

1. SOURCE-SEPARATED ORGANICS PROGRAM UPDATE

**COMPTE RENDU SUR LE PROGRAMME DE MATIÈRES ORGANIQUES
TRIÉES À LA SOURCE**

COMMITTEE RECOMMENDATION

That City Council receive this report for information.

RECOMMANDATIONS DU COMITÉ

**Que le Conseil municipal prenne acte du présent rapport à titre
d'information.**

DOCUMENTATION

1. Acting Director's Report, Solid Waste Service, Public Works and Environmental Services, dated 6 May 2021 (ACS2021-PWE-SWS-0001).

Rapport de la Directrice par intérim, Service de déchets solides, Services des travaux publics et des services environnementaux, daté le 6 mai 2021 (ACS2021-PWE-SWS-0001).

2. Extract of Draft Minutes, Standing Committee on Environmental Protection, Water and Waste Management, 17 May 2021.

Extrait de l'ébauche du procès-verbal, Comité permanent de la protection de l'environnement, de l'eau et de la gestion des déchets, le 17 mai 2021.

**STANDING COMMITTEE ON
ENVIRONMENTAL PROTECTION,
WATER AND WASTE MANAGEMENT**

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**COMITÉ PERMANENT DE LA
PROTECTION DE
L'ENVIRONNEMENT, DE L'EAU ET
DE LA GESTION DES DÉCHETS
RAPPORT 16
LE 26 MAI 2021**

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26 MAY 2021**

**Report to
Rapport au:**

**Standing Committee on Environmental Protection, Water and Waste Management
Comité permanent de la protection de l'environnement, de l'eau et de la gestion
des déchets**

17 May 2021 / 17 mai 2021

**and Council
et au Conseil**

26 May 2021 / 26 mai 2021

**Submitted on May 6, 2021
Soumis le 6 mai 2021**

**Submitted by
Soumis par:**

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**Ward: City Wide / À l'échelle de la ville
(0)**

File Number: ACS2021-PWE-SWS-0001

SUBJECT: Source-Separated Organics Program Update

**OBJET: Compte rendu sur le programme de matières organiques triées à la
source**

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REPORT RECOMMENDATIONS

That the Standing Committee on Environmental Protection, Water and Waste Management and City Council receive this report for information.

RECOMMANDATIONS DU RAPPORT

Que le Comité permanent de la protection de l'environnement, de l'eau et de la gestion des déchets et le Conseil municipal prennent acte du présent rapport à titre d'information.

EXECUTIVE SUMMARY

Assumption and analysis

On March 28, 2018, Council approved a revised contract with the City's organics processing service provider, Orgaworld (now Convertus), based on the recommendations and rationale outlined in the Source Separated Organics Program Update ([ACS2018-PWE-GEN-0003](#)). The revised contract was the result of a legal settlement that ensured the City got maximum value for municipal taxpayers and enhanced the Green Bin program. The program enhancements included a lower annual put-or-pay threshold of 75,000 tonnes, a lower processing rate of \$124 per tonne and a major policy change to allow plastic bag liners and dog waste in green bins starting July 2, 2019.

Market research in 2010, 2012 and 2018/2019 identified and reiterated that the yuck factor (concerns the green bin gets smelly, messy or gross) was one of the main reasons residents did not use the green bin. Allowing residents to put food and organic waste in plastic bags helps reduce odour and pest concerns, while allowing dog waste reduces odours in garbage collected biweekly, diverts another form of organic waste from the landfill and creates a beneficial end-use product. In 2014, staff engaged Dillon Consulting to review the source-separated organics program and develop evidence-based recommendations to Council that would allow the City to meet its organic waste diversion goals and provide better value and service to municipal taxpayers. Their modelling projected that these enhancements would help increase waste diversion.

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On June 25, 2019, staff provided the Source Separated Organics Program Implementation Update ([ACS2019-PWE-GEN-0006](#)) to the Standing Committee on Environmental Protection, Water and Waste Management. This report outlined the operational readiness of Renewi (previously Orgaworld, now Convertus) to provide expanded service, market research about resident behaviours and attitudes, and the City's evidence-based communications and outreach plan to promote the program enhancements. At this meeting, staff committed to report back on the performance of the Green Bin program and the communications and outreach plan, and to provide an initial snapshot into behaviour changes one year after implementation.

At that time, no one could have predicted a global pandemic would begin eight months after the program enhancements were implemented, and the impact it would have on residential waste management in Ottawa. The City has seen a volumetric shift in waste from the industrial, commercial and institutional sector to the residential sector with more residents working remotely and disposing of more waste at home instead of in the workplace. Therefore, the data outlined in this report should be viewed as a snapshot in time that includes a significant cultural and social shift in waste generation and disposal that may or may not be temporary, so is not necessarily indicative of continuing trends.

Staff believe that ongoing and long-term trend analysis will need to continue to take place over the coming years, so staff recommend a second report on performance no earlier than one year after the pandemic ends. This will allow time for the post-pandemic cultural norm to settle, including the future of work (namely whether most residents will return to work, continue working from home or a combination), which will impact residential waste collection. This will provide better insight into whether what we see today is indicative of long-term trends in participation in the Green Bin program.

As noted in the 2019 update, before the program enhancements were implemented, the City's Green Bin program had collected more than 600,000 tonnes of organic and leaf and yard waste since its introduction. By introducing the green bin in 2010, Council recognized the many benefits of diverting organic waste from the landfill, the first being prolonging the need for and deferring the cost of developing a new landfill site, but also reducing greenhouse gas emissions and odours, along with other impacts on

communities near the landfill. It also supports circular economy solutions by turning organic waste into useful products.

The four-season curbside waste audit conducted by staff in 2014/2015 found that more than 60 per cent of food and organic waste ended up in the garbage. Since that time, total collected tonnage has increased to 770,000, with 89,343 tonnes collected in 2019 and 102,817 tonnes in 2020. The 2018/2019 four-season curbside waste audit found that 45 per cent of waste sent to landfill could have been diverted through the Green Bin program. As part of the 2018/2019 audit, staff tracked how many households set out a green bin in fall 2018 to get a baseline before the program enhancements, and again in fall 2020 to monitor changes. In 2018, 50 per cent of households set out a green bin at least once during the two-week study. That proportion increased to 58 per cent in 2020. These are encouraging trends, but there is still a long way to go to increase participation and waste diversion to meet the City's strategic priorities for this Term of Council, Council's targets to reduce greenhouse gas emissions, the future waste management targets Council will set in the Solid Waste Master Plan and the Province's move to a circular economy.

A 2011 audit of the Corporate Communications Function, tabled at the Audit Committee on November 29, 2012 ([ACS2012-OAG BVG-0003](#)), found that the communications strategy of the source-separated organics program did not properly identify target audiences and that the most effective methods for reaching target audience were not adequately assessed and pursued. It also found that strategic messaging to these target audience was not developed, and the communications initiatives were never evaluated to determine their effectiveness. The Auditor General made several recommendations, including that city-wide communications should be based on appropriate evidence and targeted and tailored as necessary, and that communications efforts should incorporate benchmarking and performance measures.

Based on these findings, Council directed staff to develop a robust, evidence-based communications campaign to complement the program enhancements. Because of Council's significant investment in communications and outreach, the City commissioned Hill+Knowlton Strategies to conduct comprehensive market research, identify target audiences and test messaging. This helped build a robust, evidence-

based communications and outreach campaign to promote the enhancements and encourage residents to use the green bin more.

The first phase of the campaign was devoted to increasing awareness through a mailout, information packages with new green bins, door-to-door outreach, advertising, social media, media interviews and information on ottawa.ca. Staff tailored messages to the audiences identified in the market research as most likely to change their behaviour because of the program enhancements. The second phase consisted of targeted monthly campaigns to address the main reasons for not using the green bin, as identified in the market research. Staff collected data and reviewed performance measures throughout the campaign to adjust as needed. The City's online, radio and bus ads, which ran between July 2019 and March 2020, generated nearly 15 million impressions and exceeded industry standards.

Behaviours and attitudes do not change over night and shifting deep-seated social practices takes time – upwards of decades in some cases. A year and a half since the program enhancements, there are promising signs that the policy changes and communications and outreach efforts have been effective. The City sent four per cent more organic and co-mingled leaf and yard waste to Convertus for processing in 2019 compared to 2018, with a further six-per-cent increase in 2020 compared to 2019. In February, when there is minimal leaf and yard waste in green bins and thus a more representative picture of household organic waste, the City saw a nearly 19-per-cent increase in tonnage from 2019 to 2020, with a nearly 21-per-cent increase from 2020 to 2021. The program enhancements included a new annual put-or-pay threshold of 75,000 tonnes, which the City exceeded in 2019 and 2020. The City's curbside set-out study found an eight-per-cent increase in the number of households setting out a green bin in 2020 compared to 2018, with 55 per cent of households in 2020 having a visible plastic bag liner in the green bin.

There were two main reasons multi-residential properties did not participate in the Green Bin program: inconvenience for residents and property owners and managers having to bring the green bin to the curb for collection. In June 2020, the City introduced a new collection contract that eliminated that barrier for property owners and managers. Staff made a concerted outreach effort to communicate these changes to property

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owners and managers and residents. Staff also offered site visits to owners of properties without green bins to discuss participation and changes to the collection contract that eliminated the need for someone to bring the green bin to the curb, one of the top five barriers to participation identified by property owners. This led to a 37-per-cent increase in the number of properties implementing green bins. As of March 1, 2021, 44 per cent of all multi-residential properties, representing a third of all multi-residential units across the city, now have access to the program.

The follow-up market research noted that 83 per cent of respondents in multi-residential properties would use the green bin if they had access. Staff are working on a Multi-Residential Diversion Strategy to help remove barriers to participation. The strategy will complement some of the larger policy and program options Council will consider through the Solid Waste Master Plan. In the meantime, staff continue to work with property owners and managers to introduce green bin collection at multi-residential properties.

As highlighted earlier, the ongoing pandemic has caused a significant social and cultural shift that has likely contributed to these positive trends and helped spark behaviour change. The follow-up market research found that 36 per cent of respondents reported using the green bin more during the pandemic because they eat and cook at home more. Other municipalities have also seen an increase in green bin tonnage during the pandemic, with a 12-per-cent average increase across 13 municipalities in Ontario, according to a study by Policy Integrity Consulting. Staff will continue to monitor tonnage and participation while building on the success of the program enhancements to encourage residents to continue using their green bins.

Because the pandemic and stay-at-home measures continue in 2021, it is too early to draw any conclusions about the pandemic's impact on behaviour and participation and whether it is temporary or permanent. However, the pandemic alone is not expected to have caused the increase in participation. The follow-up market research found the policy change to allow plastic bags and dog waste convinced more residents to use the green bin: 30 per cent of respondents reported using the green bin more since the program enhancements, with 69 per cent saying it was largely because of the changes. There was an 11-percentage-point increase in self-reported participation among

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respondents with curbside collection, with self-reported participation among respondents living in multi-residential properties increasing by three percentage points.

There were some concerns raised by members of Council and the public that allowing plastic bag liners in the green bin would impact the end-use product. The Ontario Compost Quality Standards outlines a requirement that plastics greater than 2.8 millimetres (the size of a sesame seed) in the end-product are less than 0.5 per cent of the product. Convertus is responsible for meeting the standard and sharing test results with the Province. Convertus has provided the City with Certificates of Analysis outlining the quality of the end-use product before and after the program enhancements, showing they continue to comply with provincial standards. The certificates state that the total plastics greater than 2.8 millimetres in a sample taken in March 2019 was 0.01 per cent. It was measured at 0.1 per cent in October 2019 and 0.11 per cent in January 2021.

The follow-up market research found that the yuck factor is no longer the main reason to not use the green bin among curbside respondents – it has been replaced by forgetting to use it or putting items in the garbage by mistake, not having a green bin and inconvenience. Staff will use these findings to inform future communications and outreach efforts.

Because communications and outreach alone are not enough to change behaviour, staff will continue to explore ways to remove barriers to participation in the Green Bin program and to determine the most effective ways to continue to increase waste diversion through the development of the City's new Solid Waste Master Plan and its component projects, including the Multi-Residential Diversion Strategy and the Curbside Service Level Options.

On July 10, 2019, Council approved the scope and framework to develop the 30-year Solid Waste Master Plan ([ACS2019-PWE-GEN-0007](#)). Staff presented the first phase of the master plan at a technical briefing on April 30, 2020. This included key baseline information and data on the City's current waste management system, mechanisms available to Council to influence waste reduction and diversion, and a brief overview of emerging policy, program and technology trends. Staff are working on the second phase of the master plan, and will seek Council approval of the vision, guiding principles and goals this June. The report will also include a comprehensive needs assessment

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analysis prepared by the project's technical consultant and a long list of options Council can consider to support waste reduction and diversion for the next 30 years. The options will then be evaluated using a triple bottom line evaluation tool and the short list of options will be brought forward for public and stakeholder feedback later this year. The follow-up market research and evidence-based information about waste diversion in this update will help inform these projects and provide guidance to support future strategic areas of focus.

Financial implications

The City spent \$448,163 on market research, communications and outreach to promote the green bin following the program enhancements in July 2019.

Public consultation/input

The City commissioned Hill+Knowlton Strategies to conduct market research in 2018/2019 and 2020 to inform and assess the communications approach and to determine the impact of the program enhancements on green bin use.

RÉSUMÉ

Hypothèses et analyse

Le 28 mars 2018, le Conseil a approuvé un contrat révisé conclu avec le fournisseur de services de traitement des déchets organiques de la Ville, Orgaworld (maintenant Convertus), à la lumière des recommandations et des justifications présentées dans le rapport *Le point sur le programme de déchets organiques séparés à la source* ([ACS2018-PWE-GEN-0003](#)). Ce contrat révisé est le résultat d'un règlement judiciaire visant à ce que la Ville tire le maximum du contrat de traitement des déchets organiques et puisse améliorer le Programme de bac vert. Ces améliorations comptent un seuil annuel « livrer ou payer » réduit à 75 000 tonnes, des frais de traitement abaissés à 124 \$ par tonne, et un important changement de politique pour autoriser les doublures en plastique et les excréments de chiens dans le bac vert à compter du 2 juillet 2019.

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Les études de marché de 2010, 2012 et 2018-2019 ont toutes conclu que le facteur de « dédain » (bac malodorant, salissant ou dégoûtant) était l'une des principales raisons pour les résidents de ne pas utiliser le bac vert. Jeter les déchets alimentaires et organiques dans des sacs en plastique contribue à réduire les problèmes d'odeurs et de vermine, et permettre les excréments de chiens dans le bac vert aide à réduire les odeurs des déchets ramassés aux deux semaines, à réacheminer une autre forme de déchets organiques destinée à la décharge et à créer des produits finaux aux fins de valorisation. En 2014, la Ville a retenu les services de Dillon Consulting pour mener un examen du programme de matières organiques triées à la source et adresser des recommandations étayées au Conseil qui permettraient à la Ville d'atteindre ses objectifs de réacheminement des déchets organiques et d'offrir de meilleurs services à meilleur coût aux contribuables. Le modèle de Dillon Consulting prévoyait que ces améliorations accroîtraient le réacheminement.

Le 25 juin 2019, le personnel a présenté le rapport *Mise à jour sur la réalisation du programme des déchets organiques à la source* ([ACS2019-PWE-GEN-0006](#)) au Comité permanent de la protection de l'environnement, de l'eau et de la gestion des déchets. Ce rapport décrivait l'état de préparation opérationnelle de Renewi (auparavant Orgaworld, maintenant Convertus) à un élargissement des services, l'étude de marché sur les comportements et attitudes des résidents, et le plan municipal de communication et de sensibilisation fondé sur des données probantes visant à promouvoir les améliorations apportées au programme. Lors de cette réunion, le personnel s'est engagé à faire rapport sur l'efficacité du Programme de bac vert et du plan de communication et de sensibilisation et à brosser un premier portrait des changements de comportement une année après la mise en œuvre des améliorations.

À ce moment, personne n'aurait pu prévoir l'avènement d'une pandémie mondiale huit mois après et ses répercussions sur la gestion des déchets domestiques à Ottawa. La Ville a ainsi observé un basculement du volume de déchets des secteurs industriel, commercial et institutionnel au secteur résidentiel, car davantage de résidents font du télétravail et jettent des déchets chez eux plutôt qu'au travail. Par conséquent, les données fournies dans le présent rapport doivent être considérées comme un portrait ponctuel montrant un bouleversement culturel et social considérable – temporaire ou

permanent – en matière de production et d'élimination des déchets, et pas nécessairement comme indicatrices de tendances qui perdureront.

Le personnel est d'avis que l'analyse des tendances continue et à long terme devra se poursuivre dans les prochaines années : il recommande donc de réaliser un deuxième rapport sur l'efficacité des améliorations au moins un an après la fin de la pandémie. Cela laissera le temps à la population de reprendre de nouvelles habitudes, notamment en ce qui concerne le travail (retour au travail ou poursuite du télétravail pour la plupart des résidents ou un mélange des deux), et aux répercussions sur la collecte des déchets domestiques de se préciser. Ainsi, nous pourrions mieux déterminer si ce que nous constatons aujourd'hui est le signe de tendances à long terme en matière de participation au Programme de bac vert.

Comme le précise la mise à jour de 2019, avant la mise en œuvre des améliorations, la Ville avait ramassé plus de 600 000 tonnes de déchets organiques, de feuilles et de résidus de jardinage depuis le lancement du Programme de bac vert. En instaurant ce programme, le Conseil a reconnu les nombreux avantages de réacheminer les déchets organiques destinés à la décharge : le report de la création d'une nouvelle décharge et des coûts qui s'y rapportent, la réduction des gaz à effet de serre et des odeurs et d'autres retombées sur les communautés voisines de la décharge. Le Programme favorise également l'économie circulaire en changeant les déchets organiques en produits utiles.

L'étude de la vérification des déchets pendant quatre saisons menée par le personnel en 2014-2015 a montré que plus de 60 % des déchets alimentaires et organiques finissaient à la poubelle. Depuis, la quantité totale de déchets ramassés s'est élevée à 770 000 tonnes, dont 89 343 ont été ramassées en 2019 et 102 817 en 2020. Selon l'étude pendant quatre saisons 2018-2019, 45 % des déchets finissant à la décharge auraient pu être réacheminés par le Programme. Dans le cadre de la vérification de 2018-2019, le personnel a cherché à déterminer combien de ménages ont sorti un bac vert en automne 2018 afin d'obtenir des données de référence pour les améliorations apportées au programme, puis en automne 2020 pour suivre les changements. En 2018, 50 % des ménages ont sorti un bac vert au moins une fois pendant les deux semaines qu'a duré l'étude, et la proportion est passée à 58 % en 2020. Ces tendances

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sont encourageantes, mais il reste encore beaucoup à faire pour accroître la participation et le réacheminement des déchets en vue de favoriser les priorités stratégiques de la Ville pour le présent mandat du Conseil, les objectifs du Conseil en matière de réduction des émissions de gaz à effet de serre, les objectifs de gestion des déchets que fixera le Conseil dans le Plan directeur de la gestion des déchets solides et la transition de la province vers une économie circulaire.

Une vérification du Service des communications générales menée en 2011, présentée au Comité de la vérification le 29 novembre 2012 ([ACS2012-OAG BVG-0003](#)), a montré que la stratégie de communication du programme de matières organiques triées à la source ne définissait pas correctement les publics cibles et que les méthodes les plus efficaces pour interpeller le public cible étaient mal évaluées et exécutées. Il y était aussi indiqué qu'aucun message ciblé n'avait été créé pour ce public cible et qu'on n'évaluait jamais les initiatives de communication pour vérifier leur efficacité. Le vérificateur général a formulé plusieurs recommandations, déclarant notamment que les communications à l'échelle de la ville devaient s'appuyer sur les données appropriées et être ciblées et adaptées selon les besoins, et que les initiatives de communication devaient comprendre des analyses comparatives et des indicateurs de rendement.

Selon ces résultats, le Conseil a demandé au personnel d'organiser une campagne de communication solide et fondée sur des données probantes pour compléter l'amélioration du programme. Grâce au considérable investissement du Conseil dans la communication et la sensibilisation, la Ville a pu commander une étude de marché complète à Hill+Knowlton Stratégies, portant notamment sur la définition des publics cibles et la mise à l'essai de messages, ce qui a permis la création d'une campagne de communication et de sensibilisation solide et fondée sur des données probantes visant à promouvoir les améliorations et à encourager les résidents à utiliser davantage le bac vert.

Pendant la première phase de la campagne, l'accent a été mis sur la sensibilisation par divers moyens : envoi postal, trousse d'information accompagnant le nouveau bac vert, porte-à-porte, publicité, réseaux sociaux, entrevues dans les médias et information sur ottawa.ca. Le personnel a adapté des messages aux groupes qui, selon l'étude de marché, étaient les plus susceptibles de modifier leur comportement en raison de

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l'amélioration du programme. La deuxième phase consistait en des campagnes mensuelles ciblées qui touchaient les principales raisons de ne pas utiliser le bac vert décrites dans l'étude de marché. Le personnel a recueilli des données et examiné les mesures de rendement du début à la fin de la campagne pour faire des ajustements au besoin. Les publicités de la Ville en ligne, à la radio et dans les autobus, diffusées de juillet 2019 à mars 2020, ont généré près de 15 millions de réactions et excédé les normes de l'industrie.

Les comportements et les attitudes ne changent pas du jour au lendemain, tout comme les pratiques sociales profondément enracinées : dans certains cas, cela prend des dizaines d'années. Un an et demi après l'amélioration du programme, on voit des signes encourageants de l'efficacité des changements de politiques et des activités de communication et de sensibilisation. La Ville a vu une augmentation de 4 % des déchets organiques et des feuilles et résidus de jardinage combinés acheminés à Convertus pour le traitement de 2018 à 2019, et de 6 % de 2019 à 2020. En février, lorsqu'il y a peu de feuilles et de résidus de jardinage dans les bacs verts, ce qui donne donc un portrait plus représentatif des déchets organiques d'un ménage, l'augmentation du tonnage était de presque 19 % en 2020 par rapport à 2019, et de près de 21 % en 2021 par rapport à 2020. Parmi les améliorations apportées au programme, on compte un nouveau seuil annuel « livrer ou payer » de 75 000 tonnes, que la Ville a excédé en 2019 et en 2020. Selon l'étude de la Ville sur la collecte des déchets en bordure de rue, le nombre de ménages sortant un bac vert a augmenté de 8 % en 2020 par rapport à 2018, et 55 % des ménages plaçaient une doublure en plastique visible dans leur bac vert.

Certaines propriétés à logements multiples n'ont pas participé au Programme de bac vert pour deux principales raisons : c'était peu pratique pour les résidents, et les propriétaires ou les gestionnaires devaient aller porter leur bac vert à la bordure de rue pour la collecte. En juin 2020, la Ville a conclu un nouveau contrat de collecte qui a éliminé ce désagrément pour les propriétaires et les gestionnaires. Le personnel a fourni un effort concerté de sensibilisation pour communiquer les changements aux propriétaires, aux gestionnaires et aux résidents. Il a également proposé des visites aux propriétaires des propriétés sans bac pour discuter de la participation et du nouveau contrat de collecte, qui n'exige plus d'apporter le bac vert à la bordure de rue (l'un des

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cinq principaux obstacles à la participation selon les propriétaires). Ces mesures ont entraîné une augmentation de 37 % du nombre de propriétés instaurant le bac vert. En date du 1^{er} mars 2021, 44 % des propriétés à logements multiples, ce qui représente le tiers des logements se trouvant dans une ce type de propriété, a maintenant accès au Programme.

Selon l'étude de marché faite après la campagne, 83 % des répondants vivant dans une propriété à logements multiples utiliseraient un bac vert s'ils y avaient accès. Le personnel travaille actuellement à une stratégie de réacheminement des déchets des immeubles multirésidentiels pour éliminer les obstacles à la participation, stratégie qui viendra s'ajouter à certains projets de politiques et de programmes de plus grande envergure que le Conseil examinera dans le cadre du Plan directeur de la gestion des déchets solides. Dans l'intervalle, le personnel continue de collaborer avec les propriétaires et les gestionnaires pour instaurer la collecte du bac vert dans les propriétés à logements multiples.

Comme il a été mentionné plus tôt, la pandémie actuelle a entraîné d'importants bouleversements sociaux et culturels qui ont probablement contribué à ces tendances positives et à l'adoption de nouvelles habitudes. L'étude de marché après la campagne a révélé que 36 % des répondants ont dit utiliser davantage le bac vert pendant la pandémie parce qu'ils mangeaient et cuisinaient plus à la maison. D'autres municipalités ont aussi enregistré une hausse du tonnage de déchets placés dans le bac vert : une étude de Policy Integrity Consulting conclut à une augmentation moyenne de 12 % dans 13 municipalités de l'Ontario. Le personnel continuera de surveiller le tonnage et la participation tout en tirant parti du succès de l'amélioration du programme pour encourager les résidents à continuer d'utiliser leur bac vert.

Comme la pandémie et les mesures de confinement se poursuivent en 2021, il est encore trop tôt pour en dégager les répercussions sur les comportements et la participation, et déterminer si elles sont temporaires ou permanentes. Cependant, la COVID-19 n'est probablement pas le seul facteur à avoir favorisé la participation. L'étude de marché après la campagne indique que l'autorisation des sacs de plastique et des excréments de chiens a convaincu un plus grand nombre de résidents d'utiliser le bac. Parmi les répondants, 30 % ont dit utiliser davantage le bac vert depuis que les

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améliorations ont été apportées au programme, dont 69 % ont affirmé que c'était principalement en raison des changements. On a vu une augmentation de 11 points de pourcentage dans la participation autodéclarée par les répondants desservis par la collecte en bordure de rue, et de 3 points de pourcentage chez les répondants vivant dans une propriété à logements multiples.

Certaines réserves ont été émises par des membres du Conseil et le public par rapport à l'incidence sur les produits finaux qu'aurait le fait d'autoriser les doublures en plastique dans le bac vert. Les Normes de qualité du compost en Ontario exigent que les plastiques de plus de 2,8 millimètres (la taille d'une graine de sésame) composent moins de 0,5 % des produits finaux. Or, il revient à Convertus d'assurer le respect des normes et de communiquer les résultats des tests au gouvernement provincial. Avant et après l'amélioration du programme, l'entreprise a fourni à la Ville des certificats d'analyse décrivant la qualité des produits finaux et confirmant qu'elle continue de respecter les normes provinciales. Les certificats indiquent que la proportion totale de morceaux de plastique de plus de 2,88 millimètres dans un échantillon prélevé en mars 2019 était de 0,01 %. Cette proportion était de 0,1 % en octobre 2019, et de 0,11 % en janvier 2021.

L'étude de marché après la campagne a également montré que le facteur de dédain n'est plus la principale raison de non-participation pour les répondants desservis par la collecte en bordure de rue : maintenant, c'est plutôt parce qu'ils oublient de l'utiliser, jettent les déchets à la poubelle par mégarde, n'ont pas de bac vert ou le trouvent peu pratique. Le personnel tiendra compte de ces résultats pour orienter les futures activités de communication et de sensibilisation.

Puisque la communication et la sensibilisation ne suffisent pas à modifier les comportements, le personnel continuera de chercher à éliminer les obstacles à la participation au Programme de bac vert et de déterminer les moyens les plus efficaces d'accroître continuellement le réacheminement des déchets dans le cadre de l'élaboration du nouveau Plan directeur de la gestion des déchets solides et de ses projets constitutifs, dont la stratégie de réacheminement des déchets des immeubles multirésidentiels et les options de niveau de service pour la collecte en bordure de rue.

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Le 10 juillet 2019, le Conseil a approuvé la portée et le cadre de l'élaboration du Plan directeur de la gestion des déchets solides sur 30 ans ([ACS2019-PWE-GEN-0007](#)). Le personnel a donné une présentation de la première phase de ce plan lors d'une séance d'information technique le 30 avril 2020, fournissant de l'information et des données de base essentielles sur le système de gestion des déchets actuel de la Ville, les méthodes que pourrait employer le Conseil pour favoriser la réduction et le réacheminement des déchets et un aperçu des nouvelles tendances en matière de politiques, de programmes et de technologie. Le personnel travaille actuellement à la deuxième phase et demandera l'approbation du Conseil quant à la vision, aux principes directeurs et aux objectifs en juin. Le rapport comprendra également une analyse exhaustive de l'évaluation des besoins préparée par l'expert-conseil technique et une liste détaillée des options qui s'offrent au Conseil pour favoriser la réduction et le réacheminement des déchets ces 30 prochaines années. Ces options seront ensuite évaluées à l'aide d'un outil d'évaluation du triple résultat, et les options retenues seront présentées au public et aux intervenants aux fins de rétroaction plus tard cette année. L'étude de marché après la campagne et les constatations fondées sur des données probantes au sujet du réacheminement des déchets dans le présent rapport aideront à éclairer ces projets et à appuyer les priorités stratégiques futures.

Répercussions financières

À la suite de l'amélioration du programme en juillet 2019, la Ville a dépensé 448 163 \$ pour l'étude de marché et les activités de communication et de sensibilisation afin de promouvoir le bac vert.

Consultation et commentaires du public

La Ville a demandé à Hill+Knowlton Stratégies de mener une étude de marché en 2018-2019 et en 2020 pour orienter et évaluer l'approche communicationnelle et déterminer les retombées de l'amélioration du programme sur l'utilisation du bac vert.

BACKGROUND

In April 2007, Council approved the establishment of a source-separated organics program in the City of Ottawa, one of the first full curbside programs in Ontario. The

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program built on the results of the Compost Plus+ pilot project that had been established in 2002 in several target neighbourhoods. On September 24, 2007, following a competitive procurement process, Council approved a 20-year contract with Orgaworld to process organic waste in a purpose-built facility starting in 2010, as outlined in the Approval of Source Separated Organics Program Implementation ([ACS2007-PWS-UTL-0019](#)) report.

At the time the program began, almost all household organic waste was taken to the Trail Waste Facility. This not only filled up the landfill with divertible, compostable materials, but organic waste generates methane gas as it decomposes. Methane is a greenhouse gas that is 25 times more potent than carbon dioxide. While the City captures some landfill gases at the Trail Waste Facility, it cannot capture them all. Council recognized the many benefits of diverting organic waste from the landfill, the first being prolonging the need for and deferring the cost of developing a new landfill site, but also reducing greenhouse gas emissions and odours, along with other impacts on communities near the landfill. It also supports circular economy solutions by turning organic waste into useful products.

Since its introduction in 2010, the City's Green Bin program has collected approximately 773,420 tonnes of food and organic waste and separately collected leaf and yard waste, diverting it from the Trail Waste Facility. This has had a positive impact on the life of the landfill, even though the initial relationship with Orgaworld (now Convertus) and some of the terms of the original contract were problematic for the City. The challenges are summarized in the Source Separated Organics Program Update Report ([ACS2018-PWE-GEN-0003](#)), which recommended program enhancements. On March 28, 2018, Council approved the contract revision, which reduced the annual put-or-pay threshold to 75,000 tonnes and the processing rate for plastic bags and dog waste from \$151 per tonne to \$124 per tonne. It also included a major policy change to allow plastic bag liners and dog waste in green bins starting July 2, 2019. Allowing plastic bags responded to the yuck factor (concerns it gets smelly, messy or gross), one of the main reasons to not use the green bin. Market research from 2010, 2012 and 2018/2019 identified and reiterated this barrier.

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On June 25, 2019, staff presented the Source Separated Organics Program Implementation Update ([ACS2019-PWE-GEN-0006](#)) to the Standing Committee on Environmental Protection, Water and Waste Management. This report outlined the operational readiness of Renewi (previously Orgaworld, now Convertus) to provide expanded service, market research about resident behaviours and attitudes, and the City's evidence-based communications and outreach plan to promote the program enhancements.

Before the program enhancements were implemented, the City's Green Bin program had collected more than 600,000 tonnes of organic and leaf and yard waste since its introduction in 2010. The four-season curbside waste audit conducted by staff in 2014/2015 found that more than 60 per cent of food and organic waste ended up in the garbage, while the 2018/2019 audit found that 45 per cent of waste sent to landfill could have been diverted through the Green Bin program. During the 2018/2019 audit, staff tracked how many households set out a green bin in fall 2018 to get a baseline before the program enhancements, and again in fall 2020 to monitor changes. In 2018, 50 per cent of households set out a green bin at least once during the two-week study. That proportion increased to 58 per cent in 2020.

The proportion of organics diverted from the landfill, also known as the organics capture rate, for curbside collection has increased from 39.8 per cent in 2014/2015 to 43.7 per cent in 2018/2019. The organics capture rate for multi-residential properties, which wasn't calculated in 2014/2015 because organic waste from those properties was comingled with organics captured curbside as part of the curbside collection contract, was 22.7 per cent in 2018/2019. Despite the increase in organics tonnage and capture rate since the program was introduced, there is still ample opportunity to improve both participation and diversion.

To complement the program enhancements, Council made a significant investment in communications and outreach. The City ran a robust, evidence-based communications and outreach campaign to educate residents about the program enhancements and to increase participation. The City commissioned Hill+Knowlton Strategies to conduct market research in 2018/2019 to learn more about behaviours and attitudes, identify target audiences and develop tailored messages that would resonate with residents.

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Hill+Knowlton Strategies conducted 2,032 phone surveys of residents with curbside collection and residents living in multi-residential properties about their awareness of the City's communications channels, along with their behaviours and opinions related to waste diversion. Then, 489 of those respondents participated in a follow-up survey to evaluate tailored, strategic messages.

The top reason respondents with curbside collection said they did not use the green bin more or at all was the yuck factor. For respondents in multi-residential properties, the top reason to not use the green bin at all was not having access to the program, while the top reason to not use it more was inconvenience.

Based on the findings, Hill+Knowlton Strategies identified four target audiences:

- Superstars (29 per cent of respondents): Mostly homeowners with curbside collection who have lived in Ottawa for more than 25 years, are highly educated and married with children at home. Nearly universal green bin users who do not use the green bin more because they mistakenly place organic waste in the garbage.
- Inconsistent (28 per cent of respondents): Mostly homeowners with curbside collection who are married with older children at home, have an undergraduate education and a high household income. Mostly green bin users who do not use it more because of the yuck factor.
- Aspirational (19 per cent of respondents): Even split between curbside collection and multi-residential properties, with a third living alone and 40 per cent over the age of 54. Nearly half don't use the green bin but since they have positive attitudes to waste diversion, their biggest barrier to participation is follow-through.
- Disconnected (24 per cent of respondents): Mostly renters living alone or with roommates, with a 40/60 split of curbside collection and multi-residential properties, mostly under the age of 45 with lower income, with a third born outside of Canada. More than half do not use the green bin and they have limited knowledge of waste diversion programs.

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The Inconsistent and Aspirational groups, who have mostly positive attitudes toward waste diversion and whose main reasons for not participating in the Green Bin program are the yuck factor and inconvenience, presented the largest opportunity to increase participation once plastic bag liners were permitted.

Hill+Knowlton Strategies tested images and key messages for each target audience. Respondents noted that messages about helping the environment, the financial impacts of waste diversion and a circular economy were the most motivating, with an Ottawa family or young children as the most appealing face for a campaign about waste diversion.

Using the comprehensive market research, target audiences, tested messages, operational data and past experience, the City developed a two-phase communications plan: first to increase awareness that plastic bags are one of many options to store organic waste in green bins, then to address the main reasons for not participating with targeted monthly campaigns. The faces of the campaign were a boy and girl, featured in ads with green bins.

When staff presented the Source Separated Organics Program Implementation Update in 2019, they committed to report back on the performance of the program and the communications and outreach plan, and to provide an initial snapshot into behaviour changes one year after implementation. No one could have predicted a global pandemic would begin eight months after the program enhancements were implemented, and the impact it would have on residential waste management in Ottawa.

On March 17, 2020, the Government of Ontario declared a provincial state of emergency, ordering many businesses to close and leading many residents to work from home. Over the following year, the Province eased and re-implemented restrictions several times, and continues to do so in 2021. The ongoing pandemic has had a significant impact on resident behaviour, including waste generation and diversion. The City has seen a volumetric shift in waste from the industrial, commercial and institutional sector to the residential sector with more residents working remotely and disposing of more waste at home instead of in the workplace. Only time will tell if this significant cultural and social shift in waste generation and disposal is temporary or indicative of continuing trends.

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In the meantime, other Council and provincial decisions have underlined the need to increase waste diversion. On January 29, 2020, Council approved ambitious targets to reduce the City's corporate greenhouse gas emissions by 100 per cent by 2040 through the Climate Change Master Plan and the Energy Evolution Model ([ACS2019-PIE-EDP-0053](#)). The Climate Change Master Plan is the framework for how Ottawa will mitigate and adapt to climate change over the next 30 years. Energy Evolution includes 20 projects to help reduce emissions, one of which is to significantly increase the diversion of organic waste from the Trail Waste Facility, where it generates methane (a greenhouse gas that is 25 times more potent than carbon dioxide) as it decomposes.

Meanwhile, the Province is embarking on significant policy changes in waste management, particularly for organic waste. The Province introduced the Food and Organic Waste Policy Statement under the *Resource Recovery and Circular Economy Act, 2016*, providing direction to prevent and reduce food and organic waste, recover resources from organic waste and find ways to turn it into valuable end-products like compost, renewable natural gas and electricity.

The Food and Organic Waste Policy Statement outlines targets to increase diversion of residential organic waste, aiming to divert 70 per cent of food and organic waste generated by single-family homes by 2023, and 50 per cent in multi-residential properties by 2025. This would be supported by long-term efforts to reduce, prevent and recover food waste, and to review the Building Code to ensure new multi-residential properties support recovery of food and organic waste. No further details about the Province's plans to review and update the Building Code are known at this time.

One of the Province's priorities, noted in the Made-in-Ontario Environment Plan, is to ban food and organic waste from landfills, with phased-in implementation across Ontario by 2030, recently updated from the previous plan to start as early as 2022. The Province has indicated that it plans to start consulting with the industry and municipalities this year, including on how to implement the ban and build processing capacity across Ontario, before moving forward. These consultations have yet to begin.

To meet targets for corporate greenhouse gas emissions, future targets Council will set through the Solid Waste Master Plan, extend the life of the Trail Waste Facility and support the Province's shift to a circular economy, the City needs to increase

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participation in the Green Bin program. The recent policy change to allow plastic bag liners and dog waste in the green bin, coupled with comprehensive, evidence-based communications and outreach, have made a difference in participation, but work remains to increase green bin use and ensure behaviours changed during the pandemic are not temporary. Staff will use the follow-up market research and lessons learned about the remaining barriers to participation to develop options for Council's consideration in the Solid Waste Master Plan and the Multi-Residential Diversion Strategy.

DISCUSSION

The goal of enhancing the Green Bin program was to address barriers to participation and increase green bin use to divert organic waste from the Trail Waste Facility. Staff committed to report back on the success of the program enhancements by reviewing operational performance measures for both curbside collection and multi-residential properties. This included looking at collected tonnage, conducting a set-out study, and tracking service calls about the program enhancements, requests for new green bins and multi-residential properties registering for green bin collection.

Staff also committed to measuring the performance of the communications and outreach campaign to promote the enhanced program and to help increase waste diversion. Staff set performance measures and continually monitored them to adjust tactics and messages as needed. The City commissioned Hill+Knowlton Strategies to conduct follow-up market research to measure the reach and effectiveness of the communications campaign and changes in behaviour related to the green bin. Given the ongoing COVID-19 pandemic, the survey also sought to measure how participation has been influenced by stay-at-home measures.

Tonnage trends

Staff monitored tonnage to assess the correlation between the program enhancements and the total amount of household organics and leaf and yard waste collected, and the amount sent to Convertus for processing. The City collected 89,343 tonnes of household organics and separately collected leaf and yard waste in 2019, nine per cent more than in 2018. There was a further 15-per-cent increase to 102,817 tonnes in 2020.

Annual organic waste and separately collected leaf and yard waste

	2017	2018	2019	2020
Tonnage	81,692	81,630	89,343	102,817
Annual change		-0.8%	+9.4%	+15.1%

When operationally feasible during peak seasons for leaf and yard waste, the City diverts some of the separately collected leaf and yard waste to Barnsdale, where it can be processed at a lower rate. The City sent 80,321 tonnes of household organic waste and co-mingled leaf and yard waste to Convertus in 2019, four per cent more than in 2018. There was a further six-per-cent increase to around 85,249 tonnes in 2020.

Annual tonnage sent to Convertus

	2017	2018	2019	2020
Tonnage	77,505	76,576	80,321	85,249
Annual change		-1.2%	+4.9%	+6.1%

However, annual tonnage alone is not a good indicator of household organic waste because it includes co-mingled leaf and yard waste. Precipitation, temperature and seasons can have a significant impact on annual tonnage – if there is more precipitation, tonnage will be higher as wet leaf and yard waste is heavier. February tonnage tends to be most representative of household organic waste because residents put minimal leaf and yard waste in their green bins during this time of year. The City saw a 19-per-cent increase in tonnage in February 2020 over February 2019, with a further 21-per-cent increase in February 2021.

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February tonnage

	2017	2018	2019	2020	2021*
February	2,409	2,497	2,494	2,961	3,571
		+3.7%	-0.1%	+18.7%	+20.6%

*The provincial lockdown and stay-at-home order ended on February 16, 2021.

Diversion rate

There was a jump in overall waste diversion based on collected tonnage, up from 43 per cent in 2018 to 46 per cent in 2020. This is due to a small increase in diversion in curbside collection (from 49 per cent in 2018 up to 52 per cent in 2020) and a slight decrease among multi-residential properties (from 17 per cent in 2018 down to 16 per cent in 2020).

Impact of COVID-19

It is important to consider the impact of the pandemic on tonnage since March 2020, when many residents started working from and spending more time at home. This has had a unique impact on waste collection, shifting some waste generated from the industrial, commercial and institutional sector (including workplaces and restaurants) to the residential sector. There was an increase in tonnage in all waste streams, though the biggest increase was in the organics stream through the Green Bin program and separately collected leaf and yard waste.

Ottawa was not the only municipality to see an increase in collected tonnage. Policy Integrity Consulting, a consulting group that has contributed to waste projects for all levels of government in Canada, surveyed 22 Canadian municipalities – 13 in Ontario, including Ottawa – to understand the impact of COVID-19 on waste generation. Their [report](#) (see Table 1) notes a 12-per-cent increase in green bin tonnage in the 13 Ontario municipalities between March 9, 2020 and April 27, 2020, compared to the same dates in 2019.

One important difference between Ottawa and the 12 other municipalities is that Ottawa is the only one that accepts leaf and yard waste co-mingled with household organic

waste in its Green Bin program, and these dates align with the start of peak season for leaf and yard waste. During these dates, the City collected 49 per cent more tonnes through the green bin and separate leaf and yard waste, and sent 56 per cent more tonnes of organics and co-mingled leaf and yard waste to Convertus.

Tonnage from March 9 to April 27

	2019	2020	Change
Ontario green bin tonnage*	66,322	74,444	+12%
Ottawa green bin and separately collected leaf and yard waste tonnage	8,729	12,983	+49%
Organics and co-mingled leaf and yard waste sent to Convertus	7,132	11,125	+56%
Separately collected leaf and yard waste sent to Barnsdale	1,597	1,858	+16%

*From [Policy Integrity Consulting](#) (see Table 1).

Because the pandemic is still ongoing, it is too soon to determine its full impact on participation and whether it is temporary or permanent. Staff do not have definitive data to separate the impact of the pandemic from the impact of the program enhancements, communications and outreach. However, the follow-up market research (highlighted later in this report) demonstrates that the pandemic was not the only factor, with 69 per cent of respondents who reported using the green bin more since the program enhancements saying it was because of the program changes. Staff will continue to monitor tonnage and participation and build on the success of the program enhancements and communications and outreach efforts to encourage residents to continue using their green bins after the pandemic ends.

Tonnage projections

In 2014, the City commissioned Dillon Consulting to review the Green Bin program and develop recommendations to help meet its organic waste diversion goals and provide

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better value and service. They also forecast tonnage through 2030 and made tonnage projections for if the City were to allow plastic bag liners and dog waste in the green bin. Dillon Consulting projected that the program would divert 103,897 tonnes of curbside organic waste in 2020 if it were to include plastic bag liners and dog waste. This projection anticipated 49,494 tonnes of household organic waste and 54,403 tonnes of leaf and yard waste. Actual collected tonnage came within one per cent of this projection, with the City collecting 102,360 tonnes of household organic waste (co-mingled with some leaf and yard waste), and separately collected leaf and yard waste.

Dillon Consulting projected a 20-per-cent organics capture rate for all multi-residential properties by 2020 if the City were to allow plastic bag liners and dog waste in the green bin. In 2019, the City captured 22.7 per cent of organic waste from participating multi-residential properties. The City is working with property owners and managers to address the barriers to participation and to introduce the Green Bin program to more properties. In addition to updating the collection contract for multi-residential properties to eliminate one of the main barriers – making property owners and managers bring the green bin to the curb – staff are also working on the Multi-Residential Diversion Strategy, a component project of the Solid Waste Master Plan. Staff anticipate presenting it to Council for consideration in Q1 2022.

Curbside participation

One objective of the Green Bin program enhancements was to increase household participation. Staff tracked curbside set-out data during in fall 2018 to get a baseline and again in fall 2020 to monitor changes. Staff visited 100 homes in various neighbourhoods to provide a diversified and representative sample of how many households set out a green bin on collection day. The 2018 baseline study aligned with best practices outlined by Stewardship Ontario and the Continuous Improvement Fund. In 2018, 50 per cent of the households set out a green bin at least once during the two-week study. That proportion increased to 58 per cent in 2020. Fifty-five per cent of households that set out a green bin in 2020 used a visible plastic bag liner. These findings are a snapshot in time, so staff will consider monitoring regularly and conducting a larger study after the pandemic ends to get a more accurate picture of participation.

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There was a sharp increase in green bin requests following the program enhancements in July 2019. Residents can request a new green bin when they move, are missing a green bin or want an additional green bin. Compared to the same months in 2018, there was a 35-per-cent increase in requests in July 2019, 43 per cent in August and 30 per cent in September. Over the past five years, requests during these months increased by between nine and 23 per cent year-over-year. The wards with the most green bin requests were Barrhaven, Stittsville, Cumberland, Gloucester-South Nepean and College. Staff visited three of these wards (Barrhaven, Cumberland and College – chosen based on the market research) that summer to conduct targeted outreach.

Reasons for green bin requests in 2019

Month	Moved	Missing bin	Additional bin	Total
July	1,732	638	317	2,688
August	1,880	637	321	2,838
September	1,569	386	225	2,180
October	1,107	247	129	1,483
November	1,124	284	142	1,550

While moving is the most common reason to request a green bin, the biggest change has been an increase in residents asking for additional or replacement bins. These are the most likely reasons residents starting to participate in the program would provide when requesting a green bin. In July 2019, when the program enhancements went into effect, the number of requests for an additional bin increased by 88 per cent compared to July 2018, while the number of requests to replace a missing bin more than doubled.

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Reasons for green bin requests in July

	Moved	Missing bin	Additional bin	Total
2016	1,195	165	100	1,463
2017	1,369 +15%	218 +32%	172 +72%	1,759 +20%
2018	1,528 +12%	299 +37%	169 -2%	1,997 +14%
2019	1,732 +13%	638 +113%	317 +88%	2,688 +35%

In the month leading up to and the three months following the program enhancements, there was an increase in the number of general inquiries about green bins from residents compared to previous years, as high as four times the amount of inquiries in September 2019 compared to September 2018. General inquiries cannot be filtered based on details (such as if they were about plastic bags or dog waste), so the increase cannot be fully attributed to the program enhancements. Calls about collection issues are not included in general inquiries.

Monthly green bin inquiries

	2015	2016	2017	2018	2019
June	33	21	16	31	119 +384%
July	45	34	32	55	172 +313%
August	31	22	35	55	134 +244%

September	15	18	22	30	122 +407%
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While there has been an increase in curbside participation, there is still an opportunity to further increase organics diversion. According to the 2018/2019 Four Season Curbside Waste Audit Study that assessed the composition of waste from 100 curbside households, 47 per cent of all curbside waste went to the Trail Waste Facility. The most significant area for improving curbside diversion is proper disposal of household organic waste, as approximately 45 per cent of curbside waste sent to the landfill could have been diverted through the green bin. Staff plan to assess waste composition and diversion rates through a comprehensive, four-season waste audit in 2022/2023, pending the status of the ongoing COVID-19 pandemic. Completing the study in 2023 will allow staff to compare data against Dillon Consulting's projection (51 per cent organics capture rate) and the provincial government's target (70 per cent diversion rate).

Participation of multi-residential properties

Multi-residential properties have historically had lower waste diversion rates than households with curbside collection. While the program enhancements were intended to help increase participation, the City made additional operational changes specifically for multi-residential properties to further support participation. The new collection contract for multi-residential properties, which started on June 1, 2020, addressed one of the main barriers to participation identified by property owners and managers who are part of the City's multi-residential working group: having to bring the green bin to the curb for collection. The City now offers convenient on-site green bin collection. Leading up to this change, staff conducted extensive outreach to property owners to encourage participation.

Removing the collection barrier, allowing plastic bags in the green bin to reduce inconvenience for residents and conducting focused outreach led to a 37-per-cent increase in the number of properties with green bins, from 546 on February 14, 2019 up to 784 on March 1, 2021. Forty-four per cent of the around 1,700 multi-residential

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properties in Ottawa now have access to a green bin. The number of units with access increased by 41 per cent, from 26,391 in 2019 up to 37,180 in 2021 – around a third of the 114,000 units in Ottawa. Additional property owners are interested in introducing green bins but have delayed doing so because of the ongoing pandemic.

Between June 1, 2020 and February 28, 2021, the City collected 555 tonnes of organic waste from multi-residential properties. Before the new collection contract, green bins from multi-residential properties fell under the curbside collection contract, so there is no data on organics collected from multi-residential properties before the contract change. The contract change addressed a barrier for property owners and managers and will also provide data to help staff make evidence-based recommendations for Council's consideration in the Solid Waste Master Plan and Multi-Residential Diversion Strategy. It will also help the City track progress toward achieving the Province's proposed food and organic waste diversion target for multi-residential properties.

The low tonnage collected since June 2020 highlights the complexity in increasing participation of multi-residential properties in the Green Bin program. While staff continue to work with property owners and managers to address barriers and introduce green bin collection at new multi-residential properties, more than 65 per cent of properties in Ottawa were built before 1990, when recycling programs were not mandated by provincial regulations. Many of these properties have limited space to accommodate additional waste collection containers while complying with other City by-laws and the Fire Code.

Further, access alone will not encourage participation: at properties where the program can be introduced, increasing participation requires education, outreach and extensive support from City staff. With a higher proportion of the Disconnected group living in multi-residential properties, even more effort is needed to encourage residents to use the green bin once they have access and to help shift their attitudes toward the benefits of waste diversion.

Although the 2018/2019 market research noted that access was one of the biggest reasons respondents in multi-residential properties did not participate in the program, the follow-up market research identified other reasons, such as forgetting to use the green bin or putting items in the garbage by mistake. In 2019, 17 per cent of waste from

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multi-residential properties was diverted from the Trail Waste Facility, however 39 per cent of waste that was sent to the landfill could have been diverted through the green bin.

Staff continue to explore ways to improve monitoring, address barriers and encourage participation through the Solid Waste Master Plan and through a more detailed short-term action plan in the Multi-Residential Diversion Strategy.

End-use product

When food and organic waste arrive at the processing facility, Convertus uses a bag shredder to tear apart plastic bags, then mixes new material with already processed material for industrial scale composting. The end products include non-agricultural source material and animal bedding that can be sold to farmers for beneficial agricultural use.

The Ontario Compost Quality Standards outlines a requirement that plastics greater than 2.8 millimetres (the size of a sesame seed) in the end-product are less than 0.5 per cent of the product. Convertus is responsible for meeting the standard and testing its product. Convertus continues to comply with provincial standards. Convertus has provided Certificates of Analysis outlining the quality of the end-use product before and after the program enhancements. The certificates state that the total plastics greater than 2.8 millimetres in a sample taken in March 2019 was 0.01 per cent. After the enhancements were implemented, it was measured at 0.1 per cent in October 2019 and 0.11 per cent in January 2021.

Communications and outreach

Building on the comprehensive market research, audience segmentation, qualitative data and experience, Public Information and Media Relations and Public Works and Environmental Services developed a two-phase communications and outreach plan to promote the enhanced Green Bin program and help increase waste diversion.

The Inconsistent and Aspirational groups identified in the 2018/2019 market research had mostly positive attitudes towards waste diversion and the green bin but did not use it because of the yuck factor (Inconsistent) and inconvenience (Aspirational). Allowing

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plastic bags addressed these barriers, so these two groups presented the largest opportunities to increase participation and waste diversion.

Council made a significant investment to set the program enhancements up for success. The City spent \$448,163 on communications and outreach, including the initial and follow-up market research, paid ads, mailouts, graphic and video design, outreach to targeted neighbourhoods, printed promotional materials, outreach to multi-residential properties and ads on waste collection trucks.

Tactic	Cost
Market research (2018/2019)	\$125,000
Paid ads	\$108,000
Mailouts	\$75,000
Follow-up market research (2020)	\$51,076
Graphic and video design	\$33,361
Outreach to targeted neighbourhoods	\$28,709
Printed promotional materials	\$11,500
Outreach to multi-residential properties	\$10,287
Ads on waste collection trucks	\$5,230
Total	\$448,163

The City also used no-cost tactics like Councillor kits, social media and media interviews. Not included in the total cost is staff time, including two dedicated outreach staff. In addition to paid advertising, the City used many of its free advertising assets (including ads on buses and in bus shelters) throughout the campaign. The value of these advertising assets is more than \$265,000.

Phase one: Increasing awareness (July to September 2019)

To address the finding in the 2018/2019 market research that 56 per cent of respondents were not aware of the program enhancements, the first phase focused on increasing awareness. This phase began when the enhancements were first implemented and lasted three months. While the City made information available to all residents, it mainly targeted the Aspirational and Inconsistent groups, with some messages for Superstars (residents who already use the green bin but occasionally put organic waste in the garbage by mistake).

The City sent a mailout to 290,000 households and 17,427 units in multi-residential properties with green bins to inform them about the program enhancements. The mailout showed other items that can go in the green bin and outlined how to get a green bin. All residents with curbside collection who requested a new green bin received an information package with their new bin, including a welcome letter, a sticker for the kitchen bin, a brochure outlining which items belong in which bin and tips for using the green bin.

The City conducted door-to-door outreach to educate residents about the enhancements. The Green Bin Brigade, composed of 10 summer students, visited seven neighbourhoods based on audience segmentation data (a high concentration of Aspirational and Inconsistent groups) and low green bin use. The brigade visited 30,437 homes and interacted with 7,792 residents in Alta Vista, Barrhaven, Rideau-Vanier, College, Cumberland, Kanata South and Somerset wards. The brigade delivered 22,635 door stickers (outlining the program enhancements, key messages from the campaign and how to get a green bin) to homes when no one came to the door. This initiative reached between 90,000 and 120,000 residents, assuming three to four people per household. Residents appreciated the outreach and opportunity to get clarity on program changes, ask questions – including which bin is for pizza boxes (green bin), how to get a new green bin and what happens with plastic bags – and share suggestions to increase waste diversion.

Staff attended 52 events at malls, stores, community centres, libraries, transit stations, dog parks, City facilities, farmers markets, government buildings and sporting events to promote the green bin and the program enhancements. They interacted with 2,778

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residents and reached many more through contests at three Ottawa REDBLACKS, Ottawa Fury FC and Ottawa 67s games.

The City also promoted the changes through the Ottawa Collection Calendar app (101,944 users), an email to all four Ottawa school boards and school presentations.

The City used multiple communications tactics, such as targeted advertising (online, radio, malls), public service announcements, media interviews, social media, videos, digital billboards, ads on waste collection trucks and information on ottawa.ca. Councillors received information kits with graphics, videos, social media posts and key messages to share with residents. Based on the market research that found families and young children were the most appealing faces for a campaign about waste diversion, phase one featured ads with a boy and a girl with green bins.

While the focus was to inform residents that they could use plastic bags as green bin liners, the City reiterated that plastic bags were one of many options depending on their comfort level and interest. Communications did not encourage residents to purchase plastic bags. Instead, the City promoted the use of convenience items, such as paper bags, newspapers, cereal boxes and milk cartons, and encouraged residents to reuse plastic bags they might otherwise throw out, such as milk and bread bags.

Phase two: Targeted monthly campaigns (September 2019 to March 2020)

The second phase addressed the main barriers identified in the market research – including the yuck factor, inconvenience and confusion about what belongs in the green bin – and promoted the inclusion of dog waste. The City launched a new campaign every four to six weeks to address a barrier identified by a target audience.

Month	Target audience	Campaign topic
September 2019	Inconsistent, curbside	Yuck factor
October 2019	Aspirational, multi-residential properties	Inconvenience
November 2019 (1)	Inconsistent and Aspirational	Bag your dog waste

November 2019 (2)	Inconsistent, curbside	Don't have a green bin
December 2019	Inconsistent, curbside	More than just food scraps go in the green bin
January/February 2020	Aspirational, multi-residential properties	Inconvenience
March 2020	Aspirational, multi-residential properties	Don't have a green bin

Communication tactics, messages and channels were tailored to the target audience based on the market research. Tactics included advertising (online, radio, cinema), media interviews, social media, videos, digital billboards and information on the City's website. Councillors and stakeholders received information kits with graphics, videos, social media posts and key messages.

The City also ran two contests, which the market research identified as a good motivator to get residents to use the green bin. In November 2019, residents submitted a video of their pet performing a trick to win a gift certificate. All residents who requested a green bin online between November 15 and December 8, 2019 were entered in a draw to win a gift certificate.

The monthly campaigns were going to run for 10 months until June 2020, however the intense focus on COVID-19 communications and immense resources it required forced the City to end the campaign in March 2020.

Outreach to multi-residential properties

Because of low green bin use in multi-residential properties, the City made a concerted outreach effort to increase the number of properties with green bins and to encourage participation among properties that already had them. In August 2019, the City sent a mailout to residents in properties with green bins. In September and October 2019, staff sent posters for lobbies, elevators and garbage rooms, along with updated green bin labels. The 2018/2019 market research identified posters in garbage rooms as the most effective communications channel for multi-residential properties.

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Leading up to the start of the new multi-residential collection contract in June 2020, staff called owners of properties without green bins to inform them of the program enhancements. They also offered a visit from a solid waste inspector to discuss participation and changes to the collection contract that eliminated the need for someone to bring the green bin to the curb, one of the top five barriers to participation identified by property owners.

In-person outreach to multi-residential properties to encourage resident participation was cancelled due to the pandemic. Instead, staff provided 5,160 toolkits – reusable bags to carry waste to bins along with brochures about recycling and green bins – to 44 properties in November and December 2020. The brochures were developed based on the market research to increase knowledge of diversion programs and encourage participation. These properties had more than 50 units each and were participating in the Green Bin program as of January 2020. Property owners and managers delivered the toolkits to residents, and staff followed up to confirm distribution two to three weeks later. Property owners and managers appreciated the outreach and asked to get more kits when new residents move in and have staff deliver them to provide in-person education when it is safe to do so. The City's multi-residential collections contractor (Waste Connections Canada) will distribute toolkits to the remaining properties (around 110,000 units).

Performance of communications and outreach

Staff collected data and reviewed performance measures throughout the campaign to adjust as needed. The City's online ads, which ran between July 2019 and March 2020, performed well, generating more than seven million impressions and more than 62,000 clicks to ottawa.ca, and exceeding industry standards. Banner ads on websites generated nearly two million views by people living in Ottawa, with around 3,800 clicking the ads. That click rate of 0.19 per cent is double the industry average.

Video ads on YouTube also beat industry averages, with 40 per cent of people watching them all the way through, compared to the average of 32 per cent. Ads on Facebook and Instagram were viewed 3.3 million times, generating more than 32,000 clicks. That click rate of 0.98 per cent is slightly higher than the industry average of 0.9 per cent. The most successful ad promoted a feature story about how to replace your green bin –

it had a click rate of 8.3 per cent. Twitter ads were viewed 1.6 million times and generated more than 25,000 clicks, slightly below the industry average. However, a series of ads asking residents about their green bin use and what items go in the green bin had a click rate of 6.3 per cent, more than four times higher than the industry average.

Pre-video and display ads on local media websites reached around 173,000 people and generated 739 clicks. The click rate for the English video ads was more than double the industry average, and nearly quadruple for the French. The click rate for the display ads was between double and six times the industry average, depending on the news site.

Between July 1, 2019 and March 31, 2020, the City posted about the green bin 62 times on Facebook and 48 times on Twitter. The Facebook posts generated 223,000 impressions and 3,427 post engagements. This 1.54-per-cent engagement rate is 18 times the industry benchmark of 0.09 per cent. The tweets generated 377,000 impressions and 8,611 post engagements. This 2.28-per-cent engagement rate is nearly 50 times the industry benchmark of 0.048 per cent.

Staff also tracked visits to the green bin webpage on ottawa.ca. In July 2019, the month the enhancements were implemented, there were 23,460 pageviews. This is nearly triple the 7,904 pageviews in July 2018. Throughout the nine months of the communications and outreach campaign, views more than doubled compared to the previous year: up from 47,097 between July 2018 and March 2019, to 103,081 between July 2019 and March 2020.

Follow-up market research

The City commissioned Hill+Knowlton Strategies to conduct follow-up market research in December 2020 to assess the impact of the program changes, communications and outreach on attitudes and behaviour, and to update understanding of barriers toward participating in the Green Bin program. This research, attached as Document 1, will help inform future campaigns.

The follow-up market research focused on measuring the reach of the communications campaign along with changes in behaviour related to the green bin. Staff used the

market segments identified in 2018/2019 (Superstar, Inconsistent, Aspirational and Disconnected) to identify target audiences and to develop key messages and tactics to inform residents of the program enhancements and encourage behaviour change to increase participation program. This data-driven approach was effective in developing and delivering the communications campaign.

The 2018/2019 market research presented a high-level overview of data by dwelling type, measuring behaviours and barriers for curbside and multi-residential households. Hill+Knowlton Strategies replicated this approach in the follow up market research to measure change among dwelling types, rather than among market segments, which would have been too costly to replicate. Measuring by dwelling type also provides data that will help inform service-level options and other policies.

Hill+Knowlton Strategies conducted two mutually reinforcing surveys to assess the impact of the communications campaign and measure changes in attitudes and behaviours. The first was an online survey of 1,000 residents to measure the impact of the communications campaign. The second survey assessed potential changes in waste diversion behaviour. The sample size of 800 struck the optimal balance between cost and rigor.

Attitudes

Nearly 80 per cent of respondents agreed with all the key messages of the campaign: we need to divert organic waste from the landfill to save tax dollars and lower emissions and using the green bin is in their best interest and an easy way to help the environment. A similar proportion of respondents were willing to do their part to keep food and organic waste out of the landfill to help reduce emissions and felt that all multi-residential properties should have green bins. Nearly half felt that food and organic waste should be banned from the landfill.

Respondents had high levels of satisfaction with the green bin, with 82 per cent rating their satisfaction as at least a five on a seven-point scale. Respondents living in multi-residential properties with green bins were most satisfied with the program, with 46 per cent rating their satisfaction as seven out of seven, compared to 39 per cent of all respondents.

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There was virtually no change in the proportion of respondents who said they hate using the green bin, with 18 per cent saying so in 2020 and 19 per cent in 2018/2019. This shows that changing attitudes, especially among the Disconnected group who have limited knowledge of waste diversion program, takes time. Staff will continue to work on changing attitudes through communications and public education. Staff will also recommend policy changes through the Solid Waste Master Plan and its component projects.

Green bin participation: Curbside collection

There was an 11-percentage-point increase in self-identified participation rates among respondents with curbside collection, up from 77 per cent in 2018/2019 to 88 per cent in 2020. However, there was minimal change in intensity of use (how much respondents use the green bin).

Green bin use among respondents with curbside collection

	2018/2019	2020	Change
Self-reported use of the green bin	77%	88%	+11
Respondents who put everything they can in the green bin	68%	65%	-3
Respondents who use the green bin most of the time	18%	20%	+2
Respondents who use the green bin half the time or less	13%	14%	+1

Note: The total for intensity of use does not add up to 100 per cent as it does not include non-responses (respondents who chose don't know or prefer not to say).

The City introduced plastic bag liners to address the yuck factor, the top reason curbside respondents said they did not use the green bin in 2018/2019, and it is no longer the top reason to not use the green bin. There was a 15-percentage-point decrease in respondents who identified the yuck factor as a reason to not start using the

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green bin in 2020, down to only eight per cent of respondents. There was a similar 16-per-cent decrease in respondents who identified it as a reason to not use it more, down to 15 per cent.

Yuck factor as a reason to not use the green bin (curbside collection)

	2018/2019	2020	Change
Reason to not use the green bin at all	23%	8%	-15
Reason to not use the green bin more	31%	15%	-16

The new top reason to not start using the green bin, identified by a quarter of respondents not participating in the Green Bin program, was that they do not have one, followed by 19 per cent who said it is inconvenient. The new top reason to not use it more, identified by 24 per cent of respondents, was that they forget or put items in the garbage by mistake. Fourteen per cent of respondents said they do not use the green bin more because they are not sure what goes in it, representing an opportunity for greater education.

Top four reasons for not using the green bin at all (curbside collection)

Reason	2018/2019	2020	Change
Don't have a green bin	21%	25%	+4
Inconvenience	16%	19%	+3
Do their own composting	17%	15%	-2
Attracts bugs, vermin or other animals	16%	12%	-4

Top four reasons for not using the green bin more (curbside collection)

Reason	2018/2019	2020	Change
Forget or put things in the garbage by mistake	21%	24%	+3
It gets smelly, messy or gross	31%	16%	-15
Others in the household don't use it much or at all	9%	15%	+6
Not sure what goes in the green bin	6%	14%	+8

Green bin participation: multi-residential properties

Respondents in multi-residential properties reported only a slight increase in access to a green bin (up from 31 per cent in 2018/2019 to 34 per cent in 2020). Encouragingly, there was an increase in the number of respondents who reported they would use a green bin if they had access to one: up from 73 per cent in 2018/2019 to 83 per cent in 2020.

The top two reasons for not using the green bin more, identified by a similar proportion of respondents in 2020 and in 2018/2019, were inconvenience and forgetting or putting items in the garbage by mistake. The third biggest barrier, with a 14-percentage-point increase in respondents citing it compared to 2018/2019, was running out of space in the green bin. This highlights one of the many complexities in increasing participation among multi-residential properties. Staff continue to explore options to reduce barriers for Council's consideration through the Solid Waste Master Plan and Multi-Residential Diversion Strategy.

Top four reasons for not using the green bin at all, even if they had access (multi-residential properties)

Reason	2018/2019	2020
Inconvenience	23%	39%

Attracts bugs, vermin or other animals	10%	20%
Don't have a green bin	26%	19%
It gets smelly, messy or gross	11%	18%

Top four reasons for not using the green bin more (multi-residential properties)

Reason	2018/2019	2020
Inconvenience	24%	24%
Forget or put things in the garbage by mistake	21%	22%
Run out of room in the bin	7%	21%
Don't have enough waste	5%	10%

Impact of program changes

In 2018/2019, 63 per cent of respondents said they were more likely to use the green bin once plastic bag liners were allowed, and 61 per cent once dog waste. Behaviour change takes time, but the follow-up market research indicates that the policy change to allow plastic bag liners and dog waste has sparked an increase in participation.

Respondents who used the green bin before July 2019 were asked how their participation changed after the City permitted plastic bags and dog waste: 30 per cent reported using the green bin more, with 69 per cent saying it was largely because of the program changes. Among dog owners, 52 per cent reported using the green bin more and 94 per cent said it was largely because of the program changes.

Respondents who use the green bin more because of the program changes

	For organic waste	For dog waste

To a large extent	69%	94%
Neutral	9%	0%
To a lesser extent	19%	6%
Don't know	2%	0%

Seventy-three per cent of respondents who use the green bin reported that they put their waste in a bag, with 40 per cent starting to do so for household organic waste and 75 per cent for dog waste after the City began allowing plastic bag liners and dog waste. Compostable or biodegradable bags are the most common liners, though around a third of respondents put their household organic or pet waste in plastic bags, and half use paper bags for household organic waste. Use of plastic bags is 10 per cent higher among respondents who started bagging their organic waste after the program enhancements, compared to the average of all respondents who bag their organic waste.

Respondents who use a liner in the green bin

	For organic waste	For dog waste
Compostable or biodegradable bags	61%	62%
Paper bags	45%	8%
Plastic bags	35%	37%
Other	7%	9%

Impact of COVID-19

As noted earlier, organics and leaf and yard waste tonnage increased significantly when the Province implemented stay-at-home measures in March 2020 and many residents began working from home. Given the ongoing pandemic, the follow-up market research

included a series of questions to assess its impact on residents' use of the green bin. Thirty-six per cent of respondents felt they used the green bin more during the pandemic, most commonly because they were eating and cooking more at home, thus generating more food waste.

Fifty-two per cent of respondents worked from home at some point during the pandemic, with 37 per cent reporting that they used the green bin more while working from home. Of this group, six per cent said they started using the green bin while working from home.

Twenty-eight per cent of respondents with curbside collection felt they had more leaf and yard waste during the pandemic, with 53 per cent saying it was because they had more time at home to do yard work.

Impact of communications and outreach plan to support program enhancements

Hill+Knowlton Strategies measured the effectiveness and impact of the City's ads. Forty-five per cent of respondents recalled seeing some type of advertising about the green bin in the previous year. Around 15 per cent recalled seeing an ad featuring a boy or girl with the green bin (the City's most widely used ads during the campaign), increasing to 20 per cent once they were shown the ad with the boy and 36 per cent the ad with the girl. Most recalled seeing the ads on a bus or bus shelter (this placement was based on 2018/2019 market research).

Around half of respondents who remembered seeing the ads said the ads made them think about the future of the planet, waste diversion and the environment, or made them curious about the green bin. Forty-three per cent of respondents reported that the ads made them start using the green bin, using it more or putting organic waste in plastic bags. The ads also made respondents think more about the program, with around a third reporting that they became actively engaged after seeing the ads, either telling someone about what they saw, looking up information or talking about the ads. Hill+Knowlton Strategies tested the effectiveness of the ads by showing them side-by-side to all respondents. Overall, the ads made respondents feel pleased and hopeful, while coming across as believable, persuasive, clear and rational.

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The City mailed a one-pager to all residents to announce the program enhancements and increase awareness about other items that can go in the green bin. Forty-three per cent of respondents remembered the mailout without seeing it, increasing to 47 per cent once they were shown it.

Hill+Knowlton Strategies asked respondents to assess all the campaign assets – most of which were designed based on findings from the 2018/2019 market research – in terms of how much they motivated them to use the green bin more. Respondents assessed two video ads, a radio ad, the ads featuring a girl or boy with a green bin and a door sticker. The door sticker was the most motivating one, according to half of respondents. Respondents liked that it was informative, clear, straightforward, useful and easy to read. The ad featuring a girl with a green bin was the next most motivational, according to a fifth of respondents. Respondents liked it because the girl was inspiring, friendly and cute, while the ad was straightforward, clear and witty.

Hill+Knowlton Strategies broke down the data by respondents who started using the green bin after the program enhancements to determine which campaign assets may have motivated them. These respondents had slightly higher ad recall rates, with 58 per cent recalling the ad with the boy and the green bin (compared to 47 per cent of respondents who did not start using the green bin) and 97 per cent recalling the ad with the girl and the green bin (compared to 93 per cent). They had a relatively similar recall rate for the one-pager – 87 per cent versus 88 per cent. Like the overall findings, these respondents ranked the door sticker as the most motivating asset, followed by the ad of the girl with the green bin.

Summary and next steps

Although this report provides an interim snapshot during an abnormal time, the increases in tonnage and participation are encouraging, and the follow-up market research indicates that the City's major policy change to allow plastic bag liners and dog waste in the green bin, coupled with an evidence-based communications and outreach plan, were effective at changing behaviour. This will support continued efforts to divert organic waste from the Trail Waste Facility, thus prolonging the need for and deferring the cost of developing a new landfill site, reducing greenhouse gas emissions and

odours, and supporting circular economy solutions by turning organic waste into useful products.

The program enhancements helped address the top barriers to participation and the City used market research to target and tailor communications to increase awareness of the enhancements and participation. However, the follow-up market research and set-out study show there are still opportunities to increase participation to ensure organic waste does not end up at the Trail Waste Facility. Meeting Council's targets to reduce greenhouse gas emissions, extending the life of the landfill and supporting the Province's move to a circular economy with zero food and organic waste and zero emissions will require significantly greater green bin use and waste diversion.

The 2018/2019 market research identified barriers, which the City overcame through policy change. The City also built a communications and outreach plan based on the findings. Based on the follow-up market research, this two-pronged approach helped increase the number of residents who use the green bin, with 30 per cent of respondents reporting that they use the green bin more, and nearly 70 per cent of those saying it is largely because of the program changes for organic waste, and 94 per cent for dog waste. The ads also had an impact, with more than 40 per cent of respondents reporting that they started to use the green bin, use it more or put organic waste in plastic bags because of the ads.

While the program enhancements addressed the yuck factor (the previous top reason respondents did not use the green bin), the follow-up market research highlighted opportunities for further efforts. Staff will work to ensure residents with curbside waste collection know how to get a green bin and educate all residents about what goes in the green bin so they do not forget to use it or put organic waste in the garbage by mistake. Addressing the inconvenience barrier, identified by both respondents with curbside collection and those in multi-residential properties, will require more than just communications and education. The City's regular communications channels (door stickers and collection calendars) spoke to respondents and the targeted approach to communications has been effective, but staff do not yet know if the City is reaching residents who need to change their behaviour, so this will be assessed in future market research.

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Given the ongoing pandemic, which started eight months after the program enhancements and continues today, it is too soon to extrapolate any concrete or permanent conclusions about changes to participation in the Green Bin program. This report provides an interim data point that shows promising changes in behaviour over the past year and a half since the program enhancements; however, getting an accurate picture of participation and diversion as well as attitude and behavior shifts will require ongoing, large-scale monitoring. Long-term and large-scale monitoring will help staff continue to dig deeper to understand new program users, what market segments they are in and what persuaded them to start using the program. It will also help staff understand who is still not using the green bin and why not. Regular monitoring and insight will help inform long-term planning and identify what changes behaviour and what the City needs to do differently to reach residents and influence desired behavior change.

Because of the uncertainty with the ongoing pandemic and its direct impact on behaviour, staff recommend waiting to conduct further market research until at least one year after the end of the pandemic to allow time for behaviours to adjust to the post-pandemic world. In the interim, staff will continue to use the insights from the most recent follow-up market research to inform ongoing communications, education and outreach campaigns to help sustain the changes seen to date and to continue to drive positive behaviour change and increased participation in the Green Bin program.

Continued and targeted communications and outreach alone will not change behaviour. Behaviours are often linked to long standing habits and core beliefs that have been engrained in individuals throughout the course of their lives. Environmental and social factors can also influence behavior. As such, staff are working on the Solid Waste Master Plan and its component projects to explore additional policy and program mechanisms to support behavior change. Staff will use the insights provided through the market research and earlier market segmentation to help address the reasons residents do not participate and determine the most effective ways to increase participation and waste diversion.

By mid-2021, Council will consider phase two of the Solid Waste Master Plan – Where Are We Going, which will support waste management and diversion for the next 30

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years. Phase two will recommend a vision statement, guiding principles and goals to frame the master planning process. The report will inform Council about the City's future waste management needs, gaps, constraints and opportunities and provide a long list of options to address them. It will also outline the triple bottom line evaluation tool staff will use to evaluate all the options to generate a shorter list for community and stakeholder consultation, which will then form the basis of the final draft strategy for Council's consideration in 2022.

The follow-up market research noted that 83 per cent of respondents in multi-residential properties would use the green bin if they had access. Early next year, Council will consider a Multi-Residential Diversion Strategy, a short-term strategy aimed at helping remove barriers to participation and increasing waste diversion through a series of initiatives and pilots. The strategy will complement some of the larger policy and program options Council will consider through the Solid Waste Master Plan. Staff are reviewing best practices in other municipalities and emerging trends and have undertaken a comprehensive literature review that will inform recommended pilots, programs and initiatives. Staff will also consult with residents and stakeholders during the second engagement series for the Solid Waste Master Plan.

Staff will continue provide regular updates on Green Bin program performance to Council. Because this report provides an interim snapshot of performance during the ongoing COVID-19 pandemic, staff will provide an assessment one year following the end of the pandemic, when we expect to have data that is more representative of long-term trends in participation.

RURAL IMPLICATIONS

The Green Bin program is available to all residents, including in rural areas.

CONSULTATION

Public consultation was not required for this update. The City retained Hill+Knowlton Strategies to conduct market research in 2018/2019 and 2020 to inform communications and outreach, and to determine the impact of the program enhancements and communications on participation.

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COMMENTS BY THE WARD COUNCILLOR(S)

This is a city-wide report.

ADVISORY COMMITTEE(S) COMMENTS

There were no consultations to develop this information report.

LEGAL IMPLICATIONS

There are no legal impediments to Committee and Council's receipt of this report for information.

RISK MANAGEMENT IMPLICATIONS

The report outlines all risks and mitigation measures.

ASSET MANAGEMENT IMPLICATIONS

The recommendations documented in this report are consistent with the City's [Comprehensive Asset Management Program](#) objectives. The implementation of the Comprehensive Asset Management program enables the City to effectively manage existing and new infrastructure to maximize benefits, reduce risk, and provide safe and reliable levels of service to community users. This is done in a socially, culturally, environmentally and economically conscious manner.

The City's Green Bin program diverts food, organic and leaf and yard waste from the Trail Waste Facility, helping extend the life of the landfill, reducing greenhouse gas emissions and supporting circular economy solutions by turning waste into useful products. This report demonstrates non-financial and non-infrastructure solutions that are having a positive asset management impact.

FINANCIAL IMPLICATIONS

There are no financial implications associated with this report.

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ACCESSIBILITY IMPACTS

Staff will adhere to all applicable accessibility standards when implementing the initiatives identified in the report.

ENVIRONMENTAL IMPLICATIONS

The Green Bin program enhancements helped increase waste diversion, supporting municipal and provincial targets to divert organic waste. This also helps reduce greenhouse gas emissions and extends the life of the Trail Waste Facility landfill.

TERM OF COUNCIL PRIORITIES

The Green Bin Program aligns with the Environmental Stewardship priority, to grow and protect a healthy, beautiful and vibrant city that can adapt to change. Outcomes that support this priority and are relevant to the program include:

- The City is a leader in energy management and in conserving, recycling and reusing resources.
- The City's long-term plan for solid waste includes more diversion from landfills.
- The City reduces its greenhouse gas output and climate change considerations are embedded across all elements of operations.

SUPPORTING DOCUMENTATION

Document 1 – Green Bin Enhancement Campaign: Behaviour, Awareness and Impact (Hill+Knowlton Strategies)

DISPOSITION

Upon Committee's receipt of this report, staff will continue communications and outreach efforts to increase waste diversion. Staff will also continue to work on the Solid Waste Master Plan and its component projects.