The Smart City

Councillor Colley-Urquhart's Notice of Motion C2019-0560 provides the following definition of Smart Cities:

> *"The International Data Corporation (IDC) defines 'Smart Cities' development as the use of smart initiatives combined to leverage technology investments with common platforms increasing efficiency, data being shared across systems, along with IT investments and third party vendors; with a 'Smart Cities' using IoT sensors and technology to connect components across a city to derive personal data and improve the quality of life for citizens and visitors in the delivery of programs and services".*

In a 2019 Survey of Canadians[1], researchers sought to "examine Canadians' attitudes towards uses of personal information in a smart-city context, focusing on six specific uses of personal information:

- in targeted advertisements,
- for behavior modification,
- in traffic and transit planning,
- in policing and crime prevention,
- the sale of data, and
- in private business".

The 2019 Survey of Canadians found that "88 percent of Canadians are concerned on some level about their privacy in the smart-city context, with 23 percent being extremely concerned, 29 percent saying they are moderately concerned, and 19 percent somewhat concerned. In general, these responses demonstrate a strong level of concern in the privacy issues surrounding smart cities". [2] In the municipal context, this 2019 Survey demonstrated the following:

- "the greatest number of Canadians (57 percent) felt that the use of personal information for traffic, transit and city planning was permissible with protections and rights granted to them over their data, and
- the majority of Canadians felt that their personal information should either not be collected by police for use in crime prevention (32 percent) or should only be collected if certain rights and privileges were afforded to individuals over this data (44 percent)". [3]

[1] Bannerman S., and Orasch, A. January 2019. *"Privacy and Smart Cities: A Canadian Survey".* Available online at https://smartcityprivacy.ca/wp-content/uploads/2019/01/Bannerman-Orasch-Privacy-and-Smart-Cities-A-Canadian-Survey-v1-2019.pdf

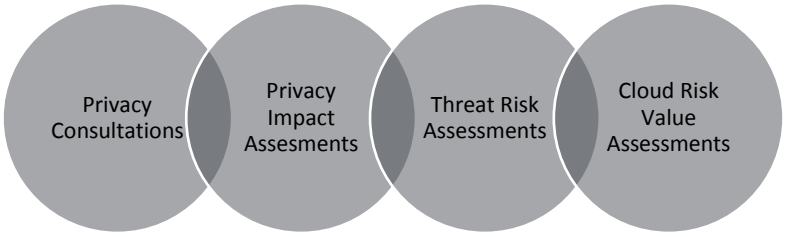
[2] Bannerman S., and Orasch, A. January 2019. *"Privacy and Smart Cities: A Canadian Survey".*

[3] Bannerman S., and Orasch, A. January 2019. *"Privacy and Smart Cities: A Canadian Survey".*

Privacy and Smart Cities

Protecting Privacy in a Smart City

The City of Calgary ("The City") has been delivering smart services and investing in smart infrastructure to help make our community better for many years. The City protects privacy in Smart Cities initiatives through a variety of controls:



Depending on the project requirements, information in scope or technology touchpoints, some or all these controls may be used to understand, identify and mitigate the risk to personal information.

Examples of Privacy Protections in Smart Cities

I. Acoustic Solutions for Noise Monitoring

The City of Calgary has partnered with the University of Calgary to develop low-cost and portal acoustic sensors for public music event noise monitoring and notification. The sensors have been tested during the 2018 Circle Festival and 2019 Chasing Summer event. Such solutions enable to The City to better monitor urban noise and further reduce noise complaints from citizens.

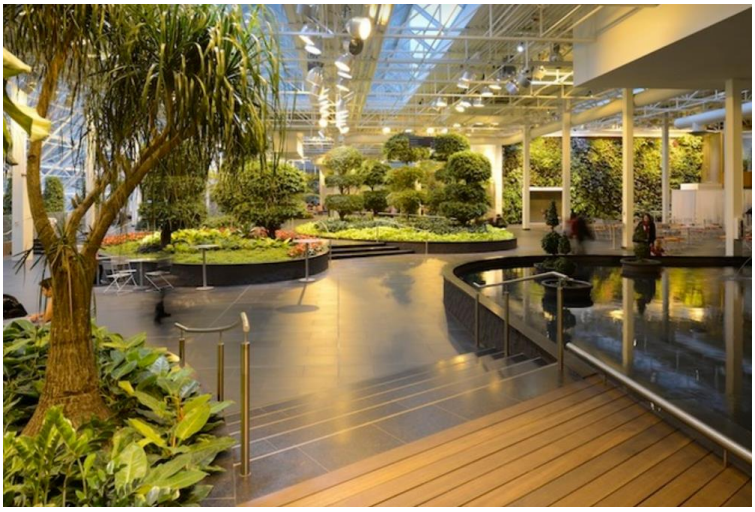
Sound Monitor

The project team consulted Access and Privacy requesting and receiving a Privacy Consultation. In reviewing the technology and project scope it was determined no personal information was being collected. Privacy consultations like this ensure that privacy is considered and protected at the earliest stages of project design.

II. Devonian Garden Internet of Things (IoT)

This project developed and tested IoT sensor technologies at the downtown Devonian Garden to remotely monitor light, soil humidity, temperature and electrical conductivity for optimal plant

health. The positive result has demonstrated the capability of using IoT technology to reduce plant attrition, maintenance effort and increase garden health using concrete sensor data.



III. Automated Traffic Data

In 2017, The City began upgrading the Traffic Management Centre (TMC) systems to automatically report car accidents, vehicle breakdowns and other sources of traffic disruptions.

This dramatically reduced the time required to manually gather the inputs and paint a clear picture of what was happening on the roadways. In turn, TMC staff were able to act more quickly to, for example, adjust traffic signals to minimize the impacts as much as possible.

The other half was automating the flow of information to motorists, who could then choose to change their route in real time to avoid traffic delays.

Combined, the upgrade improved information processing time by 600 percent and TMC workflows by 80 percent.

Using technology to turn traffic incident reports into real-time, actionable intelligence is just one aspect of Calgary's progress as a smart city. For TMC staff, and the motorists who take advantage of the service, it provides that one gift we can never get enough of – time.

All this is completed without collecting or recording personal information such as license plate numbers or car occupant faces.