



Report to: General Committee

Date Report Authored: March 07, 2016

---

**SUBJECT:** Textile Recycling Smart Bin Program

**PREPARED BY:** Claudia Marsales, Senior Manager, Waste & Environmental Management

---

**RECOMMENDATION:**

1. THAT the report entitled "Textile Recycling Smart Bin Program " be received;
2. AND THAT Council endorse the Textile Recycling Smart Bin initiatives as outlined in this Report;
3. AND THAT a copy of this Report be forwarded to York Region and the Local Municipalities for their information;
4. AND THAT upon completion of the project, remaining funds will be returned to the original funding sources;
5. AND FURTHER THAT Staff be authorized and directed to do all things necessary to give effect to this resolution.

**PURPOSE:**

The purpose of this Report is to provide an update of the 'Best of the Best' diversion strategy to increase textile recycling in Markham.

**BACKGROUND:**

**Markham's successful 'Best of the Best' diversion strategy contained ten diversion initiatives including an expanded textile recycling program**

In 2012, Council approved the formation of a Diversion Sub- Committee, to develop a package of diversion initiatives designed to increase diversion to 80%, and move Markham closer to being a Sustainable Community as recommended in the Council approved Green Print.

The Diversion Sub-Committee is chaired by the Deputy Mayor and has representation from Council and Markham Environmental Services staff. Representatives from York Region and MEAC (Markham Environmental Advisory Committee) are invited on a project by project basis.

The Council approved 'Best of the Best' diversion strategy contained 10 initiatives to be implemented between 2013-2015. All of the initiatives have been successfully addressed with the exception of a program to provide expanded diversion opportunities for household textiles.

---

**Increased textile waste result of Fast Fashion and disposable clothing trend**

Over the past decade, a major shift has been underway which is resulting in a growing amount of inexpensive, low cost, 'disposable' clothing being sold into the North American marketplace. Known as 'Fast Fashion', inexpensive trendy clothing is designed and priced to be bought, worn then quickly discarded. The low cost of fast fashion can only be achieved because more than 98% of all garments sold in Canada are made abroad in Vietnam, Bangladesh, India, Pakistan and the Philippines. China, the leading world producer and supplier of clothing, produces nearly 33 percent of the world's textile exports.

What is becoming increasingly apparent is that the carbon footprint of fast fashion is huge. A carbon footprint is a measure of the amount of green house gas produced through the burning of fossil fuels. Clothing creates carbon in each phase of the life cycle of a textile product. The textile/clothing sector, with its complicated supply chain is responsible for a significant amount of carbon and green house gas creation.

For example, natural cotton, used in clothing manufacture, requires large amounts of pesticides and herbicides to cultivate. It takes 2,700 litres of water to produce a single cotton shirt and 11,000 to 20,000 litres of water to produce a pair of jeans. Synthetic, man-made fibers such as polyester or nylon, while not as water-intensive, are energy intensive. With increased textile recycling, the water and carbon footprint of clothing manufacturing can be slashed by up to 95 percent by using recycled feedstock.

Studies indicate that every consumer produces 30-40 kilograms of textile waste per year and that 85% of textiles are thrown away without being reused or recycled. Waste composition audits conducted by York Region found that textile waste accounts for up to 5 – 6% of waste destined for disposal. For Markham, that represents approximately 4,500 tonnes of textile waste per year sent for disposal.

**'Charity' donation boxes create problems across the GTA**

For many reasons, governments have taken a hands-off approach to textile recycling. Textiles are a poor fit for municipal blue box curbside collection programs due to high cost and contamination. As a result, most municipalities leave textile collection exclusively to 'charity' and for-profit collection companies. These so called 'charity' boxes have posed a real challenge for GTA municipalities over the past several years. Failure to address textile waste is a lost opportunity and has resulted in inadequate consumer education, scant diversion data and little end-market accountability.

**Focus groups with Markham residents indicate strong support for textile recycling**

In 2012, staff conducted focus groups with Markham residents to determine the level of interest in textile recycling. The results provided interesting insight to how residents manage textile waste. Key findings from the focus groups provided valuable insight and information for designing Markham's textile diversion program:

1. Residents have little understanding of what textiles are acceptable for donation. They reluctantly put their old clothes in the garbage. Further, they were unaware that towels, sheets, purses, belts, and shoes etc. can be recycled.
2. When donating, they often used charity boxes although they had little allegiance to charitable causes and were skeptical that their donations actually benefited charities.
3. When they had donations, residents preferred the convenience of a 24/7 drop off system or home collection service.
4. They disliked throwing textiles in the garbage and wanted more education on textile recycling including what is permissible for donation and how they are recycled.
5. Residents had strong confidence in Markham sponsored diversion programs. They would use a Markham managed textile recycling program if available.

### **Markham receives FCM Grant to launch Smart Bin Textile Program**

In 2015, Council approved a Smart Bin Textile Recycling Program as part of the 2016 Capital Budget process. In addition, staff applied for and received a matching grant of \$67,000 from the Federation of Canadian Municipalities (FCM) for Markham's textile recycling program. FCM commented positively on Markham's application noting the initiative was not only unique; it addressed increased diversion, consumer education, and green house gas reduction.

The SMART Bin program involves the placement of new Markham branded donation containers across Markham. New donation containers supplied by the Salvation Army will be placed at Markham Fire Stations. Markham's state of the art Smart Bins designed and owned by Markham, will be placed at select City facilities. All containers will feature in-unit volume sensors to monitor when containers need maintenance, surveillance cameras to deter illegal dumping, and solar power lighting to ensure users will be able to drop-off material at safe, clean locations.

### **Salvation Army to collect and recycle all of Markham's donated textiles from donation containers and Markham Community Recycling Depots**

In addition to the provision of new donation containers at Markham Fire Stations, Markham Waste Management has partnered with the Salvation Army to service and recycle all textile donation locations in Markham at no cost. The Salvation Army has a proven track record that goes back 130 years in Canada. It is now one of the world's largest providers of social services, providing support to society's most vulnerable. All Salvation Army Thrift Stores are 100 per cent charity-based and exist to generate funds to support Salvation Army programs and services that help residents in the areas in which they operate. All donated clothing and other goods will be efficiently and ethically recycled and sold to offer practical assistance for children and families. All new donation containers will display the branding for Markham and the Salvation Army.

All donations to Markham's program will be sorted and reusable items sold at the Markham Salvation Army Thrift store. Approximately half of the clothing that is donated is suitable for

resale. Donations unsuitable for resale will be sold by the Salvation Army into various secondary markets for car upholstery, carpet padding, insulation, and stuffing. The market for textiles is very strong, and anywhere from 95 to 99% of textiles can be reused or recycled.

In addition to donation containers, Markham will also promote other legitimate charities such as 'Clothesline' the Canadian Diabetes Association home pick-up service for textiles and household goods. This service is available to all Markham residents on an appointment basis at no cost. All donated material is sold to Value Village.

### **Textile Symposium to be held in Markham on May 4, 2016**

A major communications campaign will be developed to educate and promote the benefits of textile recycling. This program will bring much-needed awareness of the textile waste challenge and help create a new consciousness around sustainable consumption

On May 4, 2016, Markham is sponsoring a Textile Recycling symposium at the Hilton Toronto/Markham Conference Center. In addition to speakers from San Francisco, New York City, and Halifax, Markham will be launching the textile recycling program and unveiling the new Smart Bin textile container.

### **Markham will be one of the first Canadian Cities to tackle textiles**

Markham's SMART Bin textile recycling program, with its convenient, clean locations and backed by a comprehensive social marketing campaign, marks a bold new step towards meeting the desires of citizens to recycle their textile waste.

By moving forward with this textile diversion program, Markham will maintain its leadership role and demonstrate commitment to sustainability.

### **FINANCIAL CONSIDERATION**

Table #1 below summarizes the 2016 and 2017 estimated textile project expenses as outlined in the 2016 Capital Project approval of \$65,100 and FCM funding of \$67,000.

Staff will report back in late fall 2016 with a progress report on the new textile diversion program. Based on the success of the implementation in 2016, staff expects to add two Markham Smart Bin containers within the City in 2017.

**TEXTILE DIVERSION PROGRAM 2016 EXPENDITURES****Table #1**

	<b>City Contribution</b>	<b>FCM Funding</b>	<b>Total</b>
<b>2016 Approved Capital</b>	<b>\$65,100</b>	<b>Received \$67,000 (Approved \$65,000)</b>	<b>\$132,100</b>
Markham owned Custom Smart Bin Containers (2) including capacity sensors	(\$10,000)	(\$10,000)	(\$20,000)
Consultant Fees including final report to FCM	(\$ 5,000)	(\$ 5,000)	(\$10,000)
Education & Promotion	(\$12,500)	(\$12,500)	(\$25,000)
Site Preparation and lighting	(\$ 2,500)	(\$ 2,500)	(\$5,000)
<b>2016 EXPENDITURES</b>	<b>(\$30,000)</b>	<b>(\$30,000)</b>	<b>(\$60,000)</b>
Markham owned Custom Smart Bin Containers (2) including capacity sensors	(\$10,000)	(\$10,000)	(\$20,000)
Consultant Fees Final Report	(\$5,000)	(\$5,000)	(\$10,000)
<b>2017 EXPENDITURES</b>	<b>(\$15,000)</b>	<b>(\$15,000)</b>	<b>(\$30,000)</b>
<b>BALANCE OF PROJECT FUNDS REMAINING</b>	<b>\$20,100</b>	<b>\$22,000</b>	<b>\$42,100</b>

Upon completion of the project, any remaining funds will be returned to the original funding sources.

**Operating and Life Cycle Impacts**

Salvation Army will collect all donated material from all Markham locations resulting in no operating budget impact for collection. Other Operating and Life Cycle impacts of this program will be:

1. Operational cost of smart sensors \$2,000 per year for all containers
2. Life Cycle cost of Markham Smart Bins \$4,000 per year  
(based on 4 containers at \$10,000 ea with a life cycle of 10 years)

**Total Impact \$6,000 per year**

This amount will be offset by reduced tonnage from curbside collection. As stated above, over 4,500 tonnes of textiles may currently be in Markham's waste stream that is being collected at curb. Markham's collection cost for waste is in the range of \$90 per ton; by diverting as little as 10% of the textiles to the Smart Bins, will save Markham approximately \$40,000. Staff will monitor the collection and diversion achievements and report back in the fall on the savings as an E3 Initiative.

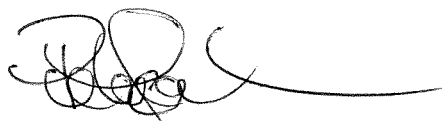
**ALIGNMENT WITH STRATEGIC PRIORITIES:**

Aligns with Environmental Strategic priorities and Green Print principals.

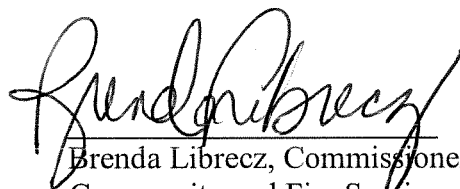
**BUSINESS UNITS CONSULTED AND AFFECTED:**

Communications and Community Relations, Fire Services

**RECOMMENDED BY:**



Peter Loukes, P. Eng  
Director, Environmental Service



Brenda Librecz, Commissioner  
Community and Fire Services

Q:\Commission Share\Environmental Services\2016\Reports\Diversion Textile Report and  
Presentation\Diversion Sub Committee - Textile Recycling Smart Bin Program FINAL.docx