CITY OF △URORA
TECHNOLOGY STRATEGIC PLAN
2020 / Q1 2021 UPDATE

Establishing and Enabling Aurora as a Regional Tech Hub and Investing in Aurora's Future through Technology Resource Planning

Dear Friends,

The City of Aurora faced serious, unprecedented challenges in 2020. Without question it was a turbulent year for our city as we collectively navigate the global COVID-19 pandemic and resulting economic crisis. At the time of this letter's publication, COVID-19 continues to impact our community and we mourn the loss of too many family members, friends, and neighbors. Challenges related to containing the COVID-19 virus and the consequential economic uncertainty have impacted all across the City of Aurora.

Despite our challenges, **I remain as hopeful as ever about the future of Aurora**. The following **City of Aurora Technology Strategic Plan – 2020 / Q1 2021 Update** provides an important look at our City's progress for the Technology Strategic Plan launched in 2018. Although this update has long been pre-planned as part of our commitment toward transparency and accountability, this update also provided an opportunity to highlight City Hall's fast paced and agile approach to these unforeseen events and connected technology challenges and needs. As such, the following pages highlight examples of both the City's and IT Divisions' progress to date, and elements of the quick, effective, and public health-focused response to the governing challenges at hand.

Our community has a history of meeting the challenge of the moment. Aurorans know not just how to survive, but how to re-invent and re-invest in ourselves and our neighbors when necessary so that we may thrive. In 1908, Aurora adopted the nickname "City of Lights," as our city was one of the first in the United States to implement an all-electric street lighting system. Our city has a reputation as a historic manufacturing and industrial powerhouse, however as many factories and industrial areas relocated or went out of business beginning in the 1970s, Aurora was tasked with another challenge – how to re-outfit our community and economy for competition in a modernized 21st century. Today, Aurora's clear vision of the City's vast potential has resulted in new development and redevelopment projects, a concentrated focus on job and new business creation, and an ongoing effort to revitalize our downtown – all of which is supported by strategic technology investment. This resiliency and "can do" culture is a testament to our community and will be what enables Aurora to continue to rebuild, recovery, and progress in the months ahead.

As I shared in my March 2020 State of the City address, I continue to believe in all of us and believe in Aurora. We've seen where we've come from, we have a clear direction of where we are going, and despite the challenges ahead we know what we need to do to get there. **Let's get there together.**

All the Best,

Mayor Richard C. Irvin
City of Aurora
MayorsOffice@aurora-il.org

Michael Pegues
Chief Information Officer
IT@aurora-il.org

CITY OF AURORA
TECHNOLOGY STRATEGIC PLAN
2020 / Q1 2021 UPDATE

PART 1 – EXECUTIVE SUMMARY

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EXECUTIVE SUMMARY

In 2018, the City of Aurora ('the City') set out on an important mission: to outline the vision, priorities, and overarching strategy for technology improvements and investment within our community. This intensive planning effort resulted in the City's Technology Strategic Plan, providing a roadmap for the City to advance its strategy with technology, as well as Mayor Irvin's primary technology goal: *to position the City of Aurora as a regional technology leader.* The Technology Strategic Plan outlines 58 short- and long-term initiatives* by four Aurora-focused thematic categories – (1) Infrastructure, (2) Innovation Projects, (3) Governance / Security and (4) IT Management, as highlighted in the diagram below.

The following **Technology Strategic Plan – 2020 Update** provides a snapshot of the City's recent accomplishments and 2 years of progress on the goals outlined in the original 2018 Technology Strategic Plan. The subsequent pages illustrate examples of these accomplishments and detail the multitude of additional projects that are currently underway and outline upcoming and future technology plans for the City.

At the time of the Technology Strategic Plan's publication in 2018, and *now more than ever*, the City of Aurora recognizes the power of technology to transform communities. Under the leadership of Mayor Richard Irvin, the City has renewed its commitment to strategic investment in technology innovation as a means to reduce costs, improve government services, and advance digital literacy within the community and across the region.

	One IT	Customer Experience	Agility / Smart Sourcing
Infrastructure	Modernize City Systems	Next Generation Infastructure	
Innovation Projects	Smart Technology	Fiber Optimization	Digital Inclusion
Governance / Security	Cybersecurity	Asset Lifecycle Management	
IT Management	Team Evolution	ITIL Based Culture	Smart Communities

Technology has the ability to increase engagement between government and its citizens, protect and inform community members, and drive education, innovation and economic progress. Thank you for your support as we continue to drive technology progress and advancement for the City of Aurora.

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TECHNOLOGY STRATEGIC PLAN
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BACKGROUND

In 2018, the City of Aurora began a multi-step approach to develop the Technology Strategic Plan as illustrated in the diagram to the right. Extensive stakeholder engagement was a critical component for developing the plan. Each phase of the plan's development is summarized below:

- **Assess current state** – deep dive interview sessions with the City IT Division to provide a look at current technology initiatives, discuss current strengths and areas for improvement.
- **Establish business drivers** – identify a cohesive set of beliefs that align with overall City goals, grounded in the effective practice that will govern the actions of the Division.
- **Stakeholder Engagement & best practice research** – 1) engage with City employees from across ten core Divisions, community partners, neighboring counties, the Aldermen and Mayor Irvin to gain valuable insight to shape the direction of the plan; 2) Conduct research based on industry trends and best practices that may inform the direction of the plan. The City appreciates its partnership with Gartner to support research efforts and development of the IT Strategy framework.
- **Identify key initiatives** – based on existing current state information as well as desired future state goals and ambitions of key stakeholders.
- **Build heat map** – analytical tool used to illustrate the potential impact an initiative may have on both the key stakeholders and business drivers. Also provides a quantitative process for prioritizing initiatives.
- **Develop bubble chart and prioritization timeline** – a dimensional, analytical tool used to build on heat map results; provides a graphical illustration of the potential implementation timeline for the portfolio of strategic initiatives.
- **Create plan document** – culminating product of the strategic planning process.

Strategic Planning Process
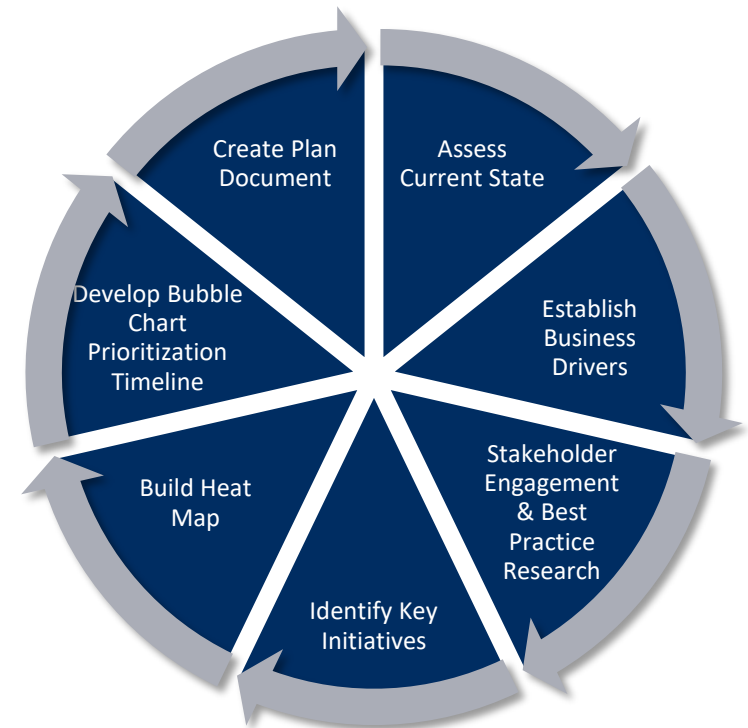
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ACCOMPLISHMENTS TO DATE

Heat Map Analysis

As part of the 2020 Update, the City of Aurora, with support from Crowe LLP, revamped the original heat map analysis from the Technology Strategic Plan. The heat map analysis was intended to provide the City of Aurora with a mechanism to quantifiably prioritize initiatives based on (1) impact to stakeholders, and (2) priority against identified City of Aurora business drivers.

Due to the evolution of the IT Division and the addition of the IT Project Management Office (PMO), the original list of 58 initiatives were reclassified and organized into **28 programs**, following the vision for program management at the City. **The entirety of the revised heat map analysis can be found in Appendix A.** The City continues to focus on the implementation of the original 58 initiatives; however, the revitalized heat map now more accurately groups associated initiatives into programs. These programs are evidence of the City's progress in implementing the original initiatives, by strategically establishing mature and fully operational technology Programs, with the resources to manage them on an ongoing basis.

Please review the City's Technology Strategic Plan to see the original heat map analysis, bubble chart and prioritization timeline.

ACCOMPLISHMENTS TO DATE

Within the past year, the City has achieved a series of noteworthy accolades and made significant progress against the goals of the Technology Strategic Plan. Please review the following pages for more detail on the accomplishments below and others.

- The COVID-19 global pandemic has deeply impacted communities across the U.S. and challenged their ability to maintain essential services for its public. Leveraging the foundational pillars outlined in the Technology Plan, the City **navigates the potentially adverse impacts of the pandemic**, by continuing to provide public services and maintain its Council operations through remote platforms.

- Aurora is 'learning to be the **smartest city in America**' as it redefines standards for public safety, for city services, for inclusive internet access, and for innovative businesses; through exploring public-private partnerships with its Smart Aurora Opportunity. The city's smart city journey also includes completing it informational kiosk program, engaging with its youth, and launching a world-class innovation district.

- The City accomplished a major, multi-year milestone in **public safety modernization** with the successful implementation and go-live of the new computer-aided dispatch system (CAD) and web-based record management systems (RMS) for the Police / Fire Departments. Additional public safety modernization projects ensure that the City can provide state of the art communications for its forces to provide superior incident management.

- The City has continued to focus on **cybersecurity improvements** with the implementation of a robust cybersecurity plan and associated policies. The City conducted penetration testing to test and address vulnerabilities; now, the City continues to focus on addressing any necessary changes to improve Aurora's overall cybersecurity.

- Over the past few years, the City's **IT Division evolution** has continued to transform the way in which the City provides IT services across local government and supports the Aurora community. The City has created the new position: Director, Cyber and Technology Risk.

- The City continues to substantially build capacity within the **IT Project Management Office (PMO)**. The goal of this effort is to establish a strong senior leadership team to drive success within its IT service provision, and create a focused pipeline of valuable, impactful IT projects for implementation at the City.

- **Modernizing City infrastructure,** including both upgrades and the retirement of legacy systems, is the foundation of the City's information technology future and a key focus of the Technology Strategic Plan. Over the past year, the City has successfully replaced outdated and underperforming infrastructure and invested in resilient, new technologies.

COVID-19 RESPONSE

The 2020 COVID-19 Pandemic brought serious and unforeseen challenges to our City. As we near the end of 2020, our community understands that the fight against COVID-19 is not yet over, and that challenges related to containing the virus and Aurora's economic recovery are ongoing. However, from the onset on this pandemic, City Hall and the IT Division sought to respond **safety, quickly, and effectively** to the governing challenges at hand.

- The IT Division quickly enabled **a safe and supported remote work environment for City Hall employees** within weeks of understanding the severity of the COVID-19 pandemic, including deploying hundreds of laptops to non-public safety employees who would now need remote work capabilities. The IT Division supported this large-scale transition, ensuring that City employees could work from home safely when possible while still providing essential government services to Aurora constituents.

- In light of the COVID-19 Pandemic, City Hall opted to host City meetings virtually, **ensuring that City business would carry on safety, efficiently, and without disruption**. The IT Division facilitated and supported remote City meetings, including:
    - City Council
    - Committee of the Whole (COW)
    - Infrastructure & Technology Committee
    - Public Health, Safety and Transportation Committee
    - Finance Committee
    - Building, Zoning & Economic Development Committee

- The fully remote meeting structure also let to a **significant increase in community participation and viewership of City Council meetings,** as demonstrated to the right.

Enhanced Civic Engagement through Virtual Meetings
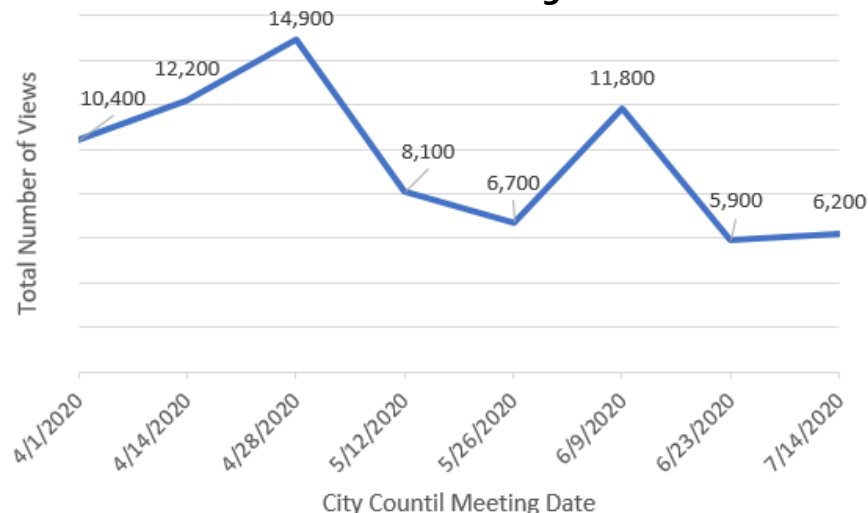
Increase in Average Number of City Council Meeting Views

Average # of Views Since April 1st (fully remote) = **8,200**

Average # of Views Prior to April 1st = **2,400**
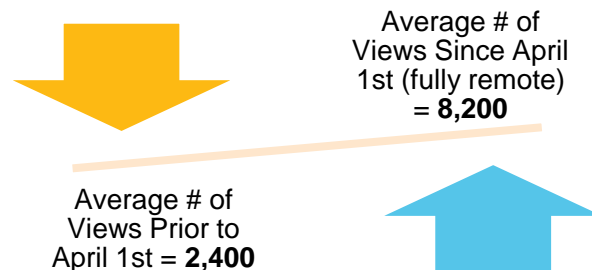
COVID-19 RESPONSE

- The COVID-19 pandemic emphasized the need to establish and maintain a coordinated, real-time public communication channel to provide community access to local COVID-19 data. City Hall responded to this challenge by launching the **City of Aurora COVID-10 Dashboard**.

- This open data website was updated daily with pertinent information for the Aurora area, providing a real-time look into the local COVID-19 environment for residents and visitors. This **GIS-based COVID information platform** for public and City consumption aggregated data across four (4) County Health Departments and used demographic and zip code related data to provide up-to-date information on direct COVID health related impacts, and provided information on local, state, and federal resources.

- The City of Aurora also partnered with Scientel to create the **Mobile Evaluation and Triage (MET) Unit** which provided highly-efficient, hands-off temperature screening - optimized for a multitude of high-traffic locations. Powered by thermal cameras from Mobotix, these devices can scan up to 60 people per minute and are incredibly precise (providing readings within 0.4 °F accuracy), an alert security and medical staff immediately if there's an issue.
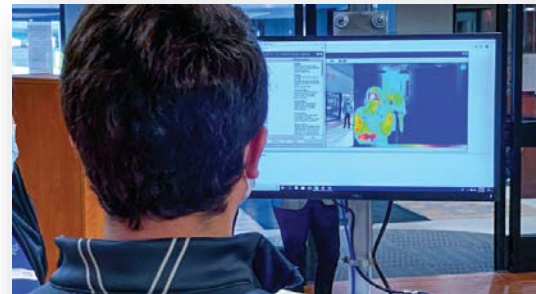
COVID-19 RESPONSE

The COVID-19 pandemic emphasized also underscored the long-term need for access to broadband connections, as many students were learning virtually throughout part of the pandemic. Alongside the City of Aurora and OnLight Aurora, Scientel launched a campaign to provide virtual learning environments for students throughout the city called **No Child Left Offline.**

This program provides connectivity for community centers in underserved communities, building virtual learning environments for students through a joint public-private partnership between City of Aurora, OnLight Aurora, and Scientel Solutions LLC.

Lower-income students have less access to broadband connections and internet-enabled devices, often hindering their ability to complete school assignments and activities. The COVID-19 pandemic has only worsened this issue - creating a wider gap between these children and their higher-income counterparts. To break down barriers to education opportunities, Scientel provided state of- the-art wireless and fiber connections to essential community organizations that offer remote learning spaces for low-income families.

With these upgraded systems, organizations across Aurora are now better prepared to facilitate remote learning.

"Hesed House has always and will always be dependent upon the support of our community to serve our most vulnerable residents...efforts such as this, where everyone can bring their unique talents and passions, continue to inspire all of us at Hesed House and more importantly ensure all the guests at Hesed House have access to the tools they need to succeed."

- Chris Cox, Hesed House's Information Technology Director

Locations
Warren Cannon Community Center
Randall West Community Center
Sacred Heart-Simard Hall
Simply Destinee
APS Training Institute
Grand Blvd. Community Center
Main Baptist Church
Hesed House
Aurora Public Library –Branch
La Quinta Kid Internet Café

SMART CITY

LEARNING TO BE THE SMARTEST CITY IN AMERICA

It's Aurora's turn. Next year, the City of Aurora gets the opportunity to leap ahead of every other city in America. With $300 million in smart city upgrades, we could redefine the standards for public safety, for city services, for inclusive internet access, and for innovative businesses.

This is our chance. Now is our time to lead. And it could only happen in Aurora.

Mayor Richard C. Irvin, City of Aurora

Cities earn the label "smart" when they use **information, communication and technology** to make city services run better and to improve life within a city. Aurora's journey **to become one of the smartest cities in America** includes embarking on public-private partnerships through the Smart Aurora Opportunity. This opportunity aims to infuse $300 million on smart city projects in Aurora and establish a synergistic working relationship with technology vendors that will enable the City to enact major initiatives in a short time and without incurring new expenses or increasing taxes.

The Smart Aurora Opportunity aims to achieve the following four goals within the first 1-2 years:

This page provides highlights from the Smart Aurora Opportunity. **Visit the Appendix B for more information**.

| Make city services more effective | Make the city safer | Expand high-speed internet access for residents and organizations | Ignite economic growth |

SMART CITY

Citypost – Informational Kiosks
In October 2019, the City of Aurora launched eight information kiosks known as Citypost. The City Council entered into a deal for the high-tech kiosks late last year with Smart City Media LLC of New York. These kiosks are designed to serve as virtual visitor centers for the almost half a million people who visit the Aurora community throughout the year. The City anticipates nearly $700,000 in kiosk advertising revenue over 10 years. Additionally, about 60 percent of the content on the kiosk screens will be local, either advertising by local businesses or information provided by the city

At the time of the Citypost launch, Mayor Irvin noted that it is fitting that Aurora is one of the first cities in the country to feature the kiosks, in keeping with his administration's goal of making Aurora one of the smartest cities in the country.

605 Innovation District
The 605 Innovation District is a local, leading-edge city development hub for the state of Illinois and beyond. Innovations Districts are increasingly known and common features of Smart Cities. In Aurora, the public-private partnerships that are part of the Innovation District will continue to attract economic opportunity and development for our community.

SMART CITY

Additionally, a key element of making Aurora work smarter, is to seek opportunities to engage with its youth. The City recognizes the decisions it makes today will either positively or negatively impact future generations, and therefore their input is critical. Two highlights from the City's youth engagement efforts over the last year include the following:

Aurora Smart City Youth Alliance
The City partnered with the Illinois Math and Science Academy, the 605 Innovation District and Bureau Gravity to host a youth alliance Think-A-Thon in November 2019. The key takeaways from this inaugural event include:
- 75% of fastest growing occupations require STEM skills
- Community engagement is vital for success
- Digital inclusion must be prioritized
- Progress in technology fuels economic development

Tinkerworks: STEAM Enrichment Summer Programs
In collaboration with Tinkerworks, Aurora launched two pilot programs this summer to support technology learning for its underserved youth, ages 1st through 6th grade. Programs were fully virtual and aimed at introducing its students to coding, robotics, 3D printing, app development, and digital media.

Aurora STEAM Academy
What began as a pilot summer camp for 50 students has grown into a year-round academy for **more than 750 Aurora youth**. The City of Aurora is launching the Aurora STEAM Academy. Students in first through sixth grades will have a unique opportunity to explore the interconnections of Science, Technology, Engineering, Arts, and Math in a co-curricular after-school environment.

PUBLIC SAFETY MODERNIZATION

Beginning in 2016, the Aurora Police Department (APD) and Aurora Fire Department (AFD) embarked on an intensive project to replace Aurora's legacy public safety technology suite, including the computer-aided dispatch (CAD), law enforcement records management systems (LE RMS), and the fire records management system (Fire RMS). This critical effort was necessary to provide Aurora police and fire personnel with modernized, flexible and scalable technology solutions that will grow with future needs.

As of January 2020, the City's new public safety technology suite is live and operational. This technology investment provides significant benefit to Aurora residents and visitors, including increased availability and better management of public information, better connectivity between public safety systems, and improved information access for first responders.

Timeline (above the bar):
- **2016 – 2017** — **Ongoing Systems Implementation**
- **2/15/2016** — **Contracts Executed (Intergraph / Hexagon)**
- **12/1/2017** — **Gap Analysis for staggered Go-live of CAD & RMS**
- **1/1/2019** — **FIREHOUSE all modules in full use (staggered adoption throughout 2018)**
- **5/1/2020** — **Transition to full support model. Additional ad hoc post go-live training.**

Timeline (below the bar):
- **4/1/2016** — **Kickoff Meeting**
- **6/1/2017** — **Detailed Evaluation of WebRMS product. Restart RMS project implementation With WebRMS.**
- **3/3/2018** — **CAD, MPS, FIREHOUSE Launch go-live**
- **All 2019** — **WebRMS Business Process Iterations, Testing, Training, Communications**
- **1/13/2020** — **WebRMS Launch Go-Live**

PUBLIC SAFETY MODERNIZATION

Additional public safety modernization initiatives include the following:

- Acquisition and deployment of 300+ **mobile data terminals** for both Public Safety personnel. These rugged and powerful devices are designed to meet the challenges faced by public safety personnel, and help paramedics, police officers and fire fighters successfully carry out their duties in a more mobile and efficient manner. The devices also support the need for fast, effective communication and information transfer between the field and command center; and also provide vital on-scene intelligence to enhance situational awareness.

- Upgrading the **Harris Radio system**, the City's Emergency Management Agency and public safety personnel's primary communication system between dispatch and field officers for incident coordination and day-to-day activities. The system upgrade will bring much needed improvement to the integrated communication system that was first launched in partnership with the City of Naperville in 2009.

- Upon completion of the CAD/RMS system and the passing of a City Council resolution in August 2020, the City has embarked on the implementation of a **body-worn camera program** for its Police Department. Implementation begins with a pilot program to evaluate two proposed systems and select the system that best integrates with existing systems and meets the City's needs. The City plans the full program to go-live in the summer of 2021.

- Implementation of Web EOC, robust **emergency management software** that will heighten the City's ability to collaborate in real time across public safety agencies for data sharing, shared workflows for incident response.

CYBERSECURITY IMPROVEMENTS

As part of the Technology Strategic Plan efforts, the City of Aurora has greatly focused on improving and strengthening our cybersecurity defenses. In recent years, the public and private sectors alike have seen an increase in the frequency and sophistication of malicious cyber activities. As such, implementing comprehensive citywide security-focused policies and procedures, and ensuring they are adhered to, is critical.

As part of the Technology Strategic Planning process, the City outlined a series of initiatives which, upon their completion, would continue to improve and prioritize cybersecurity. **As of Fall 2020, the City has made significant progress against these goals.** A baseline cyber security assessment, which highlights potential weaknesses and areas of cyber security risk, was completed in June of 2020. The City quickly acted on any areas of risk highlighted in this assessment and continues to remediate issues, as necessary.

In 2020, the Water Treatment Plant (WTP) Remediation Project Team also successfully completed several initiatives to help reduce the risk of cyber-attacks. This includes redesigning the core network infrastructure and incorporating new cyber-defense capabilities such as threat detection, vulnerability management, and application control. Looking ahead into 2021, the team will begin migrating to the new network design and implementing the advanced cybersecurity protections to increase the WTP's resiliency.

The City of Aurora partnered with a Managed Security Service Provider (MSSP) in January 2021 that has a broad set of capabilities that allow the MSSP to contribute effectively to the City's cybersecurity program. The selected vendor will bring to the table a combination of people, processes, and technology that go beyond basic Security Operations Center (SOC) management and incident reporting. The goal of this vendor selection will be select a partner with a demonstrated ability to build upon the existing cybersecurity program and to **proactively forecast, identify, and respond to cybersecurity threats facing the City**.

CYBERSECURITY IMPROVEMENTS

Other key cybersecurity accomplishments from 2020 are noted below:

- Ongoing Security Awareness and trainings through knowBe4 platform for all employees to manage continuing problem of Social Engineering and risk aware culture

- Designed and implemented a Cyber Security Governance Framework

- Developed fifteen (15) policies from NIST SP 800-171 support the City's Information Security Policy to describe how controlled Unclassified Information (CUI) will be protected

- Developed Incident Response Plan and Disaster Recovery Plan to maximize support of Mission Essential Functions

- Developed Data Classification and Digital Protection Policy and Vendor Risk Management Policy to protect proper management of data and vendors

- Completed all Baseline security assessments, vulnerability and Penetration testing to all City owned critical infrastructure and ongoing remediation of the findings

- Strengthened the City's capability to detect and respond to cyber events and enhanced unauthorized activities after Iran and COVID issues in April 2020 via the Managed Detection and Recovery (MDR) service

- Finalizing vendor for third party Managed Security Services and ready to implement in Q1 2021

- Enhanced new cyber defense capabilities to our critical infrastructure, City owned Water treatment Plant's resiliency by implementing advanced cybersecurity protections.

"The City continues to prioritize security. The work is ongoing – our goal is constant improvement."

-Leela Karumuri, Director Cyber and Technology Risk

IT DIVISION EVOLUTION

Upon taking office, Mayor Irvin committed to making innovation and modernized Information Technology key focuses of his administration. To support these efforts, the Mayor created a new officer appointments within his executive leadership team – Chief Information Officer.

As part of this evolution, the Mayor and his new IT leadership team set out to merge previously decentralized IT divisions into one new, centralized IT Division that aligned with a 21st century municipal model – one that focuses on providing innovative solutions for its clients and constituents.

Over the past two years, the IT Division has continued to evolve with the additional, critical roles focused on security, project management, and others. Please see the updated organization chart to the right. New positions as of 2018 are highlighted in gold.

**City of Aurora:
Centralized IT Division Structure**

```
                    Chief Information Officer
                   /                         \
      Deputy Chief                        Executive
      Information Officer                 Assistant
            |
  +---------+---------+---------+---------+---------+---------+
Director    Director   GIS      Director,   PMO      Service
Infrastructure Data &  Manager  Cyber and   Manager  Desk
& Operations Analytics          Technology
                                Risk
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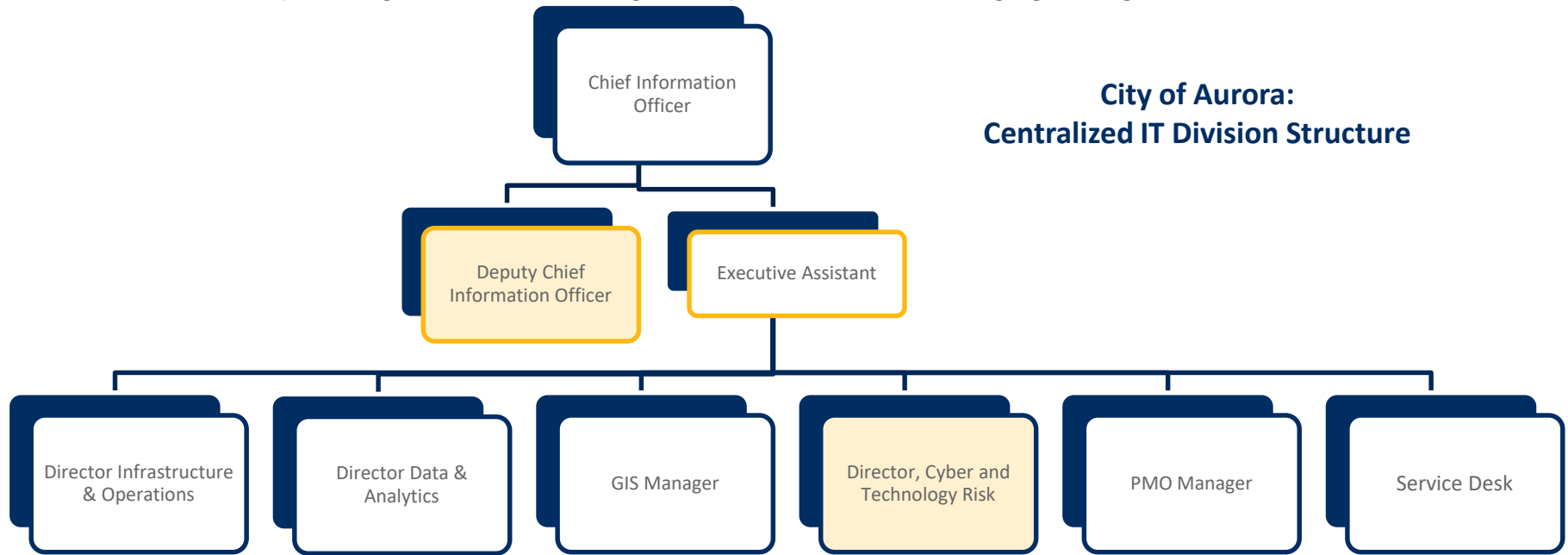
IT DIVISION EVOLUTION

IT's evolution over the past two years has also included the development of best-in-class operational frameworks or **roadmaps** for the following services delivery areas – Operational Efficiency, Service Management, Data Analytics, Cybersecurity as summarized below, and Project Management Office found on the next page.

Improve Operational Efficiency

Align Core Team	Planning + Governance	Prepare for Execution	People + Culture	Monitor + Manage
Expected Outcome Current maturity assessment + I&O KPIs finalized	Opportunities identified & governance process established	Automation scope established + Shorter development timelines	Development of agile culture & competencies	Monitoring dashboard deployed + Continuous improvement processes

Mission Critical Priority: Enhance IT Service Management to enable the organization to operate in an effective and efficient manner

Enhance Service Management

Baseline	Assess and Align	Enable and Measure	Define Holistic Process	Implement + iterate
Client Deliverable Inventory Current available services	Identify Most beneficial and Provide Analysis	Pilot 2 New/ Enhanced Services and Measure for Effectiveness	Establish Roll Out Schedule	Measure and Iterate

Mission Critical Priority: Drive success using D&A assets and enterprise capabilities

Data Analytics

Creating the D&A Vision and Strategy	Establish the Operating Framework	Establishing Governance	Continuous Intelligence	Refine and progress
Client Deliverable Set objectives + build business case [Alignment on Why]	Design + adjust team structure [Alignment on What]	Establish the data management + governance structure [Alignment on How]	Data driven decisions	Increase Maturity

Cybersecurity

Align Strategy	Develop Action Plan	Initial Execution	Build & Mature Program	Reassess & Optimize
Expected Outcome Security Strategy Document with linked business outcomes finalized	Risk prioritization framework developed	Team structure with designated responsibilities developed	Accountability & assurance maintained with governance capabilities	Regular Value Communication to Stakeholders

IT DIVISION EVOLUTION

In 2019, the IT Division initiated a partnership with Marketplace.city, an online portal that supports the City's ability to source, validate and procure technology solutions faster and more efficiently. The online tool supports the City from smaller tech pilots to larger IT procurements that used to take City staff considerable time and effort to complete. The City gains access to information on government technology companies, their work in peer cities, pricing and contract vehicles to support efficient sourcing and procurement.

By leveraging this solution, the City is able to achieve the following benefits and operational efficiencies:
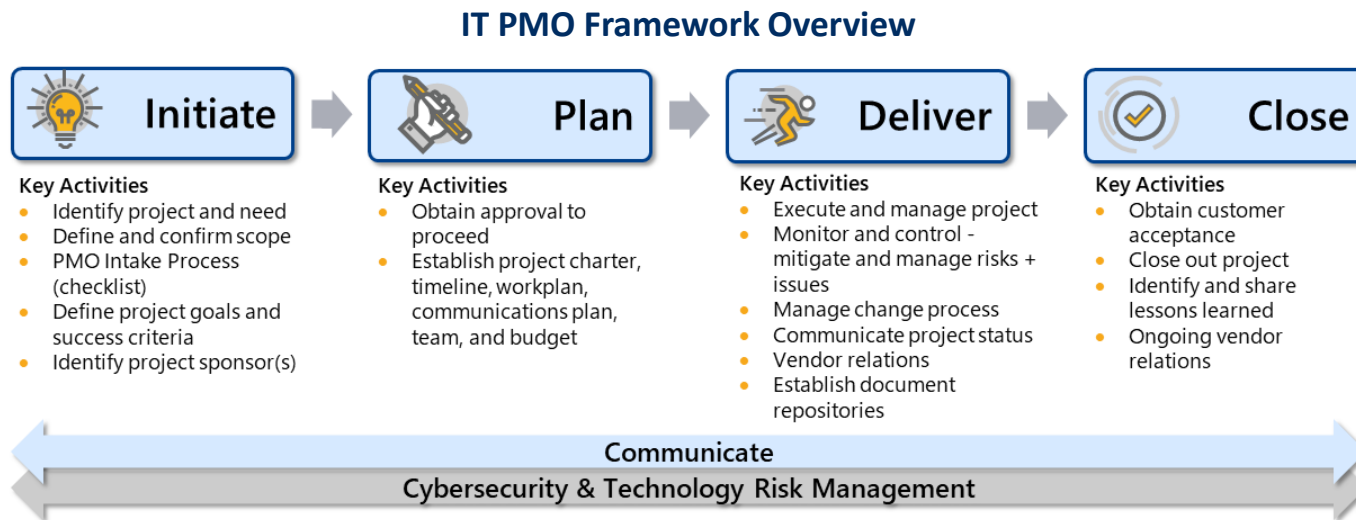
- **Cost savings**, the City has anticipates achieving an estimated $750,000 over the contract lifecycle
- **Enhanced efficiency and reduction in staff effort**, approximately 70-100 personnel hours per project
- **Shortened cycle time**, reducing procurement process by an estimated 6 months or more
- **Reduced risk**, by providing access to real time government client data
- **Customer experience**, by providing access to a network of existing client references and piggyback contract opportunities
- **Process standardization**, build on clear and defined steps with consistent outcomes

To date, the City has initiated and/or completed 14 technology projects through Marketplace.city.

IT PROJECT MANAGEMENT OFFICE (PMO)

IT PMO Framework Overview

Initiate	Plan	Deliver	Close
Key Activities • Identify project and need • Define and confirm scope • PMO Intake Process (checklist) • Define project goals and success criteria • Identify project sponsor(s)	**Key Activities** • Obtain approval to proceed • Establish project charter, timeline, workplan, communications plan, team, and budget	**Key Activities** • Execute and manage project • Monitor and control - mitigate and manage risks + issues • Manage change process • Communicate project status • Vendor relations • Establish document repositories	**Key Activities** • Obtain customer acceptance • Close out project • Identify and share lessons learned • Ongoing vendor relations

Communicate

Cybersecurity & Technology Risk Management

One of the guiding principles of the IT Division evolution outlined in the Technology Strategic Plan is the "One IT" concept, which focuses on creating cooperative and collaborative IT service provision. A critical component of this model was the City of Aurora's 2018 establishment of a IT project management office (or 'PMO').

Over the past year, the Project Management Office has **significantly matured and expanded its capacity**. Currently, the PMO portfolio includes over **50 IT specific projects** across the city from one centralized department. The PMO has a series of qualified project managers and analysts who together, have established a consistent customer experience methodology, standardized processes, and increased the success rate of implementing strategic initiatives.

A key factor to the success of the IT PMO is implementing a framework and governance model. The summary above illustrates the four main phases for the PMO's project management methodology, and the foundational tenets of communication and cybersecurity and technology risk management. This framework and governance model will guide the City through the implementation of all technology programs, projects and initiatives.

MODERNIZE IT SYSTEMS

Through implementation of the Technology Strategic Plan, the City has continued to focus on modernization by replacing outdated and underperforming systems and focusing on widely-accepted best practices for excellent service provision and community engagement.

Within the past year, the City has focused on the implementation of key upgrades such as the Microsoft Office 365 migration and the Enterprise Resource Plan migration to the Cloud. Both of these efforts are underway and will enhance performance while providing additional support for mobility and collaboration.

The City also chose to focus on online accessibility for city government services. This was a critical avenue to remaining relevant and connected to the public during the COVID-19 pandemic and beyond. Over the next 3-5 years, the City remains committed to offering more online services for its employees, constituents, businesses, and visitors, including:

- An online business registration portal
- Online bill payment
- GovQA – a public facing Freedom of Information Act (FOIA) and public records request portal
- Human Resources and Division of Finance system upgrades – purchasing, time and attendance payroll, and an online benefits enrollment portal
- Consolidated service desk to support employees citywide

Finance and Budgeting System Upgrades

- The City updated to the Local Government Finance Pro Software – a CentralSquare platform which is anticipated to reduce costs long-term by creating efficiencies and reducing paper needs.

Internal Instant Messaging

- Enterprise-wide messaging system that allows for instant, online communication between Divisions.

Document Management System

- Software used to track, manage and store documents and reduce paper.

Constituent Management Tools and Resources (CRM)

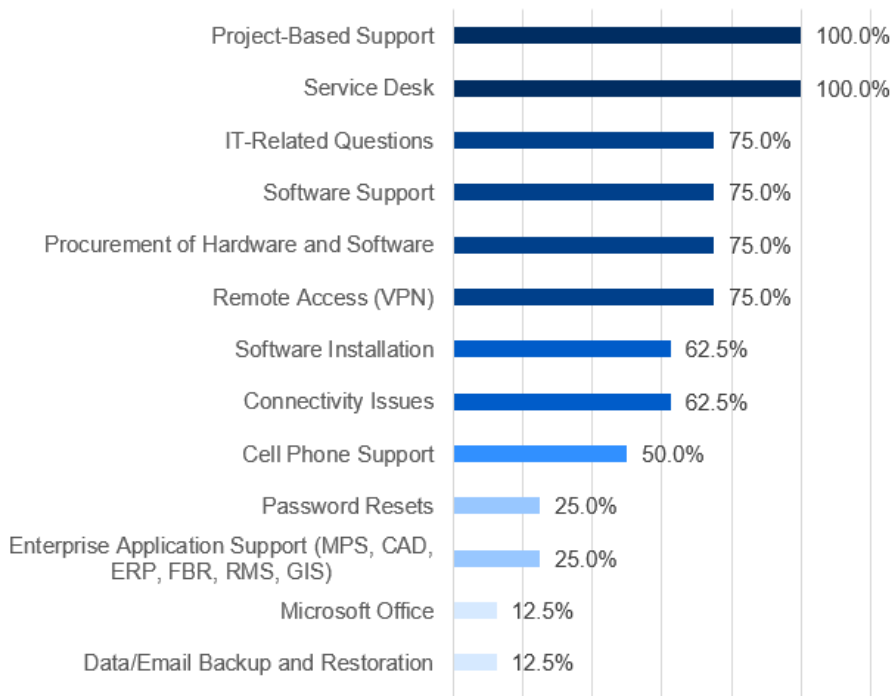- A system to track constituent contact points and concerns.

Workflow Management Platform

- A software application designed to help users in collaborating and automating processes, as well as in defining different workflows.

STAKEHOLDER ENGAGEMENT

Through a combination of interviews and surveys in 2018, the City collected initial feedback from stakeholders to shape the short and long-term vision for technology prioritization, and understand key services, strengths and areas of improvement for the IT Division. In 2020, the City recirculated this survey. Among other questions, respondents were asked to detail their interactions with the IT Division, highlighting the breadth and depth of service provision (see chart below).

Which services provided by the IT Division have you used in 2020?

Service	Percentage
Project-Based Support	100.0%
Service Desk	100.0%
IT-Related Questions	75.0%
Software Support	75.0%
Procurement of Hardware and Software	75.0%
Remote Access (VPN)	75.0%
Software Installation	62.5%
Connectivity Issues	62.5%
Cell Phone Support	50.0%
Password Resets	25.0%
Enterprise Application Support (MPS, CAD, ERP, FBR, RMS, GIS)	25.0%
Microsoft Office	12.5%
Data/Email Backup and Restoration	12.5%

Additionally, the 2020 survey results found that the **majority of respondents report Very Satisfactory or Satisfactory IT Division customer service.** While most participants are "Satisfied" or "Very Satisfied" with their overall customer service experience with the IT Division, the IT Division is committed to continuous improvement.

Moving forward, the IT Division will continue to solicit feedback via surveys as a useful mechanism to align with the City's operational roadmaps and improve our approach to providing high quality, consistent customer service for local Aurora government and for constituents. The City aims to conduct this survey on an annual basis, in addition to conducting ad hoc surveys as needed at the close of major IT projects and other initiatives.

2020 Customer Satisfaction Survey
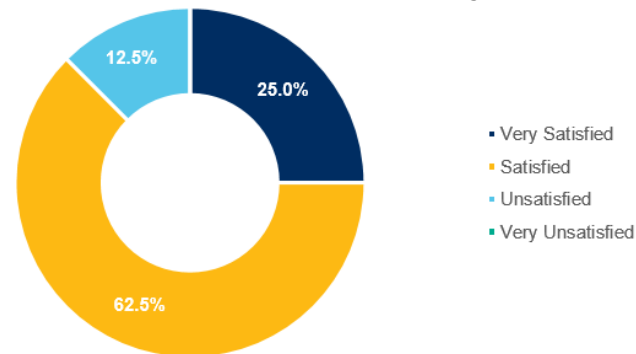
- Very Satisfied — 25.0%
- Satisfied — 62.5%
- Unsatisfied — 12.5%
- Very Unsatisfied

CITY OF AURORA
TECHNOLOGY STRATEGIC PLAN
2020 / Q1 2021 UPDATE

PART 1 – EXECUTIVE SUMMARY

PART 2 – TECHNOLOGY STRATEGIC PLAN BACKGROUND

PART 3 – 2020 / Q1 2021 UPDATE: ACCOMPLISHMENTS TO DATE

PART 4 – WHAT'S NEXT

WHAT'S NEXT

In Conclusion

The City of Aurora is proud of our progress thus far against the Technology Strategic Plan; however, we recognize there is more work to do to accomplish our stated goal of making Aurora a regional leader in technology. Technology investment and improvements will continue to require significant, coordinated efforts across the City. As we look to the future, the IT Division is planning for the following projects over the next 1 – 2 years. This table also reflects some of the completed work from 2020.

2020				2021			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Benefits Enrollment & Administration Upgrade	Expansion of Fiber Ring	Public Safety (GETAC) Laptop Upgrade	Managed security vendor	Onboard 3rd party managed security	Finalize full support model for CAD/RMS	Finalize VMS Updates	Microsoft 365 SharePoint deployment
MVPS Automated License Plate Recognition (ALPR) Project	Go-Live for CAD/RMS	Convert Credit Card Processing to EMV Machines	Go-Live of Grants Management Software	GovQA FOIA Software Upgrade	Update User Awareness Program / Training	Police body-worn cameras	
Completion of Thrive Center IT Implementation		Go-Live of TrakIT Community Services Development Tool	Harris Radio Console Upgrade	Complete DocuSign Update	911 NextGen Upgrade	Microsoft Teams Rooms	
Go-Live of CityPost Kiosks				Microsoft 365 Exchange & Office App Migration + InTune Mobile Device Management	Launch Smart Aurora P3	eTRAKiT CRM and mobile app	

CITY OF AURORA TECHNOLOGY STRATEGIC PLAN
2020 / Q1 2021 UPDATE

APPENDIX A: HEAT MAP ANALYSIS 2020 UPDATE

APPENDIX A
HEAT MAP ANALYSIS 2020 UPDATE

Heat Map Rankings - Potential Impact

High (3)	Medium (2)	Low (1)

Departments / Stakeholders

Columns: All City Departments, Constituents, City Partners, Mayor's Office, Police, Fire, Development Services, Community Devt, Community Services, Finance, Human Resources, City Clerk, Information Technology, Public Works, Library, Legal

Business Drivers

One IT
- Foster interdisciplinary cooperation and collaboration.
- Utilize industry best practices; define efficient, effective and measurable standards.
- Invest in workforce development.

Customer Experience
- Improve and sustain high level of service delivery.
- Provide effective communication for stakeholders across service delivery lifecycle.
- Maintaining a highly secure technology environment.
- Provide universal system and data access (e.g. mobility).

Agility & Smart Sourcing
- Develop an agile and smart business unit (e.g. modernize).
- Increase opportunities for shared services.
- Identify funding opportunities to support innovation solutions.
- Exercise lifecycle management strategy.

Program & Initiatives

Infrastructure

ID	Program & Initiatives
1	Enterprise Infrastructure Modernization Program:
2	Video Management System (VMS) Modernization Program:
3	City of Aurora Fiber Optimization Program:

Applications / Projects

ID	Program & Initiatives
4	Aurora Smart City Program:
5	Enterprise-Wide Application Improvements:
6	Enterprise Data Governance Program:
7	Human Resources and Finance Automation Improvements:
8	Civic Engagement and Brand Management:
9	Development Services Technology Transformation:
10	FOIA Software Upgrade
11	Digital Inclusion Program:
12	Tower Revenue Project (Managed Services of Small Cell Communication Towers / Leases at City-owned Facilities)
13	eGovernment: Increasing Online Services (e.g. online payment for all needs)
14	Business Registration Program Implementation (Policies, Procedures, and Technology)
15	Geographical Information Systems (GIS) Program:
16	Technology Contract Review Analysis Cost Optimization:
17	Next Generation 911 (Expanding Capabilities of 911 System)
18	Explore Possible Refresh for Legislative Management System (Granicus)
19	Public Safety Equipment Updates:

Governance / Security (or Governance, Data & Security)

ID	Program & Initiatives
20	Cybersecurity Plan Implementation:
21	Enterprise Technology Asset Tracking and Lifecycle Management
22	Content Management Governance
23	Email Retention Policy Implementation

IT Management

ID	Program & Initiatives
24	Citywide Digital Strategy (Data and Analytics Strategic Plan goals):
25	IT PMO Maturity Model:
26	ITIL Based Culture (V3):
27	Workforce Development (Recruiting, Training, Retention)
28	Tech Education Meeting Group: Training and Knowledge Share

CITY OF AURORA
TECHNOLOGY STRATEGIC PLAN
2020 UPDATE

APPENDIX B: SMART AURORA OPPORTUNITY

SMART AURORA OPPORTUNITY

The following section provides additional highlights about the Smart Aurora Opportunity:

NOKIA

JACOBS

NTI NATIONAL TECHNOLOGIES

BUREAUGRAVITY

ONLight aurora

LEARNING TO BE THE
SMARTEST CITY IN AMERICA

It's Aurora's turn. Next year, the City of Aurora gets the opportunity to leap ahead of every other city in America. With $300 million in smart city upgrades, we could redefine the standards for public safety, for city services, for inclusive internet access, and for innovative businesses.

This is our chance. Now is our time to lead. And it could only happen in Aurora.

Mayor Richard C. Irvin,
City of Aurora

605 INNOVATION DISTRICT

Jacobs

What we do is more than a job, we work every day to make the world better for all. Everything we do – from addressing water scarcity and aging infrastructure to ensuring access to life-saving therapies and protecting against sophisticated cyber-attacks – is more than projects outlined in proposal requests. They're our challenges as human beings, too.

That's why we bring a thoughtful and collaborative approach to every one of our partnerships. We know we can help our partners make a positive impact on the world. We lead large project teams with many different companies and agencies – but make sure everyone's voice has a chance to be heard and respected.

Projects

Network & Connectivity
Fiber Fronthaul: Laying the Foundation for the 5G Network
Great Chicago Metropolitan Area,
Chicago, Illinois, USA

Our team provided program management and engineering services for design and installation for 375 miles of front haul fiber for transport of the future 5G networks. Fiber is the solution for data transmission of the many small cells that are required to make a Connected Place. This project is currently underway in the Greater Chicago area and consists of 375 miles of aerial and underground fiber optic cables within the metro area that will carry all data and transport thousands of small cell nodes across the city. Jacobs has evaluated the routing of the fiber and maximized the design for cost efficiency. We engineered all splicing and termination of the fiber at node locations to maximize cable efficiency. Along with this scope, Jacobs selected and engineered small cell (node locations) for coverage and future data collection. As carriers begin to prepare for 5G, they will offload their macro networks to densify their coverage and allow for faster data transmission over the fiber front-haul network.

Utilities
Baker Pump Station No. 3
Trinity Watershed Management
Dallas, Texas, USA

The Trinity River, the longest river in Texas, has a history of destructive flooding in Dallas. Since 2007, our team has assisted the City of Dallas with building the Baker No. 3 Water Pump Station, which lowers flood elevations in parts of downtown and protects over 50 existing businesses from potential flood damage. Our technical experts delivered the project through a design-bid-build process. The design process included physical and computational fluid dynamic modeling of the collection sump, intake, pumps, and discharge piping and required approval from the United States Army Corps of Engineers for construction. Now built, the Baker No. 3 Pump Station has a capacity of 700,000 gallons per minute and features the largest concrete volute pumps in the United States.

Safety and Cyber Security
Amtrak Advance Controls System Network
Pennsylvania Station
New York, New York, USA

Technology has enabled incredible advancements in infrastructure but has also made our cities more vulnerable to cyber-attacks. In conjunction with our partner, Advanced Control Systems (ACS), our experts work to protect Amtrak's network security at Pennsylvania Station in New York City, a major data hub for the company. The project involves an assessment of the existing supervisory control and data acquisition (SCADA) network and identifying potential cyber-security threats. Specifically, our team is performing port and vulnerability scans, network device configuration reviews, testing, reviewing server system vulnerabilities, black box testing from various locations throughout the city, and identifying single points of communication failures between various sites. The goal is to provide recommendations that will help Amtrak create an efficient and encrypted SCADA network that would be impenetrable to malicious hacking.

Design
Elgin O'Hare Western Access Project
Illinois State Tollway Authority,
Illinois, USA

As Design Corridor Manager of the Elgin O'Hare Western Access Project in metropolitan Chicago, we're helping the Illinois Tollway meet the area's diverse travel needs – improving travel efficiency, providing western access to O'Hare International Airport, creating opportunities for jobs and economic development, enhancing multi-modal connections and reducing congestion. The $3.4B Project is currently under contract to Illinois State Tollway Authority's (ISTHA) for its largest-ever, and the state's first-ever freeway-to-toll road conversion. Our team is advancing the design for the ITS and toll systems throughout the project corridor. The scope of work includes the design of all electronic "open road" toll plazas on both mainline segments and selected ramps, full video surveillance of the entire corridor, electronic monitoring of traffic conditions, road weather monitoring; and a traveler information system, including electronic message signs. The project includes 17 miles of new roads with 15 new or improved interchanges as part of a new, all-electronic toll (AET) road. The 15 miles of toll roads and 124 miles of local road improvements feature mainline lanes instrumented with AET gantries and various ITS systems.

Urban Mobility
Nevada Connected Vehicle and Autonomous Vehicle Program
Nevada Department of Transportation
Statewide, Nevada, USA

Jacobs is working with the Nevada Department of Transportation (NDOT) to develop and implement policies and programs for accelerating the progress of Connected and Autonomous Vehicles (CAV) throughout Nevada and the United States. Our team is collaborating with a joint coalition consisting of NDOT, the Nevada Governor's Office of Economic Development, the Department of Motor Vehicles, Nevada Business and Industry, and the Department of Public Safety. Our team has developed a series of key policy deliverables including a summary of national and international CAV activities, a SWOT analysis, goals and objectives, and technical and engineering assessments for CAV projects. We have also identified a number of future projects, including a multimodal CAV test facility, autonomous snowplows, and automated transit along key business and tourist corridors.

SMART AURORA OPPORTUNITY

NOKIA

We create the technology to connect the world.

Nokia shapes technology to transform the human experience and has successfully met the needs of our customers for 150 years and counting.

We develop and deliver the industry's only end-to-end portfolio of network equipment, software, services and licensing that is available globally.

Our customers include service providers whose combined networks support 6.1 billion subscriptions, as well as enterprises in the private and public sector that use our network portfolio to increase productivity and enrich lives. We also serve consumers with technology and devices.

Through our research teams, including the world-renowned Nokia Bell Labs, we are leading the world to adopt end-to-end 5G networks that are faster, more secure and capable of revolutionizing lives, economies and societies. Nokia adheres to the highest ethical business standards as we create technology with social purpose, quality and integrity.

Working together is the key to innovation.

We are bringing together the best minds, makers and means to create new technologies, get new services to market and realize the incredible potential of our increasingly connected world.

"Nokia Chicago" is the unified identity of Nokia's presence in the greater Chicago area. Nokia Chicago is home to a diverse employee base representing multiple Business Groups and Corporate Functions in multiple site locations.

Located in the Illinois Research & Development corridors of the Northwest and Western suburban areas, Nokia is strategically located within 35 miles of two major airports (ORD & MDW) and the center downtown Chicago itself.

Nokia Chicago is home to: Mobile Networks, Fixed Networks, Nokia Software, IP & Optical Networking, Global Services, and Bell Labs; Tier 3 Naperville Data Center, EE Cloud–Franklin Park; Cloudband Innovation Center, NokiaEDU Training Center, An OSHA VPP Star Certified campus of 1,930,037 total square feet on 175 acres; Thriving employee resource Communities & Special Interest Groups; Internships and co-ops with universities across the U.S. (incl. many local to Illinois); Community outreach programs (incl. student tours, Junior Achievement).

Nokia Chicago is a leader in 5G Research & Development and is also collaborating with hub88, which is a technology acceleration center serving northern Illinois. Drawing from the rich technology, science, and industry along the Illinois I-88 corridor, hub88 serves to integrate the regional commercial, education, and entrepreneurial communities to discover, build, test and commercialize emerging technologies and services.

The hub88 Communication Lab members have the unique opportunity to ignite 5G innovations using a cost-effective private 5G and LTE, carrier-grade communications lab, and accelerate the time-to-value with connections to subject matter experts and a robust member and ecosystem network.

Projects

Nokia, Jacobs and Smart City Capital join forces to foster smart city projects across North America. These projects serve to drive smart city solutions into under-served and un-served communities.

Companies to offer funding packages coupled with an ecosystem of pre-vetted partners to help accelerate the adoption of smart city initiatives. Effort is intended to enable communities to more effectively leverage resources from Wireless and Fiber Infrastructure.

Nokia, Jacobs and Smart City Capital have launched a coalition to help North American cities fund and reduce the risks associated with smart city initiatives. With available project funding from Smart City Capital exceeding $2 billion USD, this program complements the Smart Cities Challenge program launched by Infrastructure Canada earlier this year.

To support this effort, Nokia, Jacobs and Smart City Capital have created a best-in-class partner ecosystem that includes suppliers of a broad range of technology solutions, standardized and scalable communications network infrastructure and platforms, and architecture and engineering services. This ecosystem is designed to help facilitate the adoption of smart city applications in areas including public safety, smart transit, autonomous vehicle and vehicle to X (V2X) and more.

Mike Allison, VP of Sales, Transportation, Energy and Public Sector, North America, said: "Funding is a major obstacle for government entities embarking on the journey of a smart city transformation. With our partner Smart City Capital, LLC, we bring our global expertise and the capital necessary to successfully execute and deliver smart city projects, across North America."

Oscar Bode, CEO, Smart City Capital, said: "Nokia's growing expertise in smart city deployments and project management, coupled with our strong funding base and innovative funding model, puts us in an ideal position to help simplify, expedite, and increase the adoption of smart, safe, and sustainable smart city deployments throughout the continent."

These projects build on Nokia's strong track-record supporting smart city initiatives worldwide. It also highlights the progress of Nokia's strategy of expanding its customer base outside of the traditional telecommunications sphere, a key focus of the company.

Awards

Nokia Deepfield awarded best secured network initiative at 2019 Broadband World Forum – October 2019

Nokia named one of the world's most reputable companies for corporate responsibility in 2019 – September 2019

GSMA MWC-19 Global Mobile Award for 5G Leadership. Nokia for Nokia 5G Future X – Unleashing the Potential of 5G – March 2019

SMART AURORA OPPORTUNITY

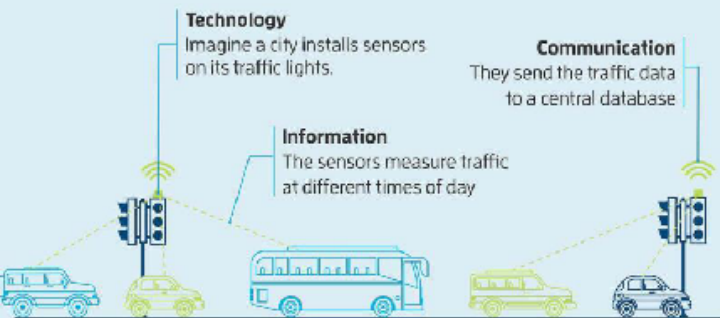## What's a smart city?

Cities earn the label "smart" when they use three things – **information, communication, and technology** – to make city services run better.

Technology
Imagine a city installs sensors on its traffic lights.

Communication
They send the traffic data to a central database

Information
The sensors measure traffic at different times of day

Using this technology, information and communication, the city can now adjust traffic signals to make the intersection safer and make traffic move more smoothly.

That's smart. But that's just one small example.

The ways of using information, communication and technology to improve life within a city are almost unlimited. Cities are trying everything from weather safety systems to self-driving buses. They're cutting emergency response times, improving waste management and saving costs on utility use. They're lowering crime rates, reducing pollution and decreasing use of natural resources.

That's not all. The infrastructure needed for a city to be "smart" brings lots of other benefits as well. **It's good for private businesses, for public schools, for parks and transportation centers and for individual residents.**

To learn what specific changes the Smart Aurora Opportunity might bring, read on.

THE BIG PICTURE

What is the Smart Aurora Opportunity?

The city is considering a partnership with Smart City Capital (SCC), an investment firm that wants to spend $300 million on smart city projects in Aurora.

SCC will provide the funding, and its network of vendor partners – including Nokia and Jacobs Engineering – who will provide expertise and manage projects. Taken as a whole, the partnership enables the city to enact major initiatives in a short time and without incurring new expenses or increasing taxes.

The chance to make wide-ranging changes in a short time is important because most smart city efforts are only effective at scale. The rule is "go big or go home" – but most cities can't "go big." They lack the knowhow, or their budgets force them to build infrastructure so slowly that it's ultimately not impactful. Public-private partnerships with groups like SCC are a way for governments to bridge the gap, making meaningful change by leveraging outside capital and expertise.

We're calling this an "opportunity" because Aurora hasn't yet made a commitment to work with SCC. The city has directed SCC to begin research and established work-groups to decide which projects would be most important for Aurora; a specific proposal will be presented to the city council in December based on this work.

What would change if the project happens?

We haven't decided yet! But there are four big areas of focus.

SCC's approach is "solution agnostic" – in other words, its investment doesn't come with a predetermined set of changes to make. SCC will share its expertise, and Aurora will decide what's best for Aurora.

For the first 0-24 months of the opportunity, called Phase One, work-groups are examining projects with four goals:

- **Make city services more effective.** Work-groups are considering "smart lighting" solutions throughout the city. They're also looking at a variety of parking solutions, from digital management of parking decks and revenue to nodes and sensors that could help drivers find available spaces more easily. They're examining upgrades to city parks, including weather monitors and "smart waste" cans to beautify public spaces and reduce money spent on trash collection. And they're hoping to extend Internet fiber connections to key infrastructure locations like water towers, train stations and the Aurora airport.

- **Make the city safer.** Work-groups are considering an upgrade to Aurora's Emergency Operations Center, including a video wall for more effective emergency management. They also want to establish a Real Time Crime Center, also called a Critical Intelligence Incident Center, to help with situational awareness during important events. And they're considering systems for license plate recognition video surveillance, gunshot detection and traffic routing systems to help emergency vehicles reach their destinations faster.

- **Expand high-speed Internet access for residents and organizations.** Work-groups want to expand the city's Internet fiber network, bringing low-cost, high-speed access to residents in Wards 2, 3, 4, 6 and 7. They're also looking to extend access to Aurora University, Chicago Premium Outlets, Pacifica Square and a number of city parks.

- **Ignite economic growth.** In July, city leaders designated the entire city of Aurora as an innovation district – a zone in which public and private actors are partnering to attract and support entrepreneurs and business startups. Plans for 605 Innovation District include an incubator/accelerator on the city's far east side and a developers'

hub downtown. Connectivity and smart-city infrastructure are key to the growth of innovation districts, where the ultimate goal is that a business could grow from startup stage to maturity without ever leaving town.

Who does the work on the Smart Aurora Opportunity?

SCC's network of vendors would provide services from fiber Internet expansion to installation of data sensors, nodes and other technology. But their approach is "solution agnostic" – Aurora isn't required to use any particular service, just to contract for the services we do use from within SCC's network.

Who calls the shots?

The key to the public-private partnership would be the creation of a new business entity – often referred to as "PS Company" or "NewCo" behind the scenes, because it doesn't yet have an official name.

This new company would effectively manage Aurora's smart city initiatives, both during groundwork stages and when services are up and operating. Smart City Capital would fund the new company, and the new company would hire vendors like Nokia or Jacobs Engineering to do work such as fiber-optic Internet installation, data network setup and repair and more.

But that new company would have one client: The City of Aurora.

Aurora will own any infrastructure this new company builds on the city's behalf. Aurora will decide which projects to pursue and what priority they have. The new entity would work for Aurora: The city decides what it wants, and the new company determines how to implement the city's plans on behalf of the city.

Think of this new entity like a property manager: It will build, maintain and operate infrastructure on behalf of the city. But the city owns the infrastructure and the city calls the shots.

How does SCC recoup its investment?

Smart cities save a lot of money by operating more efficiently. But they also make money – usually by charging fees for private access to the city-owned infrastructure. This is the same model utility companies have – they own the infrastructure we all use, and charge for access to it.

But city staff aren't looking to get into the Internet business – they just want the city to own the infrastructure. As a private partner, the new company created by Aurora's public-private partnership will be custodian of the physical and digital infrastructure built with its investment. It'll operate those resources on the city's behalf, collecting fees when appropriate.

Those fees belong to the city of Aurora, but a portion would be paid to the new company and its investors as part of the public-private partnership agreement.

Here's a concrete example: When the new company extends the city's high-speed Internet network into a residential neighborhood, it will offer residents home Internet access. This service would be faster and more affordable than what's currently available – but there would still be a cost. When residents choose to participate, their fees generate revenue for the city. And the new company keeps a portion as a management fee.

The result: Residents get low-cost Internet services without a tax increase. The City of Aurora gets major infrastructure improvements without any financial risk. And Smart City Capital, as an investor in the new PS company, recoups its investment over many years.

SMART AURORA OPPORTUNITY

Why Aurora?

Aurora is uniquely positioned for this opportunity, and Smart City Capital specifically sought us for this unique investment.

- Aurora already has more than 120 miles of internet fiber in the ground. We've been laying infrastructure since 2008.

- Aurora has the key institutions – hospitals, schools and businesses – needed to make smart-city infrastructure work best.

- Aurora has space for new business. Great downtown buildings, undeveloped property, and coworking/incubation centers all mean businesses of varying sizes can thrive and expand here. Economic diversity is a key ingredient for innovation.

- Aurora has dedicated leaders who have been investing in technology for decades. Mayor Richard Irvin made smart cities a cornerstone of his campaign. Chief Information Officer Michael Pegues has been developing the city's Technical Strategic Plan since he was hired in 2017. And Bureau Gravity CEO Jim Allen has been building a tech-focused community from his company's downtown offices, which are now the hub of the 605 Innovation District, for more than 15 years.

Have other cities done this?

Definitely. From San Diego to Singapore, smart city efforts are happening all across the planet.

And yet – there's something special about the Aurora opportunity.

Most cities make piecemeal improvements, adding "smart" services here and there as budget allows. But Aurora already has a strong foundation in its existing fiber optic network, and Mayor Richard C. Irvin has made smart-city leadership a priority since his election in 2017. That means Aurora is positioned to make citywide improvements from the ground up. The plan is not just to add a service here or there, but to design a truly integrated, truly planned smart city.

It's no exaggeration to say this could make Aurora the smartest city in the region – and beyond.

What are the risks of saying yes to this opportunity?

The city isn't taking on any financial risk – if smart-city efforts don't work or don't generate revenue, it won't incur debt or lose money.

The city isn't giving up control, either. It would agree to partner with the newly formed P3 entity for management of smart-city services for an extended time, most likely 30 years. But that entity would remain Aurora's customer, and Aurora could direct its efforts.

So what could go wrong? The worst-case scenario is that planned services and programs simply don't work, and the initiatives have to be rethought. The city's final agreement with Smart City Capital will likely include an "exit clause" for such a situation, so Aurora leadership could decide to scrap the agreement if SCC and its partners didn't deliver as expected.

What are the risks of saying no to this opportunity?

It's not often that a city has the chance to build $300 million worth of infrastructure with no new costs, no new taxes and no financial risk. This investment won't just grow Aurora's reputation as an area leader – it will spur new economic growth, increase the educational and business opportunities available to residents, and ultimately improve quality of life for all who call Aurora home.

And like all long-term investments, the true impact of this opportunity will ultimately be felt by future generations.

To say no would be to miss all that.

Aurora Chief Information Officer Michael Pegues calls this partnership "the opportunity of a lifetime." That bears serious consideration. Thanks for taking time to read this document and do your part.

> STUDIES HAVE SHOWN THAT THE VALUE OF A PROPERTY INCREASES MORE THAN 3 PERCENT WHEN IT HAS A FIBER CONNECTION. **THIS INCREASE IN THE VALUE OF A RESIDENTIAL PROPERTY CAN DRIVE MORE DEVELOPMENT IN AURORA.**

JEFF ANDERSON, DEPUTY CHIEF INFORMATION OFFICER
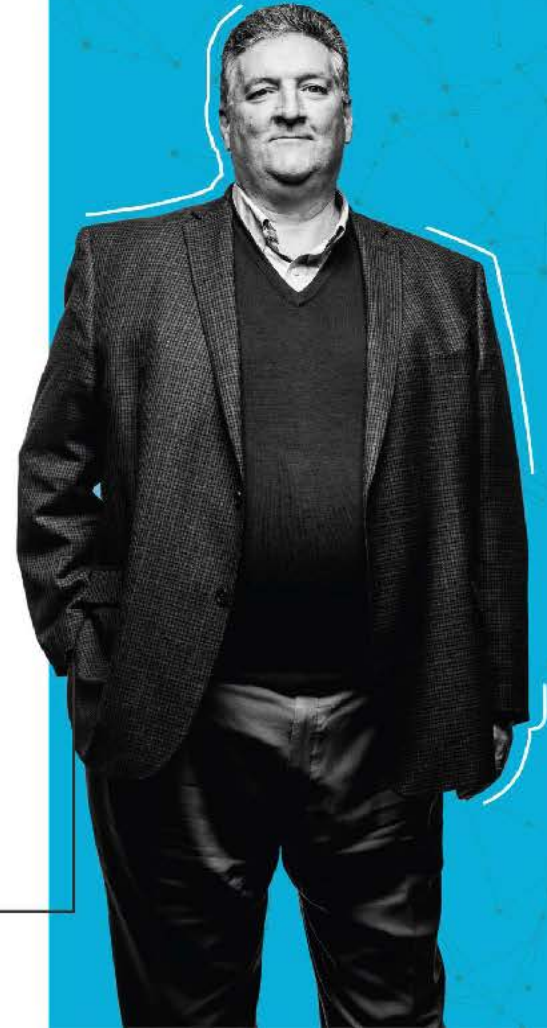
SMART AURORA OPPORTUNITY

Social Innovation can never be a project run for one group of people for the benefit of another group of people.
-Bas Boorsma, VP Cities Today Institute

605 INNOVATION DISTRICT

SMART AURORA OPPORTUNITY

A BETTER RUN CITY

From streetlights to trash cans to public parking, the city is weighing options that would use technology to make city services dramatically more efficient. **By monitoring services and eliminating wasted effort, we'll improve quality of life and save taxpayer money at the same time.**

INTELLIGENT TRAFFIC SIGNALS & PREEMPTION

Properly implemented traffic signals reduce the time cars sit idle waiting for the cycle to complete. Intelligent traffic signals monitor traffic through video and react to changes in flow. When paired with intelligent traffic signal preemption devices, response times for emergency vehicles can be reduced by up to 50%.

DATA DRIVEN DECISIONS & PREDICTIVE ANALYTICS

Data collected from traffic signals and other sensors can help in real-time responses to incidents. Combining this information with crash and weather data help create more reliable findings than those based upon aggregated average traffic data. These findings help city leaders improve services — where and when — they are needed.

IOT SENSORS

Intelligent sensors placed throughout the City can provide information on weather conditions, activity in an area including traffic jams or accidents as well as pavement temperature. City leaders can make more efficient decisions when deploying City services.

WATER

Intelligent leak detection technologies can be paired with the City's existing wireless advanced metering infrastructure (AMI) to identify water production system leaks and reduce water loss. Controlling water loss is an investment that will ease burdens on the City's water utility and consumers, drive innovation and economic development, protect resident health and preserve water resources.

SMART AURORA OPPORTUNITY

IF WE'RE INFORMED IN A MORE EFFICIENT, QUICKER MANNER, **WE CAN MITIGATE EMERGENCIES MUCH FASTER.**

GARY KRIENITZ, FIRE CHIEF

Potential smart applications by 2025

Cities around the world like Aurora are researching new ways to maximize the impact of smart city technology—we're just getting started.

Security
- Predictive policing
- Real-time crime mapping
- Gunshot detection
- Smart surveillance
- Emergency response optimization
- Body-worn cameras
- Disaster early-warning systems
- Personal alert applications
- Home security systems
- Data-driven building inspections
- Crowd management

Healthcare
- Telemedicine
- Remote patient monitoring
- Lifestyle wearables
- First aid alerts
- Real-time air quality information
- Infectious disease surveillance
- Data-based public health interventions: maternal and child health
- Data-based public health interventions: sanitation and hygiene
- Online care search and scheduling
- Integrated patient flow management systems

Environment
- Lower gas emissions
- Better air quality
- Water conservation
- Waste reduction
- Smart lighting

Transit
- Smart parking
- Traffic safety
- Traffic mitigation
- Faster public transit

Water
- Water consumption tracking
- Leakage detection and control
- Smart irrigation water quality monitoring

Economic Development & Housing
- Digital business licensing and permitting
- Digital business tax filing
- Online retraining programs
- Personalized education
- Local e-career centers
- Digital land-use and building permitting
- Open cadastral database
- Peer-to-peer accommodation platforms

Mobility
- Real-time public transit information
- Digital public transit payment
- Autonomous vehicles
- Predictive maintenance of transportation infrastructure
- Intelligent traffic signals
- Congestion pricing
- Demand-based microtransit
- Smart parking
- E-hailing (private and pooled)
- Car sharing
- Bike sharing
- Integrated multimodal information
- Real-time road navigation
- Parcel load pooling
- Smart parcel lockers

Waste
- Digital tracking and payment for waste disposal
- Optimization of waste collection routes

Engagement and Community
- Local civic engagement applications
- Local connection platforms
- Digital citizen services

SOURCE: McKinsey Global Institute
McKinsey Global Institute Smart cities: Digital solutions for a more livable future

SMART WATER SYSTEMS

"A smart water system identifies exactly where leaks exist or where a water main is weak so it can be addressed before we're in the midst of a firefight. This eliminates time spent searching for and cleaning up water leaks in people's yards and retention ponds." - Gary Krienitz, Fire Chief

SMART AURORA OPPORTUNITY

Added Security
Increased lighting and surveillance cameras

Off the Grid Access
Solar panels mean lights can be installed in areas without access to electricity

WHEN YOU LIGHT UP AN AREA **CRIMINALS REALLY DON'T WANT TO COMMIT CRIMES THERE.**

KRISTEN ZIMAN, POLICE CHIEF

Mastodon Island in Phillips Park is a great candidate for Smart Light Poles. Because there's no electricity access, solar panel poles could provide extra safety to visitors.

THE BENEFITS OF SMART LIGHT POLES

The installation of smart lighting solutions will play a key role in the smart city strategy, in which street and other exterior lighting installations serve as a backbone of a network in which services are delivered to the benefit of citizens, businesses and the city government. Modern smart lighting products will help cities in monitoring the environment, to increase public- and traffic-safety, to upgrade connectivity as WiFi hotspots or to deliver location-based services like smart parking and smart navigation.

BUILDING A DRONE TEAM

The Aurora Police Department Drone Team will be able to use drone technology to improve their searches and apprehensions. Drones are able to be deployed inside buildings for searches, which means improved safety for officers and citizens.

THE HENRY PRATT TRAGEDY

Aurora Police arrived on scene four minutes after the first call, multi-agencies responded to provide assistance. We want to develop an initiative that supports law enforcement agencies in building evidence-based, data-driven law enforcement tactics and strategies that are effective, efficient, and economical. Smart Policing represents a strategic approach that brings more "science" into police operations by leveraging innovative applications of analysis, technology, and evidence-based practices.

SMART AURORA OPPORTUNITY

A SAFER CITY

The city is looking to invest in a new Real-Time Crime Center (Critical Intelligence Incident Center^{SM}) and updates to the Emergency Operations Center — for keeping the public informed during major events like last year's shooting at Henry Pratt. **Faster response times mean more effective emergency services — and more lives saved.**

REAL-TIME CRIME CENTER

A Real-Time Crime center will allow the Aurora Police department to effectively monitor and quickly respond during important events. Technology like this helps police work efficiently and will make the city safer for all citizens. Read below for some of the features of a Real-Time Crime center:

VIDEO SURVEILLANCE

Smart light poles equipped with cameras will be able to monitor public areas and deter crime. In the event of an incident, cameras can be used to follow offenders so they can be apprehended quickly.

GUNSHOT DETECTION

Gun shot detection systems listen for gun fire and alert authorities and surveillance cameras if shots are detected. Police can then respond faster and crime scenes can be monitored immediately.

LICENSE PLATE RECOGNITION

When a crime is detected and surveillance cameras are implemented, a license plate recognition system will help Aurora Police find suspect vehicles faster and more efficiently.

TRAFFIC ROUTING SYSTEM

The city is looking into implementing a traffic routing system. Using the city's collected traffic data, the system will allow emergencies vehicles to reach their destinations faster.

SMART AURORA OPPORTUNITY

This map represents:
- 645 total miles of fiber throughout the city
- All Aurora homes and businesses connected

A MORE CONNECTED CITY

Aurora is looking at major expansions to its high-speed fiber Internet network – including resident access to all Wards and expansion to areas like the airport, train stations and the outlet mall.

MORE ACCESS TO HIGH-SPEED INTERNET

Aurora wants to expand the city's fiber Internet network, bringing low-cost, high-speed access directly to homes in all Wards. **This service will be faster and more affordable than what's currently available.**

Examples of a high-speed Internet connection can be found along the back wall of the gallery.

Why is high-speed broadband important to Aurora?

The more information, education, and entertainment we put online, the more broadband capacity we use every day. High-speed broadband means citizens of Aurora will have access to the Internet without being restricted by local providers. Small businesses will run more efficiently, children will learn faster, and information will be at our fingertips in no time.

How would having high-speed broadband impact the community?

Access to high-speed broadband leads to economic growth. Cities become more efficient, save money, and attract new development opportunities that provide more jobs to the community.

What else would fiber provide us?

A fiber network gives the city a very attractive and reliable high-speed platform to offer businesses – one that's built for the Internet of tomorrow.

If the City offers broadband services what kind of privacy policy can be expected?

The City of Aurora takes privacy very seriously and will not collect information beyond what is required to provide service. As a current utility provider, we will maintain our commitment to protecting your privacy.

Will the City track or sell my information?

There is no need, desire, or intent for the City of Aurora to collect or sell resident information. The City takes privacy very seriously and is committed to maintaining resident confidence.

How will the City provide INTERNET security?

Securing our network is vital to the success of the platform. The City will work with its highly experienced partners—including Nokia and Jacobs Engineering—to ensure proper network security.
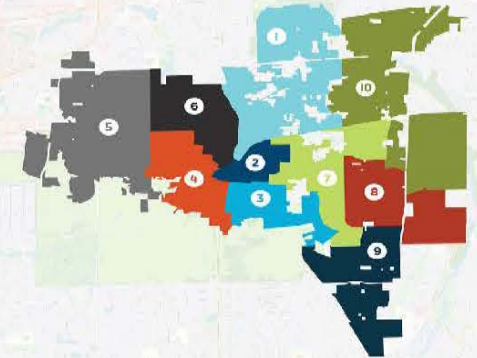
> A CONNECTED AURORA IS **A PROSPEROUS AURORA**
>
> **CHUCK NELSON**, CITY OF AURORA DEPUTY MAYOR

SMART AURORA OPPORTUNITY

A MORE PROSPEROUS CITY

Smart-city infrastructure will ignite growth for the 605 Innovation District, the citywide effort by public and private groups to make Aurora a top-tier choice for startup businesses and entrepreneurs. **That means more restaurants, more interactive public spaces — and more opportunities to learn and work.**

AURORA LANDS THE 605 INNOVATION DISTRICT

On July II, 2019 Mayor Richard Irvin hosted Governor J.B. Pritzker at Bureau Gravity's TechVibe event, where the two leaders endorsed Aurora's vision for its 605 Innovation District.

TECHVIBE PARTICIPANTS

NOKIA · CitiesToday Institute · Google · Jacobs · OPS Solar Technologies · AURORA ILLINOIS · ONLight

- Amazon
- AT&T
- Broadcom Inc.
- BMO Harris
- Cisco
- City of Chicago
- Comcast
- ComEd
- Crowe
- Crowe Castle
- Deloitte

- DuPage County
- Fifth Third Bank
- Gartner
- Global Technical System
- Illinois Mathematics Science Academy
- Illinois Medical District
- Kane County
- Marmion Academy – Computational Prototyping & Research Center
- Rush Copley Hospital
- School District 129

- School District 131
- Smart City Media
- State of Illinois Department of Commerce & Economic Opportunity
- State of Illinois Department of Innovation & Technology
- State of Illinois Governor's Office
- State of Illinois Tollway Authority
- University of Illinois – Rokwire
- Verizon

BUREAU GRAVITY · citypossible · NTI NATIONAL

A VISIONARY STORY

"A core component of being a smart city is the 605 Innovation District. This will become the driving force and catalyst for new goals and partnerships that will shape our future workforce and economic development, **which will make our city a more prosperous one.**

MAYOR RICHARD C. IRVIN "

"My vision for Bureau Gravity has always been to drive economic prosperity in Aurora through the creation of Marketing Technology. **It's my belief that prosperity belongs to communities that learn new things together** — and that's why we're creating an incubator on Lasalle Street...

JIMI ALLEN "

"Smart Aurora means more than new technology; it means **infrastructure investments that will save money, conserve resources, and make the city safer and more prosperous — at no cost to taxpayers.**

MICHAEL PEGUES "

SMART AURORA OPPORTUNITY

Creating New Ways of Thinking of Economic Development

GIG HUB

One of the most in demand digital skills of today is Computer Science. The founding thinkers of Google, Facebook and YouTube were able to imagine and build their empires using these skills. In fact, the building you are standing in now owes much of its success to young computer programmers, developers or coders who learned to create sites and functionality on the Internet you use every day. But this is nothing new or original, it's only import that we foster an environment where these talents are fostered. Gig Hub is a white-collar hacker space. The 605 Innovation District will grow this culture with cash prizes for companies and individuals who can solve digital infrastructure challenges, build digital solutions for local problems or opportunities, and help educate our student population.
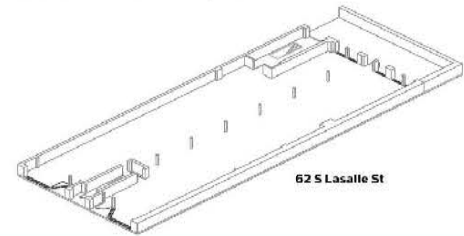
OPEN INNOVATION PLATFORM

Bureau Gravity is seeking to create the world's first Open Innovation Platform (OIP). It's a state-of-the-art video casting and livestream booth. Paired with proprietary software and decades of visual production expertise, it will make it possible to create long- and short-form video content that can easily be leveraged across various Internet media channels. This will allow us to support creative ideation sessions along with thought leadership interviews in real time.

IMPACT GROUP

We've set out to gather innovative, future-focused business leaders to address our communities' future opportunities. The 605 Innovation District will be built with direct support from business and community leaders through shared vision casting. The 605 Impact Group will work side by side with city leadership and independently to achieve actionable goals in the development of a more prosperous city.

62 S Lasalle St

"

TO BE INNOVATIVE WE NEED TO BE OUT FRONT.
HERE IN AURORA YOU CAN HAVE AN IDEAL LIFESTYLE AND THE ECONOMIC OPPORTUNITY OF ANY PROGRESSIVE CITY.

"

DAVID DIBO, CITY OF AURORA DIRECTOR OF ECONOMIC DEVELOPMENT

INNOVATION DISTRICT

The 605 Innovation District covers more than just the city of Aurora, it supports all zip codes with the 605 prefix. Innovation districts facilitate the creation and commercialization of new ideas and support metropolitan economies by growing jobs in ways that leverage their distinct economic attributes. These districts build on and revalue the intrinsic qualities of cities: proximity, density, authenticity and vibrant places. Given the proximity of many districts to low-income neighborhoods and the large number of sub-baccalaureate jobs many provide, their intentional development can be a tool to help connect disadvantaged populations to employment and educational opportunities.

The 605 Innovation District wants to offer a sandbox environment for start-ups to test their products with direct support from the City of Aurora. With great proximity to creative talent, a supportive ecosystem of like-minded entrepreneurs, tools and resources to catapult business goals, plus all the plush benefits of having a good quality of life, Aurora is a great city, ripe for sustained economic growth and limitless job creation.

SMART AURORA OPPORTUNITY

THE 1,000 JOBS INITIATIVE

The goal of the 1,000 Jobs Initiative Matrix is to raise awareness about technology and to place at least 1,000 qualified workers into jobs. Additionally, this project looks to "build on the work we have done to reestablish Aurora as a Regional Technology Hub."

Publishable Incentives – A Mobility Focused Plan

	Local Corporate Incentives	Data Center Access	Marketing	Fiber Access	Workforce Training	Relocation Reimbursements	Performance Based Grants	Awards and Recognitions
SMALL BUSINESS	×	×					×	×
MEDIUM BUSINESS	×	×	×	×			×	×
LARGE BUSINESS	×	×	×	×	×	×	×	×

** Proposed Incentives.
Finals TBD*

Clustering

Clustering has been defined as "global economic hot spots where new technologies germinate at an astounding rate and where pools of capital, expertise, and talent foster the development of new industries and new ways of doing business. The 605 Innovation District will strive to drive clustering of our top local industries: Education, Health, Finance, Marketing. In partnership with local experts in these industries we will create an environment to foster technological advancement in each of these fields.

EdTech

Aurora is perfectly poised to develop a robust educational technology cluster as it has several educational institutions in close proximity at varying levels of the educational spectrum. With a well fostered environment education technology companies can bring forward tools and technologies that not only help to redefine the operational activities of education systems but take it to the next level of imagination.

FinTech

Financial technology is used to describe new tech that seeks to improve and automate the delivery and use of financial services. At its core, FinTech is utilized to help companies, business owners, and consumers better manage their financial operations, processes, and lives by utilizing specialized software and algorithms that are used on computers/smartphones. Aurora has several regional banking institutions that would be able to share in the development of such technology to improve their operations and lead the industry into the future.

HealthTech

Health Technology, or digital health, uses technology (database, applications, mobiles, wearables) to improve the delivery, payment, and/or consumption of care, with the ability to increase the development and commercialization of medical products. Venture funding has grown 200%, allowing US$1.7 Billion to flow into HealthTech businesses from over 30,000 investors in the space. Aurora is surrounded by some of the country's top medical groups, including a new $130 million Copley Medical Center soon to be built near the city's downtown area.

MarTech

Marketing technology is a general term for tech used to assist marketing teams in their work. The technology is mostly used in the sphere of digital marketing, and also for the optimization of offline marketing channels. These tools are leveraged to plan, execute, and measure marketing campaigns across multiple mediums. MarTech is now the single most significant area of investment for marketing resources and programs, according to the latest Gartner CMO Spend Survey. This field will continue to develop as it allows teams to look at processes and automate areas where it makes sense to become more efficient, streamline data, and ultimately allow companies to adopt things faster and scale marketing efforts. As Aurora develops as a testbed and incubator of technology it is primed to foster MarTech development.

GLOBAL START-UP INITIATIVE

The mission of the 605 Innovation District is to drive global awareness of The Aurora Opportunity so we can drive economic development across multiple clusters, EdTech, FinTech, HealthTech, MarTech, and beyond. Through Tech growth, we will see parallel growth in citizen service and support industries.

Start-Up Engine

To catapult the build of a start-up culture, using the Open Innovation Platform (OIP), the 605 Innovation District will create a global contest inviting start-ups from around the world to Aurora, Illinois. As part of the Start-Up Engine contest, we will be offering the following items free for one year's time:

- Direct City Support Rep (Provided by City/CIO Office)
- Private Office Accommodations at 605 Innovation District HQ
- High-Speed Fiber Connection at 605 Innovation District HQ
- Conference Space at 605 Innovation District HQ
- Event Space at 605 Innovation District HQ
- And last but not least, Bureau Gravity will leverage the start-up engine to document the start-up's growth over the year and leverage this content across social platforms.

The 605 Innovation District wants to offer a sandbox environment for start-ups to test their products with direct support of the City of Aurora. With great proximity to creative talent, a supportive ecosystem of like-minded entrepreneurs, tools and resources to catapult business goals plus all the plush benefits of having a good quality of life, Aurora is a great city, ripe for sustained economic development and limitless job creation.

At the end of the day our goal is to create balanced economic growth for the entire 605 Innovation District footprint.

> " I BELIEVE THAT AURORA HAS EVERYTHING IT NEEDS TO BE **A GLOBAL INNOVATION LEADER.** WE HAVE TALENT, URBAN LOFT BUILDINGS, AND LOTS OF ROOM TO GROW. "
>
> **JIMI ALLEN,** BUREAU GRAVITY FOUNDER & CEO

SMART AURORA OPPORTUNITY

AURORA SMART CITY
YOUTH ALLIANCE

In November 2019 the Illinois Math and Science Academy, in partnership with the 605 Innovation District, held its first Aurora Smart Cities Youth Alliance Think-A-Thon. Spearheaded by Mayor Richard C. Irvin, Chief Information Officer Michael Pegues, and Bureau Gravity CEO Jinil Allen, the goal of the Think-A-Thon was to bring Aurora Youth into the conversation about what a Smart City should be and how technology can change their lives. When asked about the effect of technology on his life, Michael Pegues said, "I found myself reminiscing about the first computer my mom bought me back when I was a boy living in the Randall West neighborhood. That was around 1982. The maternal insight & impact that my mom had ... buying me the equivalent of a $1,500 computer, led me to be a successful Vice President of IT at Morgan Stanley!"

For Pegues the Youth Alliance is all about inclusion and Aurora's quality of life. The main areas the youth focused on were health care, social services, education, transportation, arts and entertainment, workforce and economic development, and public safety. In his address to the participants, Pegues said, "We must realize that technology is the common denominator for growth. We need to smart future proof the City of Aurora!" Key takeaways from the Think-A-Thon were:

75% of fastest growing occupations require STEM skills

Aurora is uniquely positioned to take advantage of the job opportunities provided by technological innovation and the changing nature of work.

Community Engagement

Aurora is looking to enable a more contextualized understanding of community members' perceptions & facilitate stronger relationships

Digital Inclusion

Aurora is looking to address economic and social inequality in the access to technologies in under-served communities.

Economic Development

Technological progress is essential to economic growth and development, and the more advanced the technology available, the more quickly the local and global economy can improve.

> "
> WE NEED TO UNDERSTAND THAT THE COLLECTIVE DECISIONS WE MAKE WITHIN THE NEXT 6 – 12 MONTHS WILL POSITIVELY OR NEGATIVELY IMPACT GENERATIONS FOR THE NEXT 50 YEARS. **THE TIME FOR CHANGE IS RIGHT NOW! NOT TOMORROW!**
> "

MICHAEL PEGUES, CITY OF AURORA CHIEF INFORMATION OFFICER

CASE STUDY: WORLD BANK GROUP YOUTH SUMMIT

The 2019 World Bank Group Youth Summit was an interactive event that took place December 2-3, 2019 at the World Bank Headquarters in Washington, DC.

The primary goals of this Summit:

- Empower youth to explore innovative ideas to tackle emerging development challenges
- Provide youth with the tools to build and engage in impactful projects
- Promote dialogue between youth, the WBG, and other key stakeholders globally.

Cities are places of opportunity. 80% of global GDP is created in cities, helping hundreds of millions lift themselves out of extreme poverty. By 2030, two-thirds of the world's population will be housed in cities with 1 million or more inhabitants.

To meet the needs of a rapidly growing, younger, digitally savvy population, we must push the frontier of our current thinking to create sustainable opportunities for our cities to function smarter than they do today.

This years' World Bank Youth Summit provided a platform for youth around the world to contribute to global discussions and to actively learn how to develop a concept into a smart city solution.

These solutions will seek to address problems that lie at the intersection of technology, infrastructure, human development, and sustainable development for cities, which will impact the future of our youth and generations to come.

Key Focus Areas:

- Youth for a Resilient Future
- Setting the Stage: Building a More Inclusive World
- Unleashing the Power of Human Capital
- A Smart Future for All: A People-First Approach to Designing and Implementing Smart Cities
- Driving Youth Entrepreneurship and Innovation
- Lightning Talks: Smart Young Change Makers
- Charting a New Path: A Smarter More Resilient-Focused Approach

Source: https://www.worldbank.org/en/events/2019/06/03/wand-6-the-youth-summit-2019-smarter-cities-for-a-resilient-future

Cesar Ontiveros · Julio Ramirez · Michael Pegues · Chelsea Baker · Alex Garcia

SMART AURORA OPPORTUNITY

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