The City of Mississauga Goes Digital

The City of Mississauga, a Toronto suburb, is Canada's sixth-largest city and a leading user of digital technology to improve its operations and services. It tries to integrate technology into its operations and strategic and business planning, with technology roadmaps for each municipal service defined in business plans and budgets.

Mississauga has a vibrant multicultural population and a thriving central business district, with many Canadian and multinational corporations headquartered there. Since 1970, however, the Greater Toronto Area, including Mississauga, has experienced a noticeable increase in low-income families and a similar decrease in middle-income families. Mississauga developed a Smart City Master Plan to provide a vision and framework to guide the city's adoption of digital technology. The city's leaders believe that digital technology should be available for everyone and provide opportunities to startups, schools, and households at risk.

Mississauga has been a leader in technology initiatives such as social media and "bring your own device" (BYOD), which allows employees to use their own mobile devices for their jobs. Mississauga's website and online services are hosted in remote cloud computing centers accessible via the Internet. (Chapter 5 of this text provides a detailed discussion of these technologies.) In deploying these technologies, the city tries to focus on usability, a high-quality customer experience, and making information technology and technology services available to residents of all income and educational levels.

Mississauga is trying as much as possible to go paperless, with meetings and collaboration via videoconferencing where participants can "attend" meetings and share documents remotely. These efforts have significantly reduced paper use and the need to travel via car or airplane to meetings.

Mobile tools have made it possible for city staff, including transit operators and work operations staff in the field, who previously lacked computers, to access employee information and operational data to support real-time operations and decision making. Working with cellular provider Rogers Wireless, Mississauga connected over 600 buses that are collecting information about bus operations and routes,

so that the public has real-time information about bus locations. The bus data collected also are used for timing maintenance, warranty, and mileage routines so that buses can be removed from service at optimal times to minimize service interruption.

Mississauga has additionally connected 700 city vehicles such as fire trucks and vehicles for snow, public works, and parks operations, and facility maintenance to provide real-time location-based information. For example, connected snow vehicles provide real-time snow plow information to the public as well as the expected level of service for snow removal. Onboard sensors track when snow blades are active, where and when salt or sand is applied, and the rate at which these materials are applied. Mississauga recently implemented an Advanced Traffic Management System (ATMS), which connected over 700 traffic intersections using its own high-capacity fiber optic and wireless Wi-Fi networks (see Chapter 7) along with the Rogers cellular network.

A City Hall pilot project created individual workspaces and collaboration units on the fifth floor so that staff can choose where they want to sit and work. Over 90 percent of the staff on that floor have no defined desk or desk phone, but they do have mobile technology to connect anywhere. A mobile working environment has helped the city attract younger employees, and it has transformed the way top management works as well. The city manager, commissioners, and directors are trading desktops for mobile devices.

Partnering with three other municipalities, Mississauga built its own high-speed fiber optic network known as the Public Sector Network (PSN). It is the largest municipally owned fiber optic network in Canada. This supports a citywide high-speed fiber network for transmitting large quantities of data and a wireless Wi-Fi network that supplies wireless connectivity to the public for many city services. Enterprise networking giant Cisco Canada helped the city build an extensive Wi-Fi network for all its community centers, libraries, arenas, and many outdoor locations such as parks and small business areas. This free Wi-Fi network is available as a "virtual campus" to college and university students around

the world. In 2018 over 8 million hours of free public Wi-Fi were used across the City. Providing public Wi-Fi access in so many locations across the city is one way for Mississauga to level the "digital divide" between residents who are technology "haves" and those who are technology "have-nots."

Mississauga is working with the United Way, Region of Peel, University of Toronto at Mississauga, Sheridan College, and its Business Improvement Areas (BOAs) to build a mobile-friendly ecosystem across the city that can deliver services and digital technology to the entire community. The plan divides Mississauga into 23 defined communities, with one Hub center and 500 mobility kits to residents enrolled in social support programs per community. Each mobility kit consists of a connected laptop. Hubs will be developed jointly with several of the large technology firms with Canadian headquarters in Mississauga and they will provide coworking spaces where their employees can do their work. Eventually the city will have 100 Hubs. The city is also planning to build 500 "Connects" across its 23 communities that will provide indoor and outdoor spaces with voice-supported digital screens and free Wi-Fi access. A "Connect" could be in a park, beside a bus stop, or inside a mall, and there citizens will find free Wi-Fi, a place to sit, and access to services and programs.

Sources: "SMRTCTY Master Plan," smartcity.mississauga.ca, accessed February 9, 2020; Sophie Chapman, "Inside the City of Mississauga's Technology Transformation Journey," *Gigabit*, February 18, 2019; and Eric Emin Wood, "How the City of Mississauga Uses Mobile Technology to Engage Workers and Citizens Alike," *IT World Canada*, May 7, 2018.

CASE STUDY QUESTIONS

1. Describe the problems the City of Mississauga hoped to address using digital technology.

2. What technologies did Mississauga employ for a solution? Describe each of these technologies and the role each played in a solution.

3. What management, organization, and technology issues did the City of Mississauga have to address in developing a solution?

4. How did the technologies in this case improve operations and decision making at the City of Mississauga?

2-3 Why are systems for collaboration and social business so important, and what technologies do they use?

With all these systems and information, you might wonder how it is possible to make sense of them. How do people working in firms pull it all together, work toward common goals, and coordinate plans and actions? In addition to the types of systems we have just described, businesses need special systems to support collaboration and teamwork.

What Is Collaboration?

Collaboration is working with others to achieve shared and explicit goals. Collaboration focuses on task or mission accomplishment and usually takes place in a business or other organization and between businesses. You collaborate with a colleague in Tokyo who has expertise on a topic about which you know nothing. You collaborate with many colleagues in publishing a company blog. If you're in a law firm, you collaborate with accountants in an accounting firm in servicing the needs of a client with tax problems.

Collaboration can be short-lived, lasting a few minutes, or longer term, depending on the nature of the task and the relationship among participants. Collaboration can be one-to-one or many-to-many.