Regional Municipality of Durham
Durham Region Waste App
Population: 656,055
Households: 160,000
Cost per household - $0.14
Approximate budget - $23,000 CDN/ per year

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Executive Summary

The Durham Region Waste App gives residents instant, mobile, customized access to information about waste collection and a host of other waste management solutions. Residents can access a personalized collection day calendar, set up reminder alerts, learn how to properly dispose of household waste, locate and call their local waste management facility, and even report collection issues with photos. For the first time, Durham Region can communicate in a way many residents prefer and this aligns with the Region’s customer service focus.

The app allows Durham Region to leverage the latest technology to improve data management and analytics, accessibility and operational efficiencies and enables us to understand which promotions our residents react to the most and where to better target our budget investments.

Engaging residents and making it easier for them to access the information they need is key to reducing waste and meeting the Region’s waste diversion goals.
Research

Describe the need for this CEM tool.

The Region of Durham’s waste management division uses a variety of traditional media tools to inform and educate approximately 650,000 residents in both urban and rural communities across 2,500 square kilometres about its waste management programs. They include, but are not limited to, website, television, radio, social media and traditional paper-heavy channels.

Although these community outreach methods have proven to be a major contributor to the success of our waste diversion programs in the past, we recognized that engagement and interaction is more than just sending something out and hoping someone reads it. Durham residents are sophisticated and have come to expect a more on-demand approach online and we needed to find a way to engage with our residents more frequently and cost effectively.

Current challenges for the Region of Durham waste management division include:

- Waste management programs are complex (recycling, organics, yard waste, garbage, municipal hazardous or special waste, electronic waste, producer responsibility/product stewardship, etc.)
- Waste management Call Centre is already dealing with hundreds of calls per day regarding general inquiries, collection issues, and booking special collection appointments.
- Waste management Call Centre must also deal with high call volumes around holidays when schedules change.
- Proximity to City of Toronto: Durham borders Toronto to the east but its waste management programs are different. Mass media only covers Toronto’s programs.
- Existing print and other media campaigns are only read by a small fraction of intended audience.
- Growing demographic of users who only consume mobile online information content

Current challenges for Durham Region residents include:

- Want to find information on how to manage their waste and other relevant information quickly and easily, and have high expectations for an online experience.
- To determine their collection schedule, residents must call the Region’s waste management call centre during operating hours, visit the website
and determine their location on a map, or consult the print calendar provided by the Region.
• Many residents are not able to read maps effectively.
• Current terminology and schedule structure can be confusing to residents whose native language is not English.
• Increasingly, residents expect mobile solutions for many aspects of their lives.

Over the last few years, the Region’s Waste Management Division has identified the need for a convenient, cost effective, communication tool to augment our existing communications to residents that increasingly rely on the use of mobile phones, tablets and computers for information consumption. Engaging residents on their time and making it easier for them to access the information they need is key to increasing service efficiency, reducing costs and meeting the Region’s waste diversion goals.

We use mobile applications for so many daily activities, like banking, reading the news and checking the weather. According to the Canadian Radio-television and Telecommunications Commission (CRTC), 2015 Communications Monitoring Report, 68 per cent of households in Ontario have a smartphone, the leading digital media engagement platform today.

After detailed market research, staff determined that ReCollect Systems Inc. was favoured for meeting Durham’s needs for a mobile application that can seamlessly integrate into Durham’s existing website information and GIS data.

In 2015, the Region entered into a professional service agreement with ReCollect Systems Inc. for a dedicated waste management application for smartphones (iPhones and Androids).

**Planning and Goal Setting**

*Describe the goals and objectives for use of this tool and the tactics to meet the goals.*

Durham’s goal was to enhance our one-to-one communication efforts with our residents in a convenient, instant, customized, and mobile environment. At the same time, we have successfully augmented our customer service strategy and delivery by empowering our residents with reporting capabilities and increased knowledge of our programs. Key features of the Durham Region Waste App include:
2016 SWANA Excellence Award
CEM Tools

- A personalized collection calendar for garbage, green bin, blue bin, yard waste and other special curbside collections (such as Batteries and Christmas trees);
- Residents can sign up for collection day reminders on their smartphone or tablet via phone, text message, email or iCalendar;
- The “Know Before You Throw” tool allows users to search specific items from a comprehensive database to discover how to reuse, recycle, compost or dispose of them properly - residents can also suggest and item should it not be the database;
- Contact information for, and directions to, Durham’s Waste Management Facilities;
- Phone any Waste Management Facility directly from the app;
- Self-service collection issues reporting directly through the app with photo upload capability;
- The ability for the Region to transmit emergency and service disruption alerts and campaign functions or to deploy targeted waste management education to all subscribers or to targeted waste collection zones;
- Multi-language capabilities that enable us to reach more residents with important information about waste management and diversion;
- Compliance with Accessibility for Ontarians with Disability Act (AODA) regulations and Web Content Accessibility Guidelines (WCAG) 2.0 Level AA accessibility for users with disabilities;
- Powerful analytics and data mining for determining targeted messaging and campaigns –includes detailed reports on an easy-to-use dashboard that shows the number of unique addresses visited, number of downloads, number of reminders, number of service alerts etc. and a monthly activity report.

The ReCollect application supporting Durham’s Waste App is a robust administration tool to update collection day data on the fly. The importance of this aspect is that any issues brought forth by the residents can be quickly and effectively addressed so the time between issue submission and issue resolution is minimal.

This functionality ensures residents are viewing the most up-to-date and accurate data and getting the most up to date messaging. The dashboard provides real-time access to reporting, content management for the app and Know Before Your Throw tool, managing calendars and scheduling messaging, such as alerts and campaigns.

Describe the timeline.

After nine months of planning and data testing with Durham’s Corporate Services – Information Technology Department (CIS-IT) and ReCollect, the Durham Region Waste App was officially launched on September 3, 2015 at Regional Municipality of Durham, Ontario, Canada.
Headquarters at 605 Rossland Road East, Whitby, ON. Local media, Regional Councillors, municipal partners, project partners and CIS-IT staff attended.

- January 1, 2015, a professional services agreement between the Region of Durham and ReCollect Systems Inc. was approved for the development and maintenance of a mobile application;
- January 2015, Waste management staff meets with our CIS-IT staff to discuss Geographic Information Systems (GIS). As GIS is used to create the back-end data for this application;
- February 2015, data share agreement executed by Region of Durham CIS-IT and ReCollect;
- March 2015, Region provides logo and images for use on the ReCollect Service interface, and input with respect to design of interface;
- April 2015, Region provides Know Before You Throw data for search tool;
- June 2015, Region provides garbage and recycling collection routes, including service addresses and collection schedules, geographic and neighbourhood information to ReCollect;
- June 2015, update Region website with new widgets that correspond
- June to August 2015, data testing and soft launch;
- September 3, 2015, official launch of the Durham Region Waste App in the main lobby of Regional Headquarters at 605 Rossland Road East. Local media, Regional Councillors, municipal partners, project partners and IT staff attended.
- December 2015, reached 10,000 registered users of the Waste App.
- By May 1, 2016, incorporate Calendar and Know Before You Throw widgets on all municipal web sites in the Region, making it easier for residents to find and use;
- By July 1, 2016, implement a new integrated online booking tool for bulky goods, allowing our residents to schedule collection on their mobile devices;
- By November 30, 2016, distribute 10,000 App postcards at community events to deliver increased awareness of our digital tools;
- By December 31, 2016, reach the 30,000 App download milestone.

**Describe the target audience and how this program reaches the intended target.**

The application is available to all residents of Durham Region who receive curbside collection service from the Region, except for residents of the Town of Whitby. Whitby has its own waste management app. When a resident enters a Whitby address into the Durham Region Waste App, they are redirected to download the Town of Whitby’s Waste app.
At this time, the application has been developed for Apple and Android users. Together, Apple and Android make up over 96 per cent of the smartphone market.

Residents who use a Blackberry or other non-compatible mobile devices can experience all the functionalities of the app online at durham.ca/waste. In addition, users can set up collection day reminders via phone, text message, email or iCalendar, from the website.

**Budget**

The Region of Durham has a professional service agreement with ReCollect Systems Inc. for the development and maintenance of a mobile application. The agreement may be extended for up to 4 additional one year terms. The total budget for this project is $23,000 CDN annually plus Consumer Price Index (CPI) adjustments and is funded from the Solid Waste Management operating budget. The cost per household per year for the mobile application project is approximately $0.14 CDN based on approximately 160,000 households. The mobile app is among the most cost-effective options compared to other communication tactics. One ad in all local Durham Region newspapers costs upwards of $10,000 CDN.

**Implementation**

**What obstacles did you encounter and how did you overcome them?**

The biggest obstacle encountered was getting the buy in and support from our CIS-IT department to outsource the mobile app to a third party. Traditionally IT projects are developed and managed in-house. However, due to the novelty of the technology and staffing resources, this was not an option. Through several discussions over the course of a few years, the waste management team was able to justify the need for a waste management mobile app. As with most internal CIS-IT departments, security and data sharing is a high priority and one that needed to be addressed in order to proceed comfortably with a third party vendor. The Durham Region Waste mobile app was the first app created and used by the Region.

**What new opportunities arose that you didn’t anticipate and how did you take advantage of them?**

This application has brought to light the benefits of GIS to the waste management division. As GIS is used to create the back-end data for this application, the waste management division now has an expanded spatial toolset at our disposal. In turn, utilizing this GIS toolset benefits the residents of the Region as waste
management staff can now visualize current address data instead of only seeing the information in a spreadsheet that may or may not be up to date.

In conjunction with the ReCollect application, a Waste Boundaries Viewer (WBV) has been created by our CIS-IT staff a natural offshoot of the app. This innovative tool allows the waste management Call Centre staff direct access to GIS data for resident and incident location purposes. Access to this type of data allows the Call Centre staff to troubleshoot and respond to public inquiries immediately while being able to spatially view information within a mapping application. Having the ability to view information on a map can provide additional benefits as staff are now able to assess situations with visual information within the mapping application opposed to information in text format. The WBV also connects with the ReCollect application enabling all collection information to be found in one central location.

Did expenses exceed budget and what was the effect on the development of the tool as a result?

No. The expense of developing and promoting the app were extensively studied before engaging the project. The Region entered into a professional service agreement with ReCollect Systems Inc. for a dedicated waste management application for smartphones. The costs associated with the advertising campaign...
encouraging residents to download the app were planned for and budgeted in addition to those for developing the tool, itself.

How is this tool an improvement?

The Durham Region Waste App is a significant improvement over traditional media efforts as it provides a “one stop shopping” solution for users and reaches a rapidly growing audience that does not consume traditional print media. The 10,000 downloads in three months is a testament to this. It is also the only media solution that offers two way communication between the resident and the Region. We provide information to the resident through the calendar, *Know Before You Throw* search tool, Waste management facilities connectivity and alerts while the resident communicates with us through the reporting tool, being able to call Waste management facilities directly from the app, and recommending updates to the *Know Before You Throw* tool.

When it comes to Return on Investment (ROI), the usage rate of the Durham Region Waste App has been great and continues to grow. Recollect has helped the Region connect to people in new ways – like being able to reach residents wherever and whenever right on their smart phone to remind them it’s garbage day. Experimenting with new avenues of communication is helping the Region to start thinking about how we should be communicating with residents in the future.

Results

The current success of the Durham Region Waste App is a result of our residents continued commitment to our extensive waste management programs and initiatives. The Durham Region Waste App is rated 4.5 on Google Play and carries 5 stars in the App store with favorable testimonies from residents.

**Quantitative Results:** The Durham Region Waste App notable metrics at time of submission:

- 13,625 residents have downloaded the app;
- 43,130 unique addresses have been searched to date;
- 11,999 residents have subscribed to service alerts to date;
- 11,534 residents have subscribed for reminders to date;
- 88% of reminder requests to date are sent through the app to mobile users versus voice, text or email;
- 69,684 items searched in the *Know Before You Throw* database;
Qualitative Results: The Durham Region Waste App:

- has increased educational and compliance opportunities for our waste management programs;
- has provided increased data management and analytics for campaign spending;
- fully complies with Ontario AODA regulations and WCAG 2.0 Level AA accessibility compliance for users with disabilities;
- has provided an extensive “Know Before You Throw” database tool, allowing users to search specific items to discover how to recycle or dispose of it properly;
- has multi-language capabilities that enable us to reach more residents with important information about waste management and diversion;
- has contact information for, and directions to, our Waste Management Facilities;
- incorporates an emergency and service disruption alert and campaign functions to deploy targeted waste management education to our subscribers;
- is scalable for future online collection bookings through self-service on the app for items such as bulky goods, metal goods, waste electrical and electronics equipment and porcelain bathroom fixtures.

Through this positive, dynamic approach, Durham Region is using this technology to increase communication and further improve its current waste diversion rate of 55 per cent. The Durham Region Waste App is a perfect example of citizen centric technology that helps move our corporate strategic goals forward.

Evaluation

What lessons did you learn to improve future CEM tools?

For the first time, Durham Region can communicate in a way many residents prefer which aligns with the Region’s customer service focus. The application has allowed Durham to leverage technology to improve accessibility for residents and data management and analytics for the Region.

In 2016, the Region will be looking to enhance the application with functionality for booking special curbside collections of bulky items, porcelain bathroom fixtures and waste electrical and electronic waste. The special collection booking tool will provide users an easy and intuitive way to schedule special collections, and includes confirmation notifications, instructions and reminders of their special collection, so users know how and when to set their waste out for
collection. This will augment our existing 1-800 call-in service and will provide our residents with greater accessibility.

In 2015, the Waste Management Call Centre received 37,643 calls with over 18,500 related to special collections bookings. Improving customer service and reducing call wait times in an environment of rapid population growth with access to technology, without increasing staffing or telephony resources, is a priority for the Waste Management Division. The app allows the Region to expand this service without the need to increase staffing and associated resources. The Region plans to amend its annual subscription with ReCollect in 2016 to include the special collection booking tool.

The app allows Durham Region to leverage the latest technology to improve data management and analytics, accessibility and operational efficiencies and enables us to understand which promotions our residents react to the most and where to target our budget investments.

Further, it has helped the Region connect with our residents using insight-driven marketing from our comprehensive Know Before You Throw knowledge database. The Know Before You Throw tool has the ability to grow and respond to changing needs by keeping track of searched items that it does not include so that they can be processed and added to the database instantly.

**Opportunities for this tool in other municipalities.**

The easy to navigate Durham Region Waste App provides residents with instant and customized access to information about the various waste management programs and includes multiple language capabilities. Durham partnered with ReCollect for the development and maintenance of our mobile application. Working with ReCollect has been a positive experience. From start to finish, everything was easy and straightforward, the results have been fantastic. Other municipalities could benefit from the success of this type of digital tool.
Residents in new developments are asked to call Durham Region at 1-800-697-5671 to confirm that Waste Collection Services have started on your new street.

Example: 605 Rossland Rd E, Whitby
Figure 3: Durham Region Waste App Screenshots

Figure 4: Service Alert

Important message from Region of Durham:

Curbside collection may experience delays today due to the winter storm. Please leave your materials in clear view for collection crews. Thank you for your patience.
Score a touchdown for the environment

Are you hosting a Super Bowl party on February 7? Score a touchdown for the environment by making your party green:

**Recycling:** plastic water bottles, metal pop cans, plastic deli trays

**Green Bin:** chicken wing bones, paper napkins, fruit and veggie leftovers, nuts and shells

**Garbage:** Styrofoam cups, plastic plates and cutlery, plastic table cloths

**Deposit Return:** beer and wine bottles

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**Figure 5: Campaign**

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**Figure 6: Web Site Calendar**
Figure 7: Web Site Reminders

How should we notify you?
Pick the reminder you'd like to receive. You can sign up for multiple reminders.

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Back

Powered by Recollect
Figure 8: Resident Feedback

- Very impressed with this app, now I don't have to wait to see what my neighbour is putting out on garbage day...
- Such a great app to have on your phone instead of the paper version
- Great app!
- This is a fantastic app. Love it!
- Cool app! #KnowBeforeYouThrow May I suggest adding 9V battery safety instructions?
- A great app! Love it!
- One of my all time fav apps.
- Thanx for sharing!
- Downloaded today. Thanks
- Awesome app! Sure beats looking for that paper schedule and hoping I don't throw it out!
- Finally! I don't have to wait to see what my neighbours have put on the curb.
- Much nicer than the paper calendar I always have to look at.
- Love it. Thought it was garbage day last week, checked the app and it wasn’t.
- A replacement for the calendar in the cupboard.
- Thanks. Dowloaded😊
- Nice!
- This is very exciting! Thank you!
- A good tool for all Durham residents.
- Very practical! Developing this app was a fantastic idea! I really like the fact that I can find out what goes to the curb quickly and conveniently.
- Excellent reminder. Excellent app and so far no bugs or error. Good to remind your bins to put out.
- Very handy so I can get it all ready for hubby and remind him to take it all out😊