



MODERNIZATION OF THE DEPOSIT

Pilot Project Progress Report

Addressed to the members of the External Steering Committee

The purpose of this report is to present the complementarity of the selected pilot projects, the project constraints imposed, a description of each of the pilot projects and the lessons we can learn. This interim report published after two months of recovery of the extended instruction is limited to reporting the facts observed, measured or experienced during the project. Any recommendation concerning the organization of the future deposit system, not based on facts, is therefore outside the scope of this mandate.



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1. EXECUTIVE Summary

Although the seven pilot projects have been accepting the contents of the extended instruction for only twelve weeks, it is possible to make certain observations, make some assumptions and make some recommendations. These findings, assumptions and recommendations are based on the experience gained during the implementation of the pilots, the information exchanged with the various stakeholders of the project, the exchanges during the internal and external steering committees, the meetings of the municipal committee, the data compiled since August 9 and field visits to each site.

It would be a mistake to limit the analysis of each of the seven projects by considering them as inseparable wholes. So the lessons learned obviously come from the projects in their entirety, but also from portions and combinations of them.

Among the main findings, it is noted that :

- The return rate of currently non-returnable containers is very low (less of 6 % of containers recovered to date)
- Motivating operators at return points is essential to their performance and smooth operation
- The handling and transportation of glass containers recovered and crushed by RAs requires the use of specialized equipment due to the weight and cutting nature of the material.
- The number of recovery stations available at a site (number of ARs or reception posts)
 - Increases overall site recoverability
 - Reduces waiting lines during busy periods
 - Reduces vulnerability to breakdowns and maintenance interventions of automated waste pickers

Key recommendations :

- Automation is critical to good performance and must be considered in the design and deployment of the new system. It offers several advantages, including:
 - Reduced labour and handling costs
 - Reduced logistics costs due to container compaction
 - Automating fraud control with barcodes and optical scanners
 - Electronic reimbursement, which facilitates the gesture of recovery for both consumers and operators of return points
- Recovery logistics must be at the heart of the reflection, in particular to ensure the deployment of an operationally, financially and environmentally efficient system

- Several initiatives independent of the recovery model should be launched immediately to avoid delaying the implementation of the new deposit system.
 - Specify the rules of packaging
 - Handicrafts
 - Privately imported products
 - Develop and announce the constraints that will be imposed on packaging
 - Product Identification Code Rules
 - Color dimensions and positioning of barcodes on products
 - Maximum dimensions of products that will be accepted by waste pickers
 - Prepare the database that will already have to be in place and validated on day 1 of the extension of the deposit
- Considerable communication effort is required to convey and repeat the message during the transition period to the new system.

The experience gained during the implementation of the pilots allows us to conclude that it would be very likely to experiment with some delays during the implementation of the new system:

- Prepare and carry out calls for tenders
- Availability and deadlines for acquiring equipment
- Implementation of IT infrastructures
- Obtaining authorizations and permits from municipalities
- Construction of infrastructure (depot, kiosks, annex, *bag drop* etc.)

The following elements will be explored and refined by the end of the pilots scheduled for January 31 2022 :

- The hypothesis of value associated with economic and environmental elements social and regional gesture of recovery
- Factors that make it easier for citizens and increase the customer experience
- Recovery outside the home and in the on-site consumption network

Finally, it is essential to quickly decide what will happen to the pilots on January 31, 2022. In a few weeks, it will already be time to plan the dismantling of these. In the event of a decision to extend some pilots, time must be allowed to negotiate the terms of the extension with relevant stakeholders and establish the logistical support required to support their extension.

2. CONTEXT OF PILOT PROJECTS

2.1. OVERALL Context OF THE DEPOSIT MODERNIZATION PROJECT

The deposit modernization project aims to develop the structural, financial and operational framework for a new deposit management program. This new program is part of an extended producer responsibility (EPR) context, "

Responsibility for developing, funding, implementing and operating a recovery and reclamation of products designated as scrapped, similar to those it markets in Quebec." Once developed, the program must be supervised by a Designated Management Body (DMO) with a single manager.

Phase 1 Report filed by Houston Consulting Inc. September 21, 2020 clearly highlighted that two contradictory realities clashed:

- On the one hand, producers favour maintaining collection points at retailers to minimize costs and take advantage of the proximity of purchase and collection points to maximize the recovery rate;
- On the other hand, given the increase in volumes and the multiplication of types of containers, grocery retailers claim, through their associations, that they will be unable to recover in store for reasons of business, available space, human resources and safety.

The purpose of conducting pilot projects was to evaluate different options in order to inform choices that will have to be made.

Some proposals for pilot projects were mentioned in the Phase 1 report, including:

- Drop-off Centre in Granby
- Kiosk concept
- Regional Drop-off Centre (Mont-Laurier)

The mandate for pilot projects was given to Houston Conseils in December 2020.

2.2. CONTEXT FOR CARRYING OUT THE PILOT PROJECTS

In order to inspire the Producers' Consortium and the OGD that will eventually be formed, seven pilot projects have been identified, defined, funded and launched. They now recover the containers of the extended deposit since July 31, 2021.

In January 2021, Tomra Canada made the decision to participate in some of the pilot projects by providing free equipment and access to its team and resources to collaborate in setting up and operating them.

During the design cycles of potential scenarios in phase 1, several conceptual elements could be validated through comparisons with similar instruction systems, meetings with experts, visits to equipment manufacturers or packers. However, some elements needed to be verified with targeted pilot projects.

Elements from Phase 1 of the project that needed to be validated:

- Regional Repository
 - Automated filing in the region (city of 70,000 inhabitants)
 - Manual filing in remote areas
- Kiosk concept
 - In a premises near a retailer
 - Parking at an SAQ
 - Montreal or Granby area
 - Different kiosk configurations

Other pilot project ideas emerged during the design committee's workshops, but these were deemed not to be a priority or too risky. They were therefore not selected for the pilot projects.

During the preparation of the pilots, an additional budget was allocated to allow the addition of Some additional projects to test :

- Container recovery in remote areas
- Recovery in densely populated areas
- Carrying out special recovery projects in densely populated areas

The pilot projects currently in operation are detailed in the following pages.

3. OBJECTIVES

Test different recovery systems , in different environments with different types of operators in order to shed light on elements of solutions that could potentially be used by the consortium of producers or the designated management organization (DGF) that will eventually be put in place.

The depot (P1) and kiosk (P2) pilots are directly derived from the recommendations of the Phase 1 report filed by Houston Conseils.

It should be noted that the project governance put in place for Phase 1 of the project has been slightly adjusted and maintained for the pilot projects.

The project is taking place in five stages :

1. Confirm the intentions of the various stakeholders vis-à-vis the pilots
2. Develop pilot specifications
3. Approval of pilot projects by internal and external project committees
4. Launch and follow-up of pilot projects
5. Finalize pilot projects

This report is part of Phase 4 of the project.

Legend of the main acronyms used: UPC:

Unique Product Code
CRM: CRU Multi-Recovery Container :
Single Recovery Container
CRUBV: Single Glass Beer Recovery Containers
CSP : On-site consumption ETC
:Full-time equivalent mc :
million containers
KC : thousand containers
ICI: Institutional, Commercial and
Industrial ODG: Designated Management Body
AR: Automated Retrieval
EPR: Extended Producer Responsibility

4. SELECTION OF PROJECTS

Following several working meetings, concepts were presented, evaluated and developed, a budget for implementation set and a schedule approved. Eight projects were approved by the internal and external steering committees for implementation.

P1 Granby Drop-off Centre

- Drop-off Centre
- Concept de *bag drop*
- CSP Recovery Route

P2 Kiosk of Châteauguay

- However, this pilot is not a collection point operated by the filing (as suggested in phase 1) P3

Modern installation at a retailer

P4 Appendix SAQ Terrebonne Depot

P5 Cap-de-la-Madeleine Depot Centre P6

Mont-Laurier Depot Centre

- Drop-off Centre
- CSP Recovery Route

P7 Multi-material collection point Montreal

P8 Recovery from specific clientele

- *Bag drop pour valoristes*
- *Bag drop citoyen*
- *CSP Recovery Route*

Tables 1 and 2 present the context and complementarity of these projects. Table 1 Exposes the recovery model, other activities, type of management, and equipment used. Table 2 focuses on the socio-demographic complementarity of the environments.

The selected pilots organized themselves as follows:

- Type of collection points
 - Four drop-off centre projects
 - Four initiatives including bag-drop recovery
 - A kiosk recovery project
 - A recovery project in annex
 - Three projects carrying out CSP collection routes
 - Five projects equipped with latest-generation automated waste pickers (ASRs)
- Type of organization involved in pilot operation
 - Four projects completed by a retailer
 - Three projects carried out by NPOs
 - A project carried out by a group of retailers
- Social demographic elements
 - Three projects in densely populated urban areas
 - Four projects in urban areas with different socio-demographic profiles
 - A project in a remote region

TABLE 4.1: TYPE OF RECOVERY, ACTIVITIES, ORGANISMS AND EQUIPMENT

Identification du pilote				Type de récupération					Autres activités		Gestionnaire			Équipements de dernière génération	Équipements standards
N°	Nom du pilote	Opérateur et localisation	Partenaires	Centre de dépôt	Bag drop	Kiosque	Annexe	Détaillant	Route de collecte ICI-CSP	Kiosque mobile	Détaillant (adjacent au site)	Groupe de détaillants	OBNL		
P1	Centre de dépôt automatisé	IGA St-Pierre	Sobeys	X	X				X		X			X	
		Granby	Tomra												
P2	Kiosque autonome	IGA Extra	Sobeys			X					X			X	
		Châteauguay	Tomra												
P3	Installation moderne chez un détaillant	Maxi Papineau/Crémazie	Loblaws					X			X			X	
		Montréal	Tomra												
P4	Annexe SAQ	SAQ Dépôt	SAQ				X				X			X	
		Terrebonne	Tomra												
P5	Centre de dépôt regroupement de détaillants	Détaillants		X								X			X
		Cap-de-la-Madeleine													
P6	Récupération région éloignée	Zone Emploi		X	X				X					X	
		Mont-Laurier													
P7*	Point de collecte multimatières	Fondation La Collecte		X	X									X	X
		(GFGS) Montréal	Tomra												
P8	Projets de récupération urbains	COOP Les Valoristes			X				X	X				X	
		Montréal													

TABLE 4.2: COMPARISON OF SOCIO-DEMOGRAPHIC ENVIRONMENTS

Identification du pilote				Milieu				Sociodémographie			
N°	Nom du pilote	Opérateur et localisation	Partenaires	Urbain densément peuplé	Urbain	Périphérie	Région éloignée	Population rayon de 2 km (approximation)	Revenu moyen des ménages	Âge moyen	Études postsecondaires
P1	Centre de dépôt automatisé	IGA St-Pierre	Sobeys			X		15 548	64 618 \$	44	36%
		Granby	Tomra								
P2	Kiosque autonome	IGA Extra	Sobeys			X		18 071	77 909 \$	41	39%
		Châteauguay	Tomra								
P3	Installation moderne chez un détaillant	Maxi Papineau – Crémazie	Loblaws		X			109 213	53 919 \$	38	43%
		Montréal	Tomra								
P4	Annexe SAQ	SAQ Dépôt	SAQ			X		9 096	91 296 \$	38	41%
		Terrebonne	Tomra								
P5	Centre de dépôt regroupement de détaillants	Détaillants			X			19 867	63 245 \$	45	48%
		Cap-de-la-Madeleine									
P6	Récupération région éloignée	Zone Emploi					X	300	59 717 \$	45	29%
		Mont-Laurier									
P7*	Point de collecte multimatières	Fondation La Collecte GFGS		X				109 829	64 152 \$	40	58%
		Montréal									
P8	Récupération pour clientèles particulières	COOP Les Valoristes		X				n.a.	n.a.	na	n.a.
		Montréal									

Unfortunately, pilot No. 7, a multi-material collection point in densely populated urban areas, supported by the Fondation La Collecte (Big Brothers and Big Sisters) had to be abandoned. Various factors contributed to the abandonment of this project.

The selected room simply did not respond to:

- Planning requirements of the City of Montreal
- Logistical and operational constraints on glass beer containers imposed by brewers
 - Agreed in the *Protocol regarding pilot projects and specific sites for the recovery of returnable containers* between deposit-refund system managers, operators and waste pickers in December 2020.

5. COMMUNICATION plan

5.1 PROJECT Objectives

Involve the public in pilot projects to recover containers implemented in their community

Signature : In Quebec, we are reinventing the deposit.

5.2 LINES OF COMMUNICATION

- We are modernizing the deposit system , with a view to sustainable development for Quebec
- Deposit modernization pilots will help us better recover and recycle
- The pilot projects will provide Quebec with a modern deposit system and écoresponsable
- Building Québec's future deposit system is everyone's business
- There is something to be PROUD TO participate in the pilot projects to modernize the deposit

5.3 STRATEGIC APPROACH

- A strategic approach spread over six months
- A theme and a campaign signature created and declined on all Communication activities and tools
- Recommended strategies include a balanced communications mix that reaches both traditional and new and more connected audiences.
- An editorial and advertising offensive in local newspapers to offer in-depth information
- From advertising to local radio to optimize our reach and gain notoriety
- A strong social media presence for targeted and instant coverage
- An internet hotline to become the point of reference and information on projects pilots. (www.onconsigne.ca)
- A toolbox created and shared with municipal and regional partners, including all the visual elements to adapt the variations on their respective platforms
- A similar field dressing in each of the pilots that acts as a reminder of the advertising campaign to inform people on site

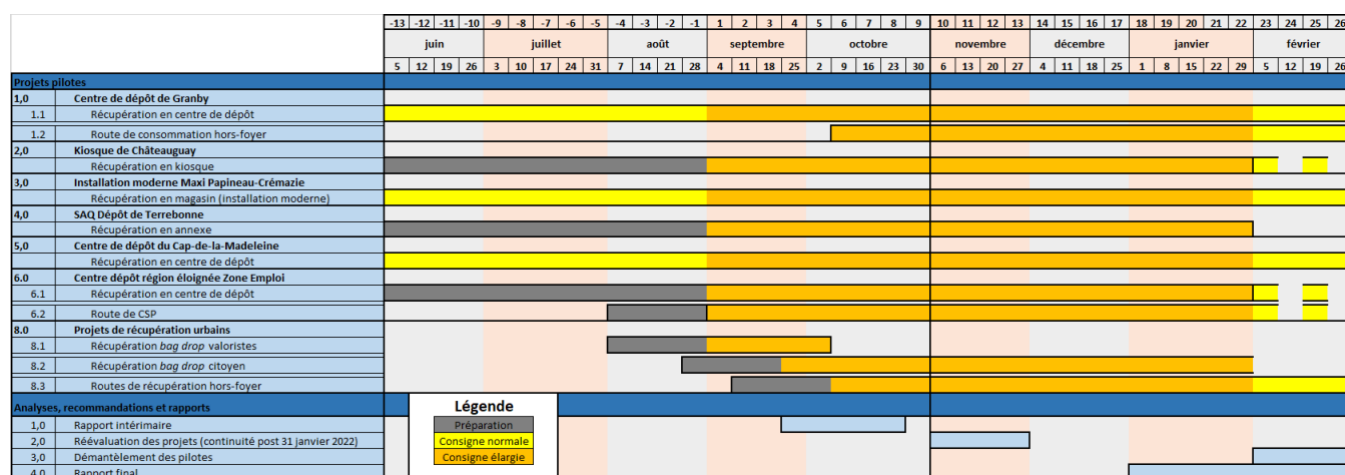
6. PILOT PROCEEDINGS

Although the pilot project did not start until December 2020, and the sites began to be deployed in May 2020, some, such as the Granby and Cap-de-la-Madeleine depots, were operational and were already recovering returnable containers.

Key Milestones of the Pilot Projects

- Launch and organization of the project December 2020
- Project preparation January to August 2021
- Extended deposit container collection begins August 31, 2021
- Media event 15 September 2021
- Launch of the communication campaign 16 September 2021
- Periodic report tabled October 29, 2021
- Discussions on project extension (non-pilot) November 2021
- End of pilot projects January 31, 2022
- Dismantling of pilots February 2022
- Final report delivered February 28, 2022

FIGURE 6.1: PROJECT TIMELINE



7. CONTRAINTES

Different constraints have affected the implementation of the pilot projects. They affected the schedule, the budget and even the realization of a project. Here are the main constraints encountered:

7.1 MUNICIPAL By-laws AND PERMITS

The current real estate market is overheating even in this more or less post-pandemic period. Locations near grocery stores or high-traffic places are rare. In addition, the use of deposit does not seem to exist in urban plans. This absence often involves recourse to a public consultation that can require up to 6 months of delay and entailing significant costs to finally obtain a zoning change and introduce the use of deposit.

- Recovery centres must be located near a grocery store to encourage citizen participation.
- Planning by-laws do not recognize the concept of a drop-off centre or a recovery centre for citizens in a commercial environment.
- Some pilot projects had to be presented as short-lived projects to municipalities in order to allow for acceptance.
- In February 2021, a municipal committee was established by Project Governance . With the following objectives:
 - To share the problems incurred during the implementation of the pilots
 - To begin its preparation for the deployment of the future deposit system.

7.2 UNIQUE PRODUCT codes

Current equipment mainly uses the unique product code (UPC) retrieved by reading the barcode to identify the product and know its attributes:

- Container accepted or not (subject to deposit)
- Type of material in container
- Value of the deposit to be refunded

There are other techniques for identifying and classifying containers. However, these techniques are complementary, for example pattern recognition or weighing.

Since the shape of aluminum, plastic or cardboard containers can be easily altered during handling, shape recognition can only be used for glass containers.

Although the recognition of containers by artificial vision is technically possible, it was not explored during the pilots (time, budget and other constraints).

It is therefore necessary to use a database, regardless of the recognition techniques used to have the information required to properly recover containers.

- Acceptance or rejection
- Sorting materials
- Amount of reimbursement

At the time of preparing the pilots, it was not possible to obtain the identification data of the producers' containers to prepare the database. Tomra currently has a database to control its RAs with an internet connection. However, this only concerns containers currently under deposit, therefore, unusable for containers of the extended deposit.

Another option was the use of GS1 services. This provides access to data on thousands of products that are continuously cleaned and updated. This solution is also currently used by several retailers. Unfortunately, despite the efforts made, the time required to meet the conditions for access to this service was not available in the context of this project.

These two situations forced us to turn to second-hand data .

7.2.1 ALTERNATIVES AND VOLUMETRY

As data from all project partner producers were not available, a database had to be developed from data from multiple sources.

- Soft drinks Environment (data on soft drink containers)
- RECYC-QUÉBEC (data on beer containers)
- SAQ (partner)
- Alberta Deposit Management Organization (database)
- British Columbia Deposit Management Organization (database)
- Parmalat (producer)
- Agropur (Producer)
- Database currently used by Tomra

The database required for recovery equipment therefore increases from approximately 6,000 unit product identification codes (current deposit) to more than 115,000 for the expanded deposit.

Given the uncertain level of accuracy of the database, a process to capture unrecognized containers and enrich the database was put in place. To date, it is estimated that the database is more than 97% accurate for containers that are currently returnable and less than 95% for containers in the expanded deposit.

As this level of detail was deemed acceptable by the Consortium of Producers, the correction process was finalized in September.

Another effect of this approach is the lack of product information. This information would have made it possible to deepen certain analyses. Data from

Western Canada guidelines are limited to the following attributes: product name, alcoholic or non-alcoholic product, container material and volume.

7.2.2 TIME AND BUDGET

The mandate to carry out the pilots was entrusted to Houston Conseils in December 2020. It took eight months to prepare the pilot projects and the recovery of the containers from the expanded deposit began on July 31, 2021.

Some elements affected the work flow and the pilots ' budget:

- Time required to obtain authorizations and permits from municipalities

- Pandemic impact on the availability of labour and the price of materials needed to build the Maxi Papineau-Crémazie premises, the Châteauguay pilot kiosk and the SAQ pilot annex
- Delivery times and overload on the material price (scarcity)
- Delivery times and surcharge on the price of used shipping containers (rarity)
- Overtime bonus to speed up the manufacture and delivery of the annex and kiosk.
- Table 7.1: Evolution of the price index in 2021

Système de classification des produits de l'Amérique du Nord (SCPAN)	avr-21	mai-21	juin-21	juil-21	août-21
Total, Indices des prix des produits industriels (IPPI)	111%	115%	115%	115%	114%
Bois d'oeuvre et autres produits du bois	195%	230%	214%	167%	144%
Produits fabriqués de métal et matériaux de construction	112%	116%	117%	122%	124%

Prix par rapport au prix en vigueur le en janvier 2020 (100 %)

- Electronic payment platform
- The pilot project did not have the time or budget to address the complexity of setting up an electronic payment platform for the duration of the project.

7.3 LACK OF INCENTIVE ON THE RETURN OF CONTAINERS

The low return of containers from the expanded deposit is most likely the result of the lack of financial incentive granted when they return to the pilot sites. Overall, containers in the expanded deposit, which are not currently returnable, represent less than 6 % of the 3.6 million containers recovered. On some sites, less than 3% of these containers are recovered.

FIGURE 7.1: RECOVERED CONTAINERS COMPILED BY PILOTS FROM AUGUST 8 TO OCTOBER 10, 2021



Figure 2 shows that of the 3.6 million containers recovered from August 8 to October 10:

- Only 1.9% of aluminum containers were extended deposit
- Only 14.4% of plastic containers came from the expanded deposit
- Only 9,000 cartons were recovered (0.25%)
- 73% of the recovered glass was already under deposit

This complicates the interpretation of recovery results. It becomes difficult assess certain impacts such as :

- The problem of potential odor due to the presence of dairy products
- The reliability of RAs to deal with rectangular cardboard containers
- Plan the ideal configuration of RAs (factions ratio for light containers and heavy containers)

8. PILOT PROJECTS

Seven pilot projects are now in operation.

8.1 PILOTS' intentions

- Experiment with different ways to recover containers from the expanded deposit
- Understand and assess the citizen's interest in these various options
- Evaluate various possible options through the evolution of technology

8.2 COMMUNICATIONS AND PROMOTION

COMMUNICATIONS PLAN INITIATIVES

- News conference by the Minister of the Environment August 17, 2021
- Press relations: media coverage of the project by RECYC-QUÉBEC
- Microsite www.onconsigne.ca
 - Development and production of the microsite
 - Microsite SEO Management
 - Ultimate Resolutions as of October 8
- 141,008 visits
- 2,657 views on the FAQ page
- Publications on social media and via newsletters:
 - Creating a new Facebook page for the campaign
 - Management of location-based paid advertising campaigns
- 1 600 246 impressions
- 43,952 ad clicks
- 3 200 interactions
- 744 Reviews
- 1,818 shares
- Publications in newspapers :
 - 677,144 readers reached by this campaign in regional weeklies
- Radio publications :
 - Total used : 824
- November : implementation of a survey



INITIATIVES À VENIR

- February: Added pilot project report to microsite
- February : thanks to citizens for their participation
- February: Announcement of the next steps in the deployment of the new system

8.3 CONCENTRATION OF RECOVERY TO PILOT SITES

Efforts to focus container recovery at pilot sites took place in three phases:

- General Communications Campaign
- Local communication efforts by the project communications team
- Field communication efforts by pilot site operators

P1 Granby Drop-off Centre

- Significant communication efforts have been made by the Drop-off center to promote your project
- The volume of containers recovered by the site has increased considerably although no specific communication action has been carried out by the project team

P2 Kiosk of Châteauguay

- No specific communication action was carried out by the project team to systematically concentrate the return of containers to the kiosk
- The volume of containers recovered by the site has increased considerably although no specific communication action has been carried out by the project team

P3 Modern installation at a retailer

- No specific communication action was carried out by the project team to systematically focus the return of containers to this retailer

P4 Appendix SAQ Terrebonne Depot

- No specific communication action was carried out by the project team to systematically concentrate the return of containers to this retailer.
- Significant communication efforts were made by the SAQ to promote its project

P5 Cap-de-la-Madeleine Deposit Centre

- Partner retailers systematically redirect customers to the drop-off centre

P6 Mont-Laurier Depot Centre

- Partner retailers systematically redirect customers to the drop-off centre
- Major communication efforts have been made by Zone Emploi to promote their project

P8 Recovery from specific clientele

- No specific communication action was carried out by the project team to systematically focus the return of containers to the various initiatives implemented by Les Valoristes .

8.4 PERFORMANCES

A dashboard was set up to compile the results and provide the basis for analysis required to support the findings and recommendations. Quantitative data has been collected and compiled since Monday, August 9, 2021. They were updated on October 15.

Since the devices of drivers 1, 2, 3 and 4 have connected RAs, the data is retrieved automatically. For pilots 5, 6 and 8, data is captured manually and transmitted to the pilot manager on a bi-weekly basis.

The period from 31 July to 9 August 2021 is co-set as a week of ramp-up. Data prior to this date were therefore deliberately ignored.

FIGURE 8.1 : OVERALL PERFORMANCE



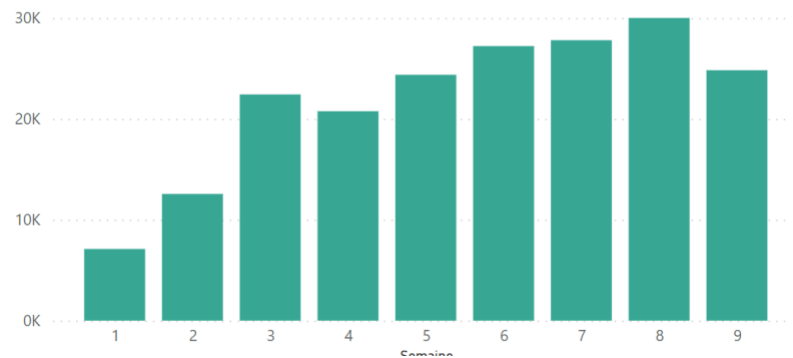
It can be seen, overall, that:

- More than 3.5 million containers of the expanded deposit were recovered during the pilots' first nine weeks.
- Expanded deposit containers represent less than 6% of the total quantity of containers.
- The quantities of expanded deposit containers recovered increased rapidly in the first few weeks, but appear to stabilize as early as week 5 (Figure 3).
- the rejection rate of containers to ARs (P1,2,3 and 4) remains below 3%. That However, the rate is only indicative as it is based on total containers rejected at the RAs.

It can obviously be containers of the cloakroom Enlarged absent from the data, but it may also include:

- Containers not covered by the expanded deposit
- Multi-fill glass beer containers
- Containers that have been the subject of several return attempts during the same return session by the same customer

FIGURE 8.2 QUANTITIES OF NON-RETURNABLE MEANS OF



The work required to conduct a more in-depth analysis of the causes of releases would require considerable effort. The data remain available if such an analysis were to be carried out in the context of a subsequent project.

8.5 PERFORMANCE INDICATORS

Other performance indicators are compiled for each project.

Some of these indicators are qualitative. They were obtained through on-site interviews, comments left by citizens on the microsite and, in the near future, supplemented by the results of user surveys.

Table 4 presents the indicators compiled during the pilot. The indicators will be compiled individually for each of the pilots. The results compiled will be analyzed and used to formulate lessons learned and recommendations.

As the pilot period is just beginning (9 weeks), the results presented in this report are therefore pre-final. They will be more elaborated in the final report.

8.4.1 CUSTOMER EXPERIENCE AND STAKEHOLDERS

Adherence to the type of recovery : will be measured (depot, kiosk, annex, *bag drop* or advanced RAs):

- When possible depending on volume deviations (before pilot vs. during pilot)
- Based on the results of the survey to be implemented in October 2021

Regional stakeholder engagement and satisfaction:

- Interviews were conducted with stakeholders and stakeholders. Further interviews are planned before the end of the project.

TABLE 8.1: PERFORMANCE INDICATORS

		P1 : CDD Granby	P2 : Kiosque Châteauguay	P3 : Détaillant moderne	P4 : Annexe SAQ	P5 : Point de dépôt CDLM	P6 : Point de dépôt région	P8 : Valoristes	Sondage utilisateurs	Rencontres individuelles	
Expérience client et parties prenantes	Adhésion au retour en dépôt	Oui				Oui	Oui		✓		
	Adhésion au retour en kiosque/annexe		Oui		Oui				✓		
	Adhésion au retour en bag drop	Oui						Oui	✓		
	Adhésion à l'utilisation de gobeuses évoluées	Oui	Oui	Oui	Oui				✓		
	Mobilisation des intervenants régionaux	Oui	Oui	Oui	Oui	Oui	Oui	Oui	✓		Degré de participation des différentes parties prenantes
	Satisfaction des parties prenantes de la région	Oui	Oui			Oui	Oui	Oui	✓		Rencontre de parties prenantes
Acceptabilité sociale	Distance parcourue pour se rendre au point de collecte	Oui				Oui	Oui	Oui	✓		Enregistrement du code postal lors des remboursements
	Odeurs	Oui	Oui	Oui	Oui	Oui	Oui	Oui	✓	✓	Détection d'odeurs après X jours
	Bruit	Oui	Oui	Oui	Oui	Oui	Oui	Oui	✓	✓	Nombre de décibels
	Salubrité	Oui	Oui	Oui	Oui	Oui	Oui	Oui	✓	✓	Plaintes des citoyens à la ville, au détaillant ou autre
Performance environnementale	Nuisance	Oui	Oui	Oui	Oui	Oui	Oui	Oui	✓	✓	Validation avec le service au citoyen des municipalités
	Déplacements opérateurs	Oui	Oui	Oui	Oui	Oui	Oui	Oui	✓	✓	Déplacements véhicules (pilote/avant)
Performance opérationnelle	Déplacements clients	Oui	Oui	Oui	Oui	Oui	Oui	Oui	✓	✓	distance si déplacement spécifique
	Capacité de service	Oui	Oui	Oui	Oui	Oui	Oui	Oui	✓	✓	Temps d'attente max et moyen (analyse temps clients)
	Équipements et logistique	Oui	Oui	Oui	Oui	Oui	Oui	Oui	✓	✓	Capacité de traitement par interface client
	Qualité des matières	Oui	Oui	Oui	Oui	Oui	Oui	Oui	✓	✓	Capacité de recyclage des matières
	Santé-sécurité	Oui	Oui	Oui	Oui	Oui	Oui	Oui	✓	✓	Nombre et gravité des accidents
	Fraude et traçabilité	Oui	Oui	Oui	Oui	Oui	Oui	Oui	✓	✓	Précision des remboursements
Performance financière	Niveau de services et rentabilité CSP	Oui				Oui	Oui	Oui	✓	✓	Nombre de visites des sites CPS semaine/ cout/contenant
	Couts d'opération	Oui	Oui	Oui	Oui	Oui	Oui	Oui	✓	✓	Surface, main-d'œuvre, équipements, consommables

8.4.2 SOCIAL acceptability

- The elements of social acceptance are assessed in the interim report, but will be enriched by the data from the survey and the meetings that will be conducted with the client service of the municipalities concerned.

8.4.3 ENVIRONMENTAL performance

Environmental performance will be assessed based on two factors. Comparison between pilot installation and traditional pre-pilot installation

- Customer travel (+ or -)
- Logistics travel (+ or -)

8.4.4 OPERATIONAL performance

Operational performance will be evaluated on the basis of two factors comparing the situation during the pilot and the pre-pilot situation.

Quality of materials

- Aluminium, plastic, cartons and glass

Health and Safety

- Frequency/number of accidents during and before the pilot
- Assessment of pilot risk

Fraud and traceability

Comparison between pilot installation and traditional pre-pilot installation

- No more risk of fraud problems
- Pilot traceability potential (ability to trace potential fraud)

8.4.5 FINANCIAL performance

It is difficult to assess financial performance for comparative purposes. Indeed, the cost of space and the hourly cost of labour , among others, can vary enormously depending on the location of the pilot project or the type of organization involved. In this context, it is preferable to compare the elements separately. It is important to note that in the Eminent context of an upcoming call for tenders, Tomra preferred to refrain from specifying the cost of the equipment used by the pilots (P1, 2, 3 and 4). The evaluations provided by Tomra at the beginning of the pilot for similar concepts are therefore the basis of the evaluations provided (summer 2020). These assessments will be refined in the final report.

- Surfaces in ft² of spaces
 - Inside
 - Exterior (occupied parking)
- Labour force in ETC (cpmplet time equivalent)
 - Based on 35 hours per week
- Facilities : expenses and evaluations completed for pilot installation
- Equipment: technical references of the equipment used for the pilot
- Logistics: pilot-specific logistics elements

TABLEAU 8.2 : SYNTHÈSE DES PROJETS PILOTES

Expérience client et parties prenantes	Modèle de récupération Pilote	Critères	Dépôt Granby P1	Kiosque Châteauguay P2	Détailant Maxi Mtl P3	Annexe SAQ P4	Dépôt CDUM P5	Dépôt Mont-Laurier P6	Projets Valoristes P8	
Acceptabilité sociale	Mobilisation des intervenants régionaux Salubrité Odeurs Bruits Nuisances	Mobilisation des parties prenantes	++	0	0	+	+++	+++	++	
		Salubrité	OK	OK	OK	OK	OK	OK		
		Odeurs	OK	OK	OK	OK	OK	OK		
Performances environnementales	Déplacements citoyens Déplacements opérations	Nuisances	OK	OK	OK	OK	OK	OK		
		Volume de récupération 2019	Même	Même	Même	N.D.	Même	Moins		
		Volume de récupération avant pilote	0,95 mc./an	3,40 mc./an	3,40 mc./an	N.D.	N.D.	N.D.		
Performances opérationnelles	Volume de récupération durant pilote Capacité de traitement théorique Heures d'ouverture Contenants de la consigne élargie Qualité des matières	Volume de récupération durant pilote	3,00 mc./an	2,44 mc./an	3,40 mc./an	0,41 mc./an	9,40 mc./an	4,00 mc./an		
		Capacité de traitement théorique	30 000 c./h	7 200 c./h	10 800 c./h	3 600 c./h	N.D.	N.D.		
		Heures d'ouverture	49 h	98 h	91 h	68 h	45 h	57 h		
	Fraude et tracabilité	Contenants de la consigne élargie	6,3%	7,6%	4,5%	88,1%	2,7%	5,2%		
		Qualité des matières	OK	OK	OK	OK	OK	OK		
		Santé sécurité	OK	OK	OK	OK	OK	OK		
Performances financières	Surface intérieure utilisée par le pilote Surfaces extérieures Surfaces pour contenants ronds M.O. équivalent temps complet Aménagement et infrastructures Location de locaux Équipements de manutention (spécifique) Équipements de manutention (général) Équipements de récupération (RAS)	Basé sur l'identification des contenants à la source	5 000 pi2	1 000 pi2	1 500 pi2	1 000 pi2	3 000 pi2	5 000 pi2		
		Inclus	Inclus	Exclu	Exclu	800 pi2	Inclus	1 500 pi2		
		2,8 ETC	80,0 k\$	1,2 ETC	30,0 k\$	0,65 ETC	M.O. adaptée	4,0 ETC		
	Opération ICI/CSP	Location de locaux	30,0 k\$	19,0 k\$	7,0 k\$	5,0 k\$	2,0 k\$	1,0 k\$		
		Équipements de manutention (spécifique)	40,0 k\$	500 k\$	90 k\$	80 k\$	40,0 k\$	40,0 k\$		
		Équipements de manutention (général)	500 k\$	180 k\$	90 k\$	80 k\$	N.D.	N.D.		
	Mise en garde : Les données présentées sont à titre indicatif. Toute utilisation hors-contexte est risquée.	Opération ICI/CSP	N.D.	S.O.	S.O.	S.O.	S.O.	N.D.		
		Données préliminaires								
		Données à venir								

Les constats préliminaires seront finalisés avec les réponses du sondage et la rétroaction du service à la clientèle (plaintes) des municipalités concernées

Données du sondage en cours
Comparaison avant/durant pilote

Le magasin estime l'augmentation de volume à 40 % (c. consignés)
Extrapolations basées sur données du 13 sept. au 10 oct.
Contenants par heure, spécifications du manufacturier

Excluant les installations pour la récupération des contenants
Excluant les espaces de stationnement d
Pricipalement des CRU et CRM de bières
Excluant les activités effectuées en sous-traitances
Dépenses pour projet pilote

Bacs de récupération, transpalettes, vélo électrique

Valeur à neuf des équipements utilisés en pilote (estimés)
Sera évalué au rapport final

9. LESSONS LEARNED

Although pilots have only been retrieving the containers of the extended deposit for a few weeks, by observing all of them, we can certainly identify some interesting guidelines.

9.1. LEGO BLOCKS

Each pilot allowed us to learn from it, but it would be a shame to consider the pilots as completely independent initiatives and limit ourselves to the lessons specific to each.

The number of available client seats

Although newer versions of ARs offer better performance in terms of the number of containers per minute, human capacity ultimately limits achievable performance.

It is therefore important to have a sufficient number of client workstations available to allow Adequate level of performance during peak hours.

More endpoints also reduce installation vulnerability

- Failures
- Full bins
- Cleaning required
- Changing ribbons

Autonomy and handling

One of the goals of the P3 pilot: modern retailer Maxi Papineau-Crémazie was to recover containers in bins rather than bags to reduce bag change interventions.

However, it has proved difficult to make this exercise profitable, because as soon as the capacity of the bags is exceeded in terms of the number of containers, it is necessary to have

handling equipment, the total weight of the containers and bin exceeding the capacity of human handling.

In this spirit, all necessary handling must be mechanically assisted, from the recovery of a full bin to loading into a truck. So, everything would have to be rethought (equipment, storage, training, qualifications and safety).

The new containers, heavier like cardboard and especially glass, will make the use of bags much more difficult. The bags simply do not meet the needs of granulated or round glass (30 bottles of wine are more than 10.5 kg).

Stand-alone installation (annexes, kiosks)

The establishment of autonomous space to carry out the recovery of containers is an interesting alternative, but more expensive. The installation of the kiosk required nearly \$165K and that of the annex nearly \$100K.

The rest of the pilot will enlighten us on the operational aspects in winter conditions.

- **Advantages :**
 - Allows containers to be processed outside the store
 - Allows you to restrict the space needed in store and warehouse
 - Allows container recovery activities to be carried out in total autonomy
- **Disadvantages**
 - High installation costs
 - Additional operating costs
 - Requires parking space
 - Difficult to obtain permits and authorizations from municipalities

9.2. INCREASE THE VALUE OF THE GESTURE

The comments collected during meetings and site visits allow us to consider the hypothesis that the combination of causes (economic, ecological and social) could have a positive effect on return rates by increasing the perceived value of the gesture by the citizen.

- **Economic value**

The low rate of containers of the extended deposit recovered by pilots tends to demonstrate that a deposit exerts some motivation on the citizen to return his containers.
- **Ecological value**

The citizen recognizes, at least for a significant part of the population, the ecological value of his gesture when he returns his returnable containers.
- **Social value**

Information from the pilots of Cap-de-la-Madeleine (P5), Mont-Laurier (P6) and Les Valeristes (P8) contributes to the hypothesis of a social value attributed to the gesture.

 - **The regional multiplier aspect**

This aspect seems to multiply, at least for part of the population, the value of the social gesture when the citizen can sense the impact of his social gesture on his immediate environment.

 - The CDLM pilot uses adapted labour from the region
 - The pilots of the COOP des Valeristes make it possible to improve the conditions of Montreal's valoristes and, at the same time, the reduction of litter on the territory
 - Mont-Laurier pilot contributes to reintegration efforts for citizens of the region

It was important to set up guidelines and conduct regular follow-ups with organizations with social missions to ensure that social aspects were not prioritized to the detriment of the objectives and coherence of the pilot projects.

9.3. MAKING IT easier FOR CITIZENS

The perceived value of the gesture must be greater than the perceived value of the effort to carry out the gesture itself.

The meetings made during site visits as well as the analysis of comments left on the site www.onconsigne.ca allow us to deduce that the following elements contribute to encouraging citizen action.

- **Availability** : opening hours
- **Accessibility** :
 - Parking for accessibility by car
 - Bring all containers to one place
 - Close to commercial areas and public transit to facilitate accessibility to pedestrians
- **Ease of use** :
 - Helping citizens to carry out their actions: information and assistance during use (in person or virtually)
- **Efficiency/Speed** :
 - No queues
- **Customer Experience**
 - Reception
 - Cleanliness of the premises
 - Absence of unpleasant smells and noises
 - Security during access and during the execution of the gesture
 - Don't want to have to come back with unaccepted containers

9.4. AUTOMATION THE KEY TO SUCCESS

The P1,2,3 and 4 pilots allowed us to see the benefits of the technology.

- Facilitate data collection
 - Evaluate the volumes of different types of containers recovered
 - Quickly identify problematic containers
- Avoid reimbursing non-returnable containers
- Monitor sites remotely
- Optimize logistics
 - Recover at the right time
 - Recover less often (container compression)

Next-generation ARs are more efficient, accommodate a wider range of containers and are equipped with advanced fraud detection elements. This degree of sophistication requires diligent impetus and also makes machines more vulnerable to breakage if not operated properly.

9.5. GLASS HANDLING IMPOSES A NEW PARADIGM

The handling and transport of glass containers recovered and crushed by RAs requires the use of specialized equipment due to the weight and cutting nature of the material.

Brewers traditionally collected the vast majority of round glass containers sorted into crates on pallets prepared by retailers at the time of the delivery. This methodology allowed the use of delivery equipment for glass recovery.

The recovery of large quantities and diversity of glass containers that will come from the extended deposit will be difficult to achieve under the same conditions. Handling activities will therefore require specialized equipment to ensure handling from the collection point (RAs, commercial line or counter) to loading into recovery trucks.

9.6. Not EASY TO ELIMINATE BAGS IN RAs

Analyses carried out at the beginning of the pilot allowed us to see that it is not easy to eliminate the carrying bags traditionally used in RAs (used for lightweight containers). We tried to use larger bins to allow greater autonomy of the equipment. However, as soon as the volume of containers recovered in

bag outdated, it is no longer possible to move them by hand (according to the regulations in force). The use of handling equipment then greatly increases handling time. The storage capacity of the bins must therefore be considerable to compensate for the ease and speed of handling smaller bags.

9.7. MOTIVATION, THE DRIVING FORCE

The motivation of the actors of each of the pilot projects is at the heart of the performances obtained by the pilots. However, it must also be considered that the scarcity of labour, accentuated since the beginning of the pandemic, quickly becomes problematic when activities related to the recovery of returnable containers compete for the same resources than those of the company's core business activities.

Welcome and help to customers during their visits

These aspects are confirmed at the following sites:

- Granby Drop-off Centre
- Cap-de-la-Madeleine Depot Centre
- Mont-Laurier Deposit Centre
- SAQ Appendix

Engaging partners

The example of the following pilots shows that engaging partners in the region maximizes regional recovery efforts in the case of drop-off centres.

- Cap-de-la-Madeleine Depot Centre
- Mont-Laurier Deposit Centre

Pamper equipment to gain autonomy

The experience of the Châteauguay booth shows that the efforts made to prepare the facilities and maintain them make it possible to achieve a greater degree of autonomy. than interesting.

9.8. LOGISTICS, THE SINEWS OF WAR

The logistics developed and implemented for the pilot projects were only intended to support, least cost, their realization.

Indeed, the logistical aspect is not the subject of any specific objective of the pilots' specifications. However, after a few weeks of operation, logistical constraints were noted and addressed, including:

- Retrieval frequency
- Use of bins for container recovery
- Recovery and handling of glass containers
- Height storage
- Handling equipment
- Etc.

The logistical elements will greatly affect the technical and economic feasibility of the different recovery methods that will be selected for the future model of the deposit system. It should therefore be at the heart of the design work of the new system.

9.9. PREPARETÉ OF THE SITES

The area around the pilot project facilities was to be maintained on a daily basis. Many rejected containers (code not included in the database, container not subject to the deposit) are left on site, resulting in an accumulation of rejected containers and waste (crates and bags) at the various pilot sites.

10. RECOMMENDATIONS

The recommendations presented here are general in nature and independent of the exercise to define the system to be put in place. Any recommendation on the new system not based on elements experienced during the pilot projects is simply outside the scope of this mandate.

10.1. COMMUNICATIONS

Plan to communicate the outcome of the events to the users of the various pilot projects at the end of the pilot projects, scheduled for January 31, 2022.

- Pilot results
- Status of each pilot (extended, completed, conditions)
- Timeline

Provide an expanded communication plan for the launch of the new deposit system

- What are the containers covered by the new system and deposit amounts
- Return sites (and opening hours)
- Refund methods (counter, electronic refund, etc.) Transmit container

information using the RAs interface:

- Display of the set value of each accepted container (this is already the case currently)
- View the reason for the rejection of a container
 - Non-returnable container
 - Multi-fill container to be returned to the counter
 - Non-compatible container material (e.g. ceramic or multi-material)

10.2. RECOVERY AUTOMATION

Preference should be given to the use of automated equipment for identification, compression, reimbursement value and electronic payment of returnable containers. The use of recovery technologies must be preferred, regardless of the nature of the collection point or operator (private, Crown corporation or NPO).

The benefits of technology are numerous

- Reduced labour costs
- Reduction of logistics costs (compaction of containers)
- Fraud Control Automation
- Compaction of containers also reduces the risk of reintroducing containers that have already been compensated into the system
- Avoids mistakenly compensating for non-returnable containers
- Allows electronic refund of deposit
 - Avoids systematic passage to the service counter
 - Avoids refund errors

10.3. TECHNOLOGY INFRASTRUCTURE (IT)

- The technological platform of the new deposit system will have to be robust, scalable and secure
- Ethical rules will have to be put in place for the conditions of use of Information management and sharing :
 - Necessary for the recovery of containers
 - Promote container recovery
 - Proviendra container recovery activities

10.4. DATABASE

Immediately begin the preparation of the database that should already be in place and validated on day 1 of the extension of the instruction.

- Procedures with GS1
- Approaches to producers who are not members of GS1
- Approaches to producers to obtain the products they wish to put into use Sale in Quebec

The database should also be able to contain information on containers that are not returnable (those that may be confused with returnable containers). Thus, when a consumer tries to deposit a container without a deposit, the machine interface could notify him. This would avoid a process at the counter of services.

- Identification and registration of local products
- Identification of SAQ products obtained through private importation
- Product neckinformation , weight dimensions

10.5. PRODUCT IDENTIFICATION :

- Control over the size of the barcode that appears on the product
- Control over colors surrounding the barcode to avoid reading difficulties
- Obtain the type of barcode used by the producer. The following types are most commonly encountered on beverages and beverages:



- Get the exact product code, the series of numbers that appear, when read by a barcode reader
- Avoid adding 0s to the beginning or spaces separating series of numbers
- Validate products that have a barcode of a length other than 6, 8, 10, 12 and 13 characters
- For local products:
 - Require a GS1 GTIN
 - Or require UPC-A or EAN-13 format, because UPC-E and EAN-8 have the same length
 - Do not allow the use of truncated codes
 - Do not allow barcode reuse

- Barcode on 125 ml single serving juice cartons

10.6. DEVELOP AND IMPOSE LIMITS

Impose dimensional limits on authorized means of containment or strike containers exceeding certain limits with an additional EHF to compensate for the effort invested in manually retrieving them

Problematic containers :

- Combination of two or more materials combined
- Plastic sleeve on aluminum containers
- Problematic materials (e.g. ceramics)
- Excessive dimensions (e.g. Coureur des bois bottles)
- Unconventional forms



10.7. PREPARING THE MUNICIPAL WORLD

Continue the representations and awareness of Quebec municipalities initiated by the municipal committee set up for this project to facilitate the introduction of set-point elements that could potentially be deployed to support the new deposit system.

Involve Quebec's major municipalities early in the design process of the new deposit system to develop an elegant and effective approach in urban areas (cities with more than 100,000 inhabitants).

10.8. TAGS AND TRACKING

Set up guidelines and follow-up activities to guide the organizations that will potentially be involved in the new deposit system. Especially if these organizations have social missions to ensure that social aspects are not prioritized to the detriment of objectives, coherence of activities and messages conveyed.

10.9. OTHER BULK RECOMMENDATIONS

- Prevent merchants from sticking a label over the barcode of products
- Ensure when selecting RAs that they can accommodate a sufficient amount of barcodes in memory (minimum of 250k produced)
- Provide a system compatible with that of cash registers to maintain the information necessary for container refunds
 - Recorded or not
 - Set value
 - Value of EHF's
- Offer the possibility to check, via a mobile application, if a container is under deposit or not. In this way we avoid the inconvenience of a rejection of containers by RAs

11. PROCHAINS STEPS

The completion of the following steps is planned to allow for the elegant finalization of the pilot projects, capitalize on the elements put in place and submit the final report no later than February 28, 2022.

11.1. EXTENSION OF CERTAIN PROJECTS

Following the submission of the interim report, the internal steering committee will be called upon to meet decide on the immediate future of the pilot projects as of January 31, 2022. Indeed, the internal steering committee may find it wise to maintain some of these pilots to promote the implementation and performance of the future set-off system.

Once this position has been defined, it will be presented to the external steering committee for discussion.

11.2. DISCUSSIONS WITH PILOT PARTNERS

The position adopted by the steering committees will be shared with the partners of the different projects. If some pilots get the green light to be extended, discussions may take place between the partners (operators and equipment manufacturers) as well as with the consortium of producers.

Houston Consulting may be involved in discussions to resell certain assets acquired during the pilot projects.

The decision to continue certain pilot projects will, if necessary, be forwarded to Houston Conseils.

11.3. PLANNING FOR THE DISMANTLING OF PROJECTS

The organization of the dismantling of the pilot projects will begin on 30 November with the partners. To be expected:

- Planning for the shutdown of the recovery (total or partial) of containers in depending on the different projects and the intentions of its partners.
- Planning for the removal of Tomra equipment
- Discussions on the disposal of certain assets (kiosk, annex, recycling bins , etc.)

11.4. DISMANTLING PILOTS

Here is the planned high-level decommissioning plan (unless the consortium of producers wishes to preserve activities on certain sites or if the pilot projects were to be extended over time).

For all pilots :

- Implementation of communication elements to notify users of the end of Pilots : December 2021
- Extended policy recovery stop: February 1, 2022
- Last Special Recovery Logistics: Week of January 31, 2022
- Back to regular recovery logistics (bottlers and brewers): week of February 6, 2022

P1: Granby Drop-off Centre

- Removal of Tomra equipment
- Asset disposal (bins)

P2 Kiosk of Châteauguay

- Removal of Tomra equipment
- Removal from the kiosk
- Restoration of the premises
- Asset disposal (kiosk, bins and others)

P3 Modern Retailer

- Removal of Tomra equipment
- Restoration of the premises (dismantling of the premises if required by retailer)
- Asset disposal (bins and others)

P4 Appendix of the SAQ Depot

- Removal of Tomra equipment
- Withdrawal from Annex
- Restoration of the premises
- Asset disposal (kiosk, bins and others)

P5 Cap-de-la-Madeleine Deposit Centre

- Stopping recovery activities

P6 Mont-Laurier Depot Centre

- Stopping recovery activities

P8 Specific urban recovery projects

- No action planned

11.5. WRITING OF THE FINAL REPORT

The final report will be finalized by February 28

- Presentation to the internal steering committee by 15 February 2022
- Presentation to the external steering committee by 22 February 2022

A NNEXE 1 : CENTRE DE DÉPÔT GRANBY

The Granby pilot project is directly inspired by the concept of the regional repository as defined in the Phase 1 report submitted by Houston Conseils to the members of the external steering committee in September 2020.

A1.1 INTENTION

- Experiment with the operation of a deposit refund deposit in a context semi-urban
- Experiment with the operation of collection routes for containers from CSP and outside the home
- Currently returnable containers + all new containers in the expanded deposit
- Modern RAs installation and counter with clerk for reimbursement
- Keep the collection of multi-fill beer containers as well as beer containers brought back in crates by customers at the depot counter

A1.2 DESCRIPTION

The Granby drop-off centre is located on land with a retailer a grocery store, a convenience store, a gas station and a grocery store. fast food.

The premises adjacent to the pharmacy are located in front, about 100 meters, of the food retailer IGA St-Pierre.

The drop-off centre is designed to provide an unparalleled recovery experience. Clean room, ample parking, Use of state-of-the-art recovery equipment.

Although a legally independent entity, the deposit center is managed by Miguel St-Pierre, owner of the IGA. This drop-off centre has been collecting returnable containers since May 22, 2020 and has been receiving containers from the extended deposit since July 31.



Six AR recovery stations have been installed as well as a recovery line commercial.

- 6 RAs T9 (capacity of 60 containers per minute) coupled to compactors for lightweight containers
- A fast commercial line (capacity of 140 containers per minute) with a carousel and a *soft drop* unit allowing the rejection of unidentified containers without risk of breaking them

Thus equipped, this drop-off centre can easily recover 10 million containers annually.

Once identified, the containers are separated into two factions by the RAs. The information that separates containers according to material and the calculation of reimbursements is based on the recognition of the barcode of containers s. The reading of the CUP provides access to information from the database prepared specifically for pilot projects.

Lightweight containers:

metal, plastic and cardboard

compacted by the RAs and then transported by a conveyor system in large recovery and storage bins.

Heavy containers:

Glass

Routed round without compaction to large collection and storage bins.

The light container bins are sent to the Tomra packer in Baie-d'Urfé to be packaged. Once emptied, the large containers are returned to the depot by the logistics department.

The heavy container bins are transported to the site of the Consortium Écologique (which is responsible for the logistics service) to be removed into a large container. This container is recovered when full by 2M Resources which packages the glass before reselling it, in large part, to Owens-Illinois which uses this glass in the manufacture of new containers.

The depot will also soon organize some recovery routes from places of consumption on site.

A1.2.1 PARTNERS

Tomra Canada inc.

- Provides equipment for the pilot period
- Participates in promotional and communications efforts

IGA St-Pierre et Fils

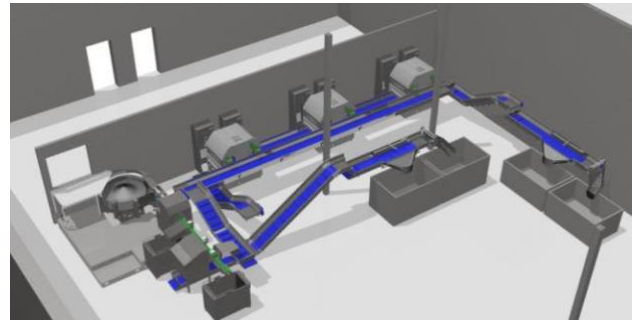
- Détaillant opérateur

Sobeys Corporate

- Actively participates in the project

Soft drinks environment

- Completes the communications plan



A1.3 SPECIFIC COMMUNICATIONS AND PROMOTION

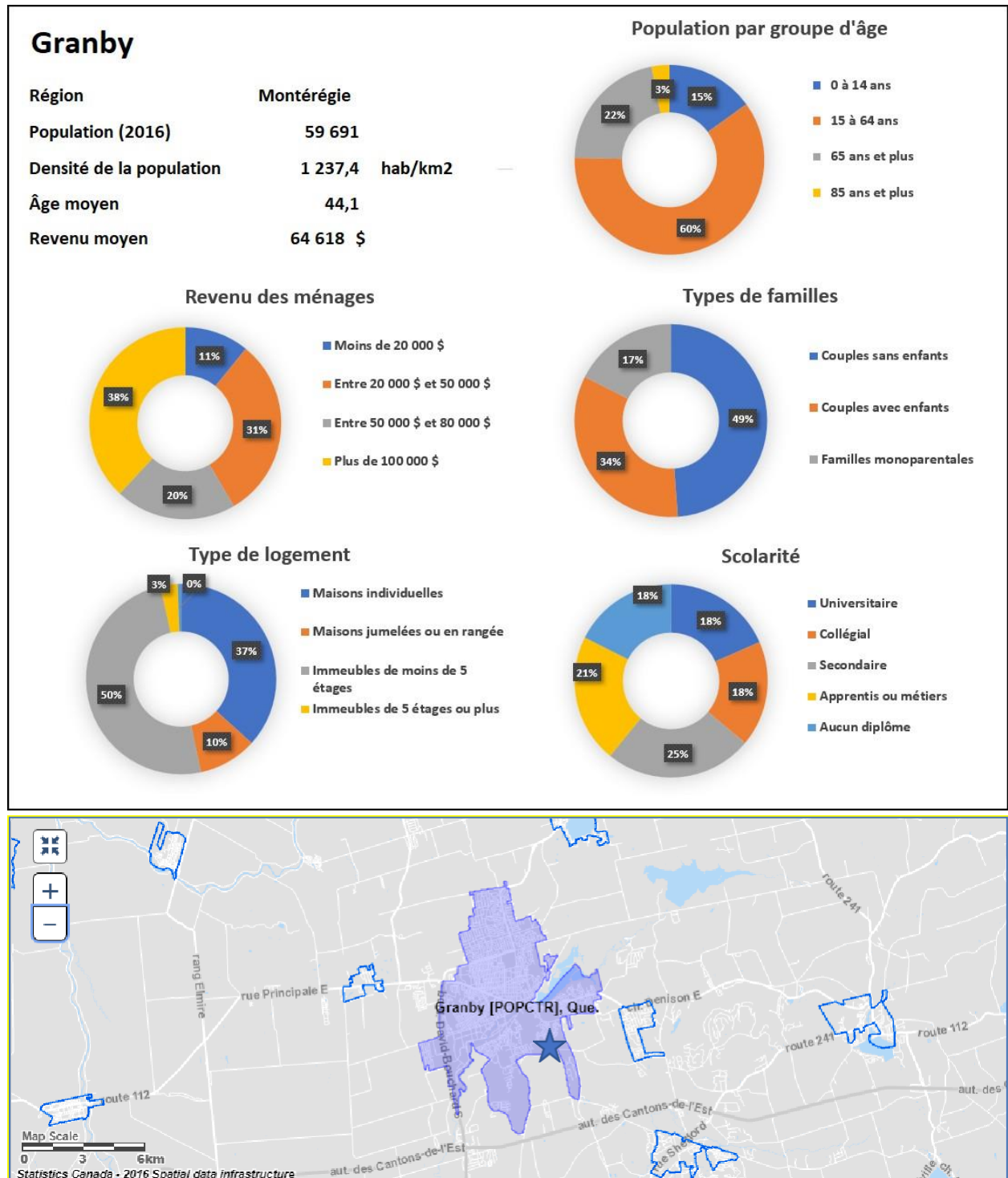
COMMUNICATIONS PLAN INITIATIVES

- **Press relations:** media coverage of the project
- **Publications:** local newspaper Granby Express – 42,012 readers
 - Photos of the new site by a professional photographer
 - Ad 1/2 page August 18, 2021
 - Advertisement 1/2 page September 1, 2021
- **Radio broadcast :** Energy (106.1) and Red (102.7) stations
 - Week of August 16, August 23 , September 6 and September 13, 2021
 - 30-second commercials
 - Énergie Estrie (106.9) : 140 occasions
 - Red (102.7): 140 opportunities
- **Microsite:** page dedicated to the site: <https://onconsigne.ca/villes/granby>
 - 4,896 visitors
- **Social media and newsletters:**
 - Geo-targeted publication of the Granby region
 - 139 715 impressions
 - 3,696 ad clicks

PARTNER INITIATIVE

- Promotion of the program on the City's Facebook page.
- Promotion on the City's digital signs.
- Report in local media
- Publications on the IGA St-Pierre Facebook page
- Video posts on YouTube

A1.4 SOCIO-DEMOGRAPHIC PROFILE



A1.5 PERFORMANCES

A1.5.1 CUSTOMER EXPERIENCE AND STAKEHOLDERS

The level of service provided by the depot staff and the attention paid to customers promote an excellent customer experience. The survey data will shed more light on the final report.

- **Membership in return for deposit :**
 - Returnable container recovery volume in store in 2019 0.95 mc/year
 - Volume of container recovery at deposit 3.0 mc/year (04.2020 to 03.2021)
 - Container recovery volume since the modernization of the repository 4.5 mc/year (extrapolations)
- **Bag drop return membership :** the new bag collection service made possible by the presence of a commercial line is increasingly used by customers
 - Represents more than 40% of containers recovered via the commercial line (evaluated in the last week of September 2021)
- **Mobilization of regional stakeholders:** Miguel St-Pierre is very involved in Granby. This situation naturally fosters relationships with regional stakeholders such as:
 - Local media
 - Municipal Services
 - Neighbouring retailers
- **Satisfaction of stakeholders in the region :** meetings with retailers in the region will be held in Part 2 of the mandate and the results of these meetings will be presented in the final report

A1.5.2 SOCIAL ACCEPTABILITY

The site is very well maintained by the employees who are dedicated to its operation

- **Health :** the housekeeping of the site is exemplary
- **Odours:** no odours can be detected on the client side of the drop-off centre
- **Noise:** the noise level is acceptable in the drop-off centre although it can be heard quite well the operation of the equipment
- **Nuisance :** the site is well lit and there is always an operator inside during opening hours

A1.5.3 OPERATING PERFORMANCE

Analysis of the recovery performance of the Granby drop-off centre reveals a weekly average of more than 86k containers (more than 4.5 million containers annually). This average is below the theoretical capacity of the facility (approximately 10 million containers annually).

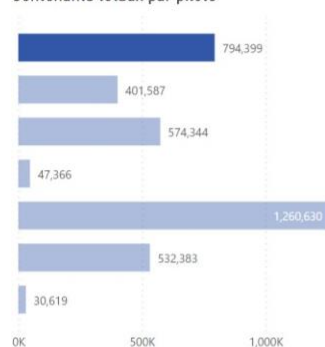
Prior to the launch of the pilot, the depot maintained an average return of approximately three million containers annually (58 k/week).

Containers in the expanded deposit represent approximately 5% of the volume of containers received. And the rate of containers rejected by RAs remains at almost 2%.

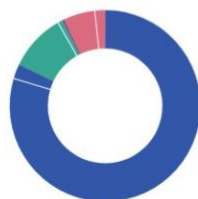
TABLE A1.1: PERFORMANCE OF THE GRANBY DEPOT CENTRE

Performance des projets pilotes

Contenants totaux par pilote



Contenants totaux par matière



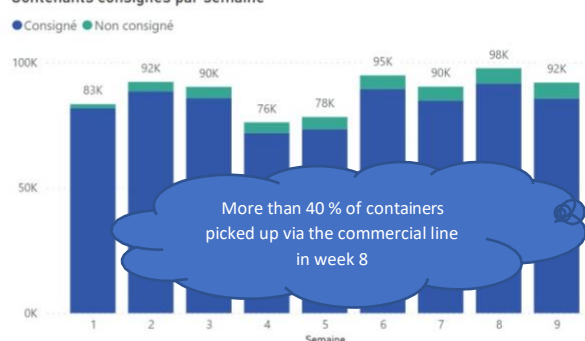
- 1: Dépôt Granby
- 2: Kiosque Châtea...
- 3: Détaillant mode...
- 4: Annexe SAQ
- 5: Dépôt CDLM
- 6: Dépôt région
- 8: Valoristes

- Matériel
- M1 : Métaux
- M2 : Plastiques
- M3 : Cartons
- M4 : Verres

Rejets gobeuses % (P1 à P4)



Contenants consignés par semaine



Matériel	Consigné	%	Non consigné	%	Total	%
M1 : Métaux	632,513	97.0%	19,705	3.0%	652,218	82.10%
M2 : Plastiques	76,964	92.0%	6,648	8.0%	83,612	10.53%
M3 : Cartons	42,373	75.4%	13,842	24.6%	56,215	7.08%
M4 : Verres	42,373	75.4%	13,842	24.6%	56,215	7.08%
Total	751,850	94.6%	42,549	5.4%	794,399	100.00%

Houston
Conseils

Projet
1
Pilotes
9
Semaines
Contenants
Consigné
751,850
Non consigné
42,549
Taux de consigné
94.6%

Rejets
15,482
Taux de rejet
1.9%

Semaines
De 1
À 26
Du 8/9/2021
au 10/10/2021
Mis à jour le 2021/10/14

Equipment and logistics

The performance of the equipment is up to expectations. Very few failures have been recorded since the beginning of the pilot.

The logistics service based on the recovery of large containers requires the use of a forklift for their handling. After some adjustments, an adequate service of three weekly visits was organized. The contribution of the employees of the drop-off centre as well as the use of the forklift are necessary during the recovery of the containers.

Quality of materials

The sorting of materials is excellent as the information provided by the reference database is accurate.

Lightweight containers are compacted to allow for optimal storage while maintaining the integrity of the containers allowing mechanical sorting without problems. The glass is neither compacted (to limit the costs of the system) nor separated by color. However, it would be possible to equip the system with mechanisms to granulate glass in order to improve storage and transport efficiency. The system could also be modified to allow glass separation by color. The separation of glass by color is an economic decision based on the price offered for the glass, or imposed by regulatory requirements.

Health and Safety

No notable accidents so far.

Fraud and traceability

The reimbursement of containers for this pilot project is based on the identification of the containers and the compilation of quantities at the source. This data is captured and can be analyzed later to detect fraud attempts.

7.1.5.4 Financial performance

Area requirements

The depot centre currently occupies a 7,500 ft² building. This building is however far too big for the needs. The area could be limited to 5,000 ft².

Manpower

Two people ensure the permanent operation of the depot centre during the 49 weekly opening hours (2.8 FTE).

- Monday to Friday from 11 a.m. to 6 p.m.
- Saturday and Sunday from 10 a.m. to 5 p.m.

Facilities and equipment

- Rental of a commercial space sharing the same parking lot as the IGA St-Pierre
- A budget of \$80K was required to redevelop the deposit centre in its current form
 - Wall separating the customer part from the operational part of the depot centre
 - Electrical arrangement for connecting equipment
 - Adding a compressor
 - Note that a large parking lot was already present on this site
- A budget of \$30K was required for the purchase of a fleet of 50 bins (*plastic Gaylord*) to support recovery logistics. There must also be a budget for the replacement of containers. No bins have had to be replaced so far.
- Forklift \$40K (estimate)
- Racking elements for pallets
- Tomra's sorting equipment represents an investment of approximately \$500K

Consumables

- Cleaning service
- Exterminator Service
- Kiosk and equipment insurance (included in kiosk costs)
- Container recovery logistics (not accounted for in the project)

CSP routes : no information yet available on the operation of roads

Will be developed in the final report

A1.6 TAKEAWAYS

- Citizens use RAs for the return of glass beer CRUS
- The sales line makes it possible to process returns of large quantities of containers recovered in bags. The use of this line represents nearly 40% of the total containers recovered (data from the last week of September 2021)
- It will be difficult to extend the duration of this pilot without having to resort to a logistics service adapted to the use of large bins for the storage of recovered containers.
- The staff dedicated to the task of recovering containers helps focus efforts and get the most out of the technology.
 - Assistance to clients
 - Equipment cleaning
 - Cleaning of the premises

Constraints and opportunities

- Focus the collection of containers from Granby to the drop-off centre by asking neighbouring retailers to encourage citizens to return their containers to this centre.

ANNEXE 2 : KIOSQUE CHÂTEAUGUAY

The Châteauguay pilot project is directly inspired by the kiosk concept as defined in the Phase 1 report submitted by Houston Conseils to the members of the external steering committee in September 2020.

A2.1 INTENTION

- Experimenting with the operation of an autonomous kiosk in a semi-urban context
- Currently returnable containers + all new containers in the expanded deposit
- Installation in the parking lot of a retailer and possibility of refund to the Retailer's service counter
- Keep the recovery of beer containers with multiple fills as well as beer containers brought back in crates by customers inside the store

A2.2 DESCRIPTION

The Châteauguay kiosk is located in the parking lot of a grocery retailer. The place also brings together two pharmacies, an SAQ Selection, a few retail stores, a Canadian Tire, a Bureau en Gros and a bank.

The kiosk is adjacent to the retailer's building about 30 meters from the entrance of the IGA Châteauguay.

It should be noted that the installation of the kiosk was originally planned at Galeries Saint-Hyacinthe near the SAQ Sélection.

At the time of meeting with the city's executive committee, the developer (owner-operator of Galeries Saint-Hyacinthe) preferred to withdraw in order not to compromise any of the clauses of the current leases.

Indeed, the pandemic context made landlord-tenant relations particularly sensitive at this time of the pandemic (February 2021).

The relocation of the kiosk to Châteauguay where Sobeys owns a corporate store and maintains strong business ties with the Promoter of the mall helped save this pilot.

The kiosk is designed to offer maximum autonomy and a recovery outside. It is installed in a large parking lot and uses equipment of recovery of the latest technology.

The kiosk was set up in July 2021 a few days before the expanded deposit containers were accepted on July 31.



Two independent RAs recovery stations were installed in two modified shipping containers.

- The kiosk physically occupies about 5 parking spaces. Some additional space is needed at the rear for logistics operations.
- The two spaces designed to accommodate guests are completely separate. Automatic doors allow access without having to touch the doors. The spaces rely on independent heating and air conditioning systems.

Thus equipped, this kiosk can easily recover more than 3 million containers annually.

Once identified, the containers are separated into two factions by the RAs. The information that separates containers according to material and the calculation of reimbursements is based on barcode recognition of containers. Reading the CUP provides access to Database information prepared especially for pilot projects.



Lightweight containers:

metal, plastic and metal
compacted by the RAs and then transported by a conveyor system into one of the three recovery and storage bins

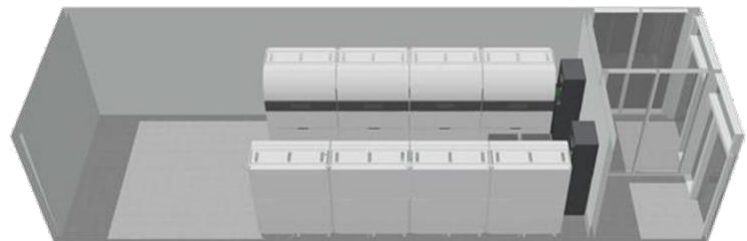
Heavy containers:

glass
roughly granularized and then conveyed through a conveyor system into a recovery and storage bin

A fleet of 30 European-sized bins optimizes the kiosk's storage quantities and accommodates logistics operations.

The light container bins are sent to the Tomra packer in Baie-d'Urfé to be packaged. Once emptied, the bins are returned to the depot by the logistics department.

The heavy container bins are transported to the site of the Consortium Écologique (which assumes the logistics service) to be unloaded into a large container. The container is recovered when full by 2M Resources which packages the glass before reselling it, in large part, to Owens-Illinois which uses this glass in the manufacture of new containers.



A2.2.1 PARTNERS

Tomra Canada inc.

- Provides equipment for the pilot period
- Participates in promotional and communications efforts

Sobeys Corporate

- Actively participates in the project

Soft drinks environment

- Completes the communications plan

A2.3 SPECIFIC COMMUNICATIONS AND PROMOTION

COMMUNICATIONS PLAN INITIATIVES

Press relations: media coverage of the project

- **Publications** in the local newspaper Le Soleil de Châteauguay - 60,345 readers
 - Photos of the new site by a professional photographer
 - Publication 1/2 page 18 August
 - Publication 1 /2 page 1^{September}
- **Radio** broadcast on CHAI-FM (101.9) and CKOI (96.9)
 - Advertisement 30 sec. weeks of August 16, August 23, September 6 and September 13
 - CKOI: 128 opportunities
 - CHAI Châteauguay: 120 occasions
- **Microsite** : dedicated page <https://onconsigne.ca/villes/chateauguay>
 - 4,940 visitors
- **Social media and newsletters:**
 - Geotargeted publication of the Châteauguay region
 - 103 692 impressions
 - 2,958 ad clicks.

PARTNER INITIATIVE

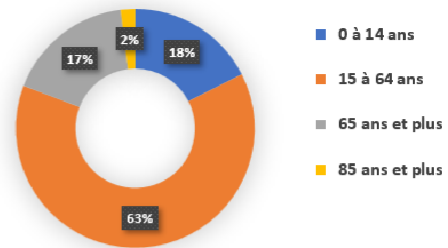
- Page dedicated to the project on the Châteauguay website :
<https://ville.chateauguay.qc.ca/recyclage/projet-pilote-elargissement-recyclage/>

A2.4 SOCIO-DEMOGRAPHIC PROFILE

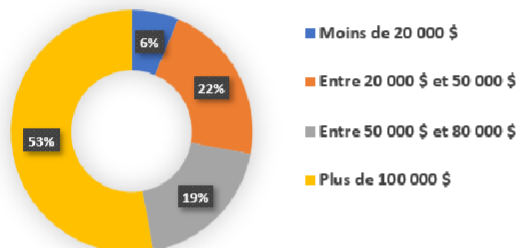
Châteauguay

Région	Montreal (Rive-Sud)
Population (2016)	71 164
Densité de la population	1 438,2 hab/km2
Âge moyen	41,1
Revenu moyen	77 909 \$

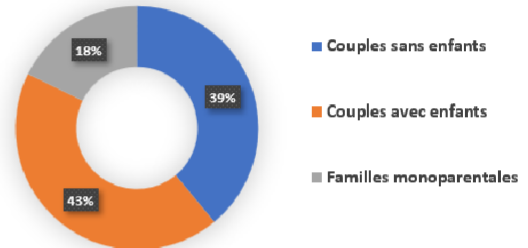
Population par groupe d'âge



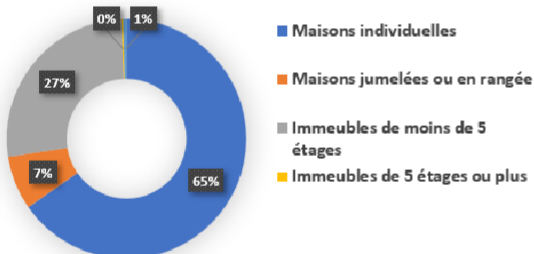
Revenu des ménages



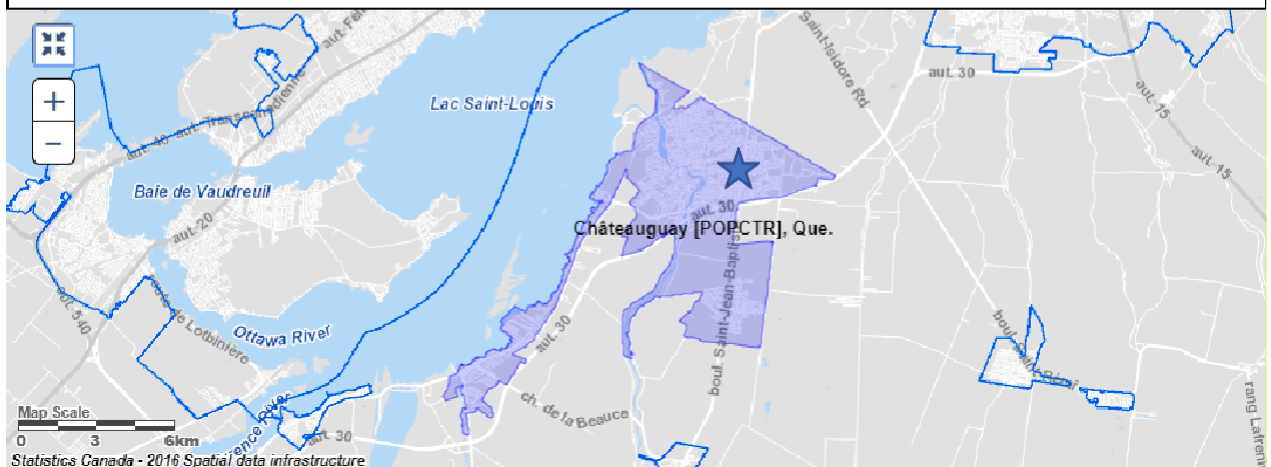
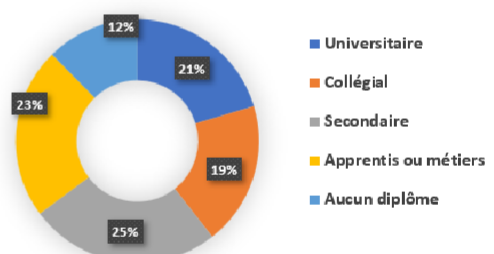
Types de familles



Type de logement



Scolarité



A2.5 PERFORMANCES

A2.5.1 CUSTOMER EXPERIENCE AND STAKEHOLDERS

The level of service offered by the kiosk depends greatly on the autonomy of the people using this service. Indeed, since this service is offered in the retailer's parking lot, it is more difficult to recognize and assist people in difficulty.

The survey data will shed more light on the final report.

- **Membership for return to newsstands :**
 - Returnable container recovery volume in stores in 2019 Coming soon
 - Container recovery volume Since the installation of the kiosk 2.3 mc/year (extrapolations)
 - The store estimates a 40% increase in the number of returnable containers collected weekly (estimate made in September 2021)
- **Regional Stakeholder Engagement:**
 - Good collaboration from Sobeys
 - Good cooperation of the site promoter
 - Good cooperation of the city of Châteauguay
- **Satisfaction of stakeholders in the region**
 - Meetings with retailers adjacent to the facility will be held in 2nd part of the mandate.
 - No special effort has been made to increase attendance at the site. jerks.

A2.5.2 SOCIAL ACCEPTABILITY

The site is well maintained by employees of the neighbouring IGA. Equipment cleaning is carried out religiously twice a day.

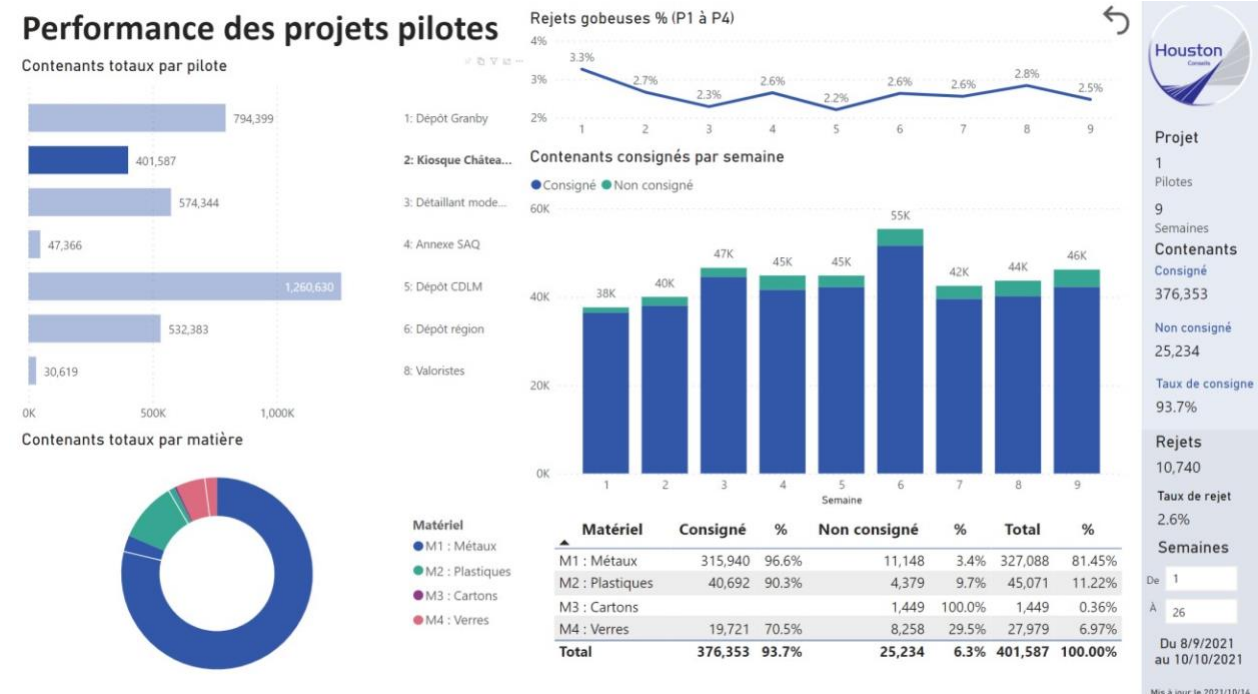
- **Health:** the housekeeping of the site is carried out by the contractor performing store maintenance. As the site is set back from the store, the containers do not accepted tend to accumulate in the service cubicles .
- **Smells :** smells of old beers were noted a few times during visits performed by members of the pilot's team
- **Noise:** the noise level is very low
- **Nuisance :**
 - The site is well lit and easily accessible via a sidewalk also giving access to the store
 - We had a problem with the presence of bees during the hot season and had to use the services of an exterminator to keep everything under control.

A2.5.3 OPERATING PERFORMANCE

The analysis of the recovery performance of the Châteauguay kiosk reveals a weekly average greater than 45K containers (i.e. more than 2.3 million containers annually). This average is below the theoretical capacity of the installation (maximum capacity estimated at 3.5 million containers annually by the manufacturer).

Containers in the expanded deposit represent approximately 6% of the volume of containers received. And the rate of containers rejected by RAs remains at nearly 2.5%.

TABLE A2.1: PERFORMANCE OF THE CHÂTEAUGUAY KIOSK



Equipment and logistics

The performance of the equipment and the autonomy of the installation are up to expectations. Very few failures have been recorded since the beginning of the pilot. Employees met confirm that the kiosk requires very little attention from them (compared to the Traditional RAs).

A logistics service carries out three collections per week in total autonomy. Employees do not have to contribute during container recovery operations.

Quality of materials

The sorting of materials is excellent as the information provided by the reference database is accurate.

Lightweight containers are compacted for optimal storage while maintaining their integrity, allowing for trouble-free mechanical sorting.

The glass is also coarsely granulated but is not separated by colour. However, it is possible to equip the system with mechanisms to allow the separation of glass by color. The separation of glass by color is economically justifiable according to the price offered for the glass, or by regulatory requirements.

Health and Safety

No notable accidents so far.

Fraud and traceability

The reimbursement of containers for this pilot project is based on the identification of the containers and the compilation of quantities at the source. This data is captured and can be analyzed later to detect fraud attempts.

A2.5.4 FINANCIAL PERFORMANCE

Necessary surfaces

Kiosk currently occupies 1,000 ft² of space in the store's parking lot. One additional space must be kept free to facilitate the necessary manoeuvres during the recovery of containers.

Manpower

Approximately 1.2 people are permanently operating the depot centre during the 98 Weekly opening hours .

- Monday to Sunday from 8 a.m. to 10 p.m.

Facilities and equipment

- A budget of \$180K was required to modify, assemble and install the shipping containers on site
 - Two separate cubicles to accommodate customers
 - Three independent air conditioning heating systems
 - Automatic doors
 - Outdoor lighting
 - Fire detector connected to a power plant
 - Fire extinguisher
 - Surveillance cameras
 - Outdoor platform for access (stairs) and unloading
- The purchase of a fleet of 30 European-sized bins at a cost of \$19K was necessary to support recovery logistics . There must also be a budget for the replacement of containers. No bins have had to be replaced so far.

- Electrical connection \$9K
- Pallet trucks \$600
- Tomra's sorting equipment represents an investment of approximately \$180K
- Rental of parking space (not counted for the project)

Consumables

- Cleaning service
- Exterminator Service
- Kiosk and equipment insurance (included in kiosk costs)
- Container recovery logistics (not accounted for in the project)

A2.6 CONSIDERATIONS

- Citizens use RAs for the return of glass beer CRUs
- It will be difficult to extend the duration of this pilot without having to resort to a logistics service adapted to the use of large bins for the storage of recovered containers.
- The kiosk allows to reach a considerable degree of autonomy (period of 4 to 5 hours of operations)
- The kiosk must be serviced daily (beware of the accumulation of waste in customer areas)
- Attention should be paid to odour control (beer)
- Special attention should be paid to the control of automatic doors (little clearance space once inside the kiosk)
- The kiosk concept could be redesigned. A different arrangement and equipment could allow for more capacity, more autonomy (storage capacity) and better logistical possibilities

A2.7 RECOMMENDATIONS

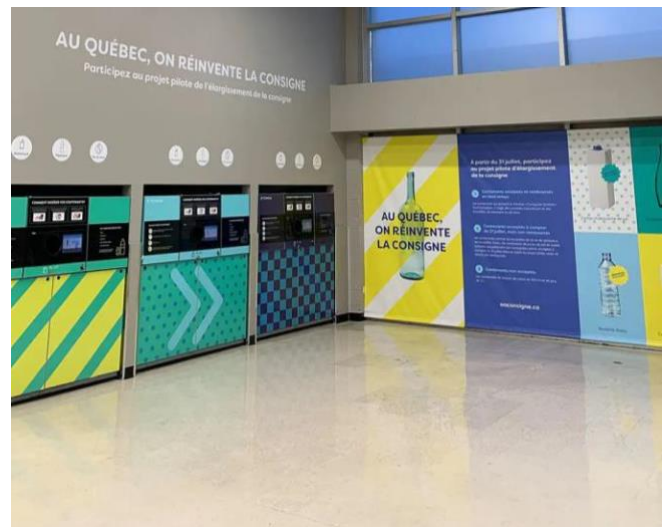
- Electronic reimbursement to avoid systematic visits to the service counter
- Equip the kiosk stations with an intercom connected to the retailer's service counter or a call center in order to be able to assist users
- Rethinking the kiosk concept for sites that need to collect a large number of containers
- This concept would benefit from being adjusted according to the logistics strategy that will be adopted for the new deposit system.

ANNEXE 3 : MODERN INSTALLATION AT A RETAILER

The Maxi Crémazie-Papineau pilot project consists of equipping the site with the latest generation RAs and reorganizing the recovery area. The purpose of the reorganization is to add space to allow bin changes from behind machines to minimize disruption to customer recovery activities.

A3.1 INTENTION

- Experimenting with the operation of returning containers in a modern facility in premises adjacent to the retailer's commercial activities
- Currently returnable containers and all new containers in the expanded deposit
- Installation in a room specially designed for the pilot and possibility of reimbursement at the dealer's cash registers
- Eliminate the use of bags for Recovery of lightweight containers.
- The recovery of multi-fill glass beer containers is excluded from the pilot.



A3.2 DESCRIPTION

The pilot carried out at Maxi Papineau consists of validating the impact for a retailer to recover the containers of the deposit

expanded into a space adjacent to the commercial activities of its store.

A room was built and three RAs were inserted into openings in the wall of the new room. This arrangement was intended to make it possible to make the changes of bins very quickly (empty bins on wheels being prepared in advance) and to reduce the number of containers between the RAs and the back room during busy hours.

A dashboard showing the status of the machines in real time has also been installed at the Service counter.

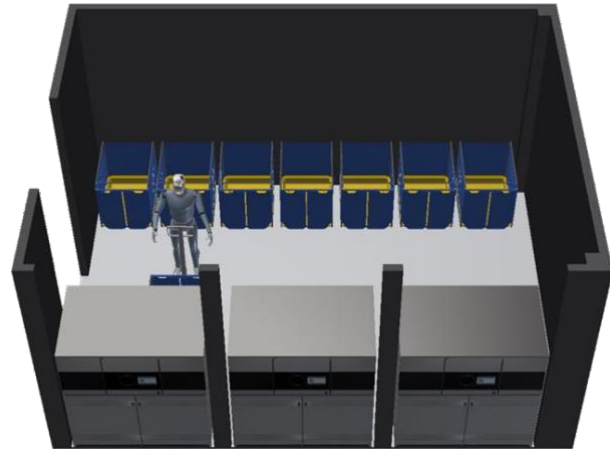
In order to optimize recovery activities by limiting machine downtime, two RAs have been configured to accommodate only the recovery of lightweight containers (metals, plastics and cardboard). The third has been configured to accommodate glass as well. Once inserted into this machine, the containers are identified and then separated into two factions. The information that separates the containers according to the material as well as the calculation of reimbursements comes from the recognition of the barcode on the containers. Reading this code provides access to information from the database prepared specifically for the pilot projects.

Lightweight containers:

metal, plastic and cardboard
compacted and then transported
and stored in one of the bins

Heavy containers:

glass
coarsely granulated, routed and stored
in a different bin



A fleet of 18 ferries on wheels allows
optimize their changes and storage
from glass to recovery operations carried out three times a week.

Lightweight containers are sent in plastic bags to the Tomra packer in Baie-d'Urfé for packaging.

The heavy container bins are transported to the site of the Consortium Écho-Logique (which assumes the logistics service) to be unloaded in a large container. The container is recovered when full by 2M Resources which packages the glass before reselling it, in large part, to Owens-Illinois which uses this glass in the manufacture of new containers.

A3.2.1 PARTNERS

Tomra Canada inc.

- Provides equipment for the pilot period
- Participates in promotional and communications efforts

Loblaws

- Actively participates in the project

Soft drinks environment

- Prepares and implements the communications plan

A3.3 SPECIFIC COMMUNICATIONS AND PROMOTION

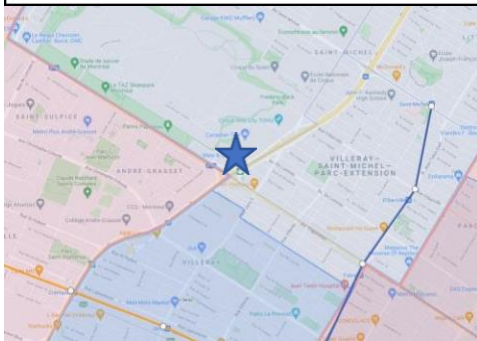
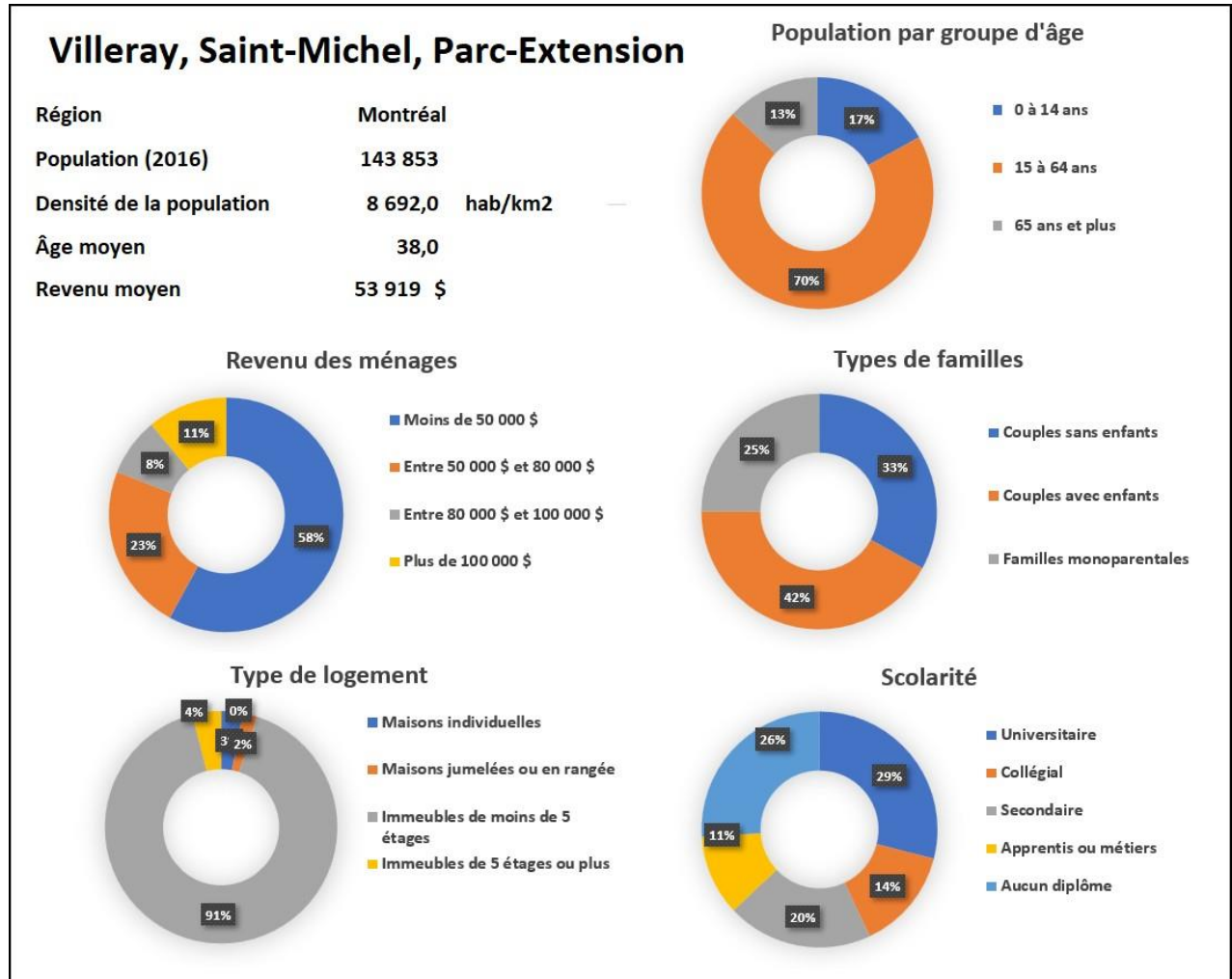
COMMUNICATIONS PLAN Initiatives

- **Press relations:** media coverage of the project
- **Local newspapers :**
 - Photos of the new site by a professional photographer
 - Metro Ahuntsic-Cartierville (35,377 readers) and Quartier V (17,731 readers)
 - Advertisement 1/2 page Metro Ahuntsic-Cartierville: August 18 and September 1, 2021
 - Advertisement 1/2 page Quartier V: August 18 and September 15, 2021
- **Radio broadcast :** CHMP-FM (98.5) and CKOI (96.9)
 - Advertisement 30 sec. Week of August 16, August 23 , September 6 and September 13, 2021
 - CHMP-FM 98,5 : 128 occasions
 - Ckoi (96.9): 128 opportunities
- **Dedicated page on microsite:** <https://onconsigne.ca/villes/montreal-maxi-papineau>
 - 24,467 visitors
- **Social Media Posts:**
 - Geotargeted publication of the Montreal region , Ahuntsic and Villeray sectors
 - 883 014 impressions
 - 25,709 ad clicks

PARTNER INITIATIVE

- Advertising that may be displayed on the store's Facebook page

A3.4 SOCIO-DEMOGRAPHIC PROFILE



A3.5 PERFORMANCES

Maxi Papineau-Crémazie recovers a large quantity of containers (more than 3 million containers per year), which is a lot for a retailer. The concept of recovery in trays could not be carried out satisfactorily due to constraints, handling, equipment and available space. The recovery of the containers was carried out by bags and that of glass by bins.

A3.5.1 Customer Experience and Stakeholders

The level of service offered by this driver is uneven, the equipment is frequently broken. And since users often bring back large quantities of containers, the waiting time can be considerable.

The survey data will shed more light on the final report.

- **Membership in the return in annex :**
 - Recovery volume 3.4 mc/year (extrapolations)
 - Rejection rate 3%
- **Regional Stakeholder Engagement:**
 - As the pilot is on an existing site, very few stakeholders have been Contacted
- **Stakeholder satisfaction in the region:** meetings with retailers
Neighbors of the installation will be carried out in 2nd part of the mandate.

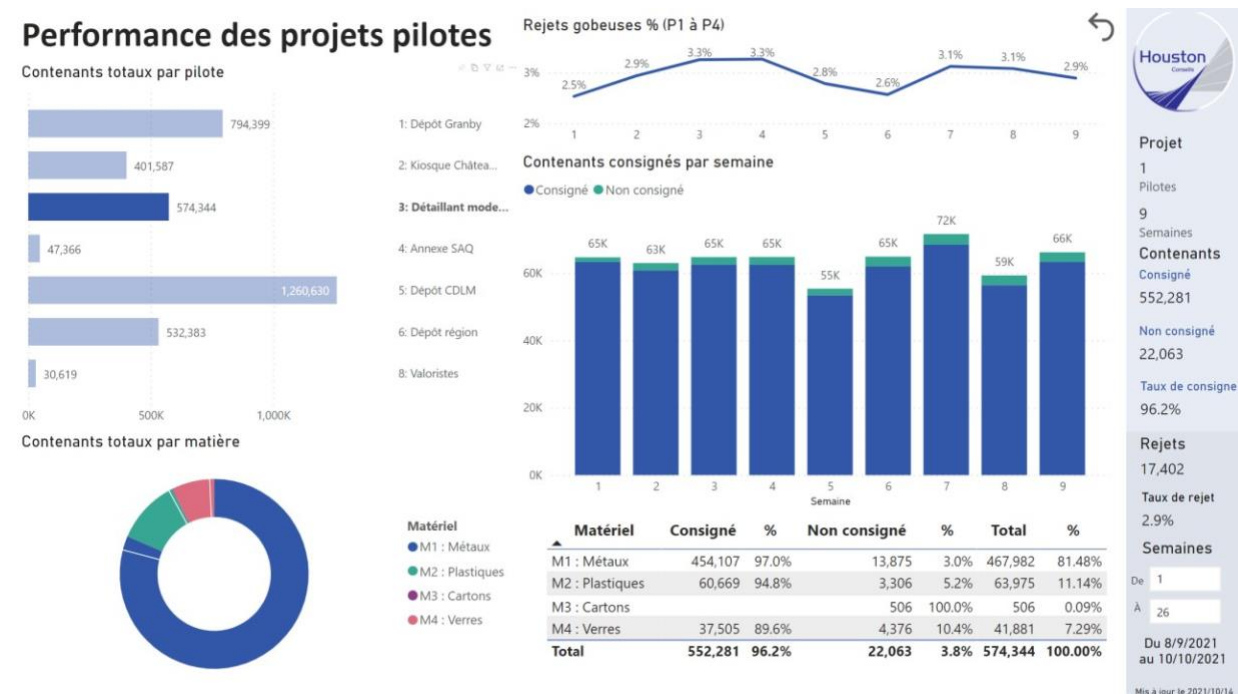
A3.5.2 Social acceptability

- **Health:** the housekeeping of the site is carried out by the store. The machines are poorly maintained. Maintenance activities performed by the project team and Tomra's team were added to support the retailer.
- **Odours:** comparable to the store's previous recovery model
- **Noise :** noise level is acceptable
- **Nuisance :**
 - The site is well located inside the branch, no security issues
 - The site welcomes customers bringing back very large quantities of containers. It is therefore often necessary to queue before accessing a machine.
 - Machines are often out of service

A3.5.3 Operating Performance

Analysis of on-site recovery performance shows a very high weekly average of more than 72 kc./week.

TABLE A3.1: PERFORMANCE OF THE MAXI PAPINEAU-CREMAZIA



Expanded deposit containers represent less than 4% of container volume receipts. This site is one of those that receives the lowest proportion of containers from the expanded deposit. And the rate of containers rejected by RAs has remained at about 3% since the beginning of the pilot.

Equipment and logistics

The performance of the equipment and the autonomy of the installation are not very good. Many stops have been recorded since the beginning of the pilot.

Repairs and adjustments have been made by the manufacturer to improve the treatment of certain types of containers (extended deposit) and limit breakdowns.

Measures were taken in September to ensure a minimum of equipment cleaning.

A logistics service carries out three collections per week. Maxi employees must contribute during container recovery operations. The wheeled bins used for pilots do not facilitate logistics activities (stabilization during transport, non-existent stacking capacity).

Quality of materials

The sorting of materials is excellent as the information provided by the reference database is accurate.

Health and Safety

No notable accidents so far.

Fraud and traceability

The reimbursement of containers for this pilot project is based on the identification of the containers and the compilation of quantities at the source. This data is captured and can later be analyzed to detect fraud attempts.

A3.5.4 Financial performance

Area requirements

The total area dedicated to recovery activities is approximately 1500 ft² including that of the Local built for the pilot and the area occupied by the customers.

Manpower

Approximately 1.2 FTEs are dedicated to pilot operation for the 91 hours of operation weekly.

- Monday to Sunday from 8 a.m. to 9 p.m.

Facilities and equipment

- **Facilities**
 - A budget of \$30K was required for the construction of the space
 - The purchase of a fleet of 18 wheeled bins at a total cost of \$5K was required to support recovery logistics. A container replacement budget is to be expected. No bins have had to be replaced so far.
- **Equipment**
 - Three RAs T70 double bins have been graciously loaned by Tomra Canada
 - The nominal hourly recovery capacity of an AR T70 is 45 containers per minute, with a theoretical capacity of 2,700 c/h
 - Tomra's sorting equipment represents an investment of approximately \$90K

Consumables

- Cleaning service
 - Machines
 - Customer areas
- Exterminator Service
- Container recovery logistics (not accounted for in the project)

A3.6 TAKEAWAYS

- The scarcity of labour, accentuated since the beginning of the pandemic, quickly becomes problematic when activities related to the recovery of returnable containers compete for the same resources as those of the company's core activities.
- Although T70 machines are more efficient, the humans who power them are not. A 4th machine was added in September in order to be able to process a volume similar to the old model.
- Next-generation ARs are more efficient, accommodate a wider range of containers and are equipped with advanced fraud detection elements. This degree of sophistication requires diligent maintenance and also makes machines more vulnerable to breakdown.
- The analyses carried out at the beginning of the pilot forced us to realize that it is not easy to remove transport bags from the equation (for the containers of the light faction).
 - Indeed, the capacity of the bags represents approximately the maximum weight allowed (10.5 kg recommended by the CNESST)
 - Beyond this weight, it is necessary to use handling equipment
 - The time and space required to handle a bag increases considerably
- Citizens use ARs for the return of single-fill glass beer containers (CRUBV). The retailer encourages customers to use ARs for the return of this type of container.
- It will be difficult to extend the duration of this pilot without having to resort to a suitable logistics service for the recovery of granulated glass containers. However, it would be possible to stop the recovery of glass beer containers at RAs
- The surroundings of RAs must be maintained daily

A3.7 RECOMMENDATIONS

- Automatic refund to avoid systematic visits to the service counter
- Have a larger room ideally with a door to the outside and to carry out the container recovery service
- The retailer should have best practices for the operation of the ARs fleet
 - Follow-up of maintenance procedures
 - Staff training
 - Maintenance of container recovery areas
- For retailers facing a large volume of containers
 - RAs offering more autonomy (greater storage capacity of containers)
 - More single-tray RAs for better Response during busy periods

A NNEXE 4 :ANNEXE SAQ DÉPÔT DE TERREBONNE

The pilot project of the SAQ Terrebonne depot is a new concept, probably the only one of its kind in North America, if not on a global scale. The concept is developed on a container return station installed in the gantry of the branch. Sorting and storage of containers are made in an annex located outside.

A4.1 INTENTION

- Experiment with the operation of returning containers to a **business** located in a semi-urban area in order to measure the efficiency of a modern facility offering Minimum intervention and maximum autonomy
- Currently returnable containers + all new containers in the expanded deposit
- Installation in the parking lot and possibility of refund at the dealer's checkouts
- The recovery of multi-fill glass beer containers and CRUBVs brought back in cases are excluded from the pilot.

A4.2 DESCRIPTION

The collection point is developed on a hybrid concept. The head of the recovery system automated is installed inside the gantry of the branch while the sorting and storage of containers are carried out in annex outside the store. The annex is installed in the retailer's parking lot. The site also has two car dealerships, a few retail outlets, a fast food outlet, a bank and a Walmart.

The pilot of the SAQ de Terrebonne has taken shape belatedly, following the abandonment of the Saint-Hyacinthe kiosk.

The annex concept capitalizes on the comfort of returning inside and the practicality of sorting and storage outside the store. The concept has been developed to offer maximum autonomy to the recovery system. It also required the development of tailor-made equipment.

The kiosk was set up in July 2021 a few days before the expanded deposit containers were accepted on July 31.

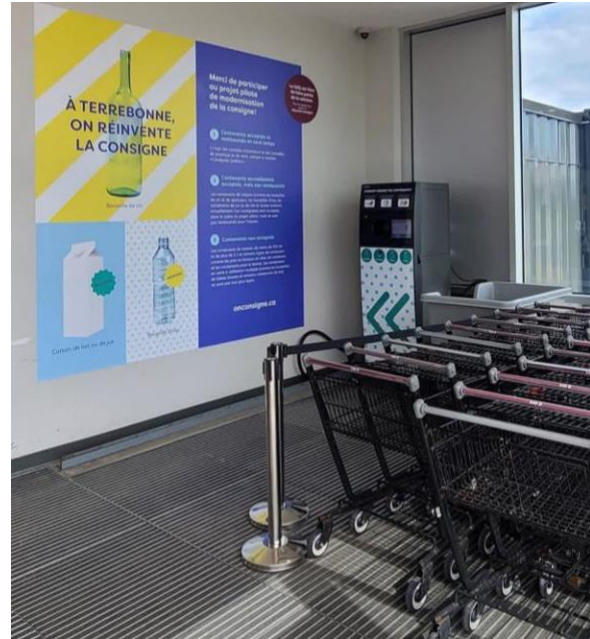


An AR recovery station has been installed in the entrance to the branch.

- The annex physically occupies about five parking spaces and requires a few additional spaces to the back (3) for container recovery operations.

This hybrid concept has been designed to allow the recovery of more than 1.5 million containers annually (according to information from the manufacturer).

Once identified, the containers are separated into two factions by the RA. The information that separates containers according to material and the calculation of reimbursements is based on the recognition of the barcode of the containers.



Lightweight containers:

metal, plastic and cardboard

conveyed through a conveyor system into a collection and storage bin

Heavy containers:

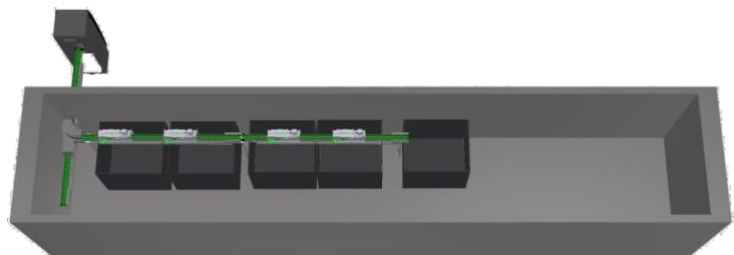
glass

conveyed through a conveyor system in four collection and storage bins

A fleet of 10 large bins optimizes the storage quantities of the annex and accommodates logistics operations.

The light container bins are sent to the Tomra packer in Baie-d'Urfé to be packaged. Once emptied, the bins are returned to the drop-off centre by the logistics service.

The heavy container bins are sent to the site of the Consortium Écologique (which assumes the logistics service) to be unloaded into a large container. The container is recovered when full by 2M Resources which packages the glass before reselling it, in large part, to Owens-Illinois which uses this glass in the manufacture of new containers.



A4.3 Partners

Tomra Canada inc.

- Provides equipment for the SAQ pilot period
- Actively participates in the communications aspects of the project

Soft drinks environment

- Completes the communications plan

A4.4 SPECIFIC COMMUNICATIONS AND PROMOTION

COMMUNICATIONS PLAN INITIATIVES

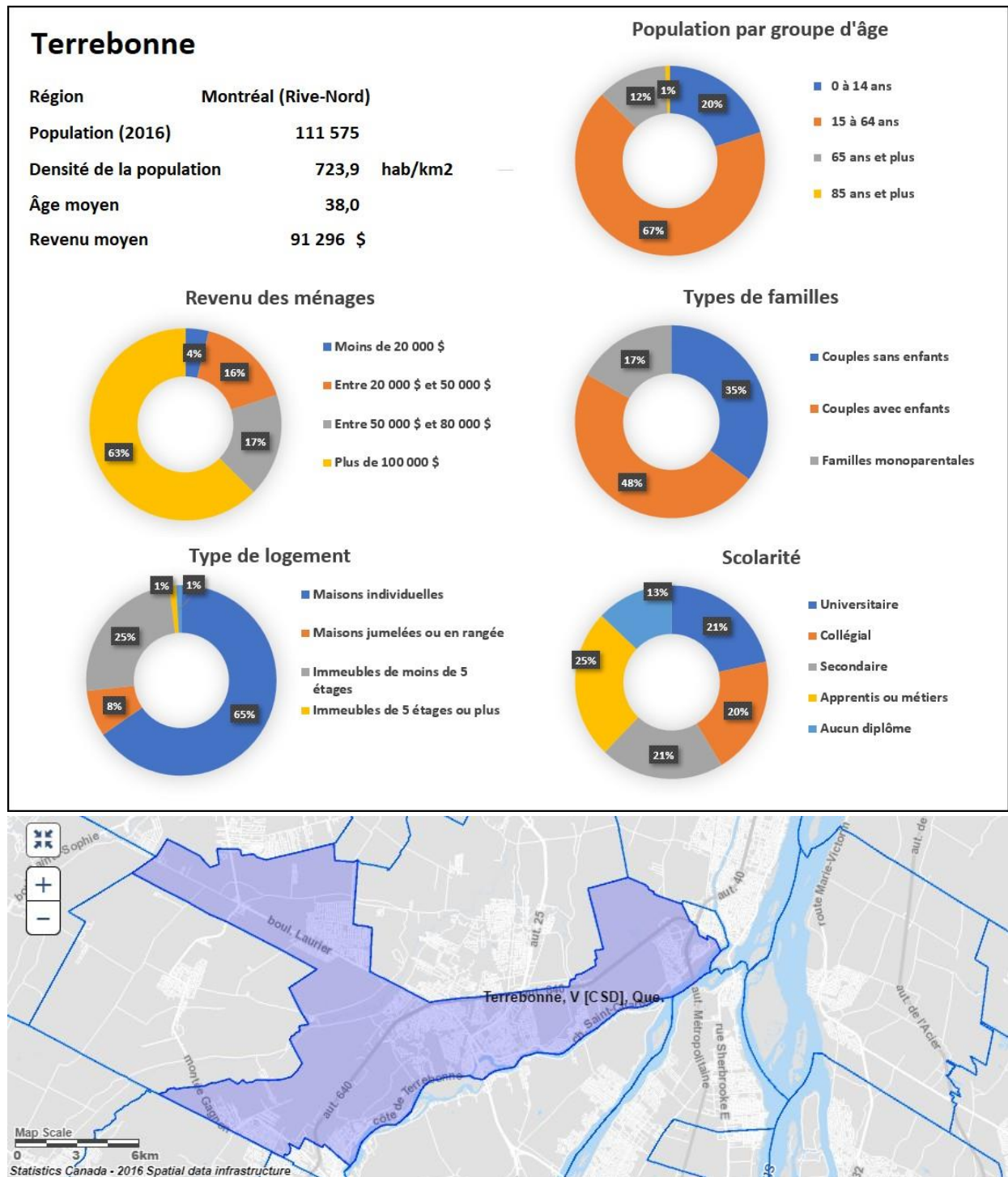
- **Press relations:** media coverage of the project
- **Local newspapers :**
 - Photos of the new site by a professional photographer
 - La Revue newspaper (90,050 readers)
 - 1 /2 ad of page August 18 and September 1, 2021
- **Radio broadcast :** CHMP-FM (98.5) and CKOI (96.9)
 - Ad 30 seconds week of August 16, August 23 , September 6 and September 13, 2021
 - CHMP-FM 98,5 : 128 occasions
 - CKOI (96.9): 128 opportunities
- **Dedicated page on microsite:** <https://onconsigne.ca/villes/terrebonne>
 - 9,711 visitors
- **Social Media Posts:**
 - Geo-targeted publication for the Terrebonne region
 - 203 131 impressions
 - 5,998 ad clicks

PARTNER INITIATIVE

- Section dedicated to pilot projects on the SAQ website <https://www.saq.com/fr/a-propos/responsabilite-societale/pilote-consigne>
- Creation of a vox pop style video hosted on the page dedicated to pilot projects.
- Creation of a behind-the-scene style video accessible on the pilot projects page.
- August 19 : Tile targeted to SAQ Dépôt de Terrebonne customers in the newsletter
- August 26 : Tile for customers who have not been targeted by newsletters Previous (1.7 million inspired members)
- August 24 : Targeted newsletter for SAQ Dépôt de Terrebonne customers

- August 24 : Newsletter to customers outside the Terrebonne area
- August 25 : Publication on Facebook (vox pop video)
- August 31 : Story on Instagram
- Since September 29 : Advertising in the order confirmation page
- September 30 : Tile in the newsletter
- October 11 : Targeted Facebook Post *Visuals*
- October 21 : Tile in the newsletter (article)
- November 4 to 8: Targeted Facebook publication *Wine Visual*
- November 18 : Tile in the newsletter
- December 2 to 6: Targeted Facebook publication *Visual spirits*
- December : Tile in the newsletter
- October: Publication of a text in the Inspiration section of SAQ.com
- LinkedIn Posts
- Frequent communication with our network to raise awareness among surrounding branches of all pilot projects and make our employees ambassadors of all projects
- Display of all pilot projects in surrounding branches
- Interviews: notably Radio-Canada and MaTv
- Targeted newsletter for columnists and journalists with a CSR + Glass + press relations interest

• A4.4 SOCIO-DEMOGRAPHIC PROFILE



A4.5 PERFORMANCES

A4.5.1 CUSTOMER EXPERIENCE AND STAKEHOLDERS

Customers are welcomed at the SAQ de Terrebonne. The on-site staff does not hesitate to inform customers about their pilot. The survey data will shed more light on the final report.

- **Membership in the return in annex :**
 - Container recovery volume is expected to stabilize to 0.4 mc/year (extrapolations)
 - Volumes remain rather low, but the quantities of containers recovered per week have continued to increase since the launch of the project.
 - Highest rejection rate of any pilot
 - The AR rejection rate for the SAQ schedule was 6.8% during the week of September 26. Clearly the highest rejection rate of all pilot projects (the overall rate of 4 P1,2,3,4 pilots with of connected ARs is 2.7% for the same week
- **Regional Stakeholder Engagement:**
 - Good cooperation of the site promoter
 - Good collaboration of the city of Terrebonne
- **Stakeholder satisfaction in the region:** meetings with retailers
Neighbors of the installation will be carried out in 2nd part of the mandate.

A4.5.2 Social acceptability

- **Sanitation:** The employees take care of the equipment located inside the store the cleaning of the vestibule and the surroundings of the annex then the housekeeping of the outdoor site is carried out by the contractor performing the maintenance of the branch. As this site has a particularly high rejection rate, non-accepted containers have tendency to accumulate in bins installed next to AR.
- **Odours:** as the containers are immediately sent to the annex located outside the branch, there are no odours
- **Noise:** as the containers are immediately sent to the annex located outside the branch, the noise level is very low
- **Nuisance :** nothing to report
 - The site is conveniently located inside the branch
 - Note: a break and enter in the schedule took place at the beginning of the project

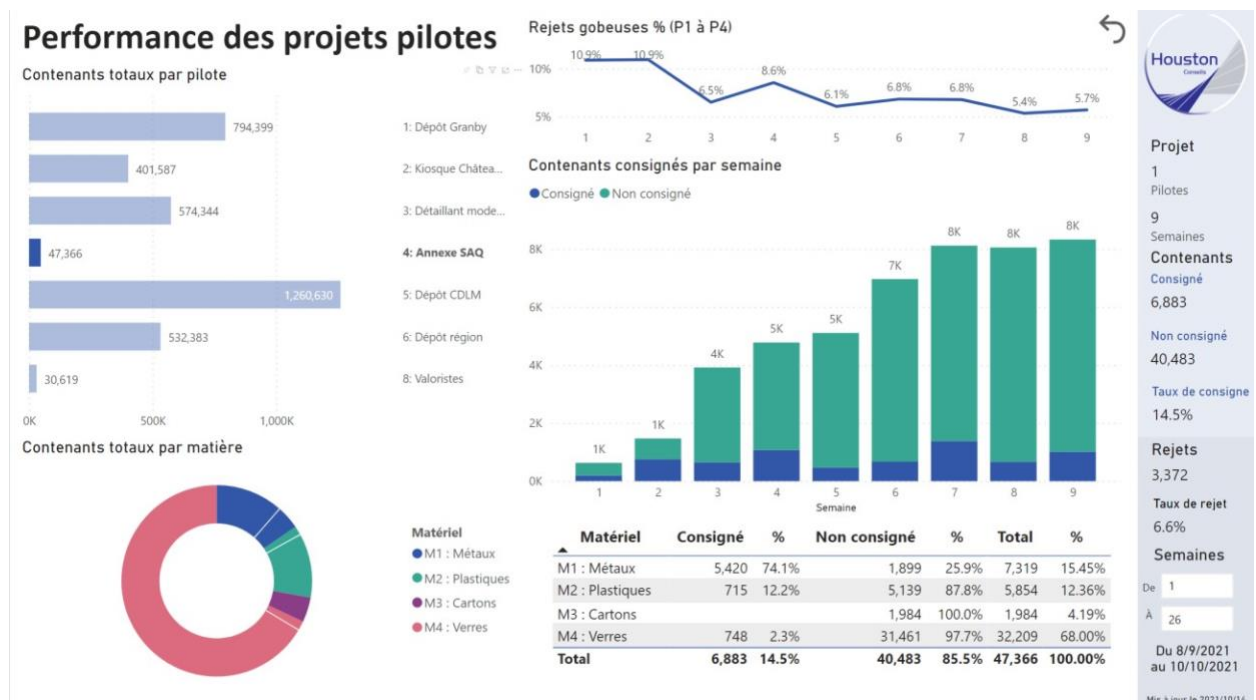
A4.5.3 Operating Performance

The analysis of the recovery performance of the SAQ appendix reveals a fairly low weekly average compared to other pilots, but continuously improving. This average is below the theoretical recovery capacity of installation (capacity of 60 containers per minute depending on the manufacturer).

This site is a new facility. Recovery was limited to less than 1,000 containers per week prior to the launch of the pilot. The containers recovered at the time were mainly imported beer containers sold by the SAQ. It was therefore normal to receive few containers for the first few weeks.

As of October 5, containers from the expanded deposit represent 85% of the volume of containers recovered. This site is by far the one that receives the largest proportion of containers from the expanded deposit. The rate of containers rejected by AR has remained above 6% since the start of the pilot, but recent additions and corrections to the database could help reduce it significantly.

FIGURE A4.1: PERFORMANCE OF THE APPENDIX OF THE SAQ TERREBONNE DEPOT



Equipment and logistics

The performance of the equipment and the autonomy of the installation are up to expectations. Very few failures have been recorded since the beginning of the pilot. Employees met confirm that the appendix requires very little attention. For internal reasons, the SAQ entrusted the troubleshooting of the installations located inside the store to an external firm. That Service has been very little requested since the beginning of the pilot.

A logistics service carries out three collections per week in total autonomy. Employees do not have to contribute during container recovery operations.

The choice not to compress the containers on this pilot increases the need for logistics. Thus, despite the presence of seven large recycling bins (five in operation and two of spare parts), the site has a storage capacity of about 3 000 containers, i.e. 1 900 of glass and 1 100 of light containers.

With container returns approaching 9,000 units per week consisting of 67% glass containers, the site is rapidly approaching its maximum capacity based on three recovery services per week.

Quality of materials

The sorting of materials is excellent as the information provided by the reference database is accurate.

Lightweight, uncompacted containers allow for storage of approximately 550 containers per large bin. The possibility of equipping the system with a compactor for lightweight containers is currently being studied by Tomra.

The glass is neither granulated nor sorted by color. However, it is possible to equip the system with mechanisms for granulating and separating by color.

Health and Safety

No notable accidents so far.

Fraud and traceability

The reimbursement of containers for this pilot project is based on the identification of the containers and the compilation of quantities at the source. This data is captured and can be analyzed later to detect fraud attempts.

A4.5.4 Financial performance

Area requirements

The annex currently occupies 500 ft² of space in the store's parking lot and a additional space must be kept free to facilitate the necessary manoeuvres during the recovery of containers. The station located inside the store occupies 100 ft².

Manpower

Less than 0.65 FTE is required to keep the pilot running for 68 hours weekly opening.

- Monday 12:00 p.m. – 6:00 p.m.
- Tuesday and Wednesday 10 a.m. – 6 p.m.
- Thursday and Friday 9:30 a.m. – 9 p.m.
- Saturday and Sunday 9:30 a.m. – 5 p.m.
- Sunday 10 a.m. – 5 p.m.

Facilities and equipment

- **Facilities**
 - A budget of \$83K was required to modify, assemble and install the marine container on site
 - Branch connection tunnel
 - Air conditioning and heating
 - Outdoor lighting
 - Fire detector connected to a power plant
 - Fire extinguisher
 - Surveillance camera
 - Outdoor platform for access (stairs)
 - Purchase of a fleet of 15 large bins at a cost of \$9.0K required to support recovery logistics. A budget of replacement of containers. No bins have had to be replaced so far.
 - Electrical connection \$16.5K
 - Rental of parking space (not counted for the project)
- **Equipment**
 - AR and sorting equipment courtesy of Tomra Canada
 - Tomra's sorting equipment represents an investment of approximately \$180K
 - Pallet trucks \$600

Consumables

- Cleaning service
- Exterminator Service
- Insurance for the annex and equipment (included in the costs of the kiosk)
- Container recovery logistics (not accounted for in the project)

A4.6 CONSIDERATIONS

- Citizens use AR for the return of glass beer CRUS
- Return in quantity of containers not from this point of sale
- It will be difficult to extend the duration of this pilot without having to resort to a logistics service adapted to the use of large bins for the storage of recovered containers.
- The appendix makes it possible to achieve a considerable degree of autonomy (i.e. more than 8 hours of operations without requiring interventions)
- The surroundings of the AR must be maintained daily. This pilot project is the most popular on the container side of the expanded deposit. Many containers are rejected (code not in the database, container not subject to the deposit) resulting in an accumulation of rejected containers and waste in the entrance of the branch.
- The lack of compaction of materials (light and glass) considerably limits the Storage capacity of the facility.

- A lot of communication and little feedback compared to the other drivers.
- The posting of instructions in the vestibule contributed positively to reducing the number of questions addressed to SAQ employees
- Equipment could be improved to provide better service
 - Equipped with compaction elements to increase their autonomy
 - Better system to guide containers to avoid blockages due to containers not taking the desired path

A4.7 RECOMMENDATIONS

- Quickly assess whether the SAQ wishes to keep this site in operation at the end of the pilot
 - If the SAQ wishes to keep the site in operation, it would then be possible to consider modifying it to provide it with additional storage capacity.
- This concept would benefit from being adjusted according to the logistics strategy that will be adopted for the new deposit system.

A NNEXE 5 : C ENTRE DE DÉPÔT DU C AP-DE-LA-M ADELEINE

The Cap-de-la-Madeleine drop-off centre (CDLM) project is the result of a partnership between a few retailers wishing to concentrate returnable container recovery activities in a common space.

The depot relies largely on employees from the Centre intégré universitaire de santé et de services sociaux (CIUSSS de la Mauricie) to support its operations.

A5.1 INTENTION

- Experimenting with the return of containers to a drop-off centre managed by a group of retailers
- Currently returnable containers + all new containers in the expanded deposit
- Experiment with the ability of adapted labour to manually sort a large number of different containers



A5.2 DESCRIPTION

The Cap-de-la-Madeleine drop-off centre had already been in operation for some time when the containers of the expanded deposit began to be collected on July 31.

Retailers have also partnered with the CIUSSS de la Mauricie, which allows it to employ people with slight flatplate form deficiencies.

Citizens are greeted at the counter of the deposit centre. Only one AR is available at the front of the store to collect returnable aluminum and PET containers.

Glass bottles (CRU and CRM) and bags of containers are collected at the counter and sorted in the back room.

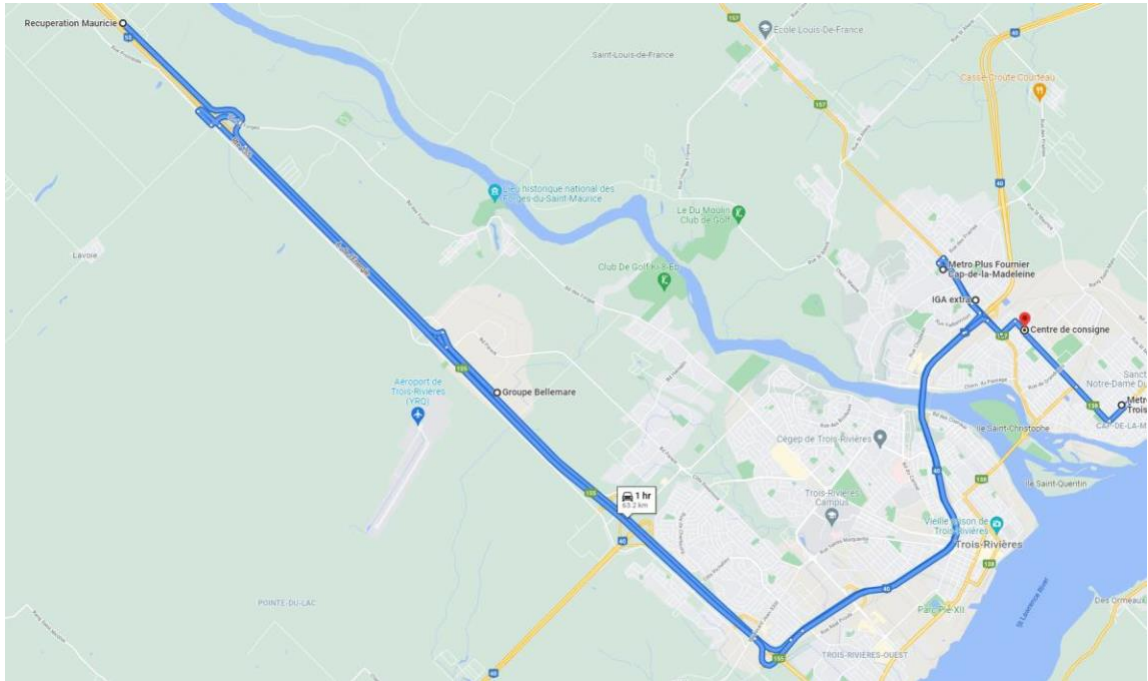
A rudimentary loading dock is available for container pick-up (there is no dock leveler)

The containers currently under deposit are recovered by the current players in the sign circuit, namely bottlers and brewers.

Non-returnable containers, once sorted and counted, benefit from a Local recovery.

- Plastic, aluminum and cardboard containers are sent to the sorting centre of Recovery Mauricie
- Glass containers are recovered by Groupe Bellemare





A5.3 PARTNERS

Associated Retailers

- Metro Plus Fournier
- IGA Extra Thibeau
- Metro Plus Cap-de-la-Madeleine

Soft drinks environment

- Completes the communications plan

A5.4 SPECIFIC COMMUNICATIONS AND PROMOTION

COMMUNICATIONS PLAN INITIATIVES

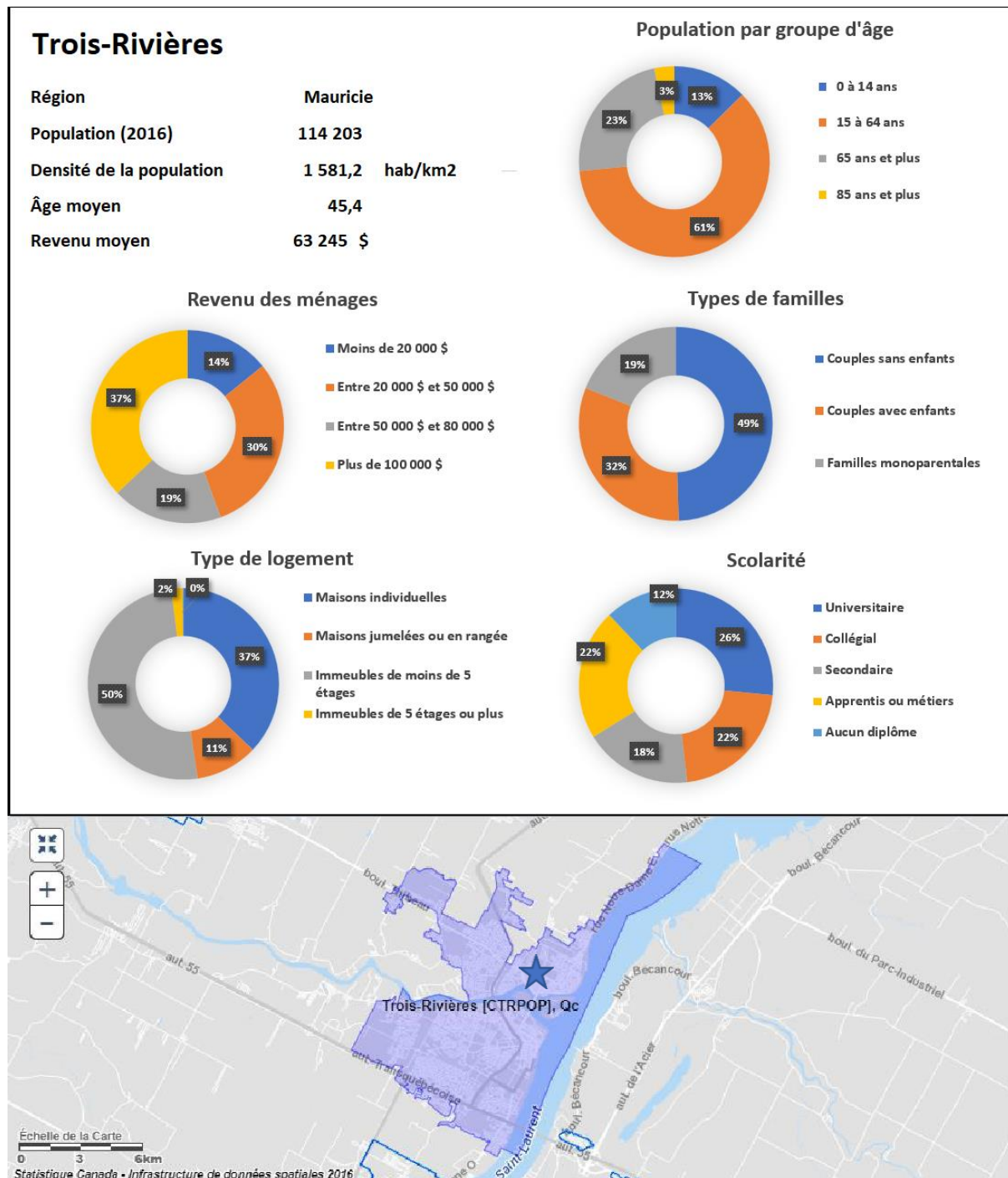
- **Press relations:** media coverage of the project
- **Local newspapers :**
 - Photos of the new site by a professional photographer
 - Hebdo Journal (86,057 readers)
 - Advertisement 1/2 page August 18 and September 1, 2021
- **Radio broadcast :** CHMP-FM (98.5) and CKOI (96.9)
 - Advertisement 30 seconds week of August 16, August 23, September 6 and September 13
 - CHMP-FM 98,5 : 128 occasions
 - CKOI (96.9): 128 opportunities
- **Dedicated page on microsite:** <https://onconsigne.ca/villes/cap-de-la-madeleine>
 - 5,448 visitors
- **Social Media Posts:**
 - Geo-targeted publication of the Cap-de-la-Madeleine region
 - 198 396 impressions
 - 4,485 ad clicks

PARTNER INITIATIVE

The Cap-de-la-Madeleine depot centre has been the subject of only a few reports.

- Radio-Canada (August 2021)
- TVA Nouvelle (August 2021)
- Hebdo Journal (September 2021)

A5.4 SOCIO-DEMOGRAPHIC PROFILE



A5.5 PERFORMANCES

The CDLM drop-off centre receives approximately 785,000 containers per month. More than 50% of containers are returned to the drop-off centre in bags (bags sold in the stores of the project's partner retailers). The survey data will shed more light on the final report.

A5.5.1 Customer Experience and Stakeholders

- **Membership in the return in annex :**
 - Container recovery volume 9.4 mc/year (extrapolations).
 - Rejection rate 0%
 - Returnable containers not accepted by RAs are accepted and refunded at the counter
 - Extended deposit containers are all accepted without identification
- **Regional Stakeholder Engagement:**
 - Little mobilization needed for this mandate
 - The site was already functional before the launch of the pilot
 - It is not intended to increase the clientele, only to add the containers of the extended deposit to the returnable containers
- **Satisfaction of stakeholders in the region:**
 - Meetings with retailers adjacent to the facility will be held in Part 2 of the mandate.

A5.5.2 Social acceptability

- Health: coming soon
- Smells : coming soon
- Noises: coming soon
- Nuisance: coming soon

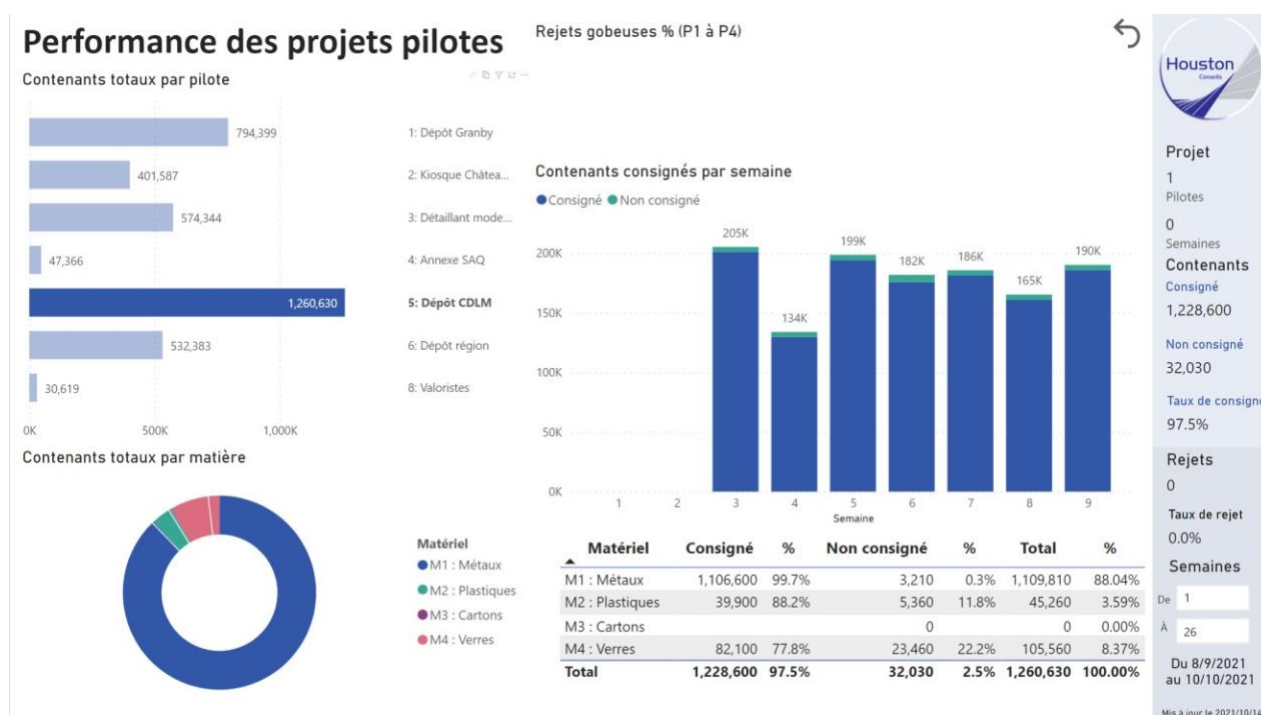
A5.5.3 Operational Performance

This site has been running for several months and is well organized. Sorting instructions are clear and displayed.

Equipment and logistics

This site operates 2 RAs for its activities. The most modern is located in the customer area and is used for the recovery of aluminum and PET containers currently returned. Four RAs were available at the beginning of the pilot but two are now broken and are no longer supported by the manufacturer.

TABLE A5.1: PERFORMANCE OF THE CAP-DE-LA-MADELEINE DEPOT CENTRE



The others, of less recent model, are used by the resources of the tray to compress the containers received per bag.

Thanks to an agreement reached between various stakeholders, the recovery of currently returnable containers is handled by the deposit circuit (bottlers and brewers).

The glass containers of the expanded deposit are recovered and packaged by Groupe Bellemare of Trois-Rivières

The plastic and cardboard containers are collected by the RCM group and sent to the sorting center in St-Étienne-des-Grès.

Quality of materials

The sorting of materials from the current deposit is excellent and the depot center is well established for sorting CRUs and CRMs.

Health and Safety

No notable accidents so far.

Fraud and traceability

The reimbursement of containers for this pilot project is based on the current deposit system. Since the reimbursement of extended deposit containers is \$0, it is therefore not necessary to carry out a check.

A5.5.4 Financial performance

Area requirements

The drop-off centre currently occupies 3,000^{ft2} of space. This space is sufficient to handle the containers of the current deposit, but is tight for the management of the containers of the expanded deposit (storage of non-returnable containers).

Workforce

Approximately 6.0 FTE ensures operation during the 45 weekly opening hours .

- Tuesday to Saturday 9 a.m. to 6 p.m.
- Monday and Sunday closed
- Employee : 1
- Set Supervisor : 1
- Adapted labour : 4

Facilities and equipment

- **Facilities**
 - Purchase of wheeled bins \$ 1,000
- **Equipment**
 - No additional equipment added for the pilot project

Consumables

- Cleaning service
- Exterminator Service
- Recovery of containers from the expanded deposit \$2,000

A5.6 TAKEAWAYS

- Many citizens seem to appreciate the fact that the drop-off centre uses of adapted works
- The drop-off centre does not have an internet connection or its own mailbox
- The costs of using adapted labour make it virtually impossible to introduce any technology
- Retailers (non-participating) may return pallets of glass beer cases to the drop-off centre
- The drop-off centre lacks space and/or handling equipment for support current volume (storage capacity)
- Since the breakage of two RAs, many containers are no longer compacted. This puts pressure on logistics given the site's limited storage capacity.

A5.7 RECOMMENDATIONS

- All recovered containers should be identified using UPCs before being reimbursed, for:
 - Better track recovery rates
 - Better control of fraud
- Get more space for recovery activities , as this centre will not be able to do everything simply not keeping up the pace when expanding the setpoint
- Evaluate the possibility of equipping the depot with a commercial line
 - High volume of containers
 - Lots of containers returned in bags
- Provide the centre with adequate equipment to support material handling
 - Forklift
 - *Racking*
 - Loading dock leveler

A NNEXE 6 : CBETWEEN DEPOSITION IN REGION MONT-L AURIER

Zone Emploi has begun to express its interest in carrying out a pilot project in Mont-Laurier from June 2020. After several discussions and adjustments to the project, the Albiny-Paquette Boulevard drop-off centre finally proceeded to collect containers from the expanded deposit on August 1, 2020.

A6.1 INTENTION

Entrust the management of container recovery operations for the extended deposit in remote areas to a local organization in order to evaluate:

- The operation of a depot carrying out the recovery of containers from the expanded deposit
- The ability to implement and to recover containers from PSC (on-site consumption) sites over a vast sparsely populated territory
- The ability of the community to mobilize around an ecological project



A6.2 DESCRIPTION

With a population of more than 14,000 inhabitants, the city of Mont-Laurier is the capital of the Antoine-Labelle RCM, occupying a territory of 591 km².

Zone Emploi is a non-profit organization in the MRC, founded in April 2011 whose mission is:

By favouring a global approach and in partnership with the driving forces of the milieu, Zone Emploi d'Antoine-Labelle offers, mainly to people aged 16 and over in its MRC, personalized services aimed at developing employability, School perseverance and entrepreneurship awareness, in order to contribute to the socio-economic progress of the territory.

In order to centralize the collection of containers at the depot centre, Zone Emploi mobilized retailers in the region. They invite their customers to return all their ready-to-drink beverage containers from 100 ml to 2L to the collection point located at the 1054-8 Boul. Albiny-Paquette at the entrance of the city. In addition to the recovery of containers from the expanded collection, the drop-off centre recovers 18l water bottles and end-of-life batteries.

The container collection point is rather contiguous. Once collected, the containers are transported by truck to the sorting centre on Godard Street, less than one kilometre from the drop-off centre.

It is difficult to find premises that meet the needs of a deposit centre and the context of Conducting a pilot project:

In addition, as for other pilots, the urban planning constraints in force have complicated the Site selection and delayed its operation .

- The recovery of returnable aluminum containers and sorting is carried out by bottlers
- The recovery of returnable glass beer containers is carried out by the brewers
- The recovery of non-returnable glass containers is carried out by Groupe Bellemare
- The recovery of non-returnable containers is carried out by the Régie des matières résiduelles de la Lièvre, next door to the sorting centre

Agreements for the recovery of PSC containers have been put in place.

- Recovery route set up for some regional parks
- *Bag drop* recovery for outfitters and campsites
 - The containers are returned in bags directly to the Zone Emploi sorting centre at 4 rue Godard where they are emptied, counted and compensated in delayed mode.
 - Outfitters and campsites take advantage of supply trips made to the SAQ located in front of the collection point to bring back their bags of containers

A6.2.1 PARTNERS

- The following retail partners redirect customers to the drop-off center
 - IGA Mont-Laurier
 - Mont-Laurier Metro
 - Dépanneurs
 - SAQ
- Employment Zone
 - Site operator
 - Contributes financially to the project
- Régie intermunicipale des déchets de la Lièvre (RIDL)
 - Contributes to some logistical aspects of the project
- Soft drinks environment
 - Completes the communications plan

A6.3 SPECIFIC COMMUNICATIONS AND PROMOTION

COMMUNICATIONS PLAN INITIATIVES

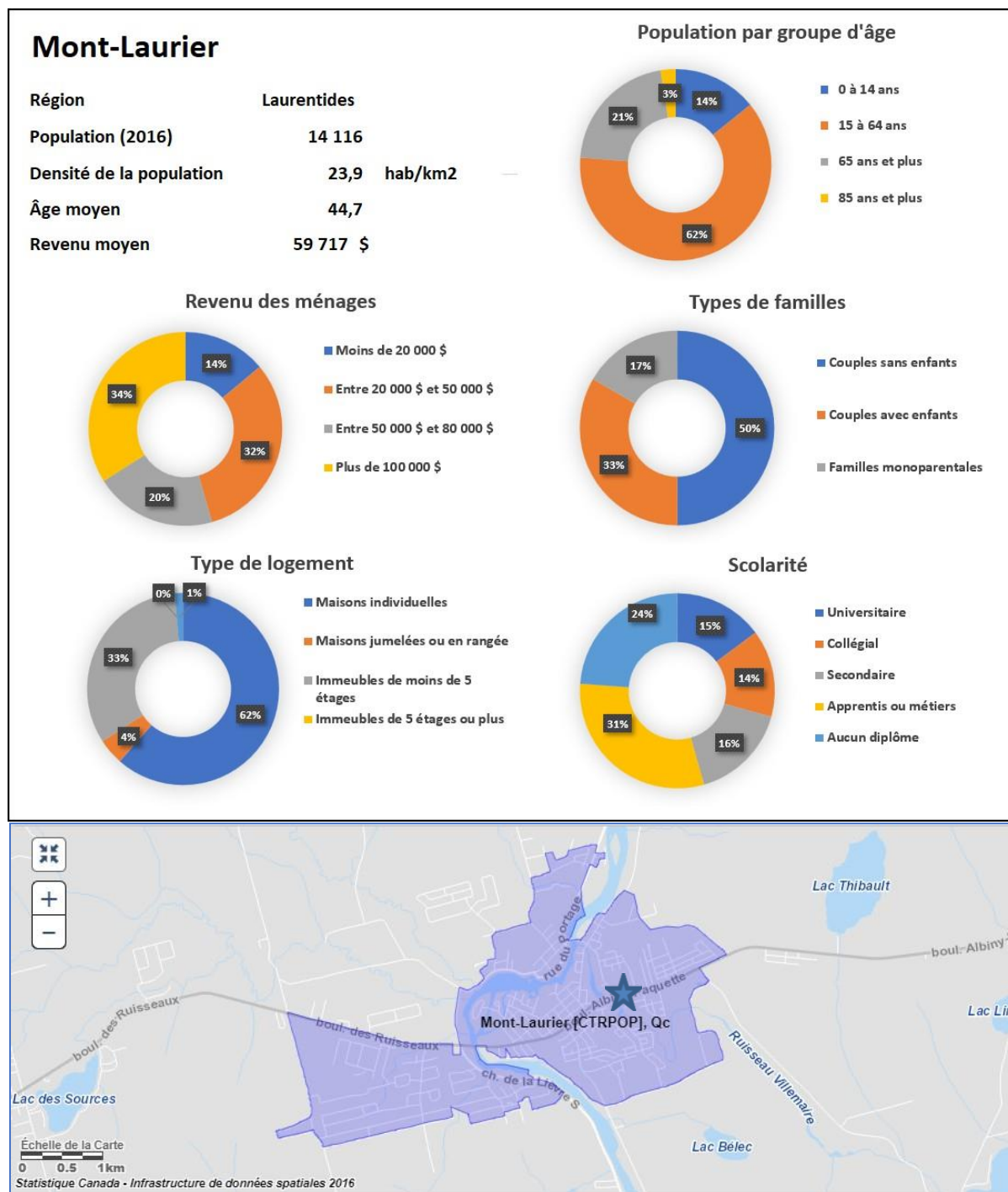
- **Press relations:** media coverage of the project
- **Radio broadcast :** CFLO-FM (104.7 and 101.9)
 - Week of August 16, August 23 , September 6 and September 13
 - 168 occasions
- **Dedicated page on microsite:** <https://onconsigne.ca/villes/mont-laurier>
 - 2,690 visitors
- **Social Media Posts:**
 - Geo-targeted publication of the Mont-Laurier region
 - 72 835 impressions
 - 1,106 ad clicks

PARTNER INITIATIVE

- Local newspapers :
 - Photos of the new site by a professional photographer
 - Hebdo Journal (86,057 readers)
 - Advertisement 1/2 page August 18 and September 1, 2021
- Direct approach to project partner retailers
- Section dedicated to the pilot project on the website of Zone Emploi (zemploi.com)
- Creation of an electronic satisfaction survey made available to customers. Those who complete it become eligible for a contest.
- Open House for Retail Partners
- Open day for representatives of the political world of the region
- Open day for the population to visit the Deposit Centre, ask their questions, find out how it works, etc. It was an opportunity for the population to bring returnable containers for a good cause. All proceeds from this day were donated to the Association for the Protection of the environment of the Upper Laurentians.
- Drafting and distribution of a press release for the launch of the pilot project which was distributed in the newspaper L'Info de la Lièvre and on CFLO FM radio.
- Creation of posters, panels, flags

- A visual has been created especially for the Devil's Mountain Regional Park . Posters were placed above the non-returnable container bins to promote the project and to collect containers on the different sites. We find them among others at the reception pavilions, in the chalets, in the fuges and on the campsite.
- Aluminum signs indicating the direction to the Deposit Centre .
- Flags on either side of the main entrance along the route 117.
- Distribution of posters at retailers in the region.
- Creation of a visual and printing of a leaflet distributed to clients who are coming to the Drop-off Centre for the first time and who wish to contribute to the project.
- Large format display on partner grocers ' RAs to indicate when the recovery has stopped and where they must now go to carry the containers.
- Creation of signs to reserve a parking space near the Drop-off Centre
- Creation of visuals above each bin to facilitate the sorting of returnable and non-returnable containers
- Creation of a one-page promotional visual announcing the open house, the contest, the opening hours of the drop-off centre and all accepted containers. A detachable part of this visual can be used as a reminder.
- Creation of the visual and printing of jerseys for the employees of the Deposit Centre respecting the graphic standards in order to identify them when the clientele arrives at the Drop-off Centre
- Publications and *stories* on social networks.
 - Photos showing where the drop-off centre is located
 - Display of all accepted containers
 - Reached 100,000+ containers
 - Open House Announcement
 - Announcement of the competition
- Realization of two visits of community partners to promote the deposit center

A6.4 SOCIO-DEMOGRAPHIC PROFILE



A6.5 PERFORMANCES

Since the week of August 23, the Mont-Laurier drop-off centre has been receiving an average of 80k containers per week. This performance includes the collection activities of the drop-off point and those of *bag drops* carried out at the sorting center on Goddard Street. The survey data will provide better insight into the final report.

A.6.5.1 Customer experience and stakeholders

- **Membership in the return in annex :**
 - Container recovery volume 4.0 mc/year (extrapolations)
 - Rejection rate 0%
 - Returnable containers not accepted by RAs can be returned and refunded at the counter
 - Containers of the extended deposit are all accepted without identification
- **Regional Stakeholder Engagement:**
 - There was a lot of mobilization for this mandate
 - Zone Emploi mobilized all stakeholders in the region as early as Start of the project
 - The municipality, the Régie interrégionale de rejets, retailers, local media, all were involved.
- **Stakeholder satisfaction in the region:** meetings with retailers
Neighbors of the installation will be carried out in 2nd part of the mandate.

A.6.5.2 Social acceptability

- **Sanitation:** The premises, both the collection point and the drop-off centre are clean and well maintained. On our last visit, the sorting centre was clogged with glass beer containers stored inside and non-returnable glass containers stored outside.
- **Smells :** coming soon
- **Noise:** No noise at the drop-off centre
- **Nuisance:** The drop-off centre is located in the back of a large parking lot that may cause safety concerns for some people. The site is all well lit.

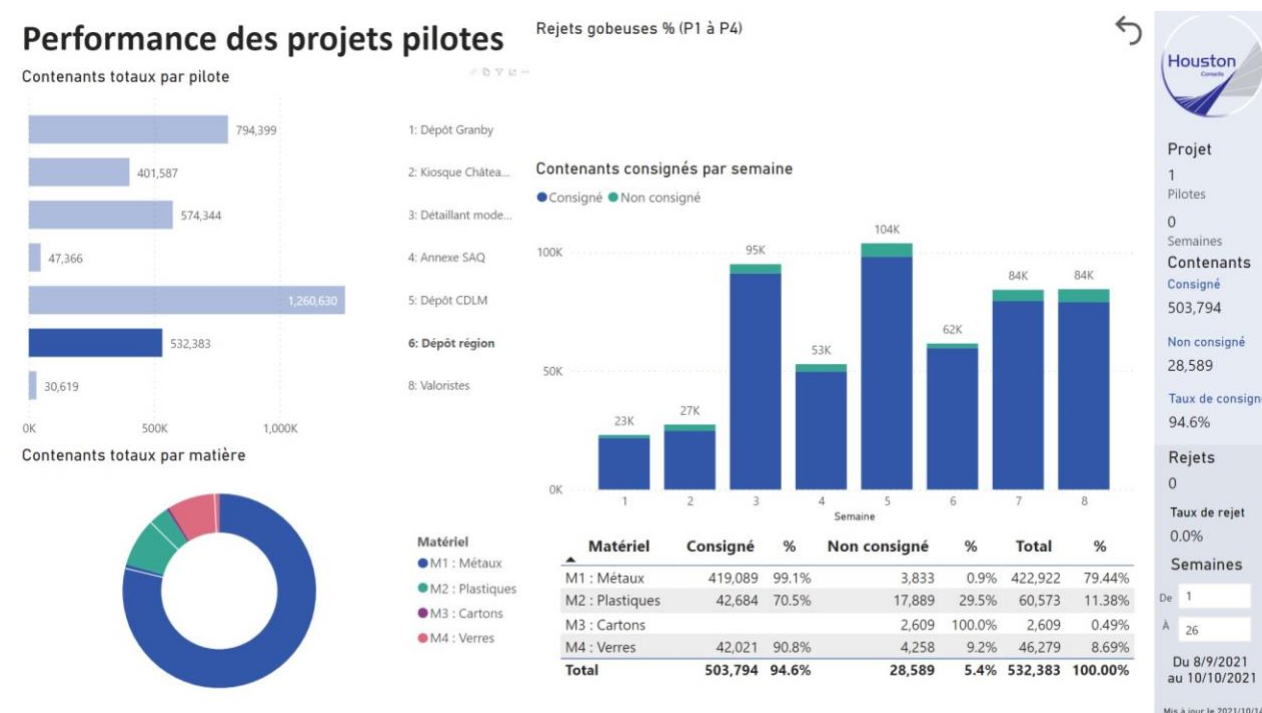
A.6.5.3 Operational performance

This site, although only operational since August 1, is well organized. Instructions for classifying containers are clear and well displayed.

Equipment and logistics

This site operates four RAs (Tomra H-30) for its activities and as the space of the collection point is contiguous, it is necessary to transport the recovered containers to the sorting centre daily. The sorting centre has been equipped with a conveyor to facilitate the sorting of containers.

TABLE A6.1: PERFORMANCE OF THE MONT-LAURIER DEPOT CENTRE



Thanks to an agreement reached between various stakeholders , the recovery of currently returnable containers is handled by the deposit circuit (bottlers and brewers).

Non-returnable containers of aluminum, plastic and cardboard are recovered by the Régie interrégionale des déchets de la Lièvre, which disposes of them ecologically.

Glass containers are stored in a container at the drop-off centre. It is recovered by 2M Ressources as needed, which also ensures its packaging.

Quality of materials

The sorting of materials from the current deposit is excellent

Health and Safety

No notable accidents so far.

Fraud and traceability

The reimbursement of containers for this pilot project is based on the current deposit system. Since the reimbursement of extended deposit containers is \$ 0, no screening is required.

A6.5.4 Financial performance

Necessary surfaces

Failing to find a space advantageously located, large enough and suitable for the operation of a depot, Zone Emploi had to separate its collection operations from those of sorting and storage

The approximately 1,800 ft² collection point has ample parking. The sorting center is installed in the building that Zone Emploi shares with the regional CFER. The activities of Sorting and storage reception occupy approximately 4,000 ft². However, it does not have a loading dock.

Manpower

Approximately 3.0 FTEs operate the collection point during the 57 hours of operation weekly. Approximately 1 ETC ensures the operation of the sorting center.

- Monday to Wednesday 10 a.m. to 6 p.m.
- Thursday and Friday 10 a.m. to 8 p.m.
- Saturday 8 a.m. to 5 p.m.
- Sunday 8:00 a.m. to 12:00 p.m.

Facilities and equipment

- **Facilities**
 - Lease of four RAs T 53 from the Granby depot centre
- **Equipment**
 - No additional equipment added for the pilot project

Consumables

- Cleaning service
- Exterminator Service

A6.6 LESSONS LEARNED

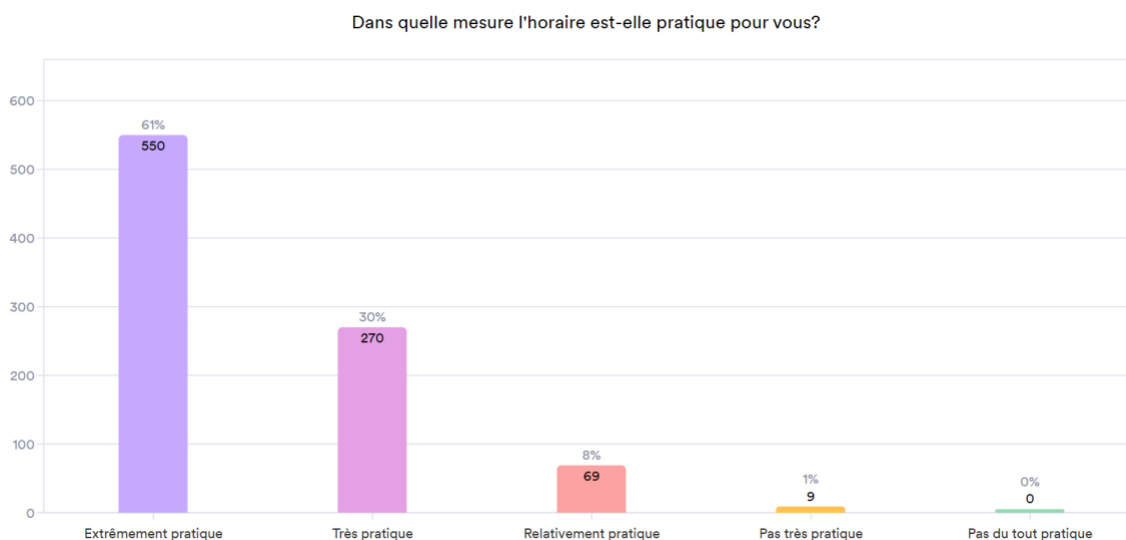
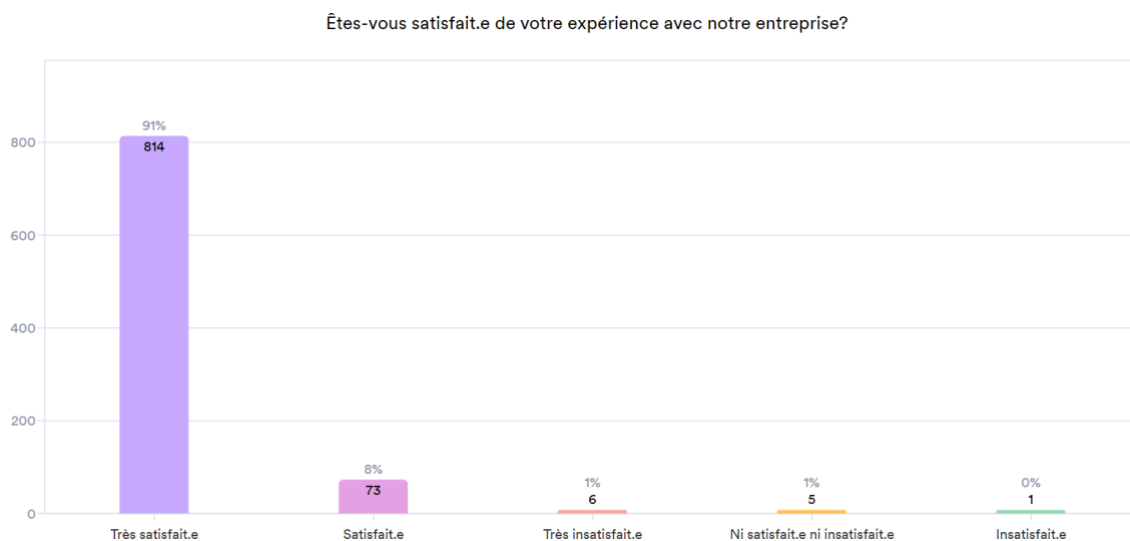
- Connect ARs to enable better data collection
- Have a better room to avoid having to transship containers (already known and accepted at the time of implementation)
- The *bag drop* reception is now organized at the sorting center. At the beginning of the pilot, bag returns made to the drop-off point posed a problem with bags being soiled and systematically soiling the floor of the room.

A6.7 CONCLUSIONS

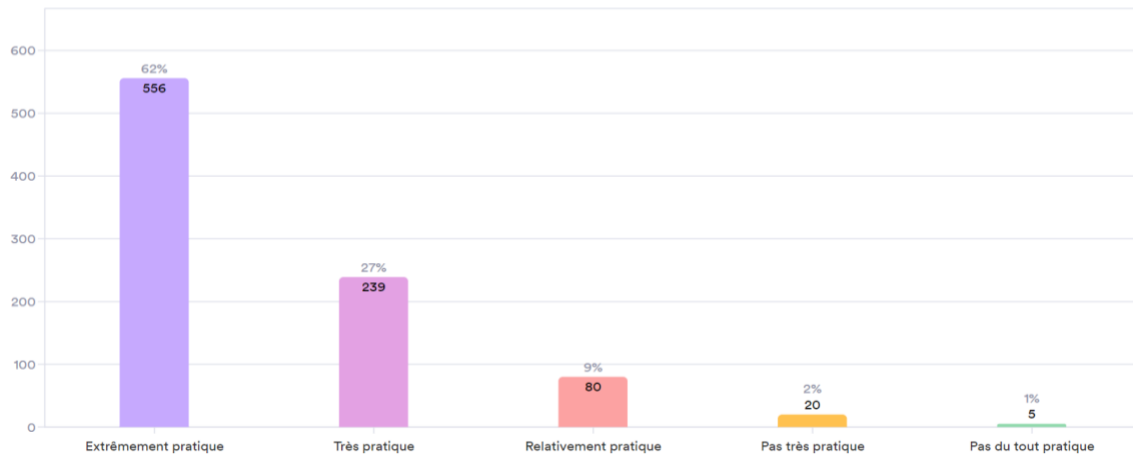
- Mont-Laurier residents seem to appreciate their sorting centre (91% according to the survey conducted by Zone-Emploi)
- The project's partner retailers are happy and say they have reclaimed a lot of in-store space. They do not want to go back on January 31.
 - Storage space
 - In-store space (ARs)
- Evaluate the possibility of equipping the depot with a commercial line
 - High volume of containers
 - Lots of containers returned in bags
- Zone Emploi had no experience in recovering returnable containers. This organization should ask for help when rethinking its facilities, if any.

A6.8 SURVEY RESULTS

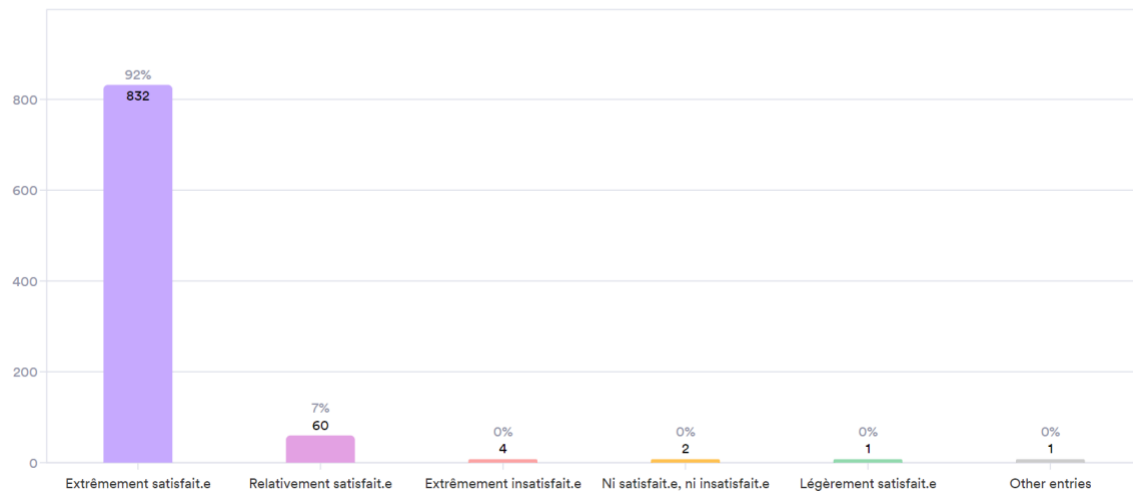
The Mont-Laurier drop-off centre launched a survey at the launch of the project and as of November 4, 2021, 909 people had responded. Here are the results:



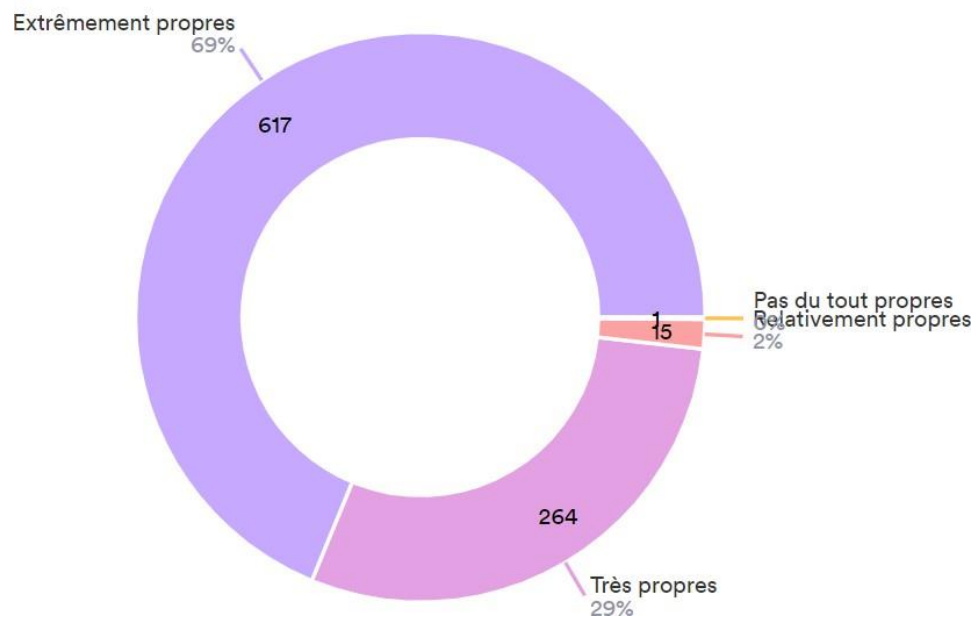
Dans quelle mesure notre emplacement est-il pratique pour vous?



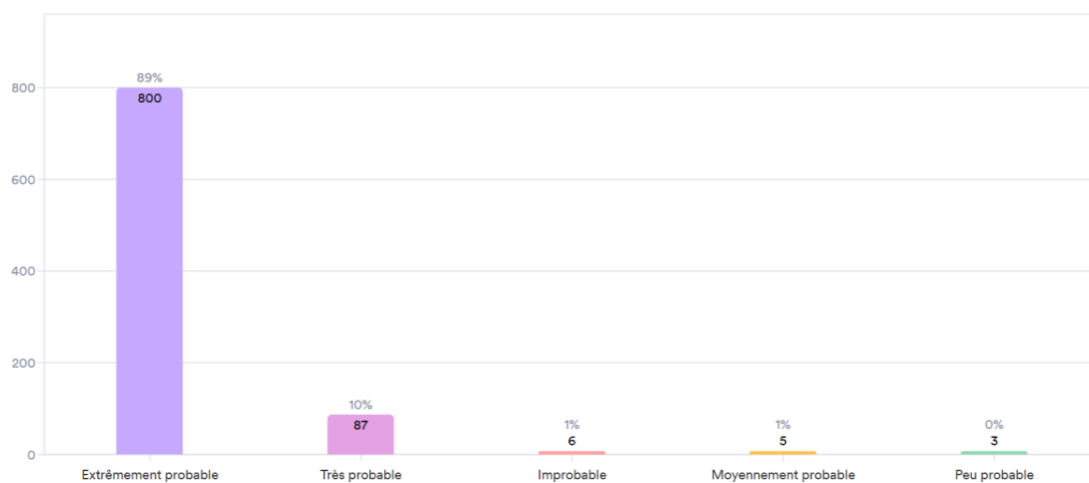
Dans l'ensemble, êtes-vous satisfait.e des services offerts par l'employé.e de notre entreprise?



Comment évaluez-vous la propreté des lieux?



Quelle est la probabilité que vous recouriez à nouveau aux services de notre centre du dépôt?



A NNEXE 7 : MULTI-MATERIAL COLLECTION SYSTEM

The Big Brothers Big Sisters of Montreal Foundation (now La Collecte Foundation) expressed interest in carrying out a pilot project in June 2020. After several discussions and adjustments, the Molson Street multi-material collection pilot project appeared on the list of official pilots in March 2021.

A7.1 INTENTION

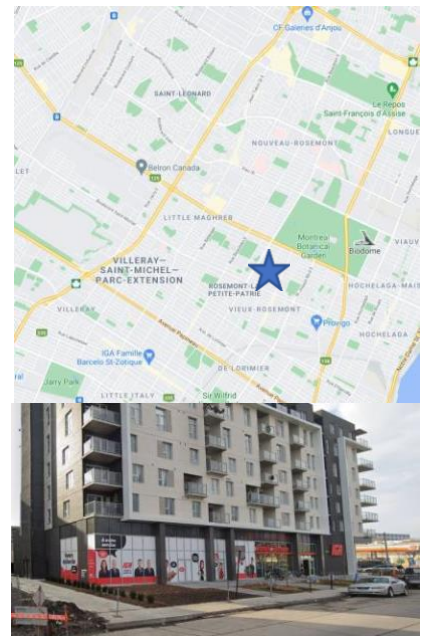
Entrust the management of container recovery operations for the expanded deposit in densely populated areas to a local organization to evaluate:

- The operation of a drop-off point carrying out the recovery of containers from the Expanded locker
- The performance of a multi-material repository
 - Returnable containers
 - Clothing and household goods (books, accessories, etc.)
 - Batteries, electronics, ink cartridges
 - Plastic film and film and others
- Responding to citizens' needs through a one-stop shop for all recoverable materials from residences.
- Evaluate citizen participation in a centre located in a densely populated area.

A7.2 DESCRIPTION

The Molson Street collection point was intended to provide citizens with a one-stop shop for the collection of containers from the expanded deposit, but also for clothing, household items and used batteries. It was planned to install this collection point in a space adjacent to the IGA Famille Barcelo.

To be affordable, the collection point had to be set up in a small space. Returnable containers and other recovered products had to be transported daily to the Big Brothers logistics centre, located in the Montréal-Nord borough. The containers were to be sorted, stored, and then recovered by bottlers and brewers.



A7.3 PROJECT EVOLUTION

- Fall 2020: Approach to the project office, research, identification of a room in a densely populated area and identification of a Retail Partner
- December 2020: Development of the project specifications
- Winter 2021: Steps to obtain the required authorizations and permits with the City of Montreal
- March 2021: Confirmation of funding from Recyc-Québec and PME Mtl
- Spring 2021: Identification of logistical constraints affecting recovery of CRUBVs
- July 2021: The Molson Street project is abandoned
- July 2021: Search for alternative premises
- August 2021: The pilot project of the Fondation La Collecte is abandoned

A7.4 LESSONS LEARNED

- The urban planning by-laws of Ville de Montréal and those of other municipalities do not recognize the principal use of a drop-off centre or a citizens' recovery centre installed in a commercial space.
- A new use which goes against planning regulations involves a change of zoning and sometimes public consultations which involve delays and costs.
- The current real estate market is overheating even in this more or less post-pandemic period. Good locations near grocery stores or high-traffic places are rare.
- Logistics constraints imposed by brewers make it even more difficult to find premises, especially in densely populated urban areas
 - Recovery of glass CRMs at the point of sale (retailer)
 - Presence of a loading dock on site for the recovery of glass containers

A7.5 CONCLUSIONS

Discussions with municipal bodies must take place immediately in order to prepare OR PLAN the conditions that will facilitate the implementation of recovery infrastructure in Quebec municipalities.

A NNEXE 8 : URBAN RECOVERY PROJECTS

COOP Les Valoristes is carrying out three pilot projects for truly different clientele. Valorists: people who collect returnable containers in the public area.

- Bag drop valoristes (7.8.1)
- Bag drop citoyen (7.8.2)
- ICI/CSP routes (7.8.3)

7.8.0.1 SPECIFIC communications AND PROMOTION

COMMUNICATIONS PLAN INITIATIVES

- **Press Relations:** Media coverage of the project
- **Local newspapers :**
 - Photos of the new site by a professional photographer
 - La Revue newspaper (90,050 readers)
 - Advertisement 1/2 page August 18 and September 1
- **Radio broadcast :** CHMP-FM (98.5) and CKOI (96.9)
 - Advertisement 30 seconds week of August 16, August 23, September 6 and September 13
 - CHMP-FM 98,5 : 128 occasions
 - CKOI (96.9): 128 opportunities
- **Dedicated page on microsite:** <https://onconsigne.ca/villes/montreal-valoristes>
 - 12,104 visitors
- **Social Media Posts:**
 - Geo-targeted publication of the Montreal area
 - 883 014 impressions
 - 25,709 ad clicks

PARTNER INITIATIVE

- Publications on the Facebook site of the COOP les Valoristes
- **Bag drop valoriste**
 - Direct promotion in the parks (anyone who comes to the booth)
 - Recruitment of valorists in the field
 - Distribution of pamphlets in parks
 - Banner explaining the raison d'être/operation
- **Bag drop citoyen**
 - Flyers for participants
 - Publications on the Facebook site of Y'AM (Éco Quartiers)
- **ICI/CPS Routes**
 - General release for ICI/SPC (under development)

7.8.0.2 SOCIO-DEMOGRAPHIC profile

- No socio-demographic profile will be made for this pilot. As the stakeholders involved are specific, their analysis cannot be limited to a few statistics from the national census.
- *Bag drop* valoriste : customers of valuables
- Citizen *bag drop*: 30 families who agreed to voluntarily participate in the pilot
- ICI/CSP routes : clientele of workers and visitors from different backgrounds

A8.1 BAG DROP VALORISTES

This project consists of offering collection points in two major parks in Montreal. These collection points took the form of pop-up kiosks set up on weekends at Lafontaine and Jean-Drapeau parks.

A8.1.1 INTENTION

- Allow recyclers to be more effective in the field by freeing them from their bags of containers, when full
 - Better income for valuations
 - Better collection of wild containers
- Provide an alternative to returning to retailers to obtain a refund of the deposit
- Increase the recovery of wild containers



A8.1.2 DESCRIPTION

The service is offered to recyclers who collect containers from the affected parks. A kiosk is set up and members of the COOP team are present to welcome the valuables to sort and count the containers. Participating valoristes receive a receipt and are invited to come the following week to one of the CoopLes Valoristes drop-off points for reimbursement.

Containers recovered by a truck and transported to the COOP Les Valoristes drop-off centre (Jacques Cartier Bridge) where they are stored.

The amount of the deposit is remitted to the valuables when they present themselves at one of the two COOP drop-off centres in exchange for the ticket given at the kiosk.

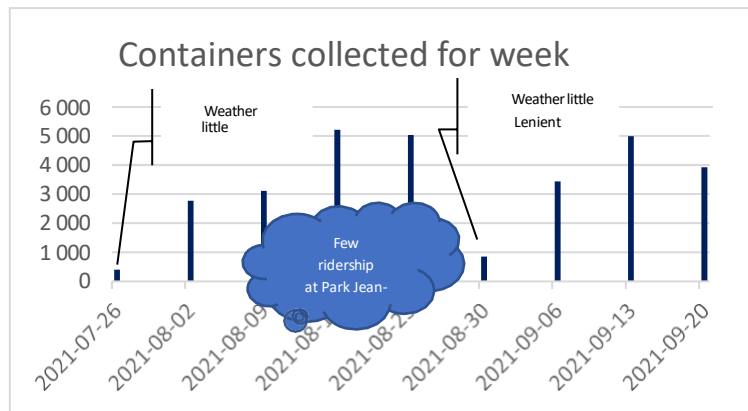
A8.1.3 PERFORMANCES

The interpretation of the recovery performance of the *bag drop* valuables must be put in context.

- The initiative was launched late in the summer, on July 26.

- The weather was not favourable two weekends out of the nine that lasted the experiment
- The reduction in attendance at the parks concerned (Lafontaine and Jean-Drapeau) affected the performance of this project:
 - Far fewer tourists in Montreal
 - Many Montrealers took advantage of the opportunities offered by

FIGURE A8.1: BAG DROP RECOVERY PERFORMANCE



- Teleworking to leave the city
 - Late return of students
- During the weeks of August 16 and 23, more than \$330 in deposits were distributed among participating valorists.

A8.1.5 CONSIDERATIONS

- Building a relationship of trust is essential for valorists to accept a Deferred payment on containers they picked up
- It is virtually impossible to recover containers without Compensated
- Performance is directly impacted by the weather
- Difficult to obtain the necessary permits for the installation of infrastructure in parks of the city of Montreal or for the occupation of parking spaces

A8.1.6 RECOMMENDATIONS

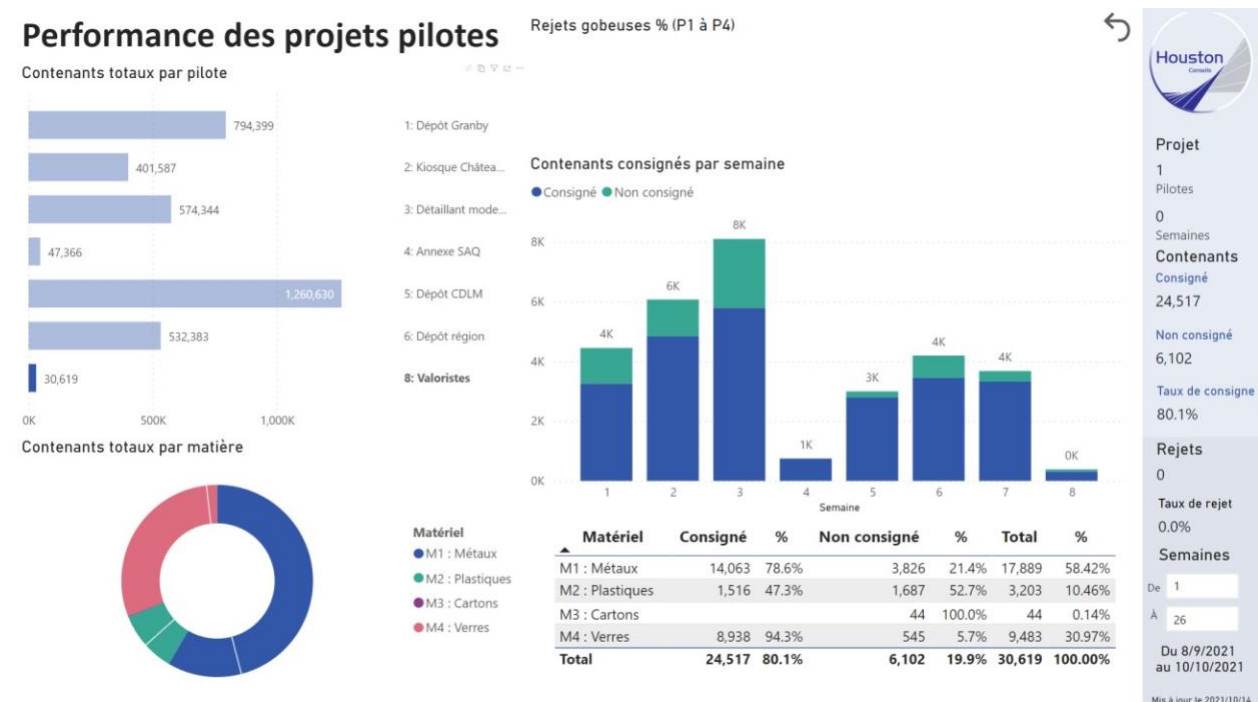
Bag drop service for valorists should be improved, encouraged and extended to other locations

- Maximizes the income of participating valorizers
- Helps finance the COOP Les Valoristes (collection of handling fees)
- Reduces the amount of wild containers in parks
- Avoids the return of off-retailer recovered containers (very large volume of containers, sometimes soiled)
- Allows people who do not own a motor vehicle to easily access a return point
- The creation of a mobile deposit (with refund on site) rather than a simple *bag drop* would significantly increase the participation of valuables
- The *bag drop* service should offer a predictable service schedule to create a habit with customers

- It is difficult to reach the valuables, because they often do not have a phone Smart nor internet connection

It would be interesting to have a better network with the city to coordinate the activities of recovery during certain activities in the parks.

TABLE A8.1: VALUATION PILOT PERFORMANCE



A8.2 BAG DROP CITOYEN

Thirty families will return their collective deposit containers in bags to two eco-neighbourhoods, Hochelaga-Maisonneuve and Rosemont.

A8.2.1 INTENTION

- Allow citizens to experience the return of containers from the expanded *bag drop* deposit in a densely populated environment
- Validate citizens' interest in returning by *bag drop* over the weeks and seasons

A8.2.2 DESCRIPTION

The COOP Les Valoristes collects the bags, sorts the containers by materials and runs the count. Reimbursement of the deposit to participating families can be made by Interac or in cash through eco-neighbourhoods. Households can also donate to COOP Les Valoristes.

The participants' bags were counted for the first time the week of September 27. It is therefore far too early to assess the performance of this project or make recommendations.

A few collection routes have been set up to collect containers from the expanded deposit directly from ICI and CSP sites.

- Collect containers from the expanded deposit in the workplace
- Collect containers from the expanded deposit in public places of CSP
- Validate the effect of associating recovery activities with a Humanitarian cause

The service is offered to businesses. The recovery boxes have been installed as well as an operating poster. Through building maintenance teams , container collection logistics are established.

A portion of the service will soon be carried out at the help of trailers pulled by an electric bike. The trailer will be dressed in the colours of the pilot projects.

The service has already started at the following local

- Angus Development Corporation
- St . Lawrence Square
- The National Monument
- The National Theatre School
- KPMG Montreal office
- Complexe Desjardins
 - Tour Revenu-Québec
 - Desjardins Tower
 - Public space

The pilot of the ICI-CPS routes is just beginning; It is therefore far too early to assess the performance of this project or make recommendations



A NNEXE 9: RECOVERY EQUIPMENT USED FOR PILOTS

- Récupératrice T53
- T70 Automated Recuperator
- T9 Automated Recuperator
- EasyPac treatment system
- MultiPac treatment system
- Commercial line

Récupératrice Automated T53

T-53S

La T-53s est une solution de la gamme InPac™ de TOMRA dotée d'un design épuré et robuste pour un positionnement polyvalent, idéale pour les volumes retournés faibles à moyens de contenants de boissons non réutilisables.



La T-53s est idéale pour les magasins à la recherche d'une solution robuste et fiable pour gérer des volumes moyens de contenants de boissons vides et non réutilisables. Il s'agit d'une machine autoportante avec tri intégré et compactage efficace des contenants de boissons non réutilisables.

Son design robuste permet de la positionner dans des lieux tels que les entrées de magasins ou les enceintes extérieures. Fiable en termes d'utilisation, efficace en termes de compactage et bénéficiant d'une excellente capacité de stockage, la T-53s est conçue pour les commerces à la recherche d'une solution de récupératrices automatisées efficace et simple pour les contenants de boissons vides. Également disponible en version conforme à l'ADA*.

PRINCIPALES CARACTÉRISTIQUES

DURABLE ET ROBUSTE

- Portes en acier robustes permettant d'installer la machine dans divers endroits
- Fermeture haute-sécurité en option pour une sécurité optimale
- Idéal pour les installations extérieures abritées / stationnement

ARMOIRE PLATE

- Idéale pour l'habillage personnalisé
- Personnalisable en fonction du profil de votre marque
- Vendue à titre d'espace publicitaire

Source : www.tomra.com

DISPONIBLE EN VERSION CONFORME À L'ADA

- Conçue conformément aux spécifications de l'ADA
- Design extérieur similaire à la machine classique afin qu'elles puissent être installées côte à côte

Récupératrice Automated T70

T70 Dual

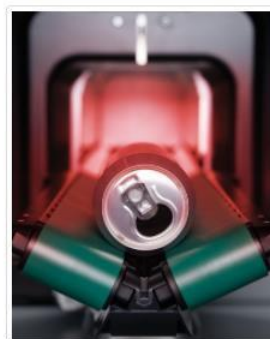
Le T70 Dual est un automate de collecte avec compacteurs intégrés doté des dernières technologies de pointe TOMRA. Élégant et intuitif, il offre une capacité interne de stockage importante.

- Reconnaissance codes-barres à 360° encore plus rapide grâce à ses 6 caméras
- Intégration et reprise de nouveaux emballages par le système (Tetra Pak® par exemple)
- Maintenance, nettoyage et opérations de vidage simplifiés
- Possibilité de personnalisation à l'image de l'annonceur/marque/enseigne

Vous souhaitez obtenir plus d'informations ? Contactez-nous par mail info@tomra.fr



Retrouvez toute notre gamme d'automates pour la grande distribution [sur ce lien](#).



Source : www.tomra.com

T9 Automated Recuperator

T-9

La T-9 est le tout nouveau modèle de machine frontale TOMRA, idéal pour gérer les volumes moyens à importants dans les magasins et pour traiter les contenants réutilisables et les caisses de contenants du même type. La T-9 est équipée de la technologie Flow Technology™ TOMRA, la première récupératrice automatisée au monde à bénéficier d'un système unique de reconnaissance à 360 degrés.



La T-9 est la toute nouvelle récupératrice automatisée TOMRA et la première d'une nouvelle génération qui permet d'effectuer des tâches classiques de manière totalement novatrice. Plus rapide, plus propre et prête à prendre en charge tous les types de contenants de boissons, la T-9 présente des atouts notables pour vos nouveaux clients, aussi bien que pour vos clients actuels.

La T-9 est équipée de la technologie Flow Technology™ TOMRA, la première machine au monde à bénéficier d'un système unique de reconnaissance à 360 degrés. T-9 Combi bénéficie également de la technologie de reconnaissance pour les caisses de contenants de boissons la plus performante dans l'industrie : True Vision™.

PRINCIPALES CARACTÉRISTIQUES

PLUS RAPIDE

- Reconnaissance instantanée des codes-barres et des marques de sécurité sans arrêt du système
- Alimentation rapide et continue des contenants simples
- Plus pratique et plus performant pendant les heures d'affluence

PLUS PROPRE

- Nettoyage facilité par rapport à d'autres machines de ce type
- Nettoyage simplifié et rapide
- Économie de temps pour le personnel et attractivité optimisée

DEUX MODÈLES DISPONIBLES

- Pour les contenants de boissons simples non-réutilisables et les contenants de boissons réutilisables
- Pour les contenants de boissons simples et les caisses de produits réutilisables et non réutilisables
- Les deux modèles bénéficient d'un écran tactile et de l'interface TOMRAPlus
- Les deux modèles sont conçus pour être aisément personnalisés

Source : www.tomra.com

EasyPac treatment system



TOMRA T9 with EasyPac

Dimensions	1150 mm x 4800 mm x 1800-1940 mm [W x D x H] ¹
Footprint	5.5 m2 (rectangular footprint) ¹
Accepted containers	Cans, plastic bottles, glass bottles and crates ²
Storage capacity per bin ³	PET bottles: Up to 1500 (compacted) Cans: Up to 6000 (compacted) 50/50 mixed PET bottles/cans: 2000 (compacted using mix crusher) Glass bottles: Up to 400 ⁴
Configurations	Cabinets: 1-5 cabinets, several types available Destinations: 1 or 2 per cabinet Orientations: Angled right/left or straight, built to fit any backroom Cabinet config.: PET crusher / Can crusher / Mix crusher / Glass crusher / Drop End-of-lane kits: End default / SoftDrop / Table with raiser / RearDrop
Recognition technology	TOMRA Flow TOMRA True Vision ²
Speed capability ⁵	Up to 60 containers per minute Up to 21 crates per minute ²
Electrical – Mains EU	EasyPac: 400 V AC, 3-phase w/ground, 50 Hz, 16 A TOMRA T9: 230 V AC, 1-phase w/ground, 50 Hz, 10 A
Digital products	Fully compatible with Digital Starter Pack (with Notify+Assist Basic, Weekly Digest and myTOMRA), Notify+Assist Premium, Weekly Reports, Donation, Promotion, Couponing, Voucher Control and APIs & Integrations.

¹ Nominal figures for required system footprint (service area not included), configured as shown. Depth increases 1400 mm per additional cabinet for EasyPac.

² T9 BC model.

³ Approximate figures for 1x 1/1 Euro pallet with shakedown. Capacities will vary with object mix, type and system configuration. Module availability may vary across markets.

⁴ Weight limitation, approximate number.

⁵ Performance data may vary across markets, deposit regulations and system requirements.

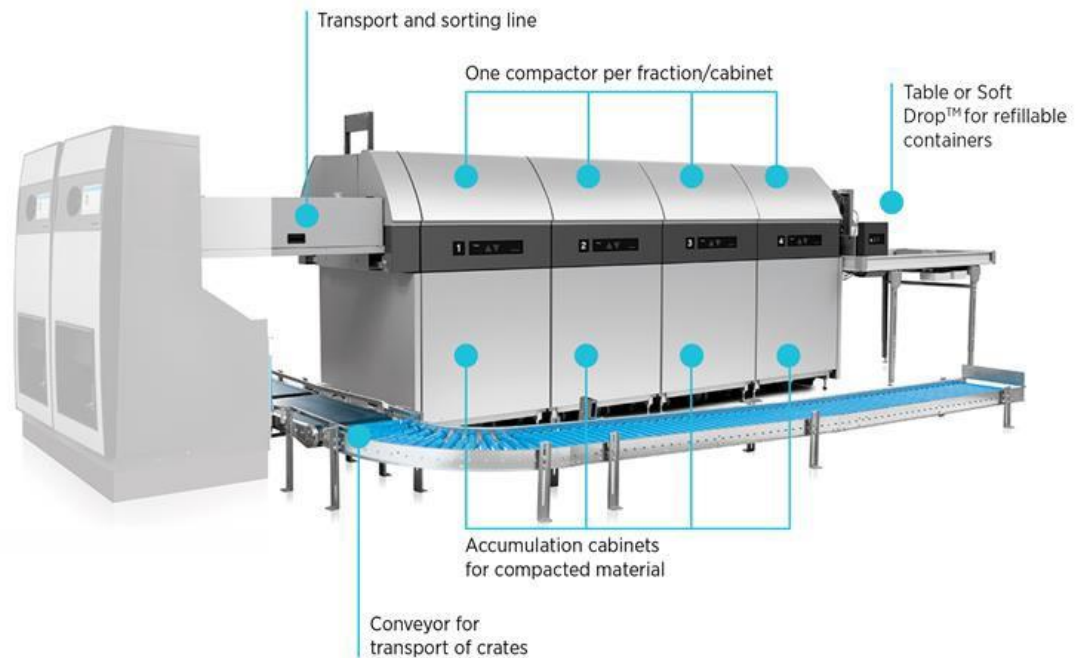
Detailed products specifications and tailored installation drawings can be provided upon request.

Source : www.tomra.com

MultiPac treatment system

SYSTÈME DE TRAITEMENT

Les modèles de systèmes de traitement de TOMRA présentent des qualités clés appréciées du personnel : fiabilité opérationnelle et configuration totalement personnalisable.



GAMME DE PRODUITS



Source : www.tomra.com

MultiPac™

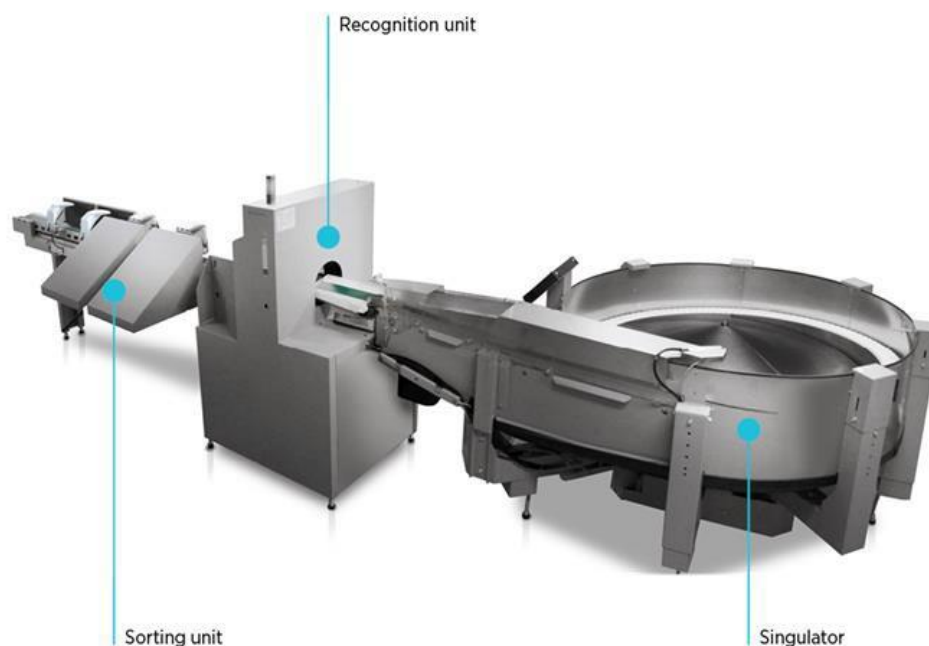
MultiPac™ est un système de traitement haut de gamme, évolutif, personnalisable et peu encombrant avec un temps de fonctionnement optimal. Le système s'adapte aux modèles frontaux T-820 et T-9 et est parfait pour les magasins gérant des volumes importants.

- Temps de fonctionnement optimal
- Réservoir haute capacité
- Intuitif

Commercial line

SYSTÈME DE RÉCUPÉRATION À GRAND VOLUME

Contrôlez vos données et le débit de traitement des contenants. Cet équipement de qualité industrielle associe la robustesse de sa conception et de sa fabrication, à une haute précision des détecteurs pour le triage, qui peuvent traiter tous les types de contenants faits de différents matériaux, de différentes formes et tailles, y compris les contenants en verre à usage unique ou réutilisables.



GAMME DE PRODUITS



Bulk Collection

Cet équipement de qualité industrielle associe la robustesse de sa conception et de sa fabrication, à une haute précision des détecteurs pour le triage, qui peuvent traiter tous les types de contenants faits de différents matériaux, de différentes formes et tailles, y compris les contenants en verre à usage unique ou réutilisables.

- Reliable
- Scalable
- Takes all

Source : www.tomra.com