

2021



Transportation and Environmental Services

Report to the community



A leader's view



I am sure you will agree that throughout the year, there are milestone dates that make you pause and celebrate—birthdays, anniversaries, holidays. For me, this time of the year gives me great pleasure in taking a look back at all the

great work done by the staff at the Region in the Transportation and Environmental Services (TES) department.

This Report to the community is a reflection of the dedication and commitment that our staff members have for this community and its people.



Our
people

It highlights the good works in this department and how that work helps to improve the lives of every single resident in Waterloo Region. As with all our work, the report follows our

Strategic Plan and shows how we strive to meet the strategic objectives of Regional Council.

The report looks back to 2021 and the many projects the Region leads. We can't move ahead without reflecting on the impacts of yet another

pandemic year. The COVID-19 pandemic has caused many changes in the Region's workplace but the one constant is staff's dedication and commitment to delivering the best service we can for Waterloo Region residents. A sincere thank you to this TES team for always going the extra mile.

**Thomas Schmidt, Commissioner,
Transportation and Environmental Services, Region of Waterloo**



Message from Councillor Tom Galloway



As many of you know, my roots run deep in this region, and so does my pride for the work that staff and Council do every day to enrich and sustain the lives of all residents in Waterloo Region.

Looking back at 2021 reminds me that success and hope doesn't happen in isolation; it takes the dedication and foresight of a lot of people. The team in Transportation and Environmental Services (TES) are wonderful examples of how to persevere through challenging and unpredictable times while continually making service to the community their first priority.



Our
people

Not only did this team continue to ensure our waste was collected, buses and trains kept moving, and infrastructure was built and maintained, they forged ahead with

innovation in wastewater testing for COVID-19, they assisted Public Health to find solutions to critical community problems, and they collaborated with community partners to make dreams a reality. All this because it's what they do—every day.

I encourage you to read the stories in this report that truly demonstrate not only the work of this team, but the value they bring to every corner of our region.

As Chair of the Planning and Works Committee, and on behalf of Regional Council, I say thank you to the TES staff for continuing to show up and doing the work that needs to be done to reach our collective goals.



Thriving economy

Juan Martinez Saladin,
Sign maker,
Region of Waterloo

“When it comes to economic vitality in a community, people and their access to goods and services are often two key elements. In Waterloo Region, attracting and retaining a talented workforce has a lot to do with the transportation choices we can offer whether it be cycling, walking, buses or cars. People want to be within cycling or walking distance to public transportation, their home and their work. At the Region of Waterloo, we are working to provide policies and infrastructure to offer real and convenient choices across all our communities.”

— Steve van De Keere, Director, Transportation, Region of Waterloo



Thriving
economy





Respect

Respecting the needs of our community; installing an audible crosswalk.



“Respect for me means taking into account the needs, feelings, rights and traditions of community members.”

—Jennifer Goetz, Traffic Systems Management Analyst, Region of Waterloo



“I feel safe and confident walking around the campus.”

— Joseph Glen, Wilfrid Laurier University student

The road to economic vibrancy

Many of our Regional staff are not only employees, but members of our community too. This gives us a unique perspective and understanding of how important creating, sustaining and growing economically vibrant communities is to everyone.

Wastewater leak

Our Transportation and Environmental Services (TES) team is the steward of our roads and knows that keeping the road network open and in good working order is a critical priority; when called to action, our staff respond quickly and creatively.

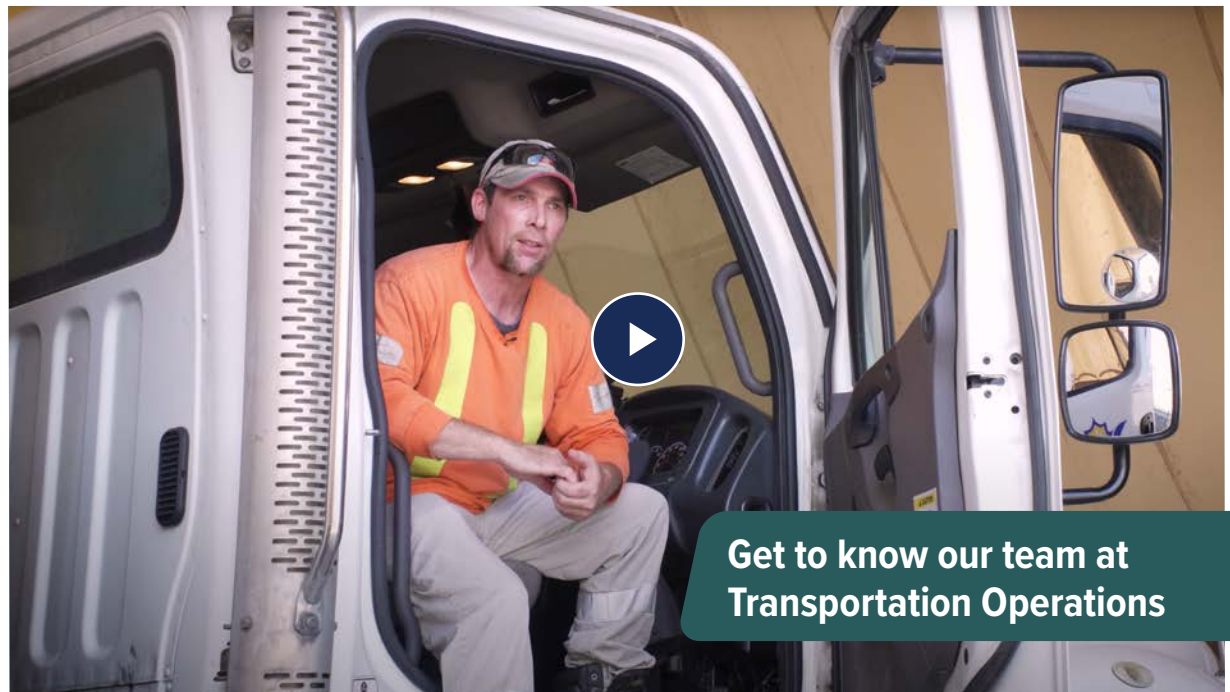
Such was the case in July of 2021 when a broken pipe created a major wastewater leak that flooded the street with sewage at Lancaster and Bridge streets, Kitchener. The complex repair was expected to take two weeks, during which time traffic could not cross the bridge and some residents faced detours that stretched a five-minute trip to 40 minutes. Our staff came up with a plan to reroute the broken pipe and re-opened the roundabout in two days, much faster than anticipated. Creativity and problem solving by Region staff helped repair our community's critical water and wastewater systems, while

getting roads back to normal quickly for local residents. [This project](#) was a unique challenge that required collaboration from every group in TES to reach this positive resolution.

Vibrant communities

Implementing attractive and practical streetscapes makes getting around convenient for transit users, cyclists, pedestrians and vehicles alike. This can

attract new businesses and customers, which in turn builds economically vibrant communities. Last year we continued to work on King Street in UpTown Waterloo (ION tracks south of Erb Street to University Avenue). At completion of this project, we will see road width reduced from four lanes to two lanes, new separated cycling lanes, wider sidewalks, amenity space, streetscaping, and enhanced transit facilities. This work is also key



Get to know our team at
Transportation Operations



to creating an effective transportation network to move goods and people seamlessly between UpTown Waterloo and Wilfrid Laurier University. It required close collaboration with the City of Waterloo and Wilfrid Laurier University. The work continues into 2022.

In Cambridge, a similar large-scale, three-year project was completed through the Preston community on King Street from Dover Street to Bishop Street. The work included the addition of bike lanes, new sidewalks, amenity space and streetscaping and required close collaboration with the City of Cambridge and the Preston Towne Centre Business Improvement Area (BIA).

Maintaining for the future

Once new roads and infrastructure are in place, maintaining these assets in good working order is equally important to supporting the economic growth of our communities. Finding efficient ways to inspect the ever-expanding inventory is critical. Using innovation in 2021, staff took a significant stride forward by integrating artificial intelligence technology into the pavement inspection process which saved time and resources, and allowed a more detailed and accurate analysis of the information.

The new process relies on cell phone video of the road pavement rather than manual collection. The collected data is uploaded to a secure cloud server, and artificial intelligence algorithms are used to analyze the video and any defects to the pavement such as surface cracks are displayed on a colour-coded map.

The cost savings from this new process allows us to put more focus on analyzing rather than collecting the data resulting in a much more effective and efficient use of resources. It ensures that more robust data is available in a shorter span of time, allowing decisions on maintenance and/or repair to happen faster. The ultimate benefit falls to the users of the road network who can seamlessly enjoy safer and efficient travels around the Region in support of their business and personal needs.

Creating and sustaining economic viability requires a variety of inputs that goes largely unseen. Our staff is tireless in its continued efforts to work collaboratively with the community to ensure that the Region of Waterloo remains a strong, resilient and vibrant community.

How many kilometers of roads does the Region manage?

Have you ever thought about how many kilometres of road the Region of Waterloo manages, or how many wastewater treatment plants we have across our region? Probably not. That's the work of the Asset Management Office (AMO) together with a collaborative team of asset management practitioners here at the Region.

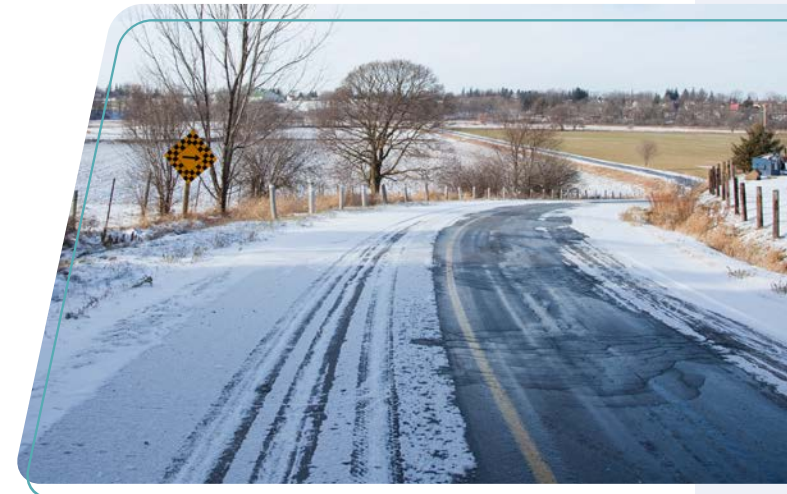
The real work of this team is not just about how many kilometres or number of infrastructure assets the Region owns, but rather understanding the condition, performance and expected lifespan of each of these assets.

Asset Management is knowing what you've got, measuring how well what you have is performing, looking after what you have so it lasts, and planning for what you may need in the future. Why is this important? The more we know about the condition and expected lifespan of each asset, the better we can schedule maintenance, upgrades, retrofits and replacement of the assets, and set realistic capital investment and operating budget forecasts. Looking ahead ensures we take care of our critical infrastructure like water treatment plants and water supply pipes.

The Region's infrastructure assets, currently valued at over \$7 billion, provide the foundation for a thriving and sustainable community. The Region's portfolio of assets includes roads, bridges, trails, water and wastewater facilities, the airport, lighting systems, affordable housing and waste facilities, to name just a few.

The AMO guides the stewardship and management of these assets which enable our community to thrive socially, economically, and environmentally. The goal of the AMO is to minimize the life cycle cost of owning, operating, and maintaining assets, at an acceptable level of risk, while continuously delivering value to the community.

The AMO has built a corporate Asset Management Program that combines business processes and standards, data, software and hardware that provide critical information for effective asset management and decision-making. We use this system to plan, generate, track, and monitor the day-to-day activities required to operate and maintain Regional assets.



In 2021, the AMO implemented a Decision Support System (DSS), which will make the process of comparing options and scenarios—such as when to do crack sealing on a stretch of road to keep pavement in good condition versus when to repave a stretch of road—more powerful for asset management staff and help them build asset management programs that are backed by a large amount of relevant data. These systems support the work of the AMO in delivering on its mission by continually improving asset management planning, optimizing of project timing and investment, and tracking the overall performance of Regional assets.

And, to answer our first question...how many kilometres of road does the Region manage and maintain—about 900; if we stretched that out, it would be like driving from Kitchener to just past Thunder Bay.

Sustainable transportation

John Robinson,
Specialized Transit
Vehicle Operator,
Region of Waterloo



“I’d say sustainable transportation is twofold: finding balance and looking forward. We need to balance the reality of getting people and goods across our communities, while looking for innovative and new technologies to deliver world-class sustainable transportation systems that take care of our environment today and ensure a cleaner, more responsible tomorrow.”

—Neil Malcolm, Acting Director, Transit Services, Region of Waterloo



Sustainable
transportation



Innovation

Innovating to meet the needs of our community; transforming a GRT bus.



“Great innovation from the transit maintenance staff to come up with the layout and equipment needed to operate this bus.”

—Bill Barr, Manager, Transit Maintenance, Region of Waterloo

“



“We went to every corner of Waterloo Region with this bus; serving over 3,500 people who otherwise wouldn’t have had an opportunity to get to a vaccine clinic.”

—Ronalee Kennedy, COVID-19 Vaccination Clinic Assistant, Public Health and Emergency Services, Region of Waterloo

Active transportation connects community year-round

The community has safer, greener and more affordable ways to get around the region thanks to a number of active transportation projects completed by Transportation and Environmental Services.

In collaboration with the cities of Cambridge, Kitchener, and Waterloo, 11 major active transportation projects were completed with funding from Canada's Public Transit Infrastructure Fund (PTIF).

The projects range from the design and construction of new shared-use trails connecting to ION stations, to bike parking improvements across the Region's transit network. A map summarizing all of the completed major active transportation projects can be found at grt.ca/PTIF.

Following the successful completion of PTIF projects, the Region has been able to tap into Canada's Investing in Canada Infrastructure Program (ICIP) to accelerate active transportation and transit integration initiatives.

One significant project, [the Market Trail](#), connects the ION Northfield Station to St. Jacobs Farmers' Market in Woolwich Township. "This paved 1.5 km trail follows a railway used primarily by Waterloo Central Railway for historic passenger train rides and better connects local employers, like the Waterloo Innovation Park to high frequency transit," said Michelle Pinto, Project Manager for the design and construction of the Market Trail. "It also supports sustainable tourism and provides access to fresh local food at the market."

"Market Trail is a leading example of transit-supportive active transportation infrastructure," said Kevan Marshall, Principal Planner with Grand River Transit (GRT). "The fully lit trail will be winter maintained—serving all ages, abilities, and all seasons to support active transportation in our community year-round."

Another project saw the construction of a 1.9 km multi-use trail on Lackner Boulevard in Kitchener.



This trail network connects residents to express transit stops and Victoria Street's new multi-use trails to improve connectivity and integration with transit.

These projects make it easier for residents to combine walking and cycling with taking transit. "It's not only about sustainable transportation," said Marshall. "Making sustainable transportation the easy choice supports a thriving economy by better connecting transit to key employers and giving residents and commuters healthy, safe travel options that will benefit themselves and the environment."

Making Cambridge to Guelph GO a reality

The Transportation Planning group wrapped up the second and final phase of the Cambridge-to-Guelph GO Train Feasibility Study in 2021. The second phase built on the findings of the first and provided insights into some of the opportunities and challenges of providing GO passenger rail service to Cambridge along the Fergus Subdivision from Guelph.

The feasibility study ultimately concluded that there is an affordable and deliverable opportunity to provide GO rail service into Guelph along the Fergus Subdivision which would unlock a number of community-wide economic benefits and provide a high quality passenger rail connection between Cambridge and Guelph (and further into the GTA).

The study also provided a roadmap for advancing this project, and Transportation Planning team will start a high-level conceptual track and station design in 2022 to further explore the opportunities for this service.

Waterloo cycling pilot a success

With more members of the community interested in healthier lifestyles, it is no surprise that many residents are looking for alternatives to travelling by car.

The Region's active transportation initiatives continue to adapt to meet community needs. In 2019, the Region implemented a pilot project of separated cycle lanes along a number of streets in uptown Waterloo. A separated cycle lane means that there is a barrier between the roadway and the cycle path. This pilot introduced bollards to separate the road from the cycle lanes.

The two-year pilot clearly demonstrated that separating cyclists from motor vehicles has a significant impact on increasing cycling. The number of cyclists using this particular network increased by an average of 57 per cent, and 105 per cent for the morning and evening peak hours. These results reflect the experiences in other municipalities and

point to the need for expanding the separated cycling network.

Because of the pilot, the Region is now using separated cycle tracks as part of future reconstruction projects in 2022 and beyond. Physically separated cycle tracks will become the standard where space and road design allow in other corridors around the Region. At present the reconstruction of University Avenue from Weber to Albert, and the project on Lancaster Street from Bridgeport to Wellington, will feature upgraded separated cycling facilities.



On track with ION Stage 2



“It has been said, that sometimes your only available transportation is a “Leap of Faith.” This Region did just that not waiting for conditions to be just right but forged ahead and the light rail system became the catalyst for unprecedented change and sustainability; it drove the revitalization of the Kitchener/Waterloo central corridor. The GRT family of service is foundational for its passengers to understand the fabric of our Region’s cities.”

—Gord Ryan, Director, Rapid Transit, Region of Waterloo

For anyone travelling between Conestoga station in Waterloo and Fairway station in Kitchener, you may have been one of the almost 3.5 million people who boarded an ION train last year. That’s a pretty good number of ION users, and it’s only the beginning!

Stage 2 ION will create a seamless light rail route that stretches from Waterloo to Cambridge with 37 kilometre network of rapid transit and 27 stations.

Waterloo Region is growing; by 2051, our population is expected to reach more than 900,000 residents. Stage 2 ION is crucial to planning for future growth and to help us to achieve our strategic plan goals of a thriving economy, sustainable transportation, environment and climate action and healthy, safe and inclusive communities.

Stage 2 ION will be a game-changer for Cambridge by attracting redevelopment, helping to support growth in the City and the Region, and bringing jobs to the urban

areas. The light rail transit (LRT) extension will give people more options for getting around and is the foundation for how we want to grow—up not out. It builds on the incredible success of our LRT system in Kitchener and Waterloo.

The project work completed so far has been the culmination of years of technical analysis, evaluation of findings and public input on the impacts of LRT in the region.

Last year was a pivotal year that set us up to move ahead on completing a business case in 2022 to secure funding. Pending funding commitments, we anticipate construction to start in 2028 at the earliest, and take about four years to build, test and commission. This means that the earliest start of service would be the fall of 2032.

It may seem a long ways away, but there is much to do before then, and we look forward to working with residents and business owners as we develop this exciting opportunity to connect and strengthen our regional communities.

Environment and climate action

Paul Rabb, Supervisor,
Waste Operations,
Region of Waterloo

“The residents of the Region drive the success of our environmental goals and objectives. It is through their actions and support that we are at the forefront of waste diversion and greenhouse gas reduction initiatives, and making a real difference in our community.”

— Jon Arsenault, Director, Waste Management Services, Region of Waterloo



Environment
and climate
action



Service

Serving the community with a smile at the waste transfer station.



“We use humour and a smile to try to make each resident’s day just a little bit better.”

—Ana Plum, Lead Hand, Scales, Region of Waterloo



“The warm, friendly smiles of the women and men in the scale house make you glad you crossed paths with them.”

—Clarke Walker, Cambridge resident

Charging toward a green future

Grand River Transit (GRT) is paving the way to a greener future. In 2021, the transit service stopped purchasing diesel-only buses and rolled out its first fully electric support vehicle – the 2022 Hyundai Kona.

The Kona can travel up to 415 km on a single charge and can recharge up to 80 per cent in less than an hour. It's used by GRT fare technicians to service fare vending machines and card readers,

and by the marketing team for various events in the community.

The Kona is one step towards GRT's goal of creating an energy friendly zero-emission transit system. In May, Regional Council approved the purchase of 11 electric buses as part of a pilot. Once the new zero-emission buses arrive, testing will begin to see how electric buses handle different routes and driving conditions.

Electric buses are powered by a battery-electric propulsion system and need to be plugged in to recharge. GRT's new facility at 300 Northfield Drive will house the new buses and eventually the charging stations for them.

As GRT works to gradually replace its fleet with zero-emission vehicles, hybrid electric buses will be purchased to replace current diesel-only vehicles. Hybrid electric buses combine battery-electric propulsion with a diesel engine, and produce lower emissions than regular diesel buses.

With electric bus and battery technology getting better every year, this gradual phased-in approach will help GRT take advantage of improvements to electric technology and transition the fleet in the most cost-effective way.

By committing to zero-emission vehicles GRT is charging forward towards a greener future – one that is cleaner, healthier and more sustainable for our community.



When we reduce and reuse, we all win!

The Region of Waterloo is committed to increasing waste diversion by developing and implementing plans and programs to reuse waste materials and reduce the amount of useful material going into the landfill.

In 2021, we achieved a diversion rate of 63 per cent, which means of all the waste collected, the majority of household waste was recycled or reused instead of going into our landfill. Although it was another difficult pandemic year with many residents continuing to work from home, the commitment to help reduce the impact on the environment through diversion remained strong and we saw increases in all our diversion programs. The Region of Waterloo's diversion rate is one of the highest in Ontario.

The positive impacts from residents properly disposing of their waste is measurable with the largest win for everyone being expanding the life span of the landfill for another 25 to 30 years.

Using the green bin means less food waste is going into the landfill which helps reduce the amount of Greenhouse Gas emissions.

There is a strong market for well-sorted recyclables, and with the sorting help from our residents, over 90 per cent of our collected blue box materials get recycled. In the recycling industry, if what we collect is not properly sorted, it cannot get recycled. Recycling and reusing materials is not only good for our environment, it is also good for our community.

Using the Green Bin helps fight climate change

Over the last ten years since the Green bin program launched in 2010, over 43,000 metric tonnes of GHG emissions have been reduced. This is equivalent to removing over 13,000 cars from the road for a whole year.

What did it cost the average taxpayer for waste collection services in 2021?

The cost to the average household in 2021 was approximately \$166 per year or \$3.20 per week—roughly the equivalent of a coffee or two a week.



Energy re-use and innovation help TES protect our environment

Energy efficiency and environmental responsibility continued to be a cornerstone for the Region in 2021, and in particular, for Transportation and Environmental Services. We invested in major projects that lowered the environmental impact of the critical services we provide the community.

New technologies are making the Region's wastewater treatment more energy efficient. It's a win-win that saves energy costs and reduces pollution. At the Hespeler Wastewater Treatment Plant, we are the first municipality in Canada to use a new, high-efficiency technology for wastewater treatment. It's called "Membrane Aerated Biofilm Reactor" or MABR. Installed in 2021, it's set to begin operating in spring 2022

During wastewater treatment, microorganisms break down organic matter. Oxygen is critical for this and the Region's new biofilm technology concentrates these important microorganisms and directly feeds just the right amount of oxygen. The new method is four times more efficient and produces 40 per cent less green house gas

emissions than the former system, all while saving \$30,000 to \$40,000 per year in energy costs. The biofilm upgrade is also 35 per cent cheaper to build than bigger conventional tanks, saving the Region approximately \$5 million and increasing the capacity and lifespan of our current facilities.

"This is a cutting-edge technology. It's way more efficient," says Dominika Celmer-Repin, a senior engineer for the Region's Water Services.

A project to capture and re-use greenhouse gas was another 2021 success story for Water Services. The division upgraded three wastewater treatment plants to harvest biogas rather than release it as air pollution.

Biogas is created when microorganisms digest organic matter in wastewater as part of the cleaning process. These gases (mostly methane and carbon dioxide) were previously burnt off, releasing pollution into the environment that contributes to climate change.

But now, the Galt, Kitchener and Waterloo wastewater treatment plants have been upgraded to capture that biogas and convert it to renewable energy.

These three facilities produce between 13,000 and 22,200 cubic metres of biogas daily. That's



roughly the carbon footprint of 2,700 people. That energy is now re-used to fuel machines in the treatment process and heat buildings during the colder months.

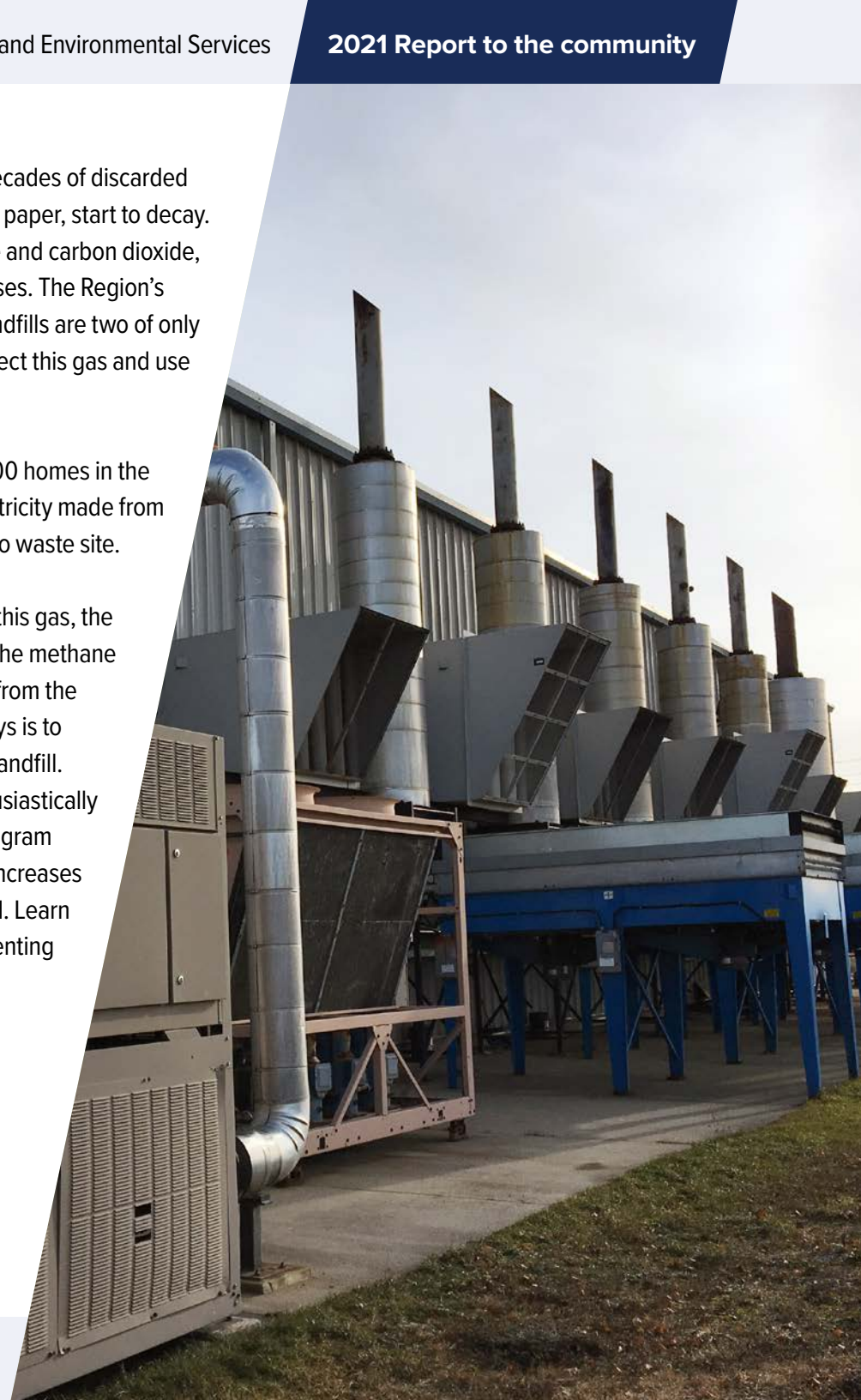
Capturing greenhouse gases and turning them into green energy is nothing new for the Region. For almost 25 years, the Waste Management team has protected the environment by capturing this kind of gas and turning it into electricity. In 2021, we completed a major project to expand this system to prepare the site for the next 25 years and increase the gas collected from the Waterloo landfill.



Landfills create gas when decades of discarded organic waste, like food and paper, start to decay. This creates mostly methane and carbon dioxide, two harmful greenhouse gases. The Region's Cambridge and Waterloo landfills are two of only 120 or so in Canada that collect this gas and use it to generate energy.

Approximately 4,000 to 6,000 homes in the Region are powered by electricity made from landfill gas from the Waterloo waste site.

While the Region can reuse this gas, the long-term goal is to reduce the methane and carbon dioxide coming from the landfills. One of the best ways is to keep food waste out of our landfill. Region residents have enthusiastically embraced the Green Bin Program and we see year-over-year increases in food waste being diverted. Learn more about how we're preventing landfill gas on page 17.



Safe crossing for all



Transportation around the Region includes safe passage for not only humans but for wildlife too; in 2021 the Transportation team was called in to assist.

There is a protected wetland area divided by a large stretch of Regional roadway, where hundreds of turtles and other wildlife move back and forth between the two sides of the wetland putting them at considerable risk given the width of the road to be crossed.

The neighbourhood community was concerned with the large number of dead turtles and frogs on and alongside this roadway. Staff began to monitor this area and confirmed an abnormally high wildlife mortality rate along this stretch of road. Staff recommended the installation of three wildlife (culvert) crossings to reduce the number of turtles and frogs being injured or killed.

To date, two of the three wildlife crossings have been installed, the third is planned for later in 2022. A follow-up monitoring study on the first two installations concluded that both frogs and turtles were in fact

using the crossings, and that the number of these species being killed as a result, had decreased by approximately 79 per cent.

Follow up monitoring and evaluations were completed on the effectiveness of the types and various materials used for these wildlife installations. This information, and the project itself, will be used in the future to assist with other wildlife crossing challenges across the province of Ontario as well as within the Region of Waterloo. Regional staff have stepped up and into groundbreaking work that serves and protects the community.



Healthy, safe and inclusive communities

Anikka Ivanovic,
Lab Technician,
Region of Waterloo

“The quality of our water has always been a big part of contributing to a healthy community. Collaborative partnerships in water testing, engaging with the community on new and changing priorities, and safeguarding our future continues to drive our staff at the Region in creating a stronger, more inclusive community.”

— Nancy Kodousek, Director, Water Services, Region of Waterloo



Healthy, safe
and inclusive
communities



Integrity

Working with integrity to bring safe, clean water to the community.



“To me, integrity means providing a clean and reliable source of drinking water.”

—Anikka Ivanovic, Lab Technician, Region of Waterloo



“I know when I turn on my tap, I can rely on getting fresh, clean water.”

—Corina McDonald, Waterloo Wellington Children’s Groundwater Festival member

Unclaimed bikes get a second spin at life thanks to GRT

Dozens of unclaimed bikes made their way back into the community thanks to Grand River Transit (GRT) and its community partners.

“We want to avoid having the bikes end up at the landfill,” said Matt Landowski, Assistant Manager of Transit Passenger Amenities & Maintenance. “Most of these bikes can be put to good use in the community and that’s what we want to see happen.”

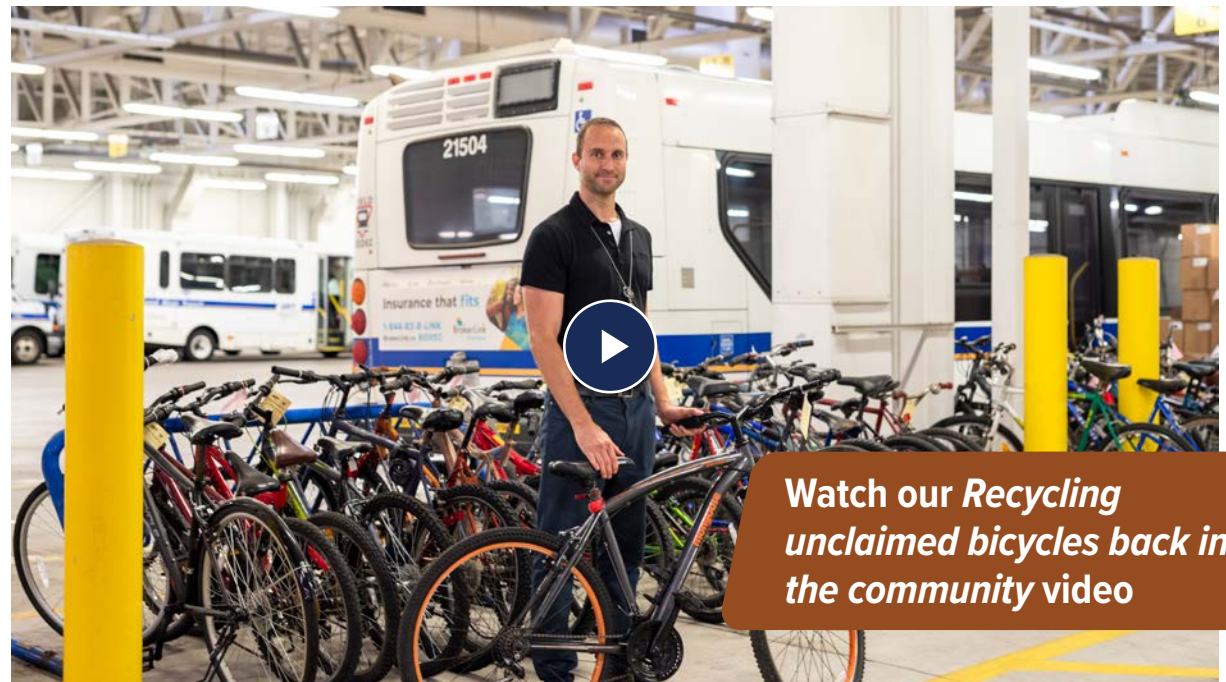
The transit service collects a number of bikes that are left behind on buses, in shelters or at stops, particularly in warmer months. GRT records the serial number from the bike and checks with police, but often the bikes go unclaimed.

In an effort to keep them out of the landfill, GRT donates them to various agencies in our community, including children’s camps, Recycles Cycles and local churches. “When we get the bikes from GRT, people will fix them up, clean them up...and distribute them to refugees and

newcomers,” said Mary Ellen Tierney, a community pastor with Waterloo Mennonite Brethren Church.

The effort is one that shows the caring and inclusive nature of our transit service and the community as a whole, “Some people have had to leave everything,” said Mary Ellen. “It really means

a lot... it even brings tears to their eyes because they know someone in Waterloo Region cares for them.”



Watch our *Recycling unclaimed bicycles back into the community* video

Helping stuff a bus to drive out hunger

Grand River Transit (GRT) helped raise 39,464 meals in support of local food banks in 2021.

“Hunger can happen to anyone at anytime,” said Wendi Campbell, CEO of The Food Bank of Waterloo Region. “With the rising cost of living, steadily rising cost of food and the added burden of the pandemic, people are accessing food banks more than ever.”

More than 34,000 people in our community, 35 per cent of which are children, access emergency food assistance in our community. GRT’s Stuff a Bus food drive helps ensure everyone has access to food no matter where they live in our region.

During the holiday season, when Stuff a Bus takes place, donations are especially critical, “This time of year is so important because it’s when we receive most of our funds to help people...into next year,” said Sarah Tooze, Donor Development Manager with the Cambridge Food Bank.

Both food banks accept food and financial donations. The funds go a long to provide individuals and families with healthy meals.

GRT has operated the annual Stuff a Bus food drive for more than 20 years in partnership with Bell Media, Cambridge Food Bank and the Food Bank of Waterloo Region.



Water Services collaborates on new tool to spot COVID-19

The Region's wastewater treatment system has always helped protect the community's health. In 2021, it gave us another tool to stay ahead of COVID-19.

Mostly out of sight, our community's wastewater system works all day, every day to clean the water we flush down toilets or send down drains. That wastewater is piped to treatment plants, cleaned, and then safely released into the Grand River.

During the pandemic, the Region found another way to benefit from this system. Since January 2021, Water Services staff have collaborated with the University of Waterloo to test wastewater for COVID-19 levels.

"It's a good indication of what the virus is doing out in the community," said Trevor Brown, manager of engineering and wastewater programs. "The benefit of the wastewater is everyone contributes to it, whether you're symptomatic or not."

Water Services staff members collect samples from the Kitchener, Waterloo and Cambridge

wastewater treatment plants and send them to scientists at the University of Waterloo. Many big municipalities across Ontario are testing wastewater and sharing the data, all funded by the provincial government.

The Region's wastewater treatment safely removes all viruses, including the coronavirus. Before that treatment, though, we can measure the virus levels in wastewater coming into the plant from our community. This anonymous information tells us how COVID-19 changes over time across the Region. It helps identify variants too. In December, for example, wastewater surveillance noticed the Omicron variant's arrival in Waterloo Region.

This big-picture data can help shape local and provincial public health policy. It's an important tool, especially when changes in Ontario testing requirements mean fewer people are getting PCR tests. Testing no longer gives the full picture of COVID, so wastewater can fill in the gaps.



In years to come, this wastewater data might also help us analyze the pandemic. "Right now it's functional data, but once we get beyond this pandemic, there's a lot of research papers that will come out of this information," Brown said.

Because of its success, researchers are now developing a standardized framework for communities to run this type of program and compare results. It has demonstrated how wastewater and scientists could partner to monitor other public health trends in the future, too.

Wastewater monitoring will continue into 2022 until the province ends funding. The latest wastewater data is publicly available every Friday [on the Region's website](#).

Safe drinking water—our priority

Every day, the Region of Waterloo provides reliable, plentiful clean drinking water for residents and businesses. One of our safety measures is frequent water testing; we conduct an average of over 130 tests each day across our system, checking our community's water for over 180 different water quality parameters. In March 2021, that routine testing detected chromium at the Parkway Water Supply System in Kitchener, near Bleams and Manitou.

Chromium is a heavy metal used in some industries. At high levels, this metal can cause health concerns for people. Although chromium was well below provincial drinking water regulations, Water Services took the Parkway system offline as a precaution. The Parkway wells are an important part of the water supply for Kitchener, so we needed to bring them back online as soon as possible.

More testing found elevated chromium levels in just one of the three Parkway wells. So we built a new temporary watermain to a nearby sewer to send all water from this well to the Kitchener wastewater treatment plant, preventing elevated

levels of chromium from reaching the two unaffected Parkway wells.

With one well diverted, the two unaffected wells came back online in September 2021 with enhanced monitoring and operating protocols. The months when the Parkway system was down also provided a rare opportunity for maintenance and repairs.

Several teams across Water Services worked closely; water was rerouted, treated and tested daily. We had to plan the projects carefully so there was enough water for Kitchener even with the reliable Parkway wells offline.

The Ministry of the Environment, Conservation and Parks is investigating the cause of the chromium. At the same time, we also added new groundwater monitoring around Parkway to help with the chromium investigation and safe operation of the Parkway wells.

Over 100 groundwater wells provide 80 per cent of the Region's drinking

water, about 115 million litres (or 46 Olympic-sized swimming pools) of drinking water each day.

Frequent water testing provides early warning of any emerging issues and ensures the water from our taps is always safe. The recent work at the Parkway Water Supply System was a great demonstration of the safeguards in place to protect public health. It is also a great example of collaboration across Water Services, with support from Design and Construction, the City of Kitchener, Public Health and the Province.



Making communities safer... one at a time



The much-anticipated launch of the Automated Speed Enforcement (ASE) program took place in Waterloo Region September 2021, with the first active site located on Westmount Road near Laurentian Public School. Automated speed enforcement is an automated system that uses camera and speed measuring devices to capture images of vehicles driving over the posted speed limit.

Eight sites, including Westmount, were approved by Regional Council with input from all area municipalities, as prime locations for the launch of Phase 1A. It took a tremendous amount of work and effort to co-ordinate all the players essential to activating the program, but all eight initial sites in were ready for camera installation before the end of 2021.

The ASE program was expanded at the request of Regional Council in late 2021 to include a further eight additional locations (Phase 1B) bringing the total number of sites up to 16. Five of these additional locations are already setup for camera installation and the last three sites will be ready in the spring of 2022. All 16 locations will be actively

enforcing the posted speed limits in the 2022 calendar year.

While it is still very early days, the initial review (until the end of December 2021) suggests that travel speeds in these locations have noticeably reduced, supporting the use of this sort of enforcement program in areas where reduced speed is essential to safety.

As more sites are added in 2022, more data will be collected, and Regional staff will take a report to Regional Council in late spring/early summer with a detailed review. This initiative represents a big step forward in the ongoing battle to reduce speeding, and to make the community a safer place for all who live, work and play in Waterloo Region.

Responsive and engaging public service

Frank Stolch, Municipal Infrastructure Inspector, Design and Construction, Region of Waterloo

“To offer the community responsive and engaging services, we need to let people know what we’re planning to do, why, and when. We need to provide this information in many different ways, so that we can reach as many people as possible. Then we need to make it easy for people to let us know what they think and how we’re doing.”

— Phil Bauer, Director, Design & Construction, Region of Waterloo



Responsive and engaging public service



Collaboration

Collaborating with the community is a win for everyone.



“The design on this project would not be what it is today without the collaboration with our partners.”

—Eric Saunderson, Senior Engineer, Design and Construction, Region of Waterloo



“It has been a privilege to collaborate with our regional partners on the King-University plaza project, which now provides an inviting entrance to our university and makes this area more community-oriented and pedestrian friendly.”

—Lloyd Noronha, Vice-President, Finance and Administration, Wilfrid Laurier University.

Improving customer experience one tweet at a time

Late buses, missed trips, unplanned detours — we all know how frustrating that can be. Now you can plan ahead.

In October, Grand River Transit (GRT) launched a new Twitter account [@AlertsGRT](#) to get information on service disruptions to riders faster.

“Whether there is a car accident that closes a road or an unexpected road closure that impacts the route that a bus has to take, that’s important information for a transit rider,” said Matt Rodrigues, a GRT rider since 2013.

The account provides real-time notifications when there is an emergency detour on a bus route or if a bus or ION train is cancelled or delayed.

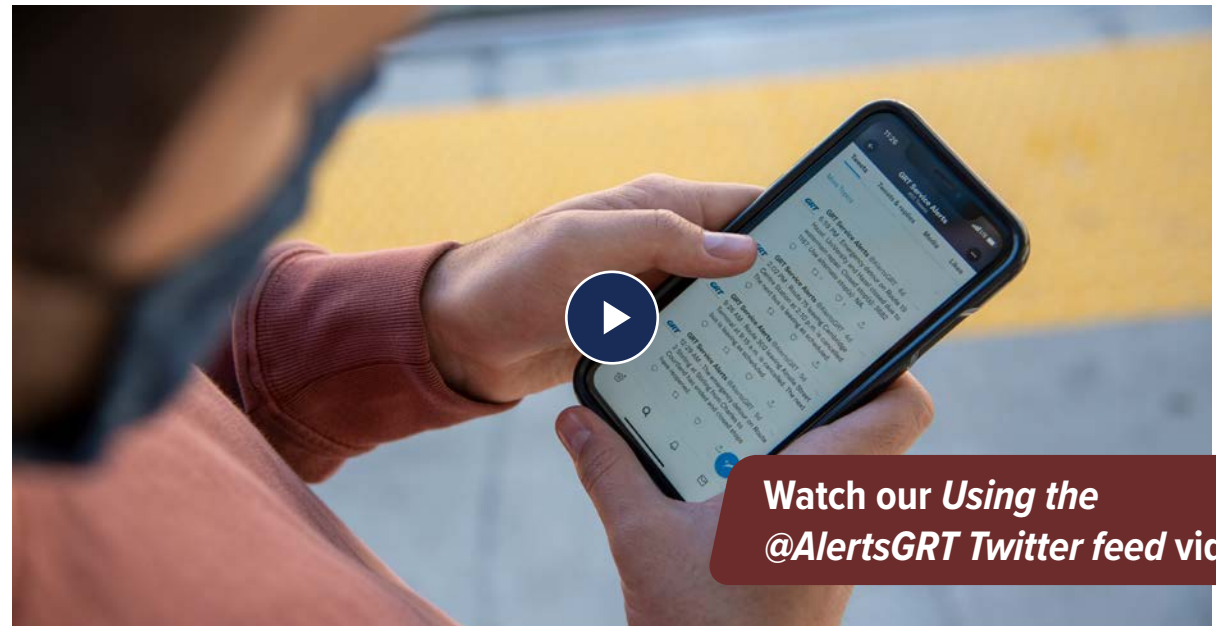
Improving customer experience was a driving force behind the creation of the new account, “Service disruptions are not always planned — collisions, urgent road work and other emergencies happen with little notice and force buses to detour or delay trains,” said Peter Zinck, retired Director of Transit

Services. “We know customers want to be aware of these types of disruptions so they can make use of other routes or make alternate plans and we recognize the importance of improving how we communicate this information.”

Service alerts posted to the GRT website ([grt.ca](#)) are automatically sent out on the Twitter account.

Customers can also get notifications right on their phones by selecting the notification bell once they start following.

This centralized location for notifications has made it easier for customers to get information they need and plan their trips.



Watch our *Using the @AlertsGRT Twitter feed* video

Improving online tools makes it easier for residents to connect

When you deliver waste collection services to over 160,000 households in the Region of Waterloo, it's important to set up channels for residents to connect in with us. In 2021, new features were added to our [Report a Collection Issue](#) online tool, making it easier and more direct for residents to report collection issues and find answers to their questions. This tool is available to residents on our [website](#) and on the [Waste Whiz](#) app. The new self-serve features help to identify common curbside

issues and give explanations and solutions to the issue. As an example, we were able to add a new feature to quickly alert residents of changes to their waste collection due to winter weather conditions.

The new system also improved communications between Waste Inspectors out on the road with the Region's Call Centre staff and the Waste Customer Service staff. Now, the new

information auto-check features ensure data is complete and accurate and can direct the issue to the correct staff person so investigation can begin without delay. A better connection all around.

Our goal is to deliver great service. A 2021 Waste survey, residents scored customer service higher in all categories compared to 2018.

Moving education online

Thank you to the over 2,600 students and teachers who participated in our online waste education program. Teachers from Kindergarten to Grade 8 let us know that our online program is a great resource that engaged and enabled students to learn, question and discover. Let us keep learning to reduce, reuse and recycle together!



Call to action

It started with a call for help from a concerned grandmother. Judy's 18 year-old grandson Joseph was moving to Waterloo in the fall of 2021 to attend Wilfrid Laurier University. He is legally blind and devices like accessible pedestrian signals (APS) at intersections help support his independence.

A few weeks before school began, Joseph and his parents walked the route from his apartment to campus and discovered that the intersection at University Avenue West and Hazel Street did not have APS buttons on all crosswalks.

All new and re-constructed Region of Waterloo traffic signals are equipped with APS, and the Traffic Systems team is working to retrofit existing signals. The intersection of University and Hazel is scheduled for re-construction in 2023, but that was not soon enough for Joseph and his parents. Joseph's grandmother reached out to Jennifer Goetz, a Traffic Systems Management Analyst with the Region of Waterloo on August 19.

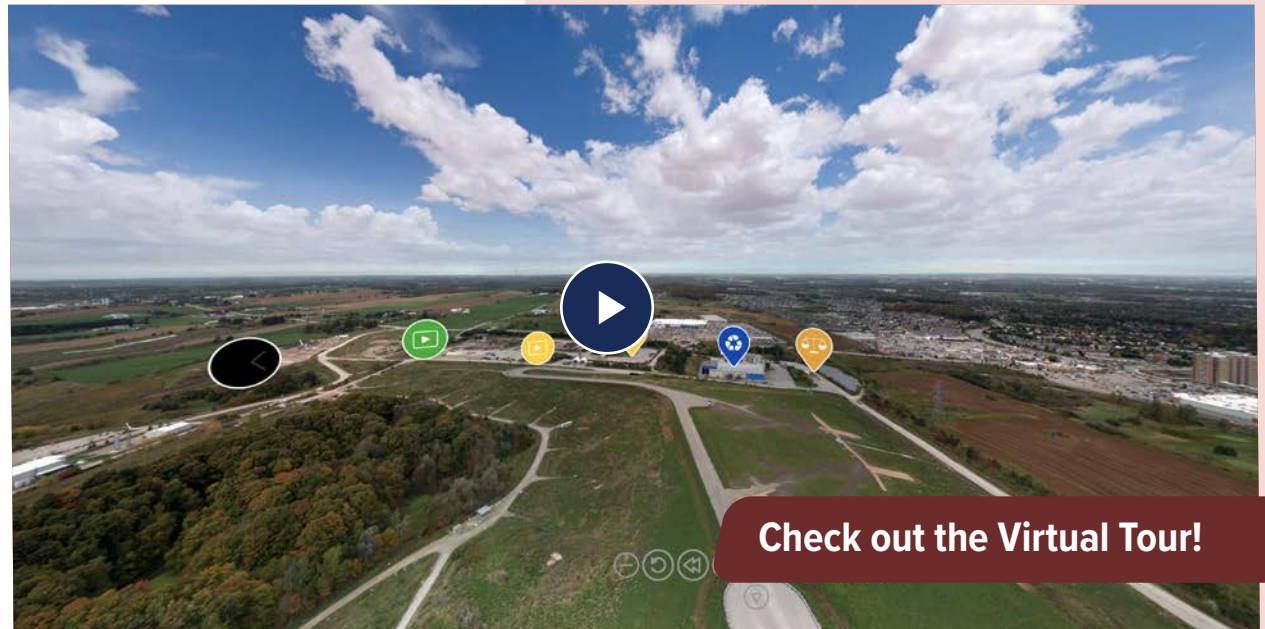
Understanding this unique situation and its critical timelines, Jennifer was able to expedite the process for APS installation. Her team met with

Vision Loss Rehabilitation to ensure it was installed in a place that was easy for Joseph and others to access. By the first day of school on September 5, the temporary APS buttons at University and Hazel were up and running—a month and a half earlier than the typical turnaround for these installations. Much thanks to everyone who worked on this project; this caring and responsive service is woven into the fabric of the work Regional staff deliver each and every day.

And the award goes to...

Our Waste Management team received the 2021 Promotion and Education Gold Award from the Ontario Municipal Waste Management Association (MWA) for our online Virtual Tour to explore our waste operations.

The [Virtual Tour](#) lets residents guide themselves through a behind-the-scenes look at our recycle sorting centre and landfill operations. The tour offers many pop-up boxes for even more information and brief videos on key areas such as the transfer station and green bin collection. For an even more enhanced experience, watch the Virtual Tour with Virtual Reality glasses.



Check out the Virtual Tour!

Creating community partnerships

The Transportation team is no stranger to requests for action from communities and neighborhood organizations around the Region. On a daily basis, we receive numerous requests to address safety concerns on our Regional roadways; the most common concerns are most often speed related.

Decisions on whether or not to install a traffic control measure like a stop sign for example, are made with careful review and by applying the industry assessment guidelines, which take into account the volume of traffic and accident statistics as part of qualification criteria.

The neighbourhood at Erbsville and Conservation Drive has had a long history of community concerns related to near misses, excessive speeding and noise complaints. Given that the area is a popular one for outdoor enthusiasts including pedestrians, runners and cyclists, the Transportation team investigated the circumstances, applied the industry guidelines and took action to mitigate the situation. The result was a combined solution of an all ways stop sign and bollards to slow down traffic. Several months in we heard back from the community that these efforts are paying off with some promising results

most notably in reducing the speed of vehicles travelling in the area.

“We have seen a major decrease in speed and noise. Drivers are no longer as reckless or noisy. We were able to enjoy our backyards again as well as walking in and around Erbsville. I have spoken with cyclists, runners, and other pedestrians and they have expressed their appreciation for the stop sign, as they feel much safer around here. The flex signs, [bollards] that get installed in the spring and remain for the summer into the fall, are also a major contributing factor to our safety, and we look forward to seeing these again in the coming year ahead,” said Valerie George, Erbsville resident.

The Transportation team will continue to look for ways to collaborate with the community to enhance safety and improve the quality of life for all who live in Waterloo Region.



“The Region exists to provide service to the community. Responsive and engaging public service starts with listening. You have to be open to hearing different perspectives and other’s lived experiences to truly start a conversation about what the community needs from the Region.”

—Donna Serrati, Director, Strategic Initiatives and Asset Management

Bringing COVID-19 tests and vaccines to those most in need

The pandemic brought staff from across the Region together in new ways to support the community. As access to testing and later to vaccines became paramount, Transportation and Environmental Services rolled into action.

At Grand River Transit (GRT), fleet staff were asked to transform buses into mobile testing centres and then later into vaccination clinics.

The program made screening available to small and medium-sized essential businesses, with up to 3,000 tests completed each week. All seats were removed and barriers were put in place to support physical distancing between each workstation. Essentially, the team figured out how to fit office furnishings into a 10 by 40-foot bus.

By summer, the team transformed those same buses once again into mobile vaccination clinics adding rotating chairs, installing computers and a refrigerator for the vaccines. These buses were used throughout under-served, priority neighbourhoods to ensure the vaccine was accessible. The buses helped administer more than 3,500 doses in our community.

By winter, third doses of the vaccine were available and Public Health was looking for support to launch a priority phone line for adults 70+ who couldn't book an appointment online.

Nine people in Water Services gave up some of their vacation and holidays to get the phone system up and running. In collaboration with Information Technology, the Service First Call Centre, and Public Health, TES staff from Water Services developed scripts, trained and got the phone line set up and ready for the new year. They received 100 calls in the first day.



2021 by the numbers

Total residential waste collected at curbside
153,371 tonnes
24% blue box
44% garbage
18% green bin
14% yard waste

30,222
Regional trees planted and maintained

750 km
of roads maintained

5,041 traffic signals lights installed and maintained

34,328
traffic signs installed and maintained

7,990,331
bus rides

15,748,163 km
travelled by bus

1,750,778
ION rides

985,449 km
travelled on ION

217 cubic metres of water saved each day through water efficiency upgrades at local businesses

57.8 million cubic metres of safe drinking water used

190 bridges maintained

57.4 million cubic metres of wastewater treated

417,000 total transactions at Waste Management sites

42,460 downloads of Waste Whiz app

26,100 customers served online/by phone

Disposed of **36,550 tonnes** of biosolids

99% of biosolids reused to fertilize farm lands or restore mining sites





For more information please contact:

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Region of Waterloo's strategic focus areas:



Thriving economy



Sustainable transportation



Environment and climate action



Healthy, safe and inclusive communities



Responsive and engaging public service



Our people

This document is available in alternate formats upon request.