

Digital Markham Strategy

Towards a connected and “frictionless” City



About this report

This Digital Markham strategy report summarizes the results of the current state assessment, outcomes of the extensive internal and external consultation process, and the Digital Strategy Vision, Objectives, Initiatives and Roadmap.


Acknowledgements

The City of Markham project team would like to acknowledge all of the passionate citizens, businesses, educators, and other stakeholders in addition to City staff who provided their frank commentary, data, and insights to support the creation of this report.

Contents

Digital Overview	3
Markham's Current State	4
Results of Consultation	8
Digital Strategy	11
Digital Roadmap	26
In closing	31

What is digital change?



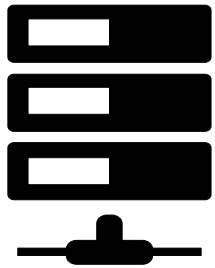
The **digital revolution** is characterized by a wholesale shift in the way consumers **interact and engage** with organizations which is having a tremendous impact on all industries and services.

The shift has increased individuals' expectations, which has been primarily accelerated by the rise of mobile devices and social media networks, transforming the way society behaves and interacts.

The digital trends coupled with rapid technology, advances in cloud computing, mobile, artificial intelligence, and real time analytics, digital has created a new, agile method to manage and access personal, public and corporate information.

As a result organizations are now investing significantly in Digital Change programs to keep up with the fast pace demands and reap the benefits of the digital revolution.

Markham's Current State



The City of Markham has made considerable progress in digital service delivery, digital citizen engagement, and using innovative digital technologies to drive efficiencies in the mobile workforce.

Is the City ready for digital change? **Yes.**

Is more needed to adopt the continuing onslaught of digital change? **Yes.**

Markham stakeholders agreed to define Digital as:

A broad range of technology that enhances citizen engagement, improves employee collaboration, and optimizes service delivery.

```
01110011011
10111011001
01011001010
11101000010
00000110010
00111001001
10010101100
00101101101
01110011
```

Key themes from the current state assessment

The following 3 themes emerged from the interviews, document review, and validation with the Digital Strategy core team. These themes helped to inform the guiding principles and subsequent prioritization of initiatives in the Digital Strategy.

Strategic Planning

Short term initiative-based planning & lack of clarity on ownership of enterprise-wide initiatives.

- Short term budget cycles may not reflect the planning and budget required for longer term initiatives
- Vertical siloes across the organization has led to a lack of coordination across business units
- Inconsistency n regards to funding model inhibits project approvals
- Very successful Portal Program was most recent large enterprise-wide strategic technology initiative
- Single business unit deployment of new technologies continues to enable a siloed approach to technology implementation
- The need for a new technology strategy

Digital Workplace

In-person culture and lack of tools to enable staff to be more digital.

- Inline vs. Online priorities¹ for service delivery channel
- Focus on customer-facing technology with limited use of technology for internal process improvement;
- Some staff resistant to change in adopting technology in their work
- Work 'at your desk' culture
- Remote access infrastructure not sized to support a more mobile workforce
- Limited use of collaboration tools for internal communication
- Largely one-way communication on external digital channels (Social, Mobile)
- Technology training is not a priority

Capacity to Execute






Lack of resource planning and capacity to execute strategic initiatives.

- Limited capacity for staff to devote time to strategic projects
- Lack of a governance model to effectively intake, prioritize, & execute strategic technology initiatives
- Execution stalled by re-assessing already approved initiatives
- Constrained resources hinder effective technology project management
- Lack of resources and skills within ITS to effectively advise the business on enterprise solutions, while having to maintain daily operations

¹ Citizen demographics are driving some of the inline versus online decisions.

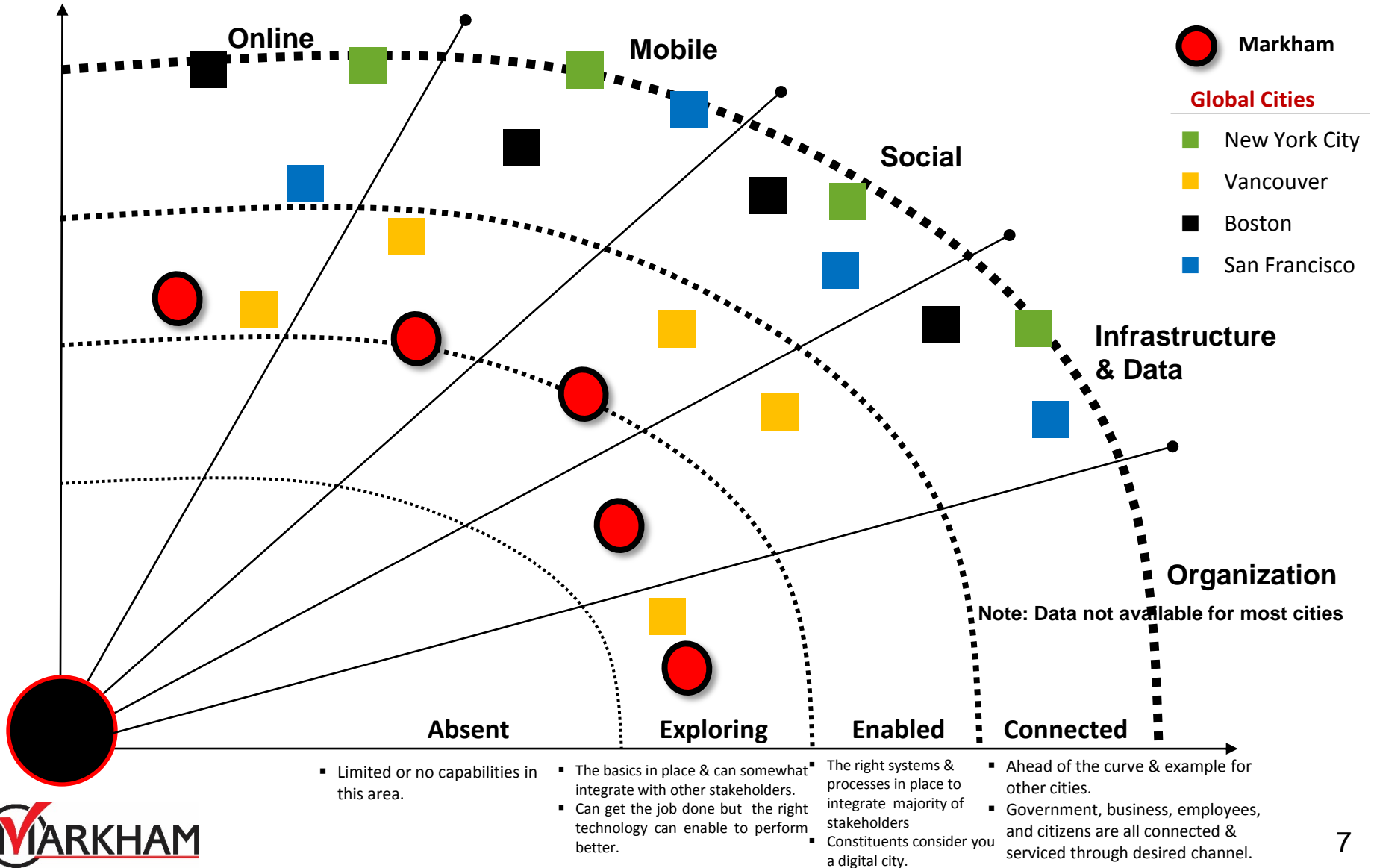
The Digital Readiness Assessment

The Digital Readiness Assessment (DRA) shows the City's maturity level is scored from Level 1 (lowest) to 4 (highest) across each of these 5 dimensions described below.

<p>Online</p> 	<ul style="list-style-type: none">• Online presence and integration• Search capability• Multimedia capability• Stakeholder interaction and communication• Online governance	<p>Social</p> 	<ul style="list-style-type: none">• Social strategy• Presence and usage• Monitoring & resolution capability• Social policy• Social governance• Social engagement
<p>Mobile</p> 	<ul style="list-style-type: none">• Mobile strategy• Presence and integration• Stakeholder data and insights• Application development capability• Mobile governance• Usage statistics	<p>Infrastructure & Data</p> 	<ul style="list-style-type: none">• Data and integration• Networks• Open data• Customer data and insight• Security and disaster recovery• Data privacy and protection• Digital policy
<p>Organization</p> <ul style="list-style-type: none">• Executive sponsorship• Senior team involvement• Strategy• Organizational alignment• Change management			<ul style="list-style-type: none">• Business process automation• Staff demographics• Procurement• Culture

Current State: Exploring/moderate digital maturity

The following depicts a relative comparison of Markham's digital capabilities against 4 global cities. (2014)



Results of Consultation

2

To shape the strategy and Markham's digital future, the City spoke with industry insiders, digital thought leaders, business executives, citizens and staff and asked them to test, explore, and challenge the ideas behind the Digital Strategy.

As part of this process, these stakeholders were taken through an online idea forum, focus groups, and a collaborative design session, all with the goal of truly evaluating the opportunities behind a Digital Strategy for the City of Markham.



The Vision: Consultation and key results

To shape Markham's digital vision, the City consulted with industry insiders, digital thought leaders, business executives, citizens and staff using interactive means to gather ideas and explore opportunities.


PlaceSpeak™ 35

Ideas Forum

Citizens posted and discussed ideas about digital government services on an online crowdsourcing platform

Priorities:

- Real-time alerts (e.g. power outages, road closures, events)
- Report parking infractions on app

Other key topics:

- Online voting
- By-law information online
- Public Wi-Fi in historic main streets and downtown core
- Calendar of local & City events
- Online/mobile complaints
- Local business directory


70

Focus Groups

Community groups and City employees provided ideas for a technologically innovative community and future vision

Priorities:

- Seamless customer experience
- Addressing the 'Digital Divide'
- Internet of Everything

Other key topics:

- Open data
- Smart buildings / traffic
- Digital workplace
- High speed internet / Wi-Fi
- Innovation (Partnerships)
- Citizen engagement
- Digital literacy



37

Catalyst Session

Collaborative workshop with key stakeholders to explore initiatives and a digital strategy to support interactions with the City in the future

Priorities:

- 'Smart' Infrastructure
- Re-imagined public spaces
- Frictionless city

Other key topics:

- Secure access to citizen data
- Enhanced Community Centres
- Customizable city offerings
- Access and mobility
- Shared & sustainable transport
- Measured Customer satisfaction
- Enhanced quality of life

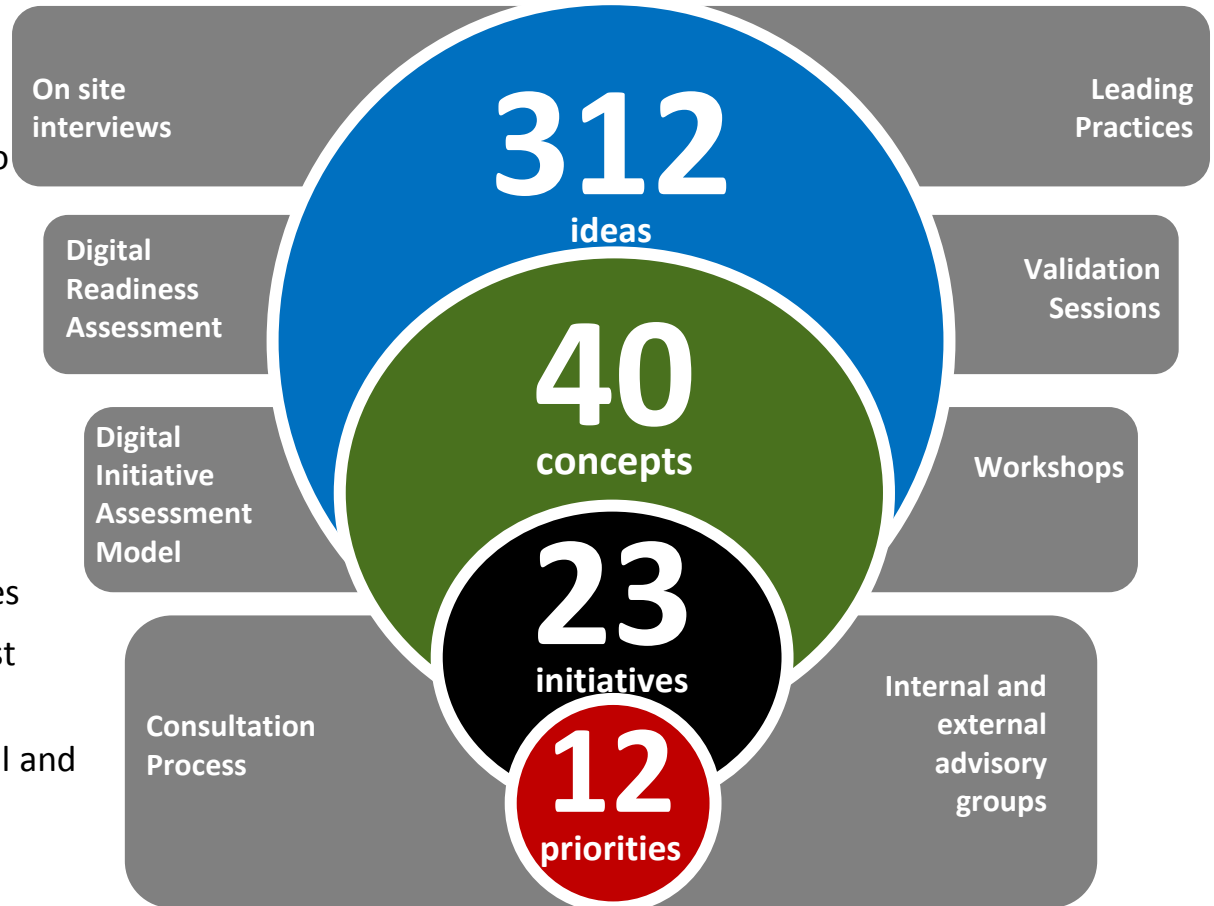
The Vision: From ideas to priorities

The Goal:

- Condense ideas and feedback into a Digital Strategy and Roadmap
- Create specific priorities to move Markham into the digital future

Initiatives for the Roadmap must:

- Align with the corporate goals
- Meet predefined guiding principles
- Move Markham forward in at least one Digital Maturity area
- Be defined as a priority by internal and external stakeholders



12 key priorities were chosen for the roadmap

Digital Strategy

3

This section outlines the vision, objectives and the key initiatives of the #DigitalMarkham Strategy.

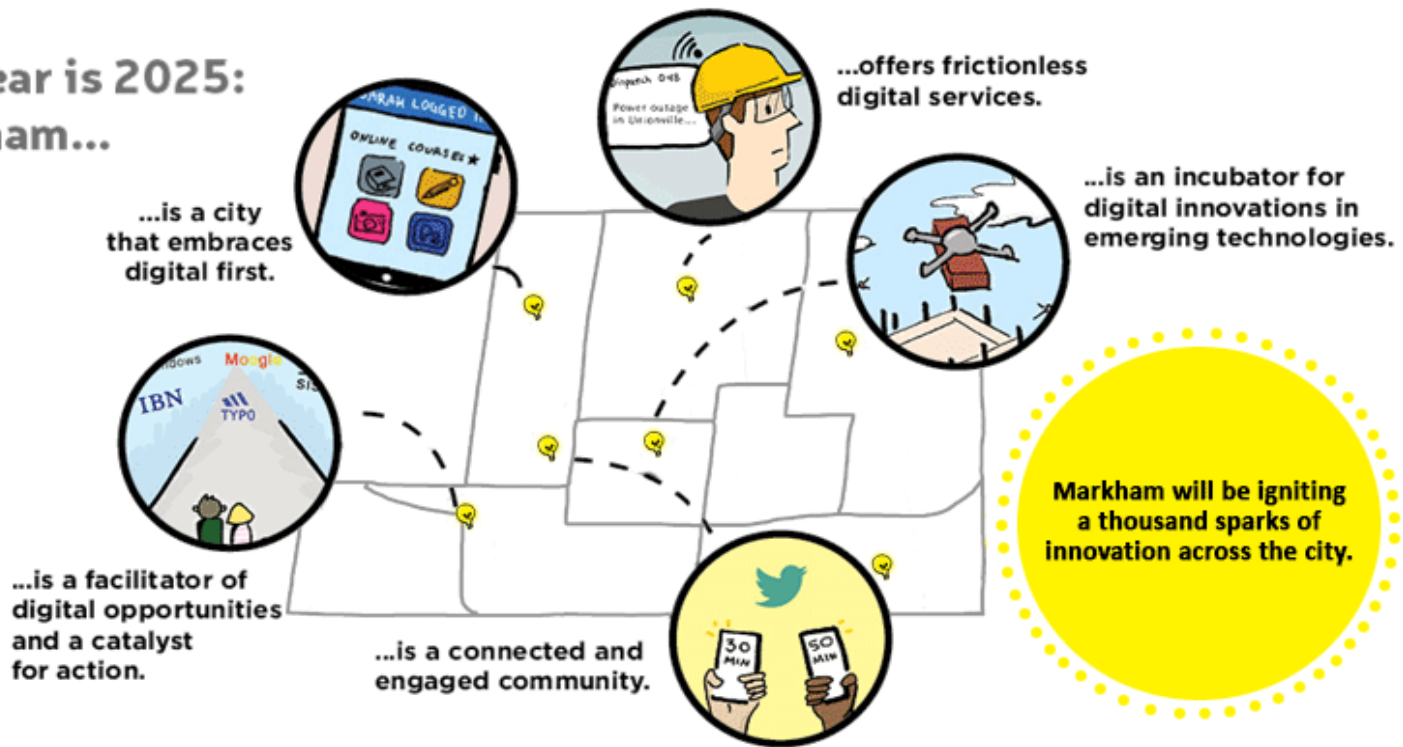
The challenge Markham faces is to envision a future in 2025 in order to start putting in place the stepping stones to get there. The #DigitalMarkham vision is focused on this vision of 2025, however the roadmap outlines the key initiatives over the next 3 years (2017 – 2019) required to increase Markham’s digital maturity on the path to achieving the vision in 2025.

The Vision: Markham in 2025

#Digital Markham. Frictionless City.

The City of Markham is a platform for digital innovation and collaboration between citizens, business, and government that contributes to the overall quality of life in the city.

The year is 2025:
Markham...



Objectives of the strategy and the digital initiatives

Engaging and Serving the Community

1. Increase integrated digital services on the web & mobile
2. Expand community engagement on digital platforms
3. Improve digital literacy
4. Grow Markham's leadership in digital democracy



The Digital Differentiator for Business

1. Establish a showcase digital community through strategic partnerships
2. Establish new standards for the smart city
3. Reduce friction for business
4. Attract & retain businesses & talent that align with Markham brand

Vision: Frictionless City



The Digital Workplace

1. Increase organizational digital maturity
2. Establish a digital operating model
3. Enhance data-driven decision making
4. Increase resiliency of digital infrastructure



The City as a Platform

1. Develop a "living lab" in Markham for rapid prototyping new initiatives
2. Increase awareness of a new, unique #DigitalMarkham brand
3. Leverage ICT cluster to establish Markham as a showcase digital community
4. Increase transparency & access to open data

1

Engaging and
Serving the
Community



Continue to enhance the suite of fully integrated online and mobile service offerings

As citizens continue to expect more personalized, integrated services - driven by digital trends in industries like retail, entertainment, and tech - the City of Markham must continue to enhance the usability, functionality, and integration of their digital channels. The design of digital services should be frictionless, easy-to-use, and intuitive.



Quick Start Actions for 2017

1. **Develop personas and journey maps** to better understand users and their frustrations, and design a more cohesive experience
2. **Refine existing digital services and** implement opportunities for enhancements through existing (e.g. ePlan) or new projects
3. **Update the Digital Services Roadmap** (i.e. Portal Roadmap) for 2018 and beyond



Vision for 2018 and beyond

1. **Execute the priorities from the Digital Services Roadmap**
2. **Integrate Customer Relationship Management system City-wide** so all user interactions are tracked and accessed in a single system
3. **Explore using predictive (Artificial Intelligence) systems** to further enhance personalization on digital channels

2

Engaging and
Serving the
Community



Build on the library as a centre of excellence for digital literacy

Incorporate the Digital Literacy plan into existing library strategies and advance device loaner programs already in place to include more contemporary devices like smartwatches and Virtual Reality headsets. Develop and market collaboration hubs in the library to support small businesses and students. Optimize hub design and infrastructure, then roll out to other locations.



Quick Start Actions for 2017

1. **Incorporate Digital Literacy plan into the existing library technology strategy to continue to bridge the 'Digital Divide'**
2. **Create a collaboration hub proof-of-concept in the new SE Community Centre & Library, including state-of-the-art digital infrastructure and open-concept design spaces**
3. **Develop communication strategy to attract citizens to the collaboration hub**



Vision for 2018 and beyond

1. **Roll out new Digital courses and continue to increase digital maturity in the delivery of library services**
2. **Host a collaborative design session in a hub and allow the community to help optimize the design of the next collaborative hubs**
3. **Build more collaboration hubs in city spaces, such as community and recreation centres, tailored to the user groups in that area**

3

Engaging and
Serving the
Community



Promote collaboration through digital tools

Keep the lines of communication open. Define how the City wishes to continue to engage and collaborate with citizens, students and businesses on an ongoing basis and procure any tools necessary. Establish a content strategy to specify which content will be delivered on each digital channel, ensure there is a plan for continual two-way communication and a plan to continue to move the dial of maturity on digital engagement.



Quick Start Actions for 2017

1. **Develop a standard and mechanism for digital collaboration and engagement**
2. **Procure the tools the city will engage its population on, such as *PlaceSpeak***
3. **Develop content strategy to manage the deployment of content on specific channels**



Vision for 2018 and beyond

1. **Pilot community collaboration in online discussion using digital platforms (users cannot participate anonymously)**
2. **Explore using sentiment analysis to proactively manage community expectations and criticisms**

4

Engaging and
Serving the
Community



Continue to develop Markham's role as a leader in Digital Democracy

The City of Markham is known for being a leader in online voting and can leverage this knowledge and reputation to continue to innovate its online voting platform through the use of enhanced technology. Establish a plan for full online voting in the upcoming election in 2018.



Quick Start Actions for 2017

1. **Establish a policy and marketing plan** for election day (not just advanced) voting in the 2018 election
2. **Explore emerging technologies** that could enhance the digital voting experience



Vision for 2018 and beyond

1. **Execute on the plan for full online voting** on election day in 2018, explore the outcome and recommend options for 2022
2. **Analyze public sentiment** on their experience using the new technology
3. **Hold a summit and invite other** municipalities to share the experience of online voting and initiate a blog of the experience

5

The Digital
Differentiator
for Business



Create a favourable regulatory environment that facilitates digital innovation, agility, and economic development

The City's regulatory and policy environment needs to support innovation and be responsive to emerging technologies and 'smart' infrastructure. This initiative will review and refine policies and bylaws to remove or minimize the impediments to doing business in the City, and enable collaboration with small businesses.



Quick Start Actions for 2017

1. **Engage with developers and other partners** to identify digital opportunities to enhance ePlan
2. **Collaborate with local startup businesses** to identify current challenges with policies and the licensing/permitting process
3. **Review procurement policy and create a plan** to better enable small business and innovation
4. **Investigate quick wins for introducing smart infrastructure** in City buildings



Vision for 2018 and beyond

1. **Implement changes to policies and standards**, starting with procurement and business licensing
2. **Apply a digital lens to the simplification process** of bylaws to minimize the impediments to digital innovation such as reducing friction around business license provision and building code simplification.

6

The Digital
Differentiator
for Business



Create a framework for engaging strategic partners in achieving the #DigitalMarkham vision

Markham will need the support of strategic partners to bring technology infrastructure and expertise to bear on these challenges. In order to effectively work together and encourage public-private partnerships, the City will need a framework for engaging partners – one that is agile, cost-efficient, and appropriate for both small and large business.



Quick Start Actions for 2017

1. **Establish a Digital Alliance Group to help** identify key partnerships and local digital opportunities
2. **Design the mechanism for engaging** partners, both small and large, on an on-going basis
3. **Engage local academia to create a plan** that will attract and grow top talent that is connected to industry needs and the #DigitalMarkham brand



Vision for 2018 and beyond

1. **Implement a partnership framework** to enable city public-private partnerships (PPP) for digital initiatives
2. **Introduce a Civic Tech Advocate role** to liaise with businesses and ensure the City is meeting the digital needs of local businesses
3. **Leverage the strategic partnerships to** implement digital innovation

7

The Digital Workplace



Drive digital transformation to enable business integration across business units

Establishing a mechanism for large, City-wide initiative is necessary to break down internal barriers and create an agile, digital workplace. The City of Markham needs a horizontal view and implementation of processes to create a frictionless citizen experience and transparency across business units to enable better decision making.



Quick Start Actions for 2017

1. **Establish a mechanism and governance** model for delivering large-scale City-wide initiatives
2. **Develop City ‘personas’ and a vision for a more digital workplace.** Identify challenging processes that could be transformed to be more digital, develop and communicate a plan to re-design how each is delivered
3. **Establish the enterprise architecture for** Cloud adoption, mobile workforce and mobile service offerings



Vision for 2018 and beyond

1. **Develop the processes, deliverables,** and indicators of success for delivering these City-wide initiatives
2. **Enhance use of cross-functional Project Management** tools to increase transparency and collaboration between business units
3. **Pilot implementing new digitally driven** business processes
4. **Continue to enhance business integration** and consider implementing a service-oriented architecture (SOA), or similar

8

The Digital Workplace



Create the capacity to leverage data as an asset

The City envisions using data as an asset to inform decision-making and create opportunities and efficiencies. Information architecture and a strategy for master data management are the first steps in designing the key components of information management framework across an organization and enable more robust data analytics. This initiative will also involve developing a strategy for implementing broad analytics capabilities at the City.



Quick Start Actions for 2017

1. **Design the future state information architecture** and develop an implementation plan
2. **Establish a strategy for master data management** across the City
3. **Develop a strategy for business analytics** including a mechanism for requests and a plan for how the City plans to source or solve different types of requests



Vision for 2018 and beyond

1. **Use a test and learn approach to pilot** different data analytics solutions. The pilot process should address real business questions.
2. **Establish the capacity for ongoing maintenance and management of information assets**
3. **Implement an information governance model** including policies, access controls, and appropriate security based on data asset classification

9

The Digital Workplace



Establish the foundation of a digital culture and a Digital Operating Model at the City

Identify a champion of digital in the organization who will embody the vision of digital culture in the workplace. Determine the operating model – people, processes, technology – that will drive the benefits of a digital service delivery. Equip City employees with the tools required to support flexible work arrangements.



Quick Start Actions for 2017

1. **Develop a Digital Operating Model (org design, processes and technology)** to support digital service delivery
2. **Identify a ‘Digital Champion’ at the City** who can embody the #DigitalMarkham vision and lead the digital change
3. **Develop policies and an operational framework** for a mobile and flexible workforce
4. **Highlight other city’s digital successes on a “did you know” blurb** on internal intranet



Vision for 2018 and beyond

1. **Enhance/procure tools to enable a mobile and flexible workplace** and roll out to all City staff
2. **Develop an internal digital dashboard** to track Markham’s progress in the digital transformation and publish to a digital platform
3. **Establish a strategy for communicating** the progress of the #DigitalMarkham strategy to City staff
4. **Mobile work fully enabled**

10

The City as a Platform



Create 'Living Lab' and innovation hubs

The Markham Centre development offers an opportunity to define the City's digital identity from the ground-up. Taking an agile, test and learn approach to developing a "living lab" in Markham Centre allows the City to learn fast and iterate their approach, frameworks, and standards before scaling them to other areas of the city.



Quick Start Actions for 2017

1. **Leverage Digital Alliance Group** to determine quick wins and opportunities for integrating digital from the outset
2. **Explore how to use the new Innovative Community-University Engagement (ICE)** innovation hub in Markham Centre to showcase digital initiatives
3. **Pilot a quick win in the 'living lab' in Markham Centre** in consultation with the Digital Alliance Group.
4. **Initiate discussion on digital opportunities** in Markham Centre & in Future Urban Areas



Vision for 2018 and beyond

1. **Identify alternate candidates (e.g. Main Street, Unionville, Buttonville)** within Markham to be future 'living labs'
2. **Scale successful models and standards** to other areas of the city
3. **Hold regular review sessions with the Digital Alliance Group** to understand successes and failures, and continue to develop new opportunities for innovation
4. **Share successes on social media and in marketing campaigns** to further the #DigitalMarkham brand and put Markham on the map as an innovation incubator

11

The City as a Platform



Implement an open data platform and the ongoing governance model

Introduce an open data platform that will support innovation and economic development then investigate which data sets should be introduced in an open forum that align strategically with the City and public priorities. Establish a governance model to ensure open data becomes a natural part of the business cycle and is continually updated.



Quick Start Actions for 2017

1. **Investigate, procure and build a platform for open data** that is accessible to the public
2. **Identify current data sets that can be shared publicly**
3. **Establish processes internally to ensure data is refreshed and accurate**
4. **Infuse an open data mindset across the corporation and develop processes and tools that facilitate routine disclosure**



Vision for 2018 and beyond

1. **Through digital engagement, collaborate with the public to identify valuable data**
2. **Establish a process to handle public data requests**
3. **Host a hackathon using Markham datasets to solve a City problem**
4. **Continue to identify, capture, and share datasets on the platform**
5. **Release APIs to encourage local developers to create mobile applications using the data**

12

The City as a Platform



Establish Markham's Identity as a Digital Destination

Develop a strategy for communicating and promoting the #DigitalMarkham identity and Markham's service offerings as a digital destination. Incorporate digital initiatives and the #DigitalMarkham identity in the City's existing strategies to leverage the momentum and continue to move the dial on digital maturity.



Quick Start Actions for 2017

- 1. Develop and execute a communication strategy** to promote the #Digital Markham strategy and its programs and outcomes as well as highlight current service offerings
- 2. Develop a plan to review and embed** digital initiatives into existing strategies
- 3. Leverage existing ICT and local business** clusters to identify growth opportunities in the city and generate a 'vibe' for DigitalMarkham



Vision for 2018 and beyond

- 1. Enhance the Markham 2020 strategy** to encompass the #DigitalMarkham identity and focus on innovation
- 2. Inject additional digital initiatives** into existing City strategies
- 3. Continue to market Markham's new** digital identity using digital channels to create dialogue between citizens, business, government
- 4. Enhance social media tools** to engage the community and promote Markham as a place to work, live and play
- 5. Introduce an innovation award** for local business through the Board of Trade


Digital Roadmap

4

The roadmap is presented at a high-level under the “**Objectives of the strategy and the digital initiatives**” and in more detail on the roadmap with key milestones.


The Roadmap

Priority	Digital Initiative	2017	2018	2019
1	Create “Living Lab” and innovation hubs	Meet with DAG to identify action plan	Pilot the Living Lab Full Living Lab environment at Markham Centre	Additional Living Labs Go-Live
2	Create a favourable regulatory environment that facilitates digital innovation, agility, and economic development	Updated procurement policy, Identify quick win for smart infrastructure, Identify new business partners	Changes to bylaw policy implemented	
3	Implement an open data platform and the ongoing governance model	Identify open data platform, Publish quick win data sets	Governance model established, Engaging public using open data	Open data as part of daily activities, Host hackathon
4	Create a framework for engaging strategic partners in achieving the #DigitalMarkham vision	Digital Alliance Group founded	Go-live with small business procurement process, Talent plan established	Introduce Civic Tech Advocate, New partnership framework implemented
5	Drive digital transformation to enable business integration across business units	Enterprise PMO established, Workplace personas envisioned	Test out an Enterprise Architecture (EA) quick win	Implement EA solution, Pilot a new digital process across business units
6	Promote collaboration through digital tools	Digital collaboration standard established	Tool procured Content Strategy	Collaboration is BAU, Using sentiment tools

 Initiatives anticipated to have a high impact on establishing Markham’s identity.

The Roadmap...cont'd

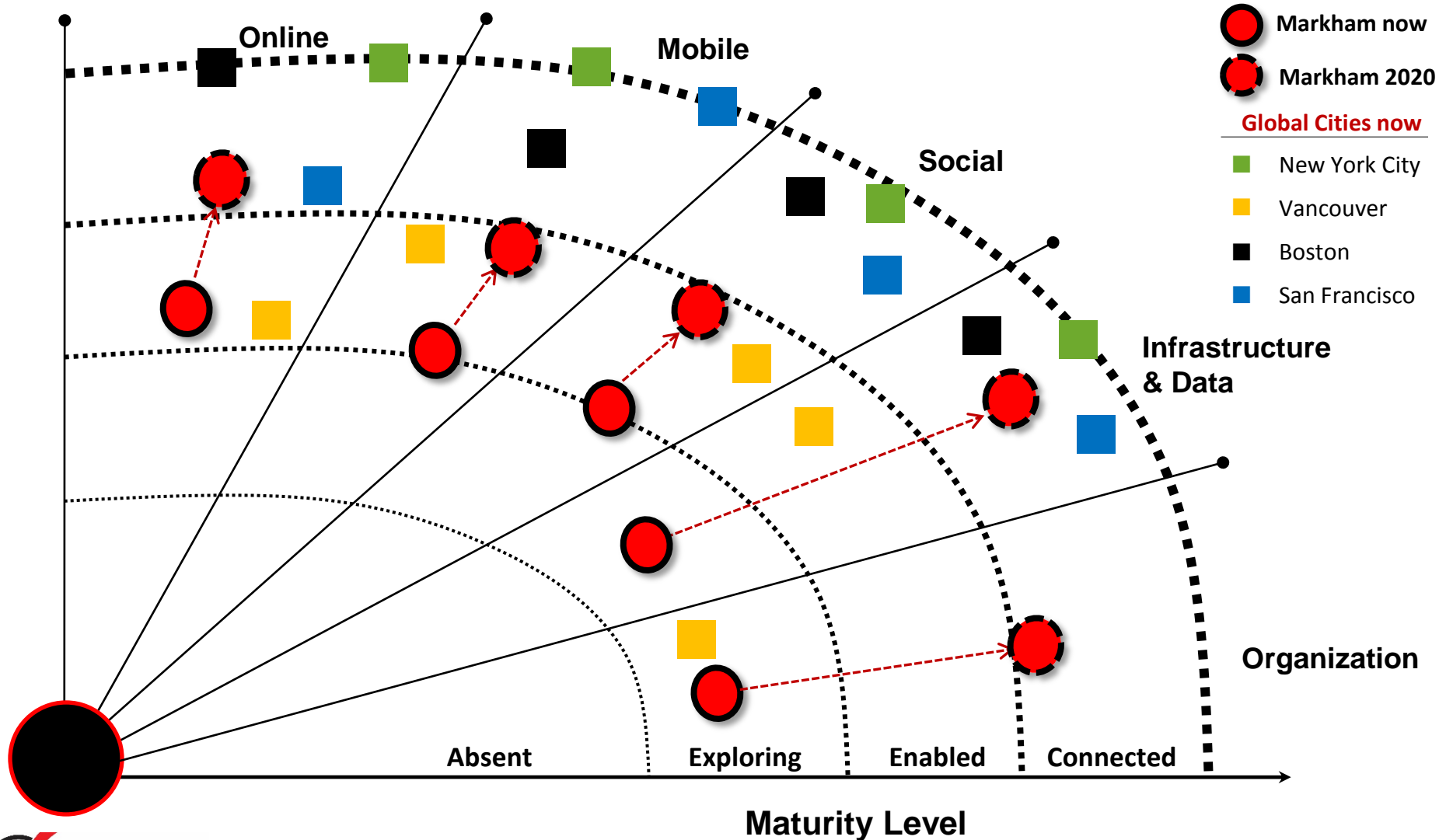
Priority	Digital Initiative	2017	2018	2019
7	Establish the foundation of a digital culture and a Digital Operating Model at the City	Identify a Digital Champion, Establish Digital Operating Model	Pilot work-from-home for one business unit, Develop internal dashboard	Mobile work fully enabled
8	Create the capacity to leverage data as an asset	Information arch design, MDM strategy	Business analytics strategy	Answer a business question using current data, Roll out IM team and governance model
9	Continue to develop Markham's role as a leader in Digital Democracy	Strategy for election day online voting established	Election day	Hold Summit on Online voting learnings, Plan for 2022 vote
10	Continue to enhance the suite of fully integrated online services and mobile service offerings	Procure user experience Team, Quick fix on Portal, Digital Service Roadmap	Go-Live Portal and Mobile App refresh	CRM accessible across business units
11	Establish Markham's identity as a Digital Destination	New digital identity established and communicated		Launch new Markham 2020 strategy including digital initiatives, Establish innovation award
12	Build on the library as a center for excellence in digital literacy	Collab hub with digital tools & infra, Strategy for Digital Literacy	Go-Live with new Digital Literacy curriculum online	Roll out more collab hubs after test & learn

 Initiatives anticipated to have a high impact on establishing Markham's identity.

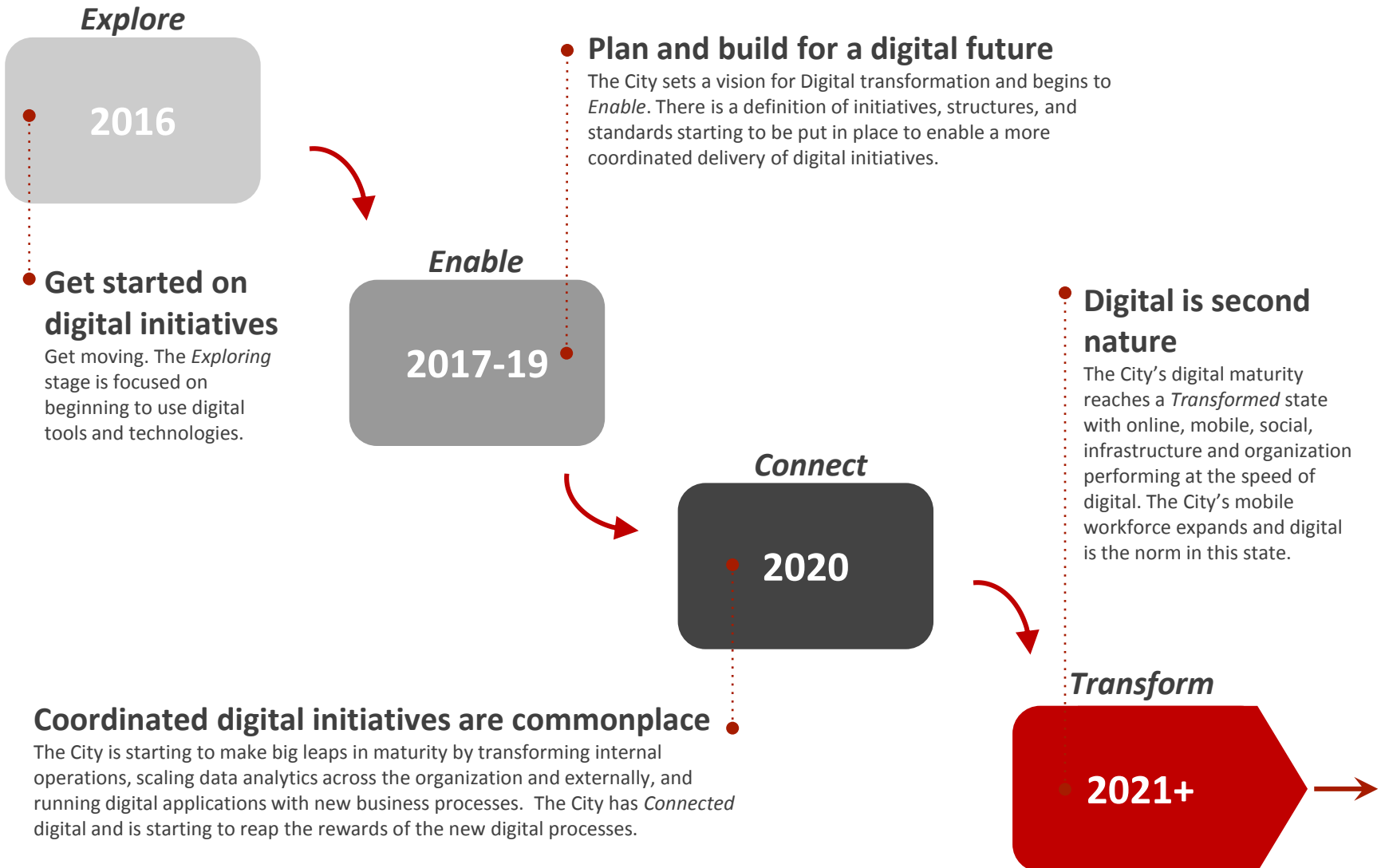
** Priorities recommended by the consultant

The Roadmap: 2020 Outlook for Markham

If the City of Markham achieves its objectives as outlined in this strategy, the outlook for digital maturity will ADVANCE in all areas:



The Roadmap: Summary



In closing

5



With the pace of digital innovation, cities are challenged to keep up with the expectations of citizens and businesses. The City of Markham has made a commitment to embrace digital and this strategy sets the foundation for the next steps. The City can't do this alone and needs the support of strategic partnerships and the community at large to embrace this change. As part of the commitment, the City will continue to engage our community to help us transform to be the best Markham, a #DigitalMarkham.

Next steps: City staff will develop a detailed implementation plan and future budgetary requirements for review and approval by Council.