is important we incorporate policies that are inclusive and promote social cohesion by bringing people together and capitalizing on our diversity.

People who are more socially connected to family, friends or their community are happier, healthier and live longer, which is a building block of mental well-being. Isolation leads to a breakdown of mental health and mental well-being. Thus, by improving social cohesion through the creation of a more engaged and connected city, we are supporting the mental well-being of Vaughan residents.

Mental illness is not to be ignored. It affects one in five Canadians and nearly one-third of people in Ontario, and has a significant impact on our communities (Government of Canada and Government of Ontario). More than 6.7 million people in Canada are living with a mental health problem, and the cost of mental illness is estimated at \$51 billion per year in Canada and is expected to be \$307 billion by 2041 (Mental Health Commission of Canada, 2013). By building social cohesion at the municipal level, we are supporting and improving the mental well-being of our residents and positively impacting their quality of life. It will also improve our productivity. Mental health is the leading cause of workplace disability in Canada. In any given week, there are 500,000 people unable to work due to mental health problems, one in three workplace disability claims and 70 per

cent of disability costs are related to mental illness. In 2011, the productivity impact of mental illness was estimated to be more than \$6.4 billion and will increase to \$16 billion in 2041 (Mental Health Commission of Canada, 2013).

We will work together with partners to make Vaughan the place to be, to live, work, play and invest, where residents live longer, happier and healthier lives. We have identified the mental well-being of our citizens as a priority in achieving this, as have our Provincial and Federal counterparts. Our ultimate goal is to support and improve the mental well-being of residents in Vaughan by increasing and building social cohesion and creating a well-connected and engaged city. We will improve mental well-being by nurturing a sense of belonging and creating a more connected Vaughan — connecting people, places and information. We will build a vibrant Vaughan, focusing on cultivating arts and culture and celebrating diversity. Through an increased sense of belonging and connection to their community, citizen engagement and civic participation will measurably improve.

### Vaughan's Profile

The City of Vaughan is one of the fastest-growing municipalities in Canada with a diverse and aging population, geographically dispersed with a large commuter population, low unemployment but rising inequality and polarization, which is characteristic of many suburban cities in Canada. Vaughan celebrated its 25th anniversary as a city last year, and during this period the City experienced significant growth and transformational change. Vaughan's population reached 306,233 in 2016 — a 6.2-per-cent increase from 2011. This rapid growth has impacted our communities and the social fabric tying us together. As a city, it is important to be cognizant of this change to address pressing issues and to build social cohesion. The City of Vaughan includes five communities: Maple, Woodbridge, Thornhill, Concord and Kleinburg. Most residents (and even non-residents) identify more with these smaller communities than they do with the city as a whole.

The population of Vaughan is diverse with 46.3 per cent of our residents born outside of Canada and 105 different languages spoken. Much of the growth in the City of Vaughan can be directly attributed to

our ability to attract newcomers, which strategically positions Vaughan for stable long-term economic growth and development.

Vaughan has a very low unemployment rate of 5.8 per cent and a high labour participation rate of 68.6 per cent. Vaughan has also achieved the highest rate of self-employment when compared to other Ontario cities with a population of 250,000. The City of Vaughan is home to a large commuter population with 63 per cent travelling outside the city or region for work. The majority (84 per cent) travel to work in a private vehicle, 13 per cent use public transit, while only three per cent walk, cycle or use another mode of transportation for their commute. The City of Vaughan is also a net importer of jobs, drawing in more workers each day from across the Greater Toronto Area than the resident labour force, resulting in many people commuting into the city for work.

Most Canadian cities are dealing with an aging population. Over the past five years, there has been a 35-per-cent increase in Vaughan's senior population. The City is committed to providing aging residents with the care and services for them to live with dignity and support. Aging has been identified as a priority by our Mayor and Council, and the needs of the aging population are taken into consideration in the City of Vaughan's Seniors Strategy, Active Together Master Plan, Transportation Master Plan and other City initiatives and strategies. In fact, the World Council on City Data (WCCD) has identified that Vaughan residents live longer than residents of many international cities in the WCCD database. Vaughan has a life expectancy of 86, which is higher than Barcelona, Melbourne, London, Shanghai and Dubai.

The poverty rate for the City of Vaughan in 2015 was 8.8 per cent, based on the Statistics Canada low-income measure after tax. However, the Vaughan Community Well-being Report indicates that residents living on low income in York Region grew almost by 61 per cent from 2000 and 2012. Affordability is also a serious issue in Vaughan, where the cost of single detached homes increased by 87 per cent and the wait list for social housing increased by 63 per cent during this period. Furthermore, research by the United Way shows relative inequality in York Region has increased by 63 per cent from 1970 to 2015 and relative increase in polarization by 98 per cent within this same timeframe. Rising inequality and polarization often lead to undesirable social outcomes and tensions.

## A Connected and Engaged City to Build Social Cohesion

A socially cohesive society is one that works toward the well-being of all its members, fights exclusion and marginalization, creates a sense of belonging, promotes trust and offers its members the opportunity of upward mobility. Mayor Bevilacqua often emphasizes that Vaughan citizens are the City's most important assets because they embody the spirit of this city. Vaughan citizens have a kindness and generosity that is real, genuine and infectious, and as we continue to build Vaughan, it is vital we keep the human connection in mind. Mayor Bevilacqua views the Smart City approach as an opportunity to encourage greater civic engagement, accelerate economic growth and generate government efficiencies by working together with our community.

Stakeholders during the consultations repeatedly stated that they would like to see a more vibrant Vaughan with more community events and festivals and a focus on arts and culture; a place where people stay instead of leave. Vaughan citizens wanted a more inclusive Vaughan, more activities and programming for seniors and youth. Residents also talked about a lack of Vaughan identity. Most residents identify with their own local communities instead of Vaughan. Residents wanted the City to focus on improving quality of life with an emphasis on health and well-being. We listened and believe this can be achieved by focusing on building social cohesion.

The Harvard University longitudinal study on human development found relationships have a direct correlation to happiness. Research has shown loneliness to have detrimental health implications and is associated with higher rates of mortality and lower life satisfaction (Mental Health Foundation). Communities are changing from traditional neighbourhoods, where everyone knows each other, to communities in which people barely know their neighbours. This change can be attributed to a number of modern factors, including longer working hours, differing family structures, people living farther apart and our reliance on social media and technology to stay connected (Mental Health Foundation).

During the consultations, we heard about the stresses of the "sandwich generation" who are supporting and providing care for both their children and their

parents. More stress is placed on this demographic, who often are the ones working and supporting their families than ever before. Residents shared their experiences of being part of this "sandwich generation," which revealed to us, first-hand, the impact to their well-being and productivity. One resident told us her story about the stresses of looking after her mother and her young children. She is an entrepreneur, who often spends countless hours commuting to Waterloo or Toronto to work because of the lack of incubators in Vaughan. The pressures of her Vaughan-based home life will often create conflict with her commute-based work life. The result is an overall decrease in her productivity and well-being. She explained the frustration of being stuck in traffic, missing a day of work, all compounded by having to deal with an already stressful situation. This is an all-too-familiar story for 28 per cent (in 2012) of Canadians who are part of this "sandwich generation," balancing the demands of caregiving and raising children, most often impacted women (54 per cent), those between the ages of 35 and 44 (37 per cent) (Statistics Canada, GSS Cycle 26, 2012). The General Social Survey (GSS) also revealed caregivers reported feeling worried or anxious, 28 per cent of respondents found providing care somewhat or very stressful and 19 per cent indicated their physical and emotional health suffered in the last 12 months as a result.

Greater diversity increases the need for cultural, ethnic or religious accommodation and impacts social cohesion. A study completed by Harvard Political Scientist Robert Putnam found that residents in more diverse communities reported having less trust in their neighbours, media, local government, fewer people voted, fewer people gave to charity, fewer people worked on community projects and had fewer friends. The study found that people in diverse communities were less happy overall and less satisfied with their lives (Putnam, 2007). The social cohesion of our community is made up of our shared norms and values. Diversity can impact this and we must ensure we accommodate to the needs of our community. It's important we capitalize on our diversity and to tell stories of residents in our community to build social cohesion. Evidence increasingly shows that social cohesion is critical for societies to prosper economically and for development to be sustainable (WHO, 2008). Research shows that cities with large immigrant populations tend to have

higher productivity and innovation. Diversity leads to cross fertilization of ideas that contribute to creativity and innovation, and also contributes to global connections, which is key to economic development (Spoonley, 2014). The City of Vaughan will capitalize on its diversity and provide a platform for innovation.

## Measures

Social capital, which is often used as a measure for social cohesion, is not currently being tracked. However, baseline data on sense of belonging, voter participation and civic participation are available. The proportion of residents who reported a somewhat strong or very strong sense of community belonging in York Region from 2013 to 2014 is 66 per cent, which is below the provincial average of 68 per cent (Canadian Community Health Survey, 2007–2014). Voter participation in Vaughan for the last municipal election in 2014 was low at 30.3 per cent. The national average was 43.12 per cent. Voter participation is a good proxy indicator for civic engagement and how active residents are with municipal issues. Also, a 2014 survey indicated 57 per cent of respondents said they were unlikely to participate in town hall meetings, 34 per cent were somewhat likely to participate and only 9 per cent were very likely to participate.

With regards to civic participation, our citizen survey reveals that fewer people are interacting or accessing city services in Vaughan than the national norm. The survey revealed the following:

- 42 per cent of residents indicated they had contact with City of Vaughan staff or an employee in the past 12 months (national average is 52 per cent).
- 45 per cent accessed or used a service/program provided by the City and 39 per cent did not have any contact.
- 62 per cent were very/somewhat aware of the Vaughan Metropolitan Centre, our new downtown, and 38 per cent were not aware, compared to 90 per cent who were very/somewhat aware of the new subway line connecting Vaughan to downtown Toronto.

Currently, the City of Vaughan hosts 21 “City-led” events throughout the year and supports 21 “community-led” events.

To measure progress and success of our proposal, we will measure sense of belonging, social capital, number of Vaughan-sponsored community events and citizen participation in community events.

The City will start measuring sense of belonging and social capital through our citizen survey, which is undertaken by Ipsos Reid and updated every two years. This will give the City an ongoing data set that can be reviewed to a baseline. We will use data from our proposed projects to measure Vaughan-sponsored events and citizen participation in events. We will also have project-specific metrics, which will be outlined in Question 6.

**Q5:** Describe how your community residents have shaped your Challenge Statement. Describe your plans for continuing to engage and involve them in your final proposal going forward. (1500 words max)

### **Citizen Engagement and Outreach**

The City of Vaughan's approach to stakeholder consultations for the Smart Cities Challenge has been inclusive and engaging. The City created an engagement and outreach strategy with a full feedback loop, consisting of city-wide engagement, focused workshops, input and feedback from the Mayor's Smart City Advisory Task Force and citizen verification to inform the Challenge and ensure citizens' priorities are met.

The City of Vaughan is made up of diverse groups of cultural backgrounds with diverse interests. The citizen engagement approach we took for the Smart Cities Challenge was to create a future for Vaughan shaped by residents, as well as giving citizens a voice in the definition of issues and problems. By doing so, we sought to provide an opportunity to our residents to develop ideas and solutions. The City of Vaughan reached out to various groups and organizations to provide a well-rounded view of the needs of Vaughan citizens and businesses. Staff engaged with community stakeholders, businesses, non-profit organizations and service providers whose goal is to improve quality of life and well-being of residents.

### **Citizen Engagement, Survey and Workshops Summary**

The City of Vaughan took a multi-channel approach to citizen engagement and feedback, including the creation and involvement of the Hon. Mayor Maurizio Bevilacqua's Smart City Advisory Task Force, seven two-hour workshop/focus group meetings, a unique Smart Cities art curated event and discussion, and a series of broadly based citizen outreach and engagement initiatives.

The Smart City Advisory Task Force is chaired by Mayor Bevilacqua and comprised of 35 leading Canadian and U.S. leaders in social, economic and environmental subjects of future Smart City importance. A majority, 69 per cent of the Task Force members, are C-Suite-level individuals directly responsible for effecting change within their organization. The Task Force is facilitated by William Hutchison, Chair, i-CANADA Alliance and Distinguished Research Fellow at the Munk School, University of Toronto, with more than 20 years' experience in building Smart Cities. The workshop/focus groups were each comprised of approximately 20 experts in the subject, and output from the workshops and feedback from the citizen surveys and related interviews provided input to the Task Force. Task Force members then collaboratively used their senior-level experience to provide input and feedback for Vaughan's Smart Cities Challenge application.

## Citizen Engagement Details

The broadly based citizen surveys asked residents in which area the City of Vaughan should focus for the Challenge and encouraged them to share their big ideas. To ensure our approach is inclusive, we reached out to a wide segment of our residents. This included traditional city-wide website outreach through communication to citizens, business contacts established with the Economic Development and Culture Services department, not-for-profit organizations, such as United Way of York Region, York Entrepreneurship Development Institute, Vaughan's future hospital, local post-secondary educational institutions (York University, University of Toronto) and outreach through the Task Force member networks.

The City reached out to residents by traditional email blast through our networks including: Vaughan Business Enterprise Centre (2,700); Vaughan Chamber of Commerce (900); City of Vaughan internal staff (City of Vaughan Social Media Channels: Twitter – 12,843, Facebook – 4,722, Instagram – 2,519).

Vaughan Councillors also reached out to their respective constituents with the survey emailed to 8,000 residents and businesses. Each Councillor was also interviewed to ensure our identified Challenge reflected the needs of their constituents.

Vaughan is a family oriented city so City staff attended Winterfest for additional input from residents. As part of the City of Vaughan's corporate partnership with Vaughan Public Libraries, we asked them to help administer the survey to reach a wider segment of the Vaughan population. The libraries are an important partner for the City of Vaughan, helping to bridge the digital divide and ensuring Vaughan residents have access to digital capabilities and education so they're not left behind.

## Focused Workshops

The digital transformation tool for decision-making processes, PowerNoodle, was used during the workshops in order to facilitate meaningful conversations with our stakeholders. To obtain the expertise of a wide spectrum of experts, the City held six focused workshops and a community engagement workshop, which were open to all residents. The themes included: millennials, arts and culture, inclusion and empowerment, environmental sustainability, industry and innovation, health and wellness. The workshops provided an opportunity to share with participants the Smart Cities efforts that we are undertaking in the City of Vaughan and information about our Smart Cities Challenge. The City engaged in meaningful conversations about what mattered most to residents and challenges the community faces. We utilized PowerNoodle by organizing and prioritizing ideas, and enabled participants to comment and provide input on each other's feedback.

### smARTcities: Exploring the Digital Frontier

Our Smart City art exhibit offered a unique engagement component to Vaughan residents. Artist Ron Wild integrates Vaughan-centric imagery into a symbolic visual vocabulary to envision the transformative role technology and IoT can play. The City used art as a medium to educate and facilitate conversations with residents on Smart Cities. As part of this exhibit, we hosted an engaging discussion with an expert panel consisting of the artist, Ron Wild, Oren Berkovich, CEO, SingularityU Canada Summit, Lilian Radovac, Urbanist Professor, University of Toronto and Vaughan CIO Frank Di Palma and members of the audience about art, innovation and city-building, filtered through the context of Smart City transformation. As part of this process, we are encouraging Vaughan residents to submit digital interpretations illustrating the transformative potential for Smart City technologies and all submissions will be integrated into an original MEGAsmARTcities digital map remixed and composed by Ron Wild.

## Previous Engagements

The City also took into consideration previous stakeholder engagements and consultations that formed key City of Vaughan strategies. The findings and results were reviewed from the following: Digital Strategy 2.0, Citizen Satisfaction Survey, Service Vaughan Strategy, City of Vaughan Strategic Plan: Vision 2020, Green Directions Vaughan, Active Together Master Plan, VMC Cultural Framework and Public Art Plan and Creative Together: A Cultural Plan for the City of Vaughan. Each of these strategies and plans included extensive consultations with residents, staff and other key stakeholders.

## What We Heard – Results from the Engagement Process

Through extensive consultation, we asked residents what they thought were the main challenges residents in Vaughan faced and the results were consistent with previous City and community engagements: 1) Residents don't identify with Vaughan, but rather with their local communities and, 2) A desire by residents for more events. This is consistent between previous engagements and the consultations that took place for the Smart Cities Challenge.

The issues of inclusive communities and accessibility came up often. The need for more services for Vaughan's aging and youth population were emphasized. The concern of Vaughan's hidden poverty came up, the pressures of keeping up with everyone and the issues with affordability. Lack of housing affordability was a main concern for millennials and, as a result, young professionals are often moving out of Vaughan. Residents also wanted a vibrant city with an emphasis on arts and culture with more cafés and events.

Traffic congestion and lack of transit options were often top-of-mind issues in previous consultations. Vaughan is challenged to address the first-last mile gap because of its typical suburban development process. While two subway stations were recently opened in the City, including a new terminal station at the Vaughan Metropolitan Centre, it is

still a challenge to access these higher-order transit connections. Furthermore, outside of these stations, the major communities in Vaughan are not well connected by roads or transit due to geographic constraints and land use patterns.

## Continued and Ongoing Stakeholder Consultation Process

The City will continue to work with our community to help us design the details of the Digital Garden, our Smart Cities Challenge proposal. We will continue the engagement process with consultations throughout the proposal stage and the development of the design and project implementation strategy. Vaughan residents will have an opportunity to shape and provide input to the proposal to address their needs. The City will also work with the community in identifying piloting opportunities.

Furthermore, the City of Vaughan will continue to engage our residents as part of our ongoing Smart City efforts through the Mayor's Smart City Task Force. In addition to gathering input from residents on the City of Vaughan's Smart Cities Challenge proposal, the continued engagement will also help frame Vaughan's Smart City Strategy and the priorities for the new Term of Council. To ensure we take in all the needs of our residents and communities, we will create an Equity and Inclusion Advisory Committee to advise the Mayor and provide input to City of Vaughan initiatives. An Equity and Inclusion Advisory Committee will consist of members from a cross-section of communities, including faith groups that represent the diversity of Vaughan residents. The Equity and Inclusion Advisory Committee will also provide advice and input into our Smart Cities Challenge proposal.

## Q6: Describe your preliminary proposal and its activities or projects. (2500 words max)

### Our Vision

We are a city that is committed to our citizens and making sure no one is left behind. This means our policies and programs are inclusive and enable every resident an equal opportunity to participate. We are committed to improving the daily lives of our residents, making Vaughan one of the most livable cities in Canada with a quality of life that is second to none.

Our visionary mayor is committed to “sensory-based planning” to enhance the human experience as part of city living. It is about how people feel living in a city and what they can see and touch. This concept was used in developing the VMC to include experiential elements people can see and feel to immediately create a sense of belonging. We will use data and technology to create a “One Vaughan” identity by connecting residents and encouraging participation in events to increase community sense of belonging and social cohesion.

### Innovative Community Collaboration Through a Digital Garden

Our proposal calls for the creation of a Digital Garden; an online platform to build social cohesion and create a more connected and engaged city through the Vaughan LaunchPad as the main community hub and the five Local Gardens representing the community hotspots. Much like the concept of community gardens, the Digital Garden is a collaborative community initiative, with which citizens come together to plant fruits and vegetables for the community. However, in this case, data and ideas can be used by the City and the community to generate solutions. Much like community gardens, the Digital Garden will be a platform for sharing knowledge and learning,

getting residents engaged and cultivating a culture of sharing, serving the greater community and building a sense of community belonging. The concept of the Digital Garden will be an online platform, however, the LaunchPad will be a physical space where people come together to work and share ideas. It will be the new meeting point for Vaughan residents. The Digital Garden will cement and cultivate a “One Vaughan” sentiment and make Vaughan one of the most connected and socially cohesive cities.

### Vaughan LaunchPad

A collaborative co-working, co-learning and interactive space in the Vaughan Metropolitan Centre hosted by the City of Vaughan.

The Vaughan LaunchPad will provide the following:

- Collaborative co-working and incubator space for local entrepreneurs and businesses;
- Co-learning space with online classroom capabilities and Singularity University Campus;
- Smart City Expo for citizens to learn about new emerging technologies and city solutions from around the world;
- City engagement space, an interactive place for city staff to discuss city challenges and issues with citizens using data collected from the Gardens (community hotspots) and to receive feedback and input on specific strategies and issues, and;
- Test City Headquarters, testbed for piloting city and business solutions.

## Local Gardens

The Local Gardens will be community hotspots, similar to Smart Kiosks, and will be the local community hub for the Digital Garden. Each Local Garden will be designed with, and by, the community to showcase and enhance the local communities' heritage and culture.

The Local Gardens will provide the following services:

- Wayfinding, directing citizens to the most convenient route and transit options, and ability to access shared mobility options;
- Social media interactions, have up-to-date information on events and what's happening in the local community and within Vaughan;
- Administrative city procedures, such as online payments and digital deputations;
- One-stop shop for government services, including Service Ontario offerings;
- Public WiFi for residents and tourists;
- Ability to broadcast events;
- IoT sensors to gather data on traffic, parking, air quality, attendance at events, etc.;
- Comprehensive listing of points of interest, events, nature and trail system, recreational activities and programming, and;
- Mini Gardens, which are digital interactive stations that will be placed in community centres, long-term living facilities, seniors' residences and the Mackenzie Vaughan Hospital that provide services, WiFi and screens for broadcasted events.

The Digital Garden proposal is innovative and collaborative. It will change the way we work, learn, move around the city, engage and interact with citizens and, most importantly, the way we play and celebrate to create a more socially cohesive Vaughan by engaging and connecting residents.

## Changing the Way We Engage and Interact with Citizens

Through the Digital Garden concept, city services will become more accessible by making tax and parking payments and other city services, as well as Service Ontario, available through Local Gardens. Further innovation will give residents the ability to use the Local Garden platform to make online deputations to Council, making it more accessible for those who cannot attend meetings in person to have their voices heard.

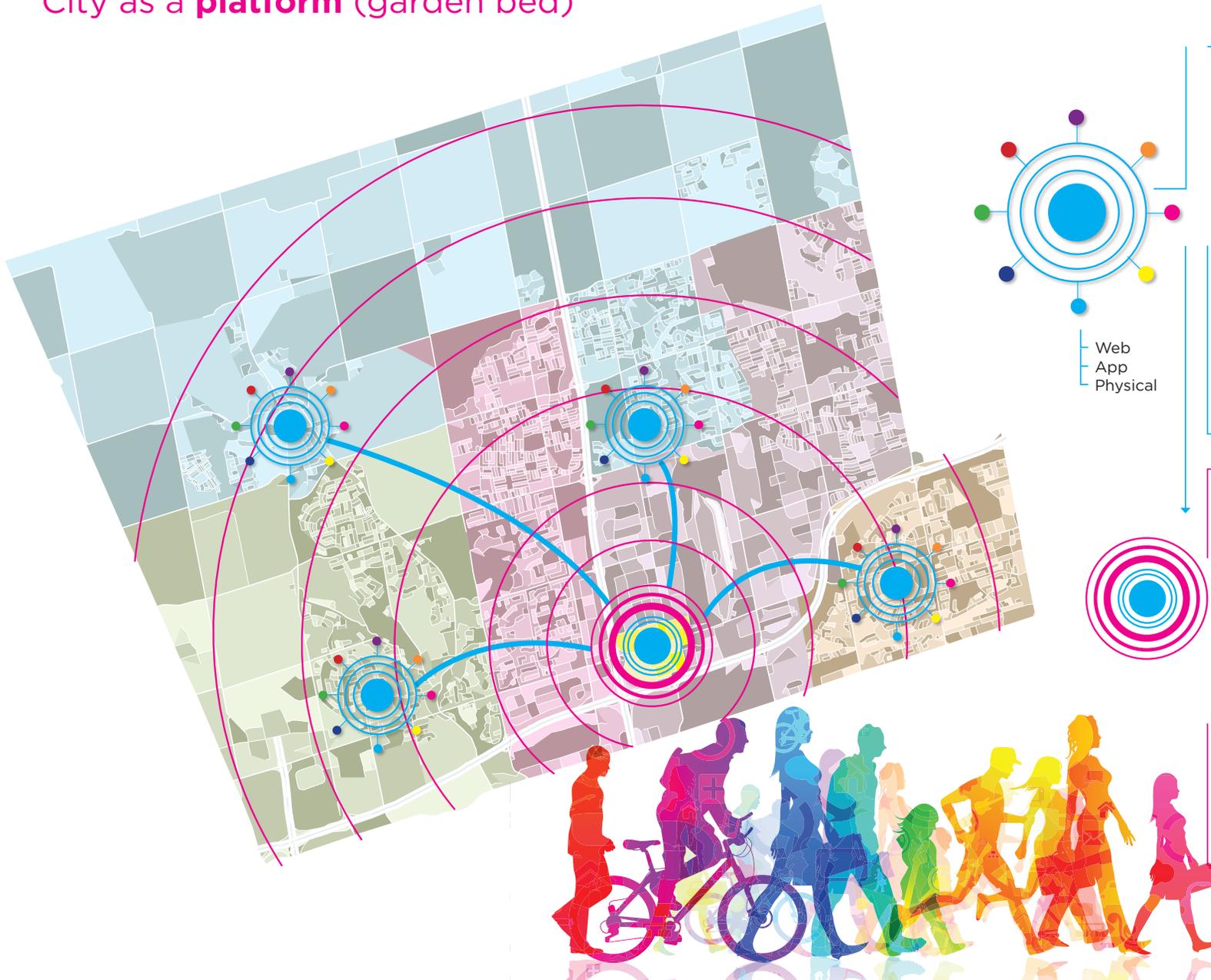
The Local Gardens, through IoT sensors, will gather data on traffic, parking, air quality, temperature and other information to help inform dialogues and solutions with residents. Improved, more accurate and open data increases the social capital between city staff and citizens by providing evidence of the actual issues the community is facing, enabling conversations based on facts and solutions that are targeted.

Vaughan's commitment to open data means we can have more engaging and meaningful dialogues with citizens on top-of-mind city issues, such as traffic congestion and air quality. For example, historical, fine-grained origin-destination and travel time information allows for the analysis, identification and testing of solutions that were not previously possible. Having this data available through the Digital Garden will provide an opportunity for City staff to use the LaunchPad as a space to interact and engage with citizens, using open data evidence for solving challenges and proposing solutions. City staff can use data to engage in dialogues with residents to identify specific community challenges and needs, work with residents to implement solutions and use data to have dialogues after the testing to show residents the results and impacts.

The City can use improved data collection and synthesis to provide revolutionary services. An advanced traveller information app can inform citizens of traffic incidents and provide viable alternative travel options, such as shared mobility/micro-transit vehicles or locations of the nearest dockless bikeshare bicycles. Solutions such as these will improve citizen trust in City services, and increase accessibility and transportation

# Connecting our Community through **Digital Gardens**

City as a **platform** (garden bed)

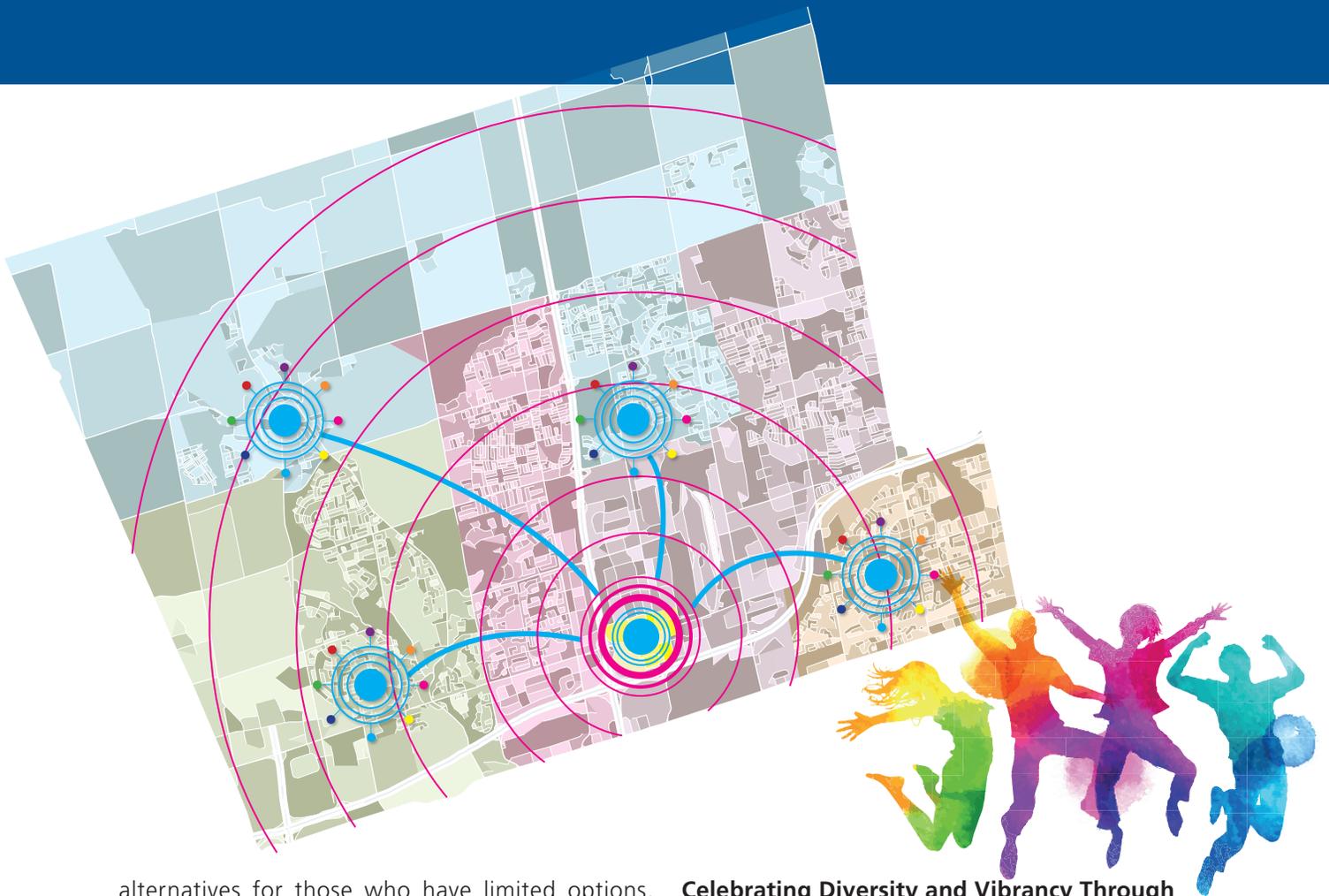


## Community Local Gardens

- Wayfinding, directing citizens to the most convenient route and transit options, and ability to access shared mobility options
- Social media interactions, have up-to-date information on events and what's happening in the local community and within Vaughan
- Administrative City procedures such as online payments and digital depositions
- Public WiFi for residents and tourists
- Ability to broadcast events
- IoT sensors to gather data on traffic, parking, air quality, etc.
- Comprehensive listing of points of interest, events, nature and trail system, recreational activities and programming

## The Vaughan LaunchPad

- Collaborative co-working and incubator space for local entrepreneurs and businesses
- Co-learning space with online classroom capabilities and Singularity University Campus
- Smart City Expo for citizens to learn about new emerging technologies and City solutions from around the world
- City engagement space, an interactive place for City staff to discuss city challenges and issues with citizens using data collected from the Local Gardens (community hotspots), and to get feedback and input on specific strategies and issues
- Test City Headquarters, testbed for piloting City and business solutions



alternatives for those who have limited options, such as children, the elderly or those with medical conditions. It will reduce the stress and anxiety caused by congestion for all.

The Vaughan LaunchPad will provide an environment and testbed for piloting City and business solutions, and will be the headquarters for Vaughan's already-approved Test City project.

The LaunchPad, through the Test City project, will also work with businesses to test and pilot their products and services in Vaughan. Test City will provide advice and input to help businesses scale their products and services. This is especially important for businesses interested in entering the Canadian market for the first time. The LaunchPad will be a testbed for new technologies and innovative solutions.

The LaunchPad will also host a Smart City Expo space, an innovative exhibit and simulation centre in which citizens can learn about the various smart cities technologies and solutions being implemented around the world. The Smart City Expo presents another opportunity for the City to use data to inform dialogues with citizens.

### **Celebrating Diversity and Vibrancy Through Arts and Culture**

The City of Vaughan is extremely diverse as almost half our residents are foreign born. Vaughan is also a city rich in culture. The Digital Garden will be an opportunity for the City, and the various communities, to work together to celebrate diversity. We will work collaboratively to increase and promote the number of cultural and family events that bring the community together so citizens will be more connected and engaged. The Local Gardens will disseminate information on events and the best way to get to these events with convenient transit and shared mobility options. Residents will know what's happening in their community and get the most up-to-date information. The Digital Garden will also provide a platform and space for the community to come together and organize and promote their own community events.

Not only will the Local Gardens disseminate information on events within Vaughan, but it can broadcast events, too. This will enable residents to participate online via apps, and we will also distribute mini Gardens to various community

centres, long-term care facilities, seniors' residences and the new Mackenzie Vaughan Hospital to recreate an event and make those who cannot physically attend an event feel included.

### **Promoting Sharing Culture**

The LaunchPad will be a co-working and an incubator space for entrepreneurs, self-employed, start-ups and remote workers. The City of Vaughan, through its Economic Development Department, will host the LaunchPad space where thought leaders and entrepreneurs come together to share and discuss challenges we are facing in our community to come up with citizen-centric solutions.

The LaunchPad will be the first incubator space in Vaughan. The number of entrepreneurs and self-employed residents in Vaughan has increased to 15.2 per cent of Vaughan's labour force. Many of these entrepreneurs currently travel to Toronto and Waterloo to access incubator spaces, and this will alleviate stresses of having to commute, help with congestion and encourage more innovation and entrepreneurs to move to Vaughan.

The LaunchPad will also change the way we learn by providing online classroom capabilities and online university options through Singularity University. The LaunchPad will host a series of online workshops and training programs for Vaughan residents interested in updating their skills. The online classroom can broadcast world-class international lectures to residents. This will enable our citizens to update their skills and continue to learn with high-quality educational opportunities without having to travel and spend a lot of money.

The sharing culture will change the way we move and connect with each other in Vaughan. Traffic congestion is a top-of-mind issue for residents, and there are limited convenient transit options, similar to many suburban communities. The City of Vaughan is currently considering shared mobility options and this will change the way residents attend events. Shared mobility is a collection of services, such as on-demand carpooled ride-sharing or micro-transit,

that makes better use of existing infrastructure and ultimately reduces road congestion. These services will also significantly improve accessibility for Vaughan's vulnerable populations, including those who require medical assistance and the elderly, reducing the isolation for those without access to a private vehicle.

The LaunchPad will also have an important international collaboration dimension as a participating city in the U.S.-based Smart Gigabit Cities "SGC" Cluster. The SGC Cluster includes 20 U.S. mid- and smaller-sized cities, along with the City of Adelaide, Australia. Created by U.S. Ignite, a not-for-profit agency initiated by the Obama White House to stimulate innovation, the SGC project was one of the U.S. government's Smart Cities Challenge initiatives in 2015. Cities in the cluster each have a very high bandwidth innovation district for start-ups, and each city commits to creating two new Smart City Apps and sharing them with the other cities in the Cluster, thereby creating and sharing a total of 40 new Smart City Apps. Vaughan will become a full participant using high-bandwidth, low-latency technology called SAVI that is seamlessly compatible with the U.S. technology. Participating in this cluster will provide a unique opportunity for start-ups in the Vaughan LaunchPad to collaborate with start-ups in the 20 U.S. cities. It will also facilitate collaboration and engagement between Vaughan's socially focused organizations, to share ideas and easily arrange online high-bandwidth collaboration and discussions using the gigabit networks in each participating city.

### **Measuring Progress**

We will use a number of project-specific indicators to measure progress and these will be identified during the proposal development stage. For example, the indicators will track progress on the number of organizations and businesses registered to the Digital Garden, the number of events listed and participation, number of datasets and ideas generated just to name a few.

## Q7: Describe the ways in which your preliminary proposal supports your community's medium and long-term goals, strategies, and plans. (500 words max)

Vaughan's proposal, the Digital Garden, will create a more connected and engaged city, which aligns perfectly with the City's vision to be the city of choice. A city that promotes diversity, innovation and opportunity for all citizens, fostering a vibrant community life that is inclusive, progressive, environmentally responsible and sustainable.

The Digital Garden is very citizen-centric and will be designed based on the needs of residents. Our proposal supports and enhances the goals outlined in the City of Vaughan's Term of Council Priorities and Strategy Plan Vision for 2020. The citizen-focused Digital Garden will support and advance the Service Excellence framework and its mission of "Citizens First Through Service Excellence." Our proposal and consultations, completed under the Smart Cities Challenge, will provide insight and inform the next Term of Council Priorities.

Our proposal aligns and supports Vaughan's digital transformation and the four focus areas of the Digital Strategy:

- 1.** An engaged community – citizens will be more aware and informed of what's happening in their community and providing the resources for citizens to be fully engaged in the City.
- 2.** Citizens can do business with the City through digital channels – the Local Gardens will provide digital stations for citizens to do business with the City.
- 3.** Be an open and transparent government – all data gathered will be open and used to facilitate dialogues with citizens; we will also provide free WiFi.

- 4.** Internal transformation and modernize city processes – changing the way we work and interact and engage with citizens and adopting a culture of data.

As part of Vaughan's Digital Transformation, Mayor Bevilacqua convened a 35-member Smart City Advisory Task Force in December 2017 to help identify priority needs to inform a Smart City Strategy for Vaughan. Our proposal for this Challenge will complement and support the efforts being undertaken by the Task Force, and the findings from the Challenge will help inform the Task Force's recommendation report to Council. This will ensure our Challenge proposal aligns with the broader framework for Vaughan's Smart City Strategy.

Our proposal to build social cohesion by fostering a vibrant community life and celebrating diversity is an important priority for the Government of Canada. Building social cohesion to support mental well-being aligns with Government of Ontario and Government of Canada commitments to support mental health. Vaughan's proposal also supports the Government of Ontario's comprehensive mental health and addictions strategy, Open Minds, Healthy Minds, and the goals of improving mental health and well-being for all Ontarians and to create healthy, resilient, inclusive communities. At the federal level, our proposal will support the Mental Health Commission of Canada's (MHCC) ongoing national focus for mental health issues and to provide better services for the country's diverse population for improving the mental health system. Our proposal also aligns with the larger community's efforts to support mental health, including Bell Canada's Let's Talk campaign, focusing on changing the conversation on mental health with a total of 138,383,995 interactions thus far and \$93.4 million donated to mental health initiatives.

## Q8: Describe your community's readiness and ability to successfully implement your proposal. (1000 words max)

Traditionally, many cities have adopted a siloed approach to problem-solving and delivering solutions. By comparison, a Smart City is one in which silos are broken down and focus is placed on innovative collaboration that cuts across city departments, where levels of government work with both the private, public and non-profit sectors. Data is also at the core of a Smart City approach, using data analytics for better informed decision-making.

Vaughan is currently undertaking a major transformation, which is being led by Mayor Bevilacqua and our City Council. Under the leadership of our forward-looking mayor, we have started Vaughan's digital transformation through our Digital Strategy and Vaughan's Service Excellence Journey through our Service Vaughan Strategy. In addition to these two key strategies, we also have many new initiatives that will support and complement our Digital Garden proposal, including our new downtown, the newly developed Vaughan Metropolitan Centre, which includes a new subway line connecting to downtown Toronto and Vaughan's new hospital — Canada's first smart hospital. Our mayor also created a Smart City Advisory Task Force of leading experts to provide recommendations on priorities to help drive forward Vaughan's Smart City initiatives.

### Vaughan's Digital Transformation

Vaughan is at the onset of its digital transformation, developing a prototype for open data, expanding online service delivery and evaluating and investing in new digital technologies to enhance productivity and support key public initiatives. As part of this digital transformation, the City of Vaughan is partnering with Bell Canada to provide next-generation broadband fibre connections to homes

and businesses with the fastest Internet technology. This \$170-million investment over the next three years will enable Vaughan to become a world-class leading Smart City by providing the necessary infrastructure in place for our Digital Garden proposal and other Smart City applications.

The City of Vaughan's Digital Strategy defines how Vaughan will interact with citizens digitally, including communications, access to data and content, public connectivity, digital literacy and mobile applications. At the core of Vaughan's digital transformation is understanding our staff and citizens, their needs and motivations, and implementing change within the City to design more human services. Through this digital transformation, we are adopting a new approach and way of thinking about services and service design, challenging the status quo, encouraging collaboration across departments to break down silos and seek out solutions. This cultural shift within the City demonstrates that we are ready for a Smart City approach and this supports our Digital Garden proposal.

A Smart City is one that focuses on using data to identify challenges in order to implement targeted solutions to improve and enhance quality of life for its citizens. Our mayor is strongly committed to open data and to building a culture of data within the City. Mayor Bevilacqua has been part of the World Council on City Data (WCCD) leadership since 2011, helping to spearhead and lead the efforts locally and internationally on open data and using data for informed decision-making. As a result of this effort, the City of Vaughan has engaged in international benchmarking and learning from other key international cities since 2011. International benchmarking promotes economic development and enables us to identify common management issues and themes to learn and share best practices with cities globally.

The WCCD's Global City Registry for ISO 37120 Sustainable Development of Communities - Indicators for City Services and Quality of Life is the first international standard for cities on open data, and the City of Vaughan has been a Platinum certified city since 2015, demonstrating our commitment to global efforts for standardized open data and confidence in our City data.

### **Vaughan's Service Excellence Journey**

The Service Vaughan Strategy, our Service Excellence framework, has defined the guiding principles for the City of Vaughan's transformation initiatives. The Service Excellence Strategy Map aligns our people, processes and technology with the goals of improving citizen experience, operational performance and staff engagement. Enhancing civic pride through a consistent city-wide approach to citizen engagement is a council priority. Improving citizen experience includes citizens engaged in decision-making and consistent service delivery, including improvements through technology for end-to-end citizen-centred services. This will define the citizen experience for Vaughan residents and businesses as they interact with the City. This includes how citizens receive information, complete transactions, initiate and resolve service requests, receive service status communications, and provide feedback to the City.

Building a downtown is a multi-generational and multi-disciplinary project that requires the participation of private- and public-sector partners, citizens and community leaders. The new Vaughan downtown, the Vaughan Metropolitan Centre (VMC), is an ambitious and complex program of projects that involves multi-stakeholders and is multi-dimensional in scope, leveraging the \$1.2-billion investment in transit infrastructure to extend the subway line to Vaughan and provide regional connections through a new bus rapid transit corridor. Building a shared public realm, animating places and inviting people to engage and participate in activities in the City's new downtown is critical to the VMC's development. Our Digital Garden proposal supports this.

The City of Vaughan has been working across departments and with multiple stakeholders from public, private and non-profit partners including the Province of Ontario, Toronto York Spadina Subway Extension (TTC), York Region, York Region Rapid Transit Corporation, Toronto and Region Conservation Authority, architects, planners, consultants, community groups and numerous landowners to successfully co-ordinate the streamlined planning, design and construction of key infrastructure projects and development proposals within the VMC Implementation Plan.

### **Mackenzie Vaughan Hospital – Canada's First Smart Hospital**

The new hospital, currently under construction in Vaughan, is a \$1.6-billion initiative and will employ more than 1,800 full-time hospital staff. Vaughan, in collaboration with York Region and our community, are bringing modern, accessible, leading-edge health care to our residents. Vaughan's hospital will be the first hospital in Canada to feature fully integrated smart technology systems and medical devices that can speak directly to one another to maximize patient care.

**Q9:** Describe your plan for using the \$250,000 grant, should you be selected as a finalist. Provide a high-level breakdown of spending categories and an accompanying rationale. (500 words max)

The City of Vaughan will use the \$250,000 grant for continued community engagement, project management, feasibility study and piloting.

**Citizen Engagement and Outreach**

The City of Vaughan will be taking on a community collaborative approach to designing the full proposal for the Digital Garden. We will be holding a series of community project design workshops with each of the five local communities to design the look for each of the Local Gardens. We will work with the local community to customize the design of each Local Garden and identify the services they would like to see. We will work with the local business and entrepreneur community to help inform and design the Vaughan LaunchPad concept.

We will continue our citizen engagement and solicit feedback from our residents throughout the entire proposal development process. We will continue to engage citizens through a multi-channel engagement process.

**Proposal Management and Feasibility Study**

All input from the community project design workshops and citizen engagement will be included in the final proposal, along with the project implementation strategy. In addition to the community project design workshops, we will also undertake a feasibility study to identify project partners, cost specifications and potential vendors for the proposal.

**Pilot Testing**

We will work with our community and partners to develop a prototype for testing. We will create a prototype for a mini pilot to obtain data to support the full proposal. We will develop work with technology partners to identify the technical specifications required and pilot test a prototype. We will work with the community at large and use data to identify an appropriate community and area for the pilot.

**Q10:** Describe the partners that are or will be involved in your proposal. Where partners are not yet determined, describe the process for selecting them. (500 words max)

**Partnership Strategy:  
Collaborative Partnership Approach**

The City of Vaughan's Digital Garden proposal is very much based on a collaborative partnership approach, and to ensure we have the right partners for this project, we will develop a partnership strategy. The City of Vaughan's partnership strategy will identify the partnership structures and framework needed in order for successful implementation of the Digital Garden.

Based on our preliminary concept, we have identified five categories of partners, including telecommunication and technology providers, academic and research institutions, York Region, Service Ontario and other governmental organizations, community institutions and community engagement partners. The next step is to identify the right partners for our project, which will be undertaken during the proposal stage.

Bell Canada will be one of the main partners for our Digital Garden. We currently have a partnership with Bell to provide the fastest broadband fibre in Vaughan, and as part of this investment, we will work with Bell to ensure the necessary infrastructure and technology is in place for successful implementation. Bell is an important telecommunication provider and partner to help us successfully pilot and implement the Digital Garden.

The Digital Garden will consist of a consortium of community, public and private partners. Once we complete our series of project design workshops with the community, we will have a better understanding of the types of partners with whom we will need to engage. Based on the consultations and feedback from the project design workshops, we will know what kind of expertise and technical requirements will be needed.

The City of Vaughan currently works with a number of partners and we will continue to engage these partners during the proposal development stage. For instance, our partnership with the Vaughan Public Libraries will help us bridge and support the digital divide with our Digital Garden proposal. We will continue to work with United Way to ensure our proposal is inclusive and that we support the needs of all communities and no one is left behind. We will continue to work with York Region and consult our upper-tier municipality throughout the proposal development stage.

**Criteria for Identifying Partners**

When identifying partners for our Digital Garden proposal, the following criteria will be used for the partnership selection process:

- Strong track record and reputation;
- Alignment of skills, expertise and technical requirements, as identified through the project design workshops and feasibility study;
- Commitment to community collaboration and engagement;
- Culture of sharing and open data;
- Resource capacity and support, and;
- Open source and can be replicable.

We will work with our existing partners and our community to identify and select the right partners for our Digital Garden proposal. We will ensure our partners harness the right resources, expertise and strengths in order for us to be successful with our implementation.



**City of Vaughan**

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Vaughan, Ontario  
L6A 4Y1

A stylized illustration of a smart city. It features a tall green communication tower with a Wi-Fi symbol at the top. In the foreground, there are blue buildings, one with a white 'H' on its side. A brown car and a white van are on the road. People are walking on the sidewalk. In the background, there are circular icons: a heart with an ECG line, a house, and a group of people. Dotted lines represent data connections.

# Smart City

## TASK FORCE

### WORKBOOK

OFFICE OF THE CITY CLERK  
City of Vaughan, City Hall  
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Vaughan, ON L6A 1T1



## WORKBOOK

### **MEETING #1: An exploratory conversation with the Smart City Task Force about visioning for a smart-city future.**

#### **ABOUT THIS WORKBOOK**

The City of Vaughan looks forward to welcoming you at the inaugural virtual meeting of the Smart City Task Force on Tuesday, June 30. A portion of the meeting will be dedicated to active discussion and brainstorming with you – its members. The focus of the discussion will explore how we can ensure smart cities and emerging technology projects are focused on people and outcomes – not just technology. There is an exciting and immediate urge to examine disruptive industries and consider innovative tech solutions. However, there is also an important need to identify fundamental issues cities need to address first in order to transcend the hype of “smart cities” and place people at the centre of transformation.

#### **GROUP DISCUSSION FORMAT**

The meeting agenda has about 25 minutes dedicated to group discussion. We'll primarily focus on two main discussions: guiding principles and vision. To help you prepare for these discussions in advance of the meeting, this workbook contains summaries of each of the topics to be covered. If you have any questions beforehand, lack a stable internet connection at home that may prevent you from participating or have specific accessibility needs, please email [Kitty.Yung@vaughan.ca](mailto:Kitty.Yung@vaughan.ca).

#### **DIGITAL WHITEBOARD**

To facilitate this online discussion with everyone's participation, we will be using a live, easy-to-use digital whiteboard tool called MURAL. More information and instructions on how to use MURAL are provided starting on the following page. Members are encouraged to review the instructions and play around in the test MURAL space prior to the meeting.

#### **DISCUSSION #1**

##### **GUIDING PRINCIPLES (10 MINUTES)**

Effective smart city strategies need to be principle-based. The City of Vaughan is looking to collaborate with task force members to develop and gain consensus on a set of core principles to articulate the fundamental values and ethics of a smart city. These principles will help the City and stakeholders consistently navigate business decision-making over the long term.

##### **KEY DISCUSSION QUESTIONS**

- What citizen needs, priorities, values and aspirations should be considered and explored when transforming into a smart city? Let's discuss these aspirations in the context of these areas:
  - a. Government responsibilities and civic protections
  - b. Guiding policies and procedures
  - c. Community collaboration, partnerships and private-public ventures
  - d. Building a strong foundation and infrastructure
- As the City of Vaughan works towards becoming a smart city, what are some key principles that should guide our work?

#### **DISCUSSION #2**

##### **VISION STATEMENT (10 MINUTES)**

In the previous discussion, we explored citizen aspirations for smart cities in the context of responsibility and protections, policy and procedures, collaboration and partnerships and building a strong foundation and infrastructure. All things considered, what does it truly mean for Vaughan to be a smart city? For the purposes of developing a smart city framework, the City of Vaughan wants to collect feedback from task force members that will help craft an overarching **vision statement**.

A “smart city” often has a unique meaning to each individual and community. In general, a smart city is a city that can increase its competitiveness and quality of life, efficiently use resources, and support economic sustainability. A smart city also uses innovation to address the needs of the community, puts citizens first, enhances collaboration between City departments and bridges connections between people and government.

### KEY DISCUSSION QUESTIONS

- How is a smart city different from our traditional notion of a city?
- How do we want Vaughan to transform in the next 20 to 30 years?

## ABOUT MURAL

### WHAT IS MURAL?

MURAL is a visual collaboration workspace. It offers a shared, digital whiteboard space where teams can collaborate across any device. Think of it like a giant board, wall or canvas. You do not need an account with MURAL to participate. While MURAL is the name of the company/software, a mural also refers to the canvas upon which we will be collaborating.

### TECHNICAL REQUIREMENTS FOR PARTICIPATING IN MURAL

MURAL is a HTML5 web application and works best in Chrome, but it can also be used in Microsoft Edge, Firefox and Safari.

#### Supported browsers:

- Chrome: 51 or above
- Edge: 43 or above
- Safari: 9 or above
- Firefox: 46 or above

**NOTE:** MURAL’s performance and responsiveness in Internet Explorer 11 is not as good as with other modern browsers, therefore it is **not** recommended.

### MURAL ON MOBILE DEVICES

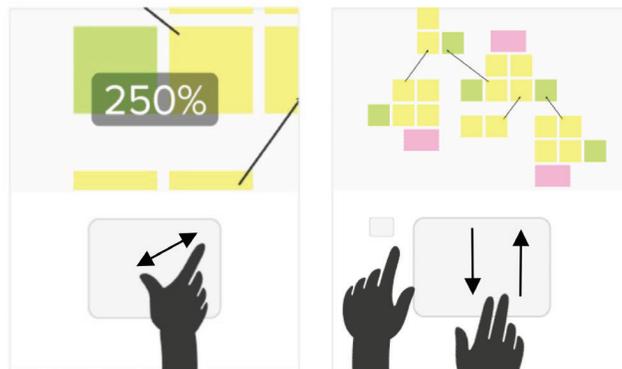
If you plan on participating on a mobile device (smartphone, iPad, etc.), you **must** download the MURAL app (**Note:** MURAL is not available for Android devices). Once the app is downloaded onto your device, click on the invitation link provided to you to join the mural activity. It will automatically open in the app. You **do not** need to register for an account through the MURAL app.

## NAVIGATING A MURAL: ZOOMING AND PANNING

### Zooming:

If you’re using a mouse, just use your scroll wheel to zoom in and out. If you’re using a trackpad try:

- sliding two fingers up and down the trackpad
- pinching to zoom, similar to zooming on a smartphone (Mac users)



### Quick Zooming:

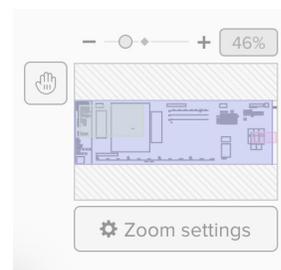
To zoom in on a particular element of the mural (a picture, sticky note, words/instructions, etc.) hold x on the keyboard with the mouse hovered on the element you want to blow up. This allows you to read content easily without having to zoom in. Or, you can select an element and click on the magnifying glass icon in the mini tool bar that pops up.

### Panning:

To pan (move) around the mural using a mouse, left click and hold while dragging the background. Or, if using the trackpad, use one finger to click and hold while dragging the background.

### Mini map:

In the bottom-right corner of the mural, you will see a mini map. The mini map is like a bird’s-eye view of the mural where you can see an outline of all the content. It also shows you where you are in the mural.



### Mini map Zoom:

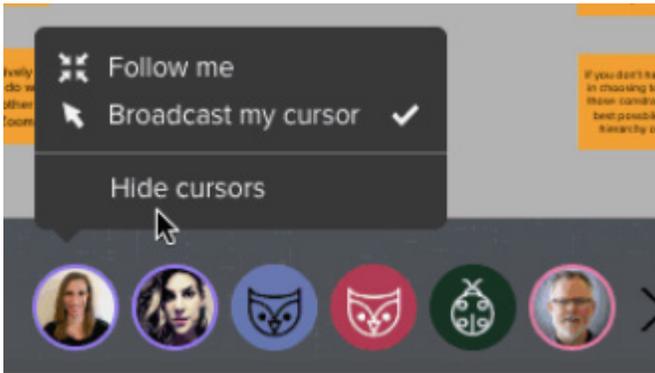
You can also use the + and - zoom settings at the top of the mini map to zoom in and out on the mural.

### Move mode:

Clicking on the little square button with the hand icon inside allows you to turn on/off move mode. This allows you to move, pan and scroll the mural without inadvertently picking up and moving content (pictures, sticky notes, etc.) that you or anyone else has added to the canvas. You will know if you are in move mode if your cursor changes from the pointer to a hand. Make sure move mode is off to be able to add sticky notes and other content.

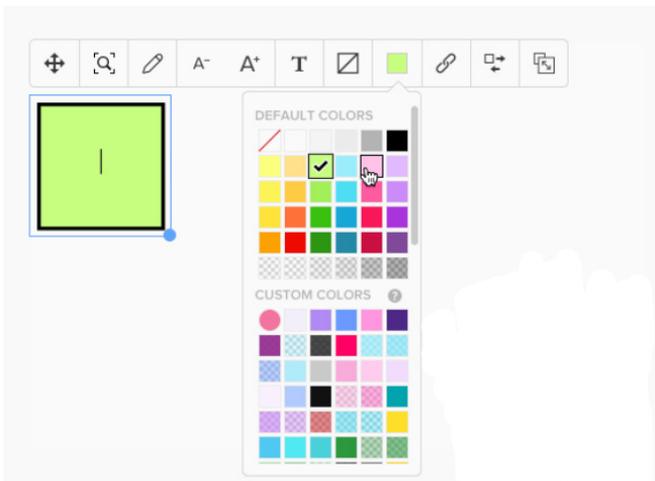
### Too many cursors:

With multiple participants and cursors, sometimes you might feel they are covering the content and it can be distracting. You can hide everyone's cursors on your screen (they will still see cursors on their end) by hovering over your avatar at the bottom of the screen. Select "hide cursors" to hide all cursors from your view.



### Add a sticky note:

Double-click to add a sticky note, then click on it to add text. Click and drag to move the sticky note. When it is selected, a formatting bar appears that allows you to change the size, colour and shape of the sticky note.



### Dot voting:

Voting (or creating a poll) gives the group the ability to quickly form a hierarchy of ideas and improve idea synthesis. To vote during a voting session organized by the facilitator, click directly on the desired element(s). To de-select a vote you've already cast, hold the SHIFT key while clicking on it. If using an iPad or smartphone, tap an element(s) to vote, and tap and hold to subtract a vote. Votes are secret.

### Video tutorials:

- [Navigating a mural](#)
- [Getting ready for your first mural activity](#)
- [Adding content to a mural](#)

### MURAL's security overview

You can read all about MURAL's security overview [here](#).

### Troubleshooting

If you've had a chance to play around in the MURAL testing ground and you're still experiencing issues, please contact [mae.caldarelli@vaughan.ca](mailto:mae.caldarelli@vaughan.ca) in advance of the meeting.