

PERSPECTIVES

PRESENTED BY THE MUNICIPAL INFORMATION NETWORK

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**Innovation in
Public Transportation**



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From the Editor's Desk

GORD HUME

Once in a while, governments get it right.

The design of the new Gordie Howe International Bridge that will become the major new border crossing between Windsor and Detroit is an absolutely fabulous design. It is the cover shot for this month's PERSPECTIVES, and I hope you will study the concept closely.

Too often government projects opt for the lowest-cost, blandest and greyest architecture. This new bridge is a soaring, elegant design that I think will quickly become an iconic landmark. This infrastructure project shows once again that innovative design can be a civic game-changer.

For Canadians who visit Florida for part of the winter, anyone traveling south of St. Petersburg towards Sarasota, Fort Meyers and Naples knows the Sunshine Skyway Bridge. It is a similar concept, and that bridge has become the focus of artists, photographers, and tourist mementoes. There is no reason to believe the new Gordie Howe Bridge will be anything less.

(In the interest of full disclosure, I suppose I should tell you that my father taught Gordie Howe in Saskatoon many years ago. I met Gordie several times, and he was a terrific man. He could also hit the golf ball out of sight. Honouring him with the bridge is a superb choice, with his long career with the Red Wings and his deep Canadian roots.)

This edition of PERSPECTIVES focuses on public transportation, but we also have several other very interesting articles for you. And, I refer you to this month's CIVIC COMMENT for my take on the shocking actions by Ontario Premier Doug Ford that forever changed the Toronto City Council and its imminent election process.

Readers will recall that our very first edition featured an in-depth look at how Cannabis legislation would impact our towns and cities. With the October implementation of the federal Cannabis legislation in Canada, we've looked at how this will impact your workplace—in other words, inside city halls and dealing with your employees. That will be a minefield for employers.

Many communities and people are finalizing their plans for fall municipal elections. Former Whitehorse, Yukon Mayor Bev Buckway has written a thoughtful article on what candidates could and should expect in the election process and what makes Yukon so unique.

On public transportation, you'll enjoy articles on the new LRT in the Region of Waterloo, an interesting perspective on drones and technology by Nolan Crouse, and an article from American sources that offer innovative looks at transportation issues.

Now, on a quite different note, and another reminder of how Canadian and US politics differ...

GOVERNING Magazine out of Washington, DC, reported last month that "Democratic Chicago mayoral candidate Willie Wilson's handing out of nearly \$200,000 at a recent South Side church event did not break campaign finance laws, the state board of elections ruled.

Wilson, 70, rejected claims from political competitors that he was simply buying votes at the Sunday event held at New Covenant Missionary Baptist Church, the Chicago Sun-Times reported. The Illinois State Board of Elections announced Monday it agreed with Wilson, because the money came from his registered non-profit foundation at the event he promoted as 'one of the biggest property tax relief assistance' events of 2018. Wilson owns and operates several McDonald's franchises in addition to owning a medical supplies company."

Wow! Chicago politics continue to amaze.

This is a jam-packed edition which we hope you'll enjoy.

As always, let us know: perspectives@municipalinfonet.com

And, if you will be visiting this year's AMO convention in Ottawa, be sure to look for the MUNICIPAL INFORMATION NETWORK booth at the trade show! I'll see you there.

GORD HUME

Gordie Howe International Bridge Moves Forward

PERSPECTIVES STAFF

It is welcome news that another milestone has been reached with the new Gordie Howe International Bridge that will span the Detroit River and will become the busiest Canada-US border crossing.

The design of the bridge was revealed last month. It is a soaring, elegant design that will provide a bold new link between Ontario and Michigan.

The project has been driven by Canada, and bridge construction is scheduled to start this fall. The Windsor-Detroit Bridge Authority is a public-private partnership and a not-for-profit Crown Corporation.

The new six-lane, cable-stayed international bridge will provide direct connectivity to existing highway networks in Windsor and Detroit.

Along with modern border processing infrastructure and the capacity to move goods and travelers efficiently through the corridor, it will encourage new investment between Canada and the United States.

➤ The Windsor-Detroit Gateway is the busiest Canada-United States commercial land border crossing and is vital to the economies of Ontario, Michigan, Canada and the United States, with some 7,000 trucks crossing each day. About 2.5 million trucks cross the Windsor-Detroit border each year. In 2017 this represented over US\$106.5 billion in bilateral trade (CAD\$138 billion).

- The Gordie Howe International Bridge project includes the construction of: A six-lane, cable-stayed design bridge of 850m (0.53 miles) and a total length of approximately 2.5 km (1.5 miles), Canadian and United States Ports of Entry including approach bridges, customs plazas and a tolling station on the Canadian side; and, a Michigan interchange connecting Interstate 75 to the United States Port of Entry.
- Once constructed, Canada's Port of Entry will be the largest Canadian port on the Canada-United States border and the United States Port of Entry will be one of the largest in North America.
- Canada and the United States share the world's longest secure border, over which approximately 400,000 people, and goods and services worth CAD\$2.5 billion, cross daily.

Cost estimates are still uncertain, but very round estimates have had the project at a total of \$5 billion and the bridge costing roughly \$2 billion. There will be cost recovery from future tolls from the trucks and cars that will traverse the elegant span.

Better transportation links between the 401 highway in Canada and the I-75 in the United States will help speed travel time for truckers and for tourists.

Credit: Windsor-Detroit Bridge Authority





Credit: Region of Waterloo, Rapid Transit Division

Shaping Waterloo Region Through Light Rail Transit

REGION OF WATERLOO STAFF

Waterloo Region has always had a reputation for innovation and forward-thinking. The first concept for a regional rapid transit system was presented in the Region of Waterloo's first official plan in 1976.

In 2003, Regional Council unanimously adopted the Regional Growth Management Strategy, a long-term strategic framework that identified where, when and how future residential and employment growth could be accommodated.

Focusing on future land usage, the strategy identified that highway expansion was not sufficient to cope with intensive population growth. Without a rapid transit system, it was estimated that over the next two decades the Region would require 500 kilometres of new road lanes, costing in excess of \$1.4 billion as well as significant environmental damage.

At the same time, Waterloo Region was mandated to plan for major population growth as part of the Province of Ontario's Places to Grow Plan.

Home to technology giants such as Google, Blackberry, and Shopify, Waterloo Region is also home to prime farmland that gives the region economic diversity. Protecting that farmland was paramount to how the Region of Waterloo planned to accommodate the projected growth outlined by the Province. Continuing to sprawl, at the cost of protected farmland, was not an option.

Following the Regional Growth Management Strategy and Places to Grow, the Region began an Environmental Assessment in 2006 to identify the best possible rapid transit system for the region. Ten technologies were evaluated with light rail transit considered the preferred option in 2009.

On June 15, 2011, following the completion of extensive public consultation and with support from the Province of Ontario and the Government of Canada, Region of Waterloo Council voted to in favour of a light rail transit system, developed in two stages, connecting Waterloo, Kitchener and Cambridge.

Light rail was selected for its ability to carry more passengers, attract greater ridership and act as a stronger catalyst for development when compared to bus rapid transit.

Coupled with a redesign of the existing bus transit network, light rail transit will move people more efficiently in and around the community and provide greater transportation choice. Moving people is one of the key objectives of the Region of Waterloo's light rail system but it is also an opportunity to shape the community.

ION, the Region's light rail transit system, allows development and investment to focus in the existing urban cores, limiting urban sprawl and protecting the surrounding rural communities.

ION will also help local businesses attract new talent to the region, assist with job creation and stimulate new business growth. By concentrating residents and employment in the urban cores, ION will help slow the increase in traffic congestion and reduce the need for costly road widening.

The scope of development is already shifting. In 2003, only 15 per cent of development was in existing built-up areas. By 2015, 49 per cent of development was in existing built-up areas, with more than \$2 billion in development already taking place along the ION route.

ION encourages better land use and efficient infrastructure use in Waterloo Region. This urban intensification is something other cities across Canada are paying attention to. Before the first stage of ION construction was complete, cranes started going up alongside the route, indicative that developers and investors share the belief that ION will bring people and jobs into the region's urban cores.

The communities themselves are gravitating to and reshaping themselves around this new multi-modal system, intensifying and better utilising the immediate urban area rather than sprawling outwards into the farmland that is so important to the area.

Work on Stage 2 ION, connecting Kitchener to Cambridge through LRT, is already well advanced with several public consultations having taken place, with a route already approved by Council.

Further consultation is planned for 2019 along with environmental assessments.



The Future of Urban Mobility; Smart Communities Should Look to the Sky

Rapid Transit or Rapid Movement?

NOLAN CROUSE

While governments around the globe pour billions into expensive “Rapid Transit” primarily for daily commuters, the private sector and researchers are investing other billions into the “Rapid Movement” of people, goods and services.

As we learn about the relatively simple experiments of drone pizza delivery, researchers at the Massachusetts Institute of Technology (MIT) and at the University of Singapore are taking their research of driverless vehicle technology to sidewalks with the development of autonomous scooters. Companies such as Google and Tesla are doing the same, but for roadworthy vehicles.

It is conceivable that package delivery by drones will compete with the delivery of packages by autonomous vehicles. Delivery companies like FedEx and Amazon will have to face new forms of competition not contemplated by most of us a decade ago. Moving goods and services will look very different within 10 years.

But what about moving people? Somehow we are comfortable with the autonomous delivery of the pizza, but will we be OK with strapping grandma into a seat at the local drone arrival and departure station?

While today it seems natural that air passengers know their pilots are flying while on “auto pilot”, would it then be safe to assume that in the future those same passengers would accept riding in a car that is moving in autonomous mode with virtually anyone (or no one) in the driver’s seat?

We are all aware that Google has been testing a car that is being piloted (with mixed results) driving autonomously. Meanwhile, the traditional auto manufacturers of General Motors, Toyota, Audi, Ford and Nissan are also all advancing their driverless initiatives.

Assuming the legislative framework can keep up with the technological advances, such transportation methods are soon to be a real-world experience in many jurisdictions.

Commuting in the Future

The innovative minds of Silicon Valley have solved many of our everyday life problems and introduced much to give us our conveniences. But, they still have not provided a solution to the world for one of our biggest headaches: rush hour.

The time of solving that issue may be sooner than we think.

Commuting to downtown Toronto or Vancouver from the suburbs is spoken about in 30 minute increments. It can add an hour or two to one’s daily work-life. Daily gridlock occurs in Sao Paulo, Madrid, London, Mumbai and Tokyo and most other big cities. It is expensive and frustrating for commuters, most of whom are in Single Occupancy Vehicles.

Around the world, experts are searching for the magic answer for this gridlock. So far the solutions are High Occupancy Lanes (HOV), synchronizing traffic signals or various forms of rapid transit systems.

The first steps in solving the rush hour gridlock may indeed be the delivery of packages (and pizza) as pilot projects. Taking courier vehicles off the road may be the first step; after all, they too are traffic!

Delivery Services Are Changing

In Singapore, it is Airbus attempting to come to the rescue: the Civil Aviation Authority of Singapore signed a Memorandum of Understanding that would permit Airbus Helicopters to perform a pilot test with the University of Singapore for drone parcel delivery on the University campus. That campus was abuzz on February 8, 2018 as Airbus completed the first flight demonstration of its Skyways air vehicle with no person aboard.

What is also important to note was that Singapore Post joined as a logistics partner in this process. Postal service companies know all too well that their industry is under siege.

In Singapore it remains to be seen whether drones will be authorized to deliver parcels to other points on the island, although good progress has been reported. It simply feels like a matter of time. The success of that pilot project would require the demonstration of safe operations of the skyways. Another key challenge is that regulations must keep up with the pace of the technological advances.

Will Airbus, Amazon, FedEx and Boeing become competitors in the delivery of goods, services and people in the future? It is easy to envision that scenario.

Then there is the top secret Airbus Helicopter where developers are working on an aerial vehicle. This so-called “CityAirbus”, looking like a large drone, would operate initially with a real person as pilot and carry passengers over top of the car commute at a price that competes with regular commuting costs or taxi costs. This is a time convenience that would be attractive to many.

The challenge of flying vehicles over urban areas is fraught with difficulties and would be compounded significantly if these became flying autonomous vehicles without a pilot at the controls. But, that possibility can be easily imagined.

Many municipalities across Canada last year submitted proposals that were focused on winning Federal Government "prize money" for "smart city" initiatives. While experts in Canada and throughout the world are talking about the smart cities of the future, most are focused on smart ground mobility.

Some of the smart city visionaries are now looking into the concepts of solutions that involve the sky. While solutions for scooters, bikes, cars, electric vehicles and autonomous cars are all important, solutions in the air may be the solutions chosen as the real pioneers of the next smart city challenge. The short list of possible winners released on June 1 in the current Canadian Smart City contest did not include any air mobility solutions.

Today, most drones are small and are used as mobile cameras, but a Chinese drone maker, Ehang Corp, has been testing its Ehang 184, designed to transport people. While today the Ehang 184 only has capacity for one person up to 100 kg, on its website, Ehang states that the "EHANG 184 AAV is a safe, smart and Eco-Friendly low-altitude autonomous aerial vehicle aimed at providing a medium short-distance communication and transportation solution". After 1,000 test flights in Nevada, the company states its intent is to provide the opportunity for a passenger to sit at the controls and not a pilot--a real difference, of course!

Following Tesla's lead, Ehang will likely look first to transporting wealthy customers to establish a customer base while working with regulatory authorities in jurisdictions where there is a friendly reception to such a notion.

What the future of "Rapid Transit" and "Rapid Movement" will be is not yet fully understood or easily envisioned. It is wise nevertheless for elected leaders across Canada to stay abreast of this evolution as they continue to sink billions into transit systems that may be obsolete as quickly as technological advances offer options.

Just as Uber and Lyft are changing the face of the ride-share industry, so will the drone and autonomous modes change the face of moving goods and services. Time will tell if it changes the face of how we are moving people. For the future of urban mobility, smart communities should look to the sky.

Nolan Crouse is the former Mayor of St. Albert, Alberta and former Edmonton Regional Board Chair who speaks and writes about Cannabis, Smart Cities and the many related considerations for communities, associations, boards, agencies and companies.

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These Smarter Stoplights Could Be Lifesavers

DANIEL C. VOCK

Five years ago, nobody would have mistaken Detroit's stoplights for being "smart." They were so obsolete, in fact, that city transportation officials couldn't even tell whether most of the lights were working without visiting the intersections in person.

But in solving that very basic problem, the city has taken significant steps toward creating some of the smartest intersections in the country. It is experimenting with five "smart intersections" along a nearly two-mile stretch of Larned Street near the riverfront, including some downtown sites.

The new networked traffic lights, which are connected to video cameras, can respond quickly to changing conditions. They do that by analyzing the video on the spot to determine different types of road users, how they're moving and how to respond.

"The video, it's talking to you," says Mark de la Vergne, Detroit's chief of mobility innovation. "Before, you would just get numbers. Now, we know where they are crossing. We know when they are crossing. We know how many people are driving through a red light. That's going to help us inform a lot of our work in the next few years."

Like many cities' signals, Detroit's newest intersection lights can prioritize signals for emergency vehicles such as ambulances and police cars. But they can also help make crossings safer for cyclists and pedestrians. The lights can extend green signals for cyclists who wouldn't otherwise be able to clear the intersection in time, and the system can alert Waze users or connected vehicles that jaywalkers are ahead.

The city, along with its vendor, Miovision, is also working on ways to prioritize signals for buses and freight-hauling trucks. The lights may even be able to change with the weather – for example, displaying longer yellow lights when it's raining.

Detroit may one day even be able to use the data collected by its smart intersections to improve the design of the intersections themselves.

To get to this point, Detroit spent four years connecting traffic lights to a central network. Now, 40 percent of the city's intersections are linked and have the equipment installed that helps them analyze and respond to changing circumstances. The signals are all designed so that they can be regularly updated to add more features, akin to downloading new apps or updating old ones on a smartphone.

And they all use open data systems, rather than proprietary ones, which makes it easier to interact with other connected infrastructure. So, for example, Miovision was able to connect the city's police cars with the traffic signals using existing transponders on the police vehicles, rather than requiring new equipment. That easy connection meant that the city could start using signal prioritization in just a matter of weeks. Preliminary tests show that the new technology cut emergency response times by 20 percent.

The networked system also makes it easy to upgrade. Detroit's mayor said in January that he wanted the city to show off its technological prowess for the Intelligent Transportation Society of America's annual conference, which took place last week. Miovision made a flurry of upgrades that added several new features, all within 90 days and without having to add more hardware, says Dave Bullock, Miovision's vice president of market strategy.

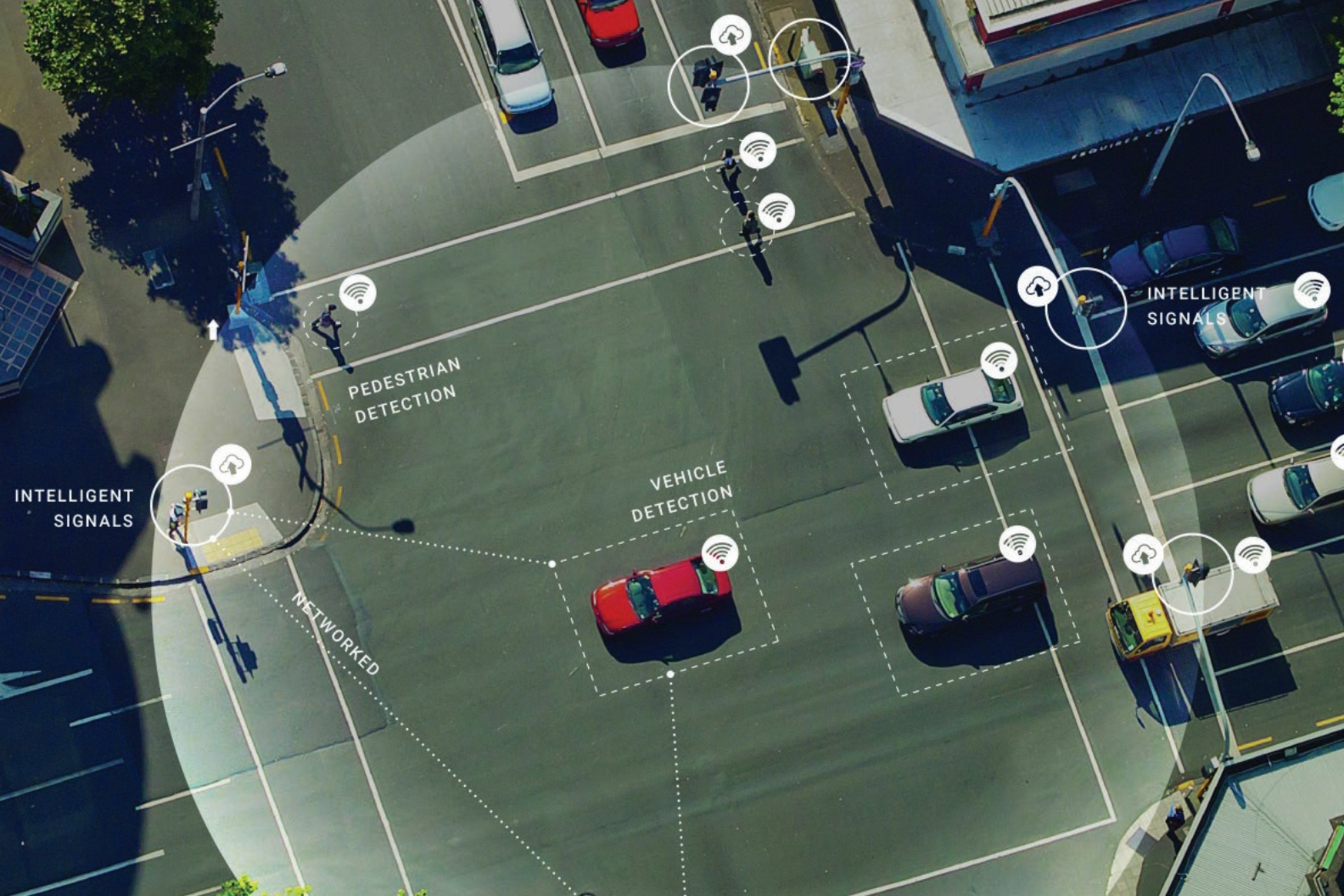
It's part of a "mind shift in how cities think about infrastructure," he says. "The old way was, when you have a problem, you add a piece of hardware to your cabinet. The new way is, you put this piece of hardware at the roadside. When you have a problem, instead of adding more hardware, we add more software."

Other cities are working on similar improvements, even if they're using slightly different approaches.

Denver, for example, is spending \$1 million to improve the intersection of Federal Boulevard and 29th Avenue. Those improvements will help detect pedestrians and add more time for slower walkers to cross, automatically give cyclists a green signal without the need to push a button, prioritize buses along the corridor, and provide better communication with emergency vehicles.

"These case studies will also help directly inform how we deliver connected freight, connected fleet, and more connected citizens quickly. All of this data will feed directly into the traffic management center so the city of Denver can monitor real-time events and make informed decisions based on historical trends," says Heather Burke, a spokeswoman for Denver Public Works.

But as this type of technology is deployed more widely, one of the big challenges facing Detroit and other cities will be to manage and analyze the new data from the connected intersections.



Miovision, a vendor working in partnership with Detroit, has touted the city's newest signal exchange as "the world's smartest intersection." (*Miovision*)

The standard approach to making safety improvements, says Bullock from Miovision, is for cities to analyze crash data. But even when transportation planners find dangerous intersections, they sometimes must wait years in order to gather enough data to see whether the changes they made to the intersection actually made it safer.

The cameras on smart intersections, though, gather a lot more information than just crash data. "For every crash, there are 100 near-misses. For every near-miss, there are 100 or more dangerous actions or safety hazards. They can tell you almost as much about a road hazard as crash data," Bullock says.

"We can tell a city where the most dangerous intersections are, and at what times of day. We can tell them a ton about what causes [those dangers]. And when they make a change – literally, within days – we can tell them if they changed behavior," he says.

Daniel Vock is Governing's transportation and infrastructure reporter. Dan developed a deep knowledge of government generally, and of states specifically, as a reporter for the Chicago Daily Law Bulletin and for Stateline. He has a master's degree in public affairs reporting from the University of Illinois Springfield and a bachelor's degree in English and German from the University of Illinois at Urbana-Champaign.

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To Combat Potholes, Cities Turn to Technology

Technology is helping cities find, fix and even predict potholes.

JENNI BERGAL

They are a torment for motorists and a costly headache for transportation departments. Every winter and spring, potholes plague city streets and rural roads, causing drivers to curse and public works officials to shudder.

That's why some local governments are turning to data and technology to find and fix potholes. Some are even trying to predict where they'll open up.

In a growing number of cities, including Omaha, Nebraska; Hartford, Connecticut; and San Diego, residents can download an app for reporting potholes. In Houston, residents can check out the Pothole Tracker app or log on to a website and see the city's progress in fixing them.

And emerging technologies and data analytics are taking the fight against potholes to a new level. In Syracuse, New York, officials are using data that will track and visualize trends around potholes. And a Kansas City, Missouri, pilot project is using algorithms to try to predict where potholes will show up.

Even companies such as Google and Microsoft have created apps that people can use in their cars that try to detect potholes and alert drivers about damaged roads.

"Potholes are a huge problem. The federal government may screw around and not pass a budget and guys will bitch about it on CNN," said Bob Bennett, Kansas City's chief innovation officer. "But if we fail to fill the potholes or pick up the trash, we're going to hear about it. Potholes are one of those things people kvetch about."

No one knows how many potholes are out there, but everyone agrees there are lots of them, especially in areas that have repeated temperature swings below and above the freezing point.

American drivers pay an estimated \$3 billion a year¹ to repair damage caused by potholes, according to AAA. Over a five-year period, 16 million drivers reported their vehicles were damaged by potholes, from tire punctures and bent wheels to suspension damage.

[In Canada, the CAA in a 2016 survey reported Canadians paid \$1.4 billion in damages from potholes.]

Repair bills for motorists can range from under \$250 to more than \$1,000, said Michael Calkins, AAA's manager of technical services.

And vehicle damage isn't the only threat that motorists face.

"There's a potential to lose control of the car," Calkins said. "If it's a big enough pothole and you're going fast enough, you could have the steering wheel jerked out of your hands and end up hitting another car."

Potholes Grow

Potholes form when moisture collects in small holes and cracks in an asphalt road surface and seeps into its lower layers.

As temperatures fluctuate, the moisture freezes and thaws, expanding and contracting, which weakens the roadway and cracks the pavement. With the weight of cars and trucks, the road surface becomes increasingly damaged and eventually breaks apart, resulting in a pothole.

"The bigger potholes get, the faster they grow," Calkins said. "If you can catch it while it's small the repair is easier and the potential for it to grow and the risk of damage to vehicles is reduced."

Although potholes sometimes form on major highways, most appear on city streets and rural roads, which are built to less stringent standards with thinner surfaces.

"Potholes are definitely a local government problem," said Omar Smadi, director of the Center for Transportation Research and Education at Iowa State University. "They will impact the quality of driving. Your tire is going to drop in it; water is going to collect in it. If the local government doesn't take care of it, the problem is just going to get worse."

Pothole Solutions

Some cities are tackling the craters by using technology to find, track and fix them or figure out where they're going to appear.

In Syracuse, city trucks that fill potholes carry GPS units that pull data every time they spray asphalt into one. Instead of workers filling out forms, the data is automatically logged, showing the date, time and location every pothole is filled, said Sam Edelstein, the city's chief data officer.

The city, which started collecting the data in 2016, publishes the information online, showing where and when potholes have been filled.²



"We are trying to limit the number of times we're revisiting a street," Edelstein said. "If they've been on a block three times in the last two months, why is that? Is there some underlying condition? Is there something wrong with the fill not lasting?"

The data also may show that a quick fix isn't the answer; that the road needs to be repaved.

"The idea is to have a more holistic view of our infrastructure and say this street is the most at need for a longer-term repair," Edelstein said.

Other local governments also are trying to think ahead. More than 40 of them, from San Joaquin County, California, to Quincy, Massachusetts, contract with a Pittsburgh software company that uses smartphone cameras and algorithms to create color-coded maps of road networks that show not only potholes but the cracks and fissures where they might develop.

The company, RoadBotics, sends out drivers with the phones placed on windshields. Drivers turn on an app that collects video from every street and sends the data to the cloud. The company, which charges \$75 a mile, then uses artificial intelligence to analyze the road surface the same way a trained pavement engineer would, CEO Mark DeSantis said.

"This saves time and effort of having to send people out and inspect the roadways," DeSantis said. "Staring at mile after mile of pavement is difficult, it's tedious, and in some cases, it's dangerous."

Kansas City has gone even further. Its project combines details from weather data, traffic volume and pavement conditions to predict where potholes are most likely to appear.

The city would rather save money in the long run by making long-term repairs to likely pothole hotspots than wait to patch them after they've become a problem, said Bennett, the chief innovation officer.

"We can go in where we know a road has got extra stress and put in sealant that keeps it from potholing," Bennett said, adding that it also will reduce the amount of overtime needed to pay workers after hours in a pothole emergency.

So far, the program appears to be a success, Bennett said. Despite the bad winter, the public has reported fewer potholes this spring than last year. But officials won't know for sure until later in the year, he said.

Transportation experts say regardless of how sophisticated the technology is or how many potholes the workers fix, the bottom line is that many U.S. streets are old and in poor condition and need to be rehabbed and rebuilt.

"It's an issue of dollars available," AAA's Calkins said. "A good proportion of America's roads need resurfacing, but transportation departments simply don't have the funding to do that."

Jenni Bergal is a veteran journalist who covers transportation, infrastructure, and cybersecurity for Stateline. She has been a reporter at Kaiser Health News, the Center for Public Integrity and the South Florida Sun-Sentinel, and was supervising senior editor of "Weekend Edition" at NPR. Bergal has spent much of her career doing investigative reporting. She has won numerous national awards, including the Gerald Loeb Award for Distinguished Business and Financial Journalism, the National Press Club Consumer Journalism Award and the Worth Bingham Prize for Investigative Reporting and is a two-time Pulitzer Prize finalist. She is a co-author of the book, *City Adrift: New Orleans Before and After Katrina*.

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1 <https://www.oregon.aaa.com/2016/02/pothole-damage-costs-u-s-drivers-3-billion-annually/>
2 <http://data.syr.gov.net/datasets/potholes-filled-2018>



Portland Oregon Launches Innovative Traffic Sensor Study

The 18-month program will use 200 streetlight sensors to study car, foot and bike traffic on three busy city streets.

SKIP DESCANT

Portland, Ore., will be closely monitoring car, foot and bike traffic on several busy roads to gain insight into how the thoroughways can be managed for safety and efficiency.

Approximately 200 Internet of Things (IoT) sensors will be attached to streetlights on Hawthorne, Division and 122nd streets as part of the Traffic Safety Sensor Project,¹ an 18-month pilot launched June 18, 2018, to give the city a close look at activity on three of the city's busiest streets.

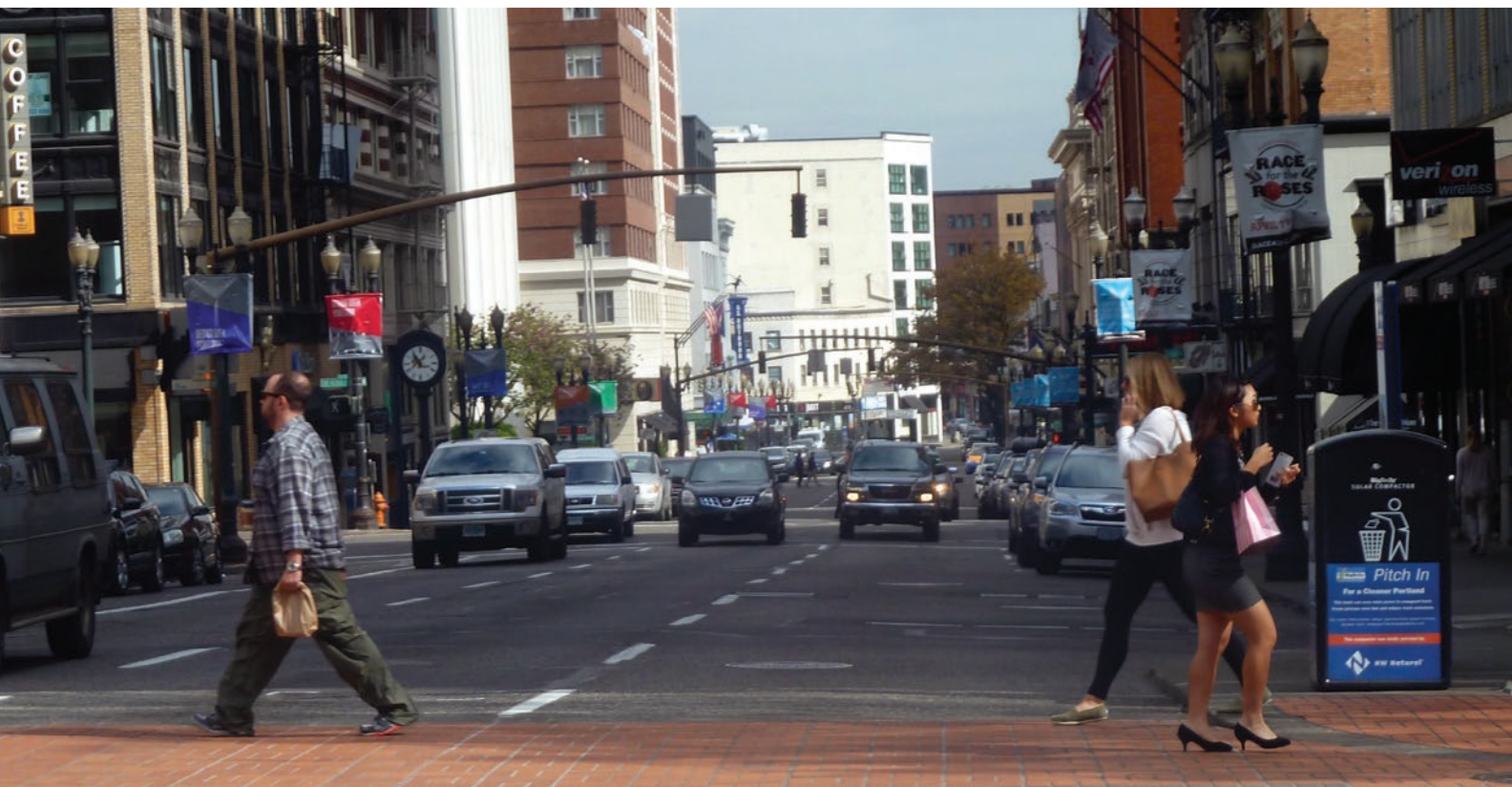
"As part of the city's Vision Zero mission to reduce pedestrian, cyclist and motor accidents and fatalities, the city of Portland is piloting the use of sensors that use real-time video analysis to collect vehicle, bicycle and pedestrian data," said Sophia June, a spokeswoman with the Portland Mayor's Office, in an email.

The sensors "help us get accurate data about pedestrian movements, about vehicle movements, parking data and also environmental data extraction," said Austin Ashe, general manager of Intelligent Cities at Current by GE, the private-sector partner in the project.

"By extracting all of these data sets from each of these sensors around the city, we can literally put our finger on the pulse of this city," explained Ashe. "And with that data we can start uncovering really valuable insights that lead to optimized traffic flow, better understanding of parking occupancy, decreased number of traffic accidents, better understanding of micro-climates in Portland. So it's those kinds of things."

All of the data collected will be anonymous. "It's just the meta-data," said Ashe. "So we're not getting any personal identifying information like license plates, or the color of people or gender, none of that."

The pilot is part of Portland's Smart City PDX initiative,² which also includes other projects like air-quality monitoring, infrastructure monitoring and the Smart Autonomous Vehicle Initiative, which will develop best practices for testing self-driving cars on Portland's streets. The Traffic Safety Sensor Project is part of the Portland Urban Data Lake (PUDL) pilot, which will gather, store, integrate and analyze data from numerous sources, according to June.





A pilot program to study car, foot and bike traffic on three busy Portland, Ore. streets is set to attach some 200 sensors to streetlights.

The traffic sensor pilot, which places sensors in streetlights, is similar to an approach³ in San Diego, where some 3,200 streetlights are being outfitted with a sensor network that will cover about half of the city. Even small cities, like Farmers Branch, Texas, near Dallas, are looking to the technology, and have deployed the same system, known as Current by GE's CityIQ.

"One of the beautiful things about the CityIQ platform is that it's flexible enough, that any city can adopt it," said Ashe.

"It's just like a smartphone on a pole," he added. "When you think about what a smartphone really is — even though we call it a phone — it's actually a computer with about 14 different sensors in it. That's exactly what these nodes are. They're an Intel computer inside with about 35 different sensors in it."

The CityIQ platform can be customized to meet each city's needs, similar to the way users can customize their smart phones with apps that fit their needs. "It's a little cliché to say, but 'you can't map what you can't measure,'" said Ashe. "But there's so much truth to that."

The sensors do not need to be installed in each streetlamp, but only every several hundred feet. Portland's pilot project cost just over \$1 million and was funded through transportation funds, private-sector partners and other sources.

"Portland is leading the country in this important data effort," said Mayor Ted Wheeler, in a statement. "We are at the forefront of using advanced technology to make our cities safer for pedestrians, cyclists and drivers, helping people more easily get around, save time and reduce the possibility of crashes. This pilot is a significant step in acquiring and utilizing data to make critical decisions.

Skip Descant writes about smart cities, the Internet of Things, transportation and other areas. He spent more than 12 years reporting for daily newspapers in Mississippi, Arkansas, Louisiana and California. He lives in downtown Sacramento.

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1 <https://www.portlandoregon.gov/transportation/76735>

2 <https://www.smartcitypdx.com>

3 <http://www.govtech.com/fs/San-Diego-to-Cover-Half-the-City-with-Intelligent-Streetlights.html>





Who Me – an Elected Official?

BEV BUCKWAY

Yukon municipalities join the ranks of other jurisdictions with fall elections—the third Thursday in October. New candidates are starting to surface for the three-year term, and the incumbents are making decisions about putting themselves forward for another term, or not.

What can we expect?

Unlike other jurisdictions, Yukon has a more balanced outcome in terms of gender. In 2015, 48% of the elected municipal and Local Advisory Councils were women. The number has dropped to 45% due to by-elections. A 50% turnover is not unexpected, but the gender ratio will probably remain the same.

We are often asked what our secret is. What tools do we use, how do we promote, and what groups do we work with? My answer is not very satisfactory, *“It is just the way it is.”* No extra efforts. People in your community ask you to step up, based on your profile and accomplishments on various committees and organizations. As women are in leadership positions already, the progression is natural.

Campaigns are generally low key, with no, or miniscule, budgets in the smaller areas. Unlike larger centers where you do not know your candidates, it is easy to meet them all, and some are probably family members. The gentlemen here will definitely cast a vote for qualified ladies, which may be part of the imbalance problem seen elsewhere.

Why do people want to run again? Often you hear the desire to *“Finish what we started.”* Seasoned elected officials know the steep learning curve encountered in the first term. Strategic planning, identifying budget priorities, asset management, land planning issues, and evaluating the CAO may be totally new to some Councillors.

Some people run to promote their profile for other orders of government, and some will say they do it for the honorarium. A few run on one issue, and once that is resolved have little interest in the other problems. Most run to offer their services to the residents, feeling they can wisely contribute to the difficult discussions on where to spend the scarce tax dollars.

After being in public service for a term or more, others have had enough of public life. The workload is often more extensive than planned, and the amount of reading can be overwhelming. The Number One complaint heard across Canada about elected colleagues is those arriving at meetings without reading the documents provided by staff; undoubtedly not the type of recognition to strive for. Acrimonious relationships among Councillors may be another reason for stepping down, as is the often-paltry honorarium—frequently less than minimum wage. Increasingly, the battering bestowed through social media is a decision maker, as it affects family members in unseen ways.

How interesting it would be to have a national survey to ferret out the reasons for stepping aside.

Becoming a candidate needs some forethought. What is your motivation? Do you have time? Have you asked friends if they think you would make a good Councillor? Do you have obligations to a political party? Are you running for the right order of government, or confusing territorial issues with those of the municipality? Are you preparing in advance by reading the Municipal Act, and attending Council meetings to learn the process? Have you talked to current Councillors to see what they wished they had known at the beginning of their term? Can you respect your colleagues without agreeing with them? (Your teammates for the term are like relatives—you do not get to pick them, and difficulties will definitely arise).

Certainly there is lots to consider, pros and cons.

Once elected, give it your best—there should be no half measures. You will be rewarded.

Bev Buckway came to the Association of Yukon Communities in 2015 as its Executive Director after 30 years of self-employment coupled with two terms of office as the mayor and one term as a councillor for the City of Whitehorse. Her nine years of public service enabled her to gain a broad appreciation of Yukon, its people and places, and many perspectives on the challenging community issues.

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Cannabis in the Workplace – Are You Ready?

NATIONAL EDUCATION CONSULTING INC.

A major issue debated these days is how employers can prepare themselves and their organizations for the coming legalization of cannabis in Canada. This is rather new territory for local governments.

A panel discussion at a recent Vancouver Island Regional Construction Association event tackled this contentious topic head on. Panel members included Dr. Richard Stanwick, Chief Medical Health Officer with Island Health; Nima Rohani, a lawyer with McConnon Bion O'Connor and Peterson in Victoria; and Tom Brocklehurst from WorkSafeBC.

In a nutshell, the absence of reliable testing to detect impairment, coupled with the complexity of both recreational and medical consumption, means employers are in for some uncertainty in the coming years. Employers certainly have a duty to accommodate disabilities, and therefore will have to find ways to enable prescription-based consumption without jeopardizing workplace safety. Much still needs to be worked out, and lawyers will be busy for years to come defending competing rights and workplace interests.

Another factor complicating cannabis use in the workplace is that the effect of cannabis on an individual is far more variable than the effect of alcohol. To quote Dan Demers, a senior manager at CannAmm—a company providing occupational employment drug testing services—since alcohol contains only one substance that impacts behaviour (ethanol) while an average cannabis plant contains over 70 psychoactive chemicals, comparing alcohol to cannabis is “like comparing an apple to a hubcap.”*

As legalization relates to recreational use, keep in mind that most organizations already have policies around zero tolerance for alcohol, which will need to be updated to include cannabis consumption in the workplace.

These new policies may include a mandatory reporting requirement for all employees and this, coupled with a frank discussion about policy developments and heightened concern for workplace safety, will bring employers closer to sound and fair workplace policies. Training supervisors to recognize signs of impairment will also be an important step.

Law enforcement officers have been trained in visual roadside screening for many years, so this will not require re-inventing the wheel, but the advent of legal recreational use will require more vigilance and oversight of employees. Review your city hall policies and standards of conduct—perhaps have renewed signoffs from employees—and then enforce those policies and standards strictly.

Medical cannabis in the workplace has already been discussed in several legal cases. Ultimately, there is a delicate balance between the employer's duty to accommodate and the employer's obligation to ensure a safe worksite.

All panel members at the VICA event agreed that there is no challenge-proof screening device for cannabis impairment on the immediate horizon, which leaves it up to the employer to determine when or if the line of creating an unsafe work environment is crossed by an employee's medical cannabis use. However, it is also important to remember that the situation is really no different to an employee taking prescription painkillers following knee surgery. While the employer has a duty to accommodate that injury or disability, this duty does not supersede the duty to ensure a safe worksite.

The overriding theme from the panel was that if employers are in doubt, they should remove workers from the worksite—with pay if necessary—and let the legal chips fall where they may. As always with safety concerns, the suggestion is to err on the side of caution.

Of course, municipal governments need to examine their specific industry requirements, operational culture, and risk tolerance, with input from their own legal and other subject matter experts, when tackling this issue. We suggest you start now, if you have not already.

Readers are cautioned not to rely upon this article as legal advice nor as an exhaustive discussion of the topic or case. For any particular legal problem, seek advice directly from your lawyer or in-house counsel. All dates, contact information and website addresses were current at the time of original publication.

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*from an article in the April 2018 *MM&D* magazine

YOUR PROVEN SECURITY PARTNER





Civic Comment

GORD HUME

This is not the “Civic Comment” that I had written originally for this edition of PERSPECTIVES.

However, the actions in Toronto on July 27 have such dramatic consequences for municipal governments in Ontario—and potentially in other provinces—that I tore up the original piece.

When new Premier Doug Ford announced on July 27 that the size of Toronto city council would be effectively halved (from 47 to 25), it was done on the final day of nominations for this fall’s municipal elections. Election of the Regional Chair in four other municipalities was also cancelled, to be replaced by an appointment. The provincial actions came as a complete shock to Toronto and the rest of the municipal diaspora.

The election races had been in full swing for three months. Candidates had filed their nomination papers, lots of money had been spent on signs, brochures and web sites, doors were being pounded and voters were getting ready to make decisions about their ward councillor—to say nothing of the administrative burdens that any City Clerk’s department goes through to ensure a fair and efficient election process.

Then the thunderbolt from Queen’s Park arrived.

Chaos. Hollering. Demonstrations. Anger. Acceptance. Ridicule. Charges of political retribution against his enemies by the one-term Toronto city councillor who is now Premier, perhaps tainted by his local government experiences because of his linked-at-the-hip time with his brother Rob, who for a while was the most notorious mayor in the world.

In a front page Opinion piece, the Toronto Star said, “It’s a rash, autocratic gesture that shows contempt for local democracy, contempt for the local democratic process, contempt for us.”

Opposition Leader Andrea Horwath called it “chilling”.

Media threw around words like “revenge”, “pettiness” and “vindictive”. Toronto city council has asked its City Solicitor to consider a legal challenge. Mayor John Tory has proposed a referendum.

It is unlikely these challenges will succeed. Which brings us to the three really critical points:

1. Provinces in Canada have virtually complete control over their municipalities. It says so in our 150+ year old constitution. The term used by many to describe a province’s powers over its municipalities is “unfettered authority”. That is accurate. This makes a mockery out of the oft-used phrase “our municipal partners” when uttered by provincial officials. It is not a partnership when one side has the ability to behead the other with impunity. This is why I have been arguing in my books and speeches for several years that we need to change the governance model in Canada.
2. The timing and the process of this announcement are the key points of this Ford decision. The impact on the Toronto election is staggering. There was no prior announcement, no consultation, and no public process. When any order of government is about to change its election system, the public has certain fundamental rights. These were trampled by Premier Ford’s hasty actions. Campaign plans are now out the window. People who were running may now not proceed. Candidates who might have even put careers on hold are now stuck. Large amounts of those precious campaign dollars have been completely wasted.
3. There is a perfectly legitimate discussion that could, probably should, be held about the size of Toronto’s city council. Some feel smaller may in fact be better, but that’s a debate that should occur. The public has a right to a voice about its local government. To arbitrarily slash the council and disrupt an election in mid-stride appears to many to be petty and mean-spirited. That is unworthy of the democratic process.

The entire matter has to have scared the hell out of every other Ontario municipality—and by extension, every one of the more than 4,000 municipalities across this nation. If Ontario can get away with it, what other provincial governments may be emboldened? (I deliberately use 'provincial'; territorial governments generally have a different and usually a more compatible relationship with their municipalities.)

This is exactly why I have been arguing that we need to change the governance and taxation model in Canada. It is unequal, unfair and unproductive. The rise of cities in the past decades has shifted the economic and social power to local governments, but provincial governments continue to cling grimly to their absolute power over towns and cities.

In Ontario, I am sceptical that any court challenge will succeed. I am also dubious that any Ontario municipality will trust the new provincial government about anything during its four-year reign.

It is a hurtful and harmful way to run a province and to develop any kind of effective working relationship with your 'partners' in government. But perhaps Queen's Park doesn't care.

Gord Hume is recognized as one of Canada's leading voices on municipal government and is an articulate and thoughtful commentator on civic government and community issues. He is a very popular public speaker, an advisor to municipal governments, and a respected and provocative author.

Gord was elected to London City Council four times. He has had a distinguished career in Canadian business, managing radio stations and as Publisher of a newspaper. Gord received two "Broadcaster of the Year" awards. He is now President of Hume Communications Inc., a professional independent advisor to municipalities.





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