

SM4RT LIVING

YORK REGION'S INTEGRATED WASTE MANAGEMENT MASTER PLAN



November 2013

Food Waste Reduction Strategy



Food Waste Reduction Strategy

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Food Waste Reduction Strategy

	<p>Objectives:</p> <ul style="list-style-type: none"> • To educate York Region residents on the value of food, food waste and how to reduce or avoid food waste. • To reduce food waste in all residential and non-residential sectors throughout York Region. 	<p>Targets:</p> <ul style="list-style-type: none"> • The Food Waste Strategy should set realistic targets that help York Region reduce food wastage in sectors which it services. • With an implementation date in 2013, the Region should aim to achieve 15% reduction in food wastage by 2031 with an additional 5% reduction achieved every year thereafter.
	<p>Benefits:</p> <ul style="list-style-type: none"> • Annual reduction of over 13,800 tonnes of material to be managed by 2031; • The Region could potentially experience a reduction in costs to manage waste (processing only) of approximately \$4.2 million by 2031. • Significant reductions in environmental burden associated with food production, transportation, and organics collection and processing. York Region could potentially save 53,200 tonnes of greenhouse gases by 2031. • Considerable water use avoidance and conservation opportunities. A reduction in food waste could potentially save a couple of hundred litres of water per York Region resident annually; and, • A “leveling” of organics quantities requiring processing which will mitigate the need for additional processing capacity over what is currently required. 	

1.0 Introduction

The Food Waste Reduction Strategy is one component of York Region's Integrated Waste Management Master Plan, also known as the SM4RT LIVING Plan. The Plan establishes the planning framework and strategic direction for waste management in York Region for the next 40 years, builds on the Region's position as a waste management leader and focuses on driving waste reduction and reuse, while maximizing recycling and energy recovery from the materials that remain.

In recent years, the quantity of food waste being generated and managed has become a focal point for reduction opportunities, particularly in places throughout Europe. There has become a significant disconnect in society with how food is valued which has resulted in greater quantities being wasted. The development of the Food Waste Strategy will increase public awareness with respect to food value, which will in turn, reduce the amount of food waste being generated.

2.0 Background and Trends

In 2012, York Region managed more than 96,000 tonnes of source separated organics (SSO), generated by 345,811 households. Of this 96,000 tonnes, just over 73 per cent was identified as food-related waste. By 2031 it is projected that York Region will grow to more than 506,000 households and will produce roughly 128,199 tonnes of SSO. Without any reduction, it is projected that the percentage of food-related waste will remain around the 73 per cent mark.

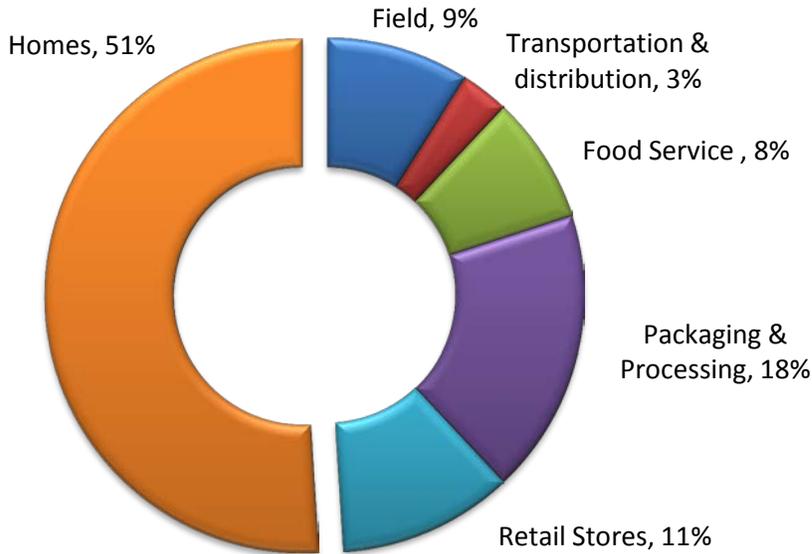
According to Statistics Canada, in 2007 food wastage occurring at retail and in the home was estimated at more than six million tonnes with another 2.8 billion litres of liquids, including milk and milk products, coffee, tea, pop and juices also wasted.

Source: Statistics Canada. Human Activity and the Environment, 2009

It is estimated that approximately 40 per cent of all the food produced and sold in Canada (approximately two per cent of Canada's Gross Domestic Product (GDP)) is wasted between the point of production and the point of discard by the consumer. Of this, slightly more than 50 per cent of food wastage occurs in the home. Food wasted during packaging and processing is at 18 per cent and food not sold in retail stores at 11 per cent. Areas of food waste for municipal

influence include: home, retail stores and food service establishments, which contribute cumulatively 70 per cent of food waste.¹ (Figure 1)

Figure 1: Percentage Food Waste from Field to Home in Canada



Source: Value Chain Management Centre, Food Waste in Canada November 2010

Statistics Canada estimates that the average Canadian discards 172–183 kg/year of food in the retail sector and at home.

Of the food wasted in the home, UK studies identified approximately 20 per cent of food waste was comprised of unusable food such as peelings, cores and bones. The remaining 80 per cent of food wasted in the home was identified as edible food.² In other words, if a household were to purchase 100 units of food, 20 units would be thrown out. Of these 20 units, 16 units would be considered “edible” food (e.g. allowed to rot or thrown out as leftovers from meals, etc.) and four units would be “inedible” food (e.g. coffee grounds, fruit and vegetable peelings, bones, egg shells, etc).

According to Statistics Canada, the average household grocery bill in 2010 was about \$7,500 annually (about \$625 monthly)³. At 10 per cent food wastage, this translates to up to \$750 thrown away and at 20 per cent food wastage, up to \$1,500 thrown away each year. In the

¹ Value Chain Management Centre, Food Waste in Canada November 2010

² Value Chain Management Centre, Food Waste in Canada. November 2010.

³ Statistics Canada, 2010 Data. <http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/famil130a-eng.htm>

United States it is estimated that an average family of four throws away food worth up to \$2,275 annually.⁴ In 2010, it is estimated York Region households lost an average \$378 million from food being wasted (Table 1).

In North America, people waste 50% more food in 2010 than they did in 1974.

Source: Jonathon Bloom. Help the planet: Stop wasting food. LA Times, November 7, 2010.

Table 1: Estimated Total Loss of Household Income in York Region to Food Being Wasted

	\$ loss from 10% food waste	\$ loss from 20% food waste	Average
Cost per household	\$750	\$1,500	\$1,125
Total for all York Region households	\$252,298,500	\$504,447,000	\$378,335,250

In 2010, the food sector in Canada contributed more than nine per cent of Canada’s GDP and 2.3 million jobs, representing roughly 13 per cent of all employment in Canada. Canadian consumers spend almost \$155 billion annually on food, while food exports generate an additional \$38.8 billion in revenue for Canada.⁵

2.1 Challenges with Defining and Measuring Food Waste

Some of the principle challenges associated with food wastage involve how to define and measure it. What would be considered one person’s once “edible” food is another person’s “inedible food.” Establishing definitions are key to determining what is deemed actual food wastage (e.g. food allowed to rot or leftovers that are discarded or food discarded that has reached its Best Before date); however, even determining appropriate terms to convey the definitions is problematic. Does “edible” or “useable” or “wastage” adequately convey the concept that perfectly good food has been allowed to go to waste? Some would argue that rotten food is no longer “edible”, therefore, not food wastage. By definition, however, that is exactly what it is. At the same time, measuring and calculating food wastage provides its own set of challenges. How do you measure wasted food and ensure the result accurately represents what is actually happening onsite? By the time food waste samples may be audited, the rate of decomposition and other factors (e.g. co-mingled food wastes) may interfere with the ability to decipher food wastage from unusable food. Finally, using audit results from

⁴LA Times. New app builds on efforts to reduce food waste. August 27, 2012

⁵Valuing Food: the Economic Contribution of Canada’s Food Sector, 2011. Conference Board of Canada

different cultures and locations may not reflect the actual food wastage behaviour of the targeted location, resulting in obscured information and insights.

According to a study released by the Natural Resources Defense Council, Ready-made food makes up a large portion of food lost at convenience stores, which discard approximately 25 per cent of their food products. In the case of rotisserie chickens, one grocer estimated that his store threw away a full 50 percent of the rotisserie chickens that were prepared, many of those from the last batch of the day.”

Source: Natural Resources Defense Council. Wasted: How America Is Losing Up to 40 Percent of Its Food from Farm to Fork to Landfill, August 2012.

2.2 Where Does Food Loss Occur?

This strategy focuses on food wastage occurring from the point of retail to the home. While food waste also occurs at the farm, processing and packaging stages, and during transportation and distribution, these points of loss are not considered within a municipality’s area of influence, but should not be forgotten.

2.2.1 Retail

Most of the loss in retail operations is in perishables—baked goods, produce, meat, seafood and increasingly, ready-made foods. The reasons for losses include:

- Rejection of cosmetically imperfect fruits and vegetables and damaged goods. Grocery stores will cull fruits and vegetables not meeting specified size, shape and colour and remove damaged goods, which are still edible. It is estimated that 30 per cent of fruits and vegetables in North America are rejected during harvesting and retail because they are not considered cosmetically acceptable.⁶
- Overestimating demand for goods, such as baked goods and ready-made goods resulting in the excess being thrown out. This is a particular problem associated with ready-made food which may be thrown out at the end of the day since store owners need to ensure that the ready-made food remains fresh. In its report, ‘Cut Waste, Grow Profit’ the Value Chain Management Centre postulates, “As we move toward a more affluent society, the trend for pre-prepared convenience food is growing. Left unaddressed, it is conceivable that food waste among retailers could rise in the coming years”.⁷

⁶Statistic provided by Wayne Roberts, Toronto Food Policy Council, 2012

⁷Value Chain Management Centre. Cut Waste, Grow Profit, October 2012.

- Expired “sell by” dates result in retailers pulling food off the shelf and putting it into the garbage. Stores will pull products from the shelf days before or at the time of “sell by” dates. In the United Kingdom, it is estimated that supermarkets throw out £12 billion (\$19 billion CAD) in food annually as a result of the product exceeding the “sell-by” date on food packaging.⁸ These “sell by” dates add additional confusion with other “best before” and “use by” dates.
- Retailers also play a role in encouraging excessive purchasing of food by offering store promotions, bulk discounts, high volume sales (such as buy three for \$5.00 or buy one and get one free). This approach encourages consumers to buy more than they actually need, resulting in product spoilage or exceeding the best before date and being thrown out. For example, supermarkets in the United Kingdom would offer Buy One Get One Free (BOGOF) promotions on perishable foods. In 2010, Tesco and Sainsbury introduced its Buy One Get One Later (BOGOL) promotion that enabled customers to purchase a product and get a free one within two weeks.⁹

A survey conducted as part of the SM4RT Living master plan development identified most (60 per cent) respondents cook 10 or more meals each week; however, only 31 per cent of respondents cook between five and nine meals each week, suggesting that they are either eating out or purchasing pre-cooked/prepared meals the majority of the time.

The survey asked the question: “How many meals do you cook from basic ingredients each week?”

2.2.2 Food Service

An estimated four to 10 percent of food purchased by food service establishments becomes wasted in the kitchen before reaching the consumer.¹⁰ While some of the waste is associated with food processing (e.g. bones, fat, peelings, etc.), other food waste is a result of a policy of maintaining enough food supply and offering extensive menu choices at all times. Once the food reaches the customer, another portion of it is wasted.

⁸Government bins 'sell-by' dates to reduce food waste. The Guardian, Thursday 15 September 2011

⁹Tesco launches Buy One Now, Get One Free... Later. BBC news. Thursday, 21 January 2010

¹⁰LeanPath. Short Guide to Food Waste Management Best Practices. No date.

Up to 35 per cent of school lunches end up in the garbage can.

Source: Tristram Stuart. *Waste: Uncovering the Global Food Scandal*. 2011

Research conducted at Cornell University Food and Brand Lab found that on average 17 per cent of a meal is uneaten by restaurant customers, primarily due to large serving sizes or unwanted side dishes and more than half (55 per cent) of major leftovers are not taken home.¹¹ This is compounded by the fact that the average portion size has increased over the years. The National Heart and Lung Institute in the United States has published statistics showing the change of portion sizes and calorie intake over a 20 year period, between 1982 to 2002 (Table 2). According to the Institute, the average pizza slice has increased 70 percent in calories, the average muffin has more than doubled in calories, and the average chocolate chip cookie quadrupled.¹² Portion sizes served in food service establishments can be two to eight times larger than US Department of Agriculture (USDA) dietary guidance recommended standard serving sizes.¹³

¹¹The Wall Street Journal. *Throwing Away Our Food*. October 16, 2010

¹² National Heart Lung and Blood Institute at <http://www.nhlbi.nih.gov/health/public/heart/obesity/wecan/eat-right/distortion.htm>

¹³ Lisa R. Young and Marion Nestle. Expanding portion sizes in the US marketplace: Implications for nutrition counseling. *J Am Diet Assoc.* 2003; 103:231-234.

Table 2: Comparison of Portion Size and Calories between 1982 and 2002

	1982 Portion	1982 Calories	2002 Portion	2002 Calories
Bagel	7.6 cm diameter (3")	140	15 cm diameter (6")	350
Cheeseburger	1	333	1	590
Spaghetti w/meatballs	1 cup sauce 3 small meatballs	500	2 cups sauce 3 large meatballs	1,020
Soda	184 grams (6.5 ounces)	82	567 grams (20 ounces)	250
Blueberry muffin	1.5 ounces (42 grams)	210	142 grams (5 ounces)	500
Pizza Slice	1	500	1	850

Cooking portions have increased and according to Statistics Canada, between 1976 and 2007 the number of calories available per person increased 9% from 3,118 to 3,384 kilocalories. The North American calorie intake has increased an estimated 200 to 300 calories since the 1980s. This has been attributed to increased availability of foods, increased convenience foods and increased size of plates (the surface size of an average dinner plate increased by 36% between 1960 and 2007).

Sources: Statistics Canada. Human Activity and the Environment.2009; National Resources Defense Council.Wasted: How America Is Losing Up to 40 Percent of Its Food from Farm to Fork to Landfill.August 2012; Michael Polanyi Defense of Food. 2008.

Institutional food services (in hospitals, schools and municipal facilities) throw away between four per cent and 10 per cent of the food that is purchased, as a result of excessive food preparation and leftovers, spoilage, expiration, trimmings, etc.¹⁴

With the growth of food banks in cities and urban centres throughout North America, there has been a recognized need to capture edible food destined for the garbage. While programs have been implemented to collect food from retail and food services establishments, it is estimated

¹⁴Jonathan Bloom. American Wasteland. Da Capo Press, 2010

that currently, only about 10 percent of available, edible wasted food is recovered each year in the United States.¹⁵

The main barrier businesses cite to donating food is transportation; business must be ensured reliable and consistent collection services in order to invest the time and energy in preparing food donations.¹⁶ Liability is also a concern for businesses, with increasing awareness and concern over food safety issues. Responsibility has been placed on food banks and services to invest money and resources to establish an effective collection service. With many food recovery organizations relying heavily on volunteers, providing a consistent collection operation is an on-going challenge. In addition, some food banks do not have the storage capacity for surplus amounts of food (i.e. refrigerators) representing a unique challenge. Therefore, it is important for the Region and its partners to broaden the scope of redistribution considering not only food bank recipients, but other segments of the population.

2.2.3 Home

Most food wastage happens in the home. It has been suggested that food wastage in the home is caused by three main factors¹⁷:

- 1) Preparing too much
- 2) Not using food in time or exceeding “best before” dates on the packaging
- 3) Not using leftovers

In the United Kingdom, it is estimated two-thirds of food waste is due to food spoilage from not being used in time and one-third is caused by people cooking or serving too much.¹⁸

Some foods are more susceptible to wastage than others; for example, up to 30 per cent of fruits and vegetables and up to 50 per cent of grain based products (e.g. wheat based foods) purchased are estimated to be thrown out in the home. Most of milk wastage (up to 65 per cent) occurs during the consumption stage.¹⁹

Of the food wasted at home, only 20 per cent is considered inedible food generated during the production of meals, such as egg shells, fruit and vegetable peelings, bones and fat, etc. The remaining 80 per cent of wasted food was edible food allowed to go to waste.²⁰

¹⁵Natural Resources Defense Council. Wasted: How America Is Losing Up to 40 Percent of Its Food from Farm to Fork to Landfill. August 2012.

¹⁶Natural Resources Defense Council. Wasted: How America Is Losing Up to 40 Percent of Its Food from Farm to Fork to Landfill. August 2012

¹⁷Value Chain Management Centre, Food Waste in Canada. November 2010

¹⁸Natural Resources Defense Council. Wasted: How America Is Losing Up to 40 Percent of Its Food from Farm to Fork to Landfill. August 2012

¹⁹Food and Agriculture Organization of the United Nations. Global Food Losses and Food Waste. 2011.

²⁰Value Chain Management Centre, Food Waste in Canada. November 2010.

A U.K. government group called Waste and Resources Action Programme (WRAP) estimates 20 per cent of food thrown out is a result of confusion over the “best before” labelling. The term “best before” is associated with the freshness of a product, not necessarily product safety; yet, residents often throw out food based on the best before date, rather than on the freshness of the product.

The relatively inexpensive cost of food in North America also attributes to food wastage by leading to food being undervalued by consumers. Over the past 80 years (1928-2008), household budget spent on food decreased from almost one quarter of disposable income to about 10 per cent of disposable income.²¹

3.0 Environmental and Social Implications

York Region provides a green bin composting program where wasted food is collected and composted, which generates carbon dioxide and currently has a cost to the Region and local municipal partners of approximately \$253 per tonne.

Producing food consumes valuable energy and resources. According to the Natural Resources Defense Council (NRDC), an international nonprofit environmental organization based in the United States, “getting food to our tables eats up 10 per cent of the total U.S. energy budget, uses 50 per cent of U.S. land, and swallows 80 per cent of freshwater consumed in the United States.”²² Furthermore, an estimated 10 per cent of greenhouse gas emissions generated by industrialized countries come from growing food that is never eaten.²³

From a greenhouse gas perspective, cutting food waste worldwide by 50% would have the same impact as taking half the cars off the road.

Source: “Taste the Waste of Water” film at World Water Week in Stockholm, August 26-31, 2012

A study conducted by the Region of Waterloo Public Health Department investigated food miles associated with 58 commonly eaten, imported foods. The study found that each food item travelled an average of 4,497 kilometres, producing 51,709 tonnes of greenhouse gas emissions annually. Furthermore, if the 58 studied food items were replaced with products from

²¹Value Chain Management Centre. Cut Waste, Grow Profit .October 2012.

²²Natural Resources Defense Council.Wasted: How America Is Losing Up to 40 Percent of Its Food from Farm to Fork to Landfill. August 2012.

²³Tristram Stuart. Waste: Uncovering the Global Food Scandal. 2011

Southwestern Ontario, an annual reduction in GHG emissions of 49,485 tonnes would be achieved, equivalent to taking 16,191 cars off our roads.²⁴

Food wastage also equates to water wastage. More water resources go into the production of food than any other use. In the United States alone, it is estimated that United States citizens wasted 10.5 trillion gallons (40 trillion litres) of water associated with their annual wastage of food. This is enough water to sustain almost 500 million people (at 200 litres per person per day) annually.²⁵

According to the United Nations Educational, Scientific and Cultural Organization (UNESCO):

- Production of one litre of milk requires 1,000 litres of water
- One kilogram of beef requires 10 times more water input (16,000 litres) than the production of one kilogram of wheat (1,350 litres).

Source: UNESCO Water e-Newsletter No. 212: Water Footprints and Virtual Water. January 28, 2009

3.1 Food Recovery Hierarchy

Food waste is strongly linked to food security issues. Globally, approximately one third of all food produced is wasted. If even one quarter of that food could be saved, it would be enough to feed 870 million people. York Region's Human Services Planning Board has identified increasing food security issues for low income families in the Region as a priority in the "Making Ends Meet" initiative, endorsed by Regional Council in 2011.

In "Waste Not, Want Not: Feeding the Hungry and Reducing Solid Waste Through Food Recovery" both the United States Environmental Protection Agency and United States Department of Agriculture recommend following the "food recovery hierarchy" below as the preferred option to make the most of excess food.²⁶ The food waste recovery hierarchy comprises the following activities, with disposal as the last, and least preferred, option:

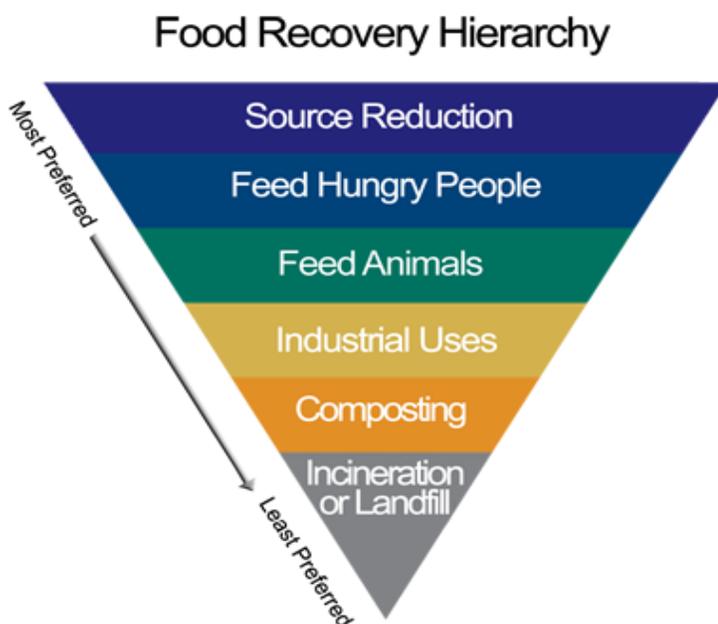
1. **Source Reduction** – Reduce the amount of food waste being generated
2. **Feed People** – Donate excess food to food banks, soup kitchens and shelters
3. **Feed Animals** – Provide food scraps to farmers

²⁴Region of Waterloo. November 2005. Food Miles: Environmental Implications of Food Imports to Waterloo Region

²⁵Columbia University. Wasting Food = Wasting Water. July 2011 at <http://blogs.ei.columbia.edu/2011/07/01/wasting-food-wasting-water/>

²⁶Waste Not, Want Not: Feeding the Hungry and Reducing Solid Waste Through Food Recovery. EPA, USDA. EPA 530-R-99-040.

4. **Industrial Uses** – Provide fats for rendering; oil for fuel; food discards for animal feed production; or anaerobic digestion combined with soil amendment production or composting of the residuals
5. **Composting** – Recycle food scraps into a nutrient rich soil amendment
6. **Landfill** – Disposal options - least preferred



4.0 Value of Food Strategy

Three concepts have emerged from the stakeholder and community engagement meetings for the SMART Living Plan, directly relating to the issue of food wastage. The three emerging concepts are to:

1. Address the cause of the increasing amount of waste, rather than merely dealing with the effects
2. Establish a new understanding of what is valuable in our lives and communities
3. Move in the direction of healthy living by being more aware of how our lifestyles impacts our health and the health of the environment

These themes focus on proactive, collaborative solutions to waste management challenges, such as food wastage. At the same time, the Food Recovery Hierarchy identifies preferred options for reducing the production of food waste with source reduction highlighted as the

highest priority, followed by feeding hungry people, feeding animals and putting food waste to industrial use.

Although food wastage occurs at all stages of food production and use, it is recognized that municipalities have limited ability to encourage behaviour at every stage of food production to home use. Realistically, municipalities have the greatest chance of making a difference in food wastage by influencing consumer behaviour, providing residents with tools to make decisions at home and where they shop. This strategy also addresses local food and distribution, as they relate to food waste.

This strategy focuses on the following to combat food waste and promote healthy living:

- Food waste in the home
- Local Food support
- Food distribution/security

The strategy adopts a multi-faceted approach to food waste by targeting different groups and behaviours that result in food waste using:

- Campaigns
- Outreach and engagement
- Pilots and demonstrations

4.1 Step 1: Conduct A Food Waste Survey

The issue of food wastage in society is relatively new, with many members of society unaware of the problem, implications and solutions. To better understand how York Region residents value food and food wastage, it is recommended that York Region conduct detailed market research to uncover habits of residents when shopping, cooking, preparing food, etc.

Depending on the initial receptiveness of the survey, the Region may consider conducting focus groups in addition to the surveys to obtain detailed answers and motivation for current resident habits. Some possible questions for the survey or focus groups include:

- How often do you shop for food?
- How often do you prepare a shopping list before shopping for food?
- What portion of the food that is discarded in your home has gone rotten, has exceeded the “best before” date, result from preparing too much food for meals; leftovers not eaten?
- Which foods do you typically discard (e.g. fruits and vegetables, ready-made, meats, leftovers, etc.)?
- What resources would benefit your household to prevent food waste (e.g. recipes for leftovers, York Region food waste campaign, campaigns in grocery stores, information about planning meals to reduce waste, information about food waste and why it is an important issue)?

The United Kingdom's "Love Food Hate Waste" campaign focused on public awareness about food waste. The success of this campaign has resulted in an 18 per cent decrease in household food waste in the five years since the implementation of the campaign. This has resulted in a savings of approximately 17 million tonnes of CO₂ (equivalent to the emissions of one in five cars on UK roads) and four per cent of the UK total water footprint.

Source: WRAP. New estimates for household food and drink waste in the UK. November 2011

- How much discarded food could be prevented with more information and education provided on the issue?
- Do you compost in your home? If so, what type of compost method do you use (e.g. backyard composter, vermicomposting)
- Do you grow food at home or in a community garden?

Results of the initial market research will form a benchmark that will determine the specific content and messaging of the Food Waste Reduction campaign, as well as to determine success of future initiatives. The survey will need to focus on cultural differences and influences in the way food waste is viewed by all residents throughout the Region.

4.2 Step 2: Value of Food Campaign

A value of food campaign could be launched by York Region in co-operation with the local municipalities and community partners to educate residents and food establishments about food waste under a number of different themes:

1. Where loss happens and impacts
2. Buy less, more often
3. Storing food to last longer
4. What to do with leftovers
5. Best before labels

The campaign could be hosted on a dedicated web page on the York.ca website to provide resources and information associated with the campaign. Blogs could also be available on the website to allow residents to share tips and information about reducing food waste. Social

media could be another method for communicating campaign material.

The United Kingdom's "Love Food Hate Waste" campaign focuses on public-awareness about food waste. The success of this campaign has resulted in an 18% decrease in usehold food waste in the five years since the implementation of the campaign. This has resulted in a savings of around 17 million tonnes of CO₂ (equivalent to the emissions of 1 in 5 cars on UK roads) and 4% of the UK total water footprint.

Source: WRAP. New estimates for household food and drink waste in the UK. November 2011

1. *Where Loss Happens and Impacts*

The old saying - awareness is half the battle – will be put to use in this part of the Stop Food Waste Campaign. Market research will help to confirm areas of poor understanding and misinformation around the food waste issue and will identify information that would help York Region residents to make the necessary changes to reduce food wastage in and outside of the home. For example, some foods are more susceptible to waste as shown below.



Looking at the losses associated with food waste is one area that would be explored. Some interesting facts that could be presented to residents include:

- Canadian households throw out up to 20 per cent of perfectly good food that could have been eaten. This translates to throwing away up to \$1,500 annually
- Food waste is the largest component of the residential solid waste stream in York Region
- In the United States, reducing food waste by just 15 per cent could feed more than 25 million Americans every year
- On a global scale, eliminating food waste could have the equivalent effect on greenhouse gases as taking one quarter of the world's cars off the road²⁷

2. *Buy Less, More Often*

Some food wastage results from over purchasing. Families will stock up on food for the week rather than shop for smaller amounts of food more frequently, as the food is needed.

²⁷ UK Food Waste Facts & Statistics. Love Food Hate Waste. Available online at: <http://england.lovefoodhatewaste.com/content/facts-about-food-waste-1>:

Families face additional challenges of having busy lives with less time available to shop for food on a daily basis. North American communities generally feature supermarkets rather than local food stores and markets.

This educational campaign would encourage residents to buy only what is needed and to use what is in their refrigerator first.

Ireland's Stop Food Waste website offers 10 tips to reduce food waste during grocery shopping:

1. Don't go shopping when you are hungry, you'll buy more than you need.
2. If you are shopping for the week, try to plan your meals ahead.
3. Check your fridge, freezer and cupboards before you go shopping, and plan meals around what you find.
4. Then make a shopping list... and try to stick to it.
5. Beware of special deals – these are great for toilet rolls and shampoo but bad for fruit, vegetables and salads (anything that can go off quickly). These are the things we buy because of a “good deal”, but often they do not get eaten.
6. Try to buy fruit and vegetables loose rather than pre-packaged.
7. Check use-by-dates to avoid buying food that might be thrown out if not eaten immediately.
8. Poke around at the back of shelves – you'll often find use-by-dates that are further away.
9. Shop for what you actually eat, not for what you want/wish you would eat (e.g. “I am going to be really healthy this week and eat a lot of yogurt”) and then not eat them!
10. If it's an option for you, try shopping online for the basics - you get only what you want because you are not distracted by all the other goods on shelves AND you save money – it's like magic!

Source: Stop Food Waste IE at <http://www.stopfoodwaste.ie/index.php?menu=3>

3. Storing Food to Last Longer

York Region could provide information about how to store foods in order to help reduce food waste. Food will last longer or shorter depending on how it is stored. Information addressing proper storage of food should help consumers reduce food waste. Advice that could be provided includes:

- How to freeze excess fruits and vegetables
- How to store meats in the refrigerator to last longer
- How to turn excess fruits into jams
- What and how to freeze dairy products

4. What to do with Leftovers

Food waste campaigns, such as the UK's Love Food, Hate Waste campaign offers an opportunity to find recipes for leftover ingredients (called Rescue Recipes) on a dedicated website. The recipe search is set up using three categories (as shown below). Once the main ingredient is selected, the type of dish required (e.g. leftover or rescue) and use, a number of recipes are identified for download. Other recipe headings include: "Timesavers", "Cook Once, Eat Twice", "Great For Freezing" and "Great For Kids."

Helping families find easy, creative ways to use leftovers could be useful in the York Region context. While there are sources available on the topic of leftovers, they are not conveniently located in one place. A dedicated "Stop Food Waste" website would help to identify sites with good leftover recipes, tips and offer opportunities for York Region residents to share their own recipes and tips. The website could offer advice on transforming leftovers from one meal into another meal, as well as how to store food and plan for a week's worth of meals, with a shopping list for all meals.

5. Best Before Education

According to the Canadian Food Inspection Agency (CFIA), "best before" dates are an indicator of how long the food will maintain its optimum taste and texture. The dates do not guarantee that food is safe before that date, nor do the dates indicate that the food is unsafe after that date. The Canadian Food Inspection Agency website cites:

- You can buy and eat foods after the "best before" date has passed; however, when this date has passed, the food may lose some of its freshness and flavour, or its texture may have changed. Some of its nutritional value, such as vitamin C content, may also be lost.
- Remember "best before" dates are not indicators of food safety, neither before nor after the date. They apply to unopened products only. Once opened, the shelf life of a food may change.²⁸

While the government requires "best before" dates on foods that will keep fresh for less than 90 days, the government relies on the food industry to decide on the dates, with minimal government oversight. Furthermore, the CFIA website states, "foods with an anticipated shelf life greater than 90 days are not required to be labeled with a "best before" date or storage information".²⁹ This means many foods, such as canned and packaged goods, do not require best before date, however many products still have dates put on by food manufacturers.

²⁸ Source: <http://www.inspection.gc.ca/food/consumer-centre/food-safety-tips/labelling-food-packaging-and-storage/date/eng/1332357469487/1332357545633>

²⁹ Source: <http://www.inspection.gc.ca/food/consumer-centre/food-safety-tips/labelling-food-packaging-and-storage/date/eng/1332357469487/1332357545633>

York Region could introduce a campaign to educate consumers about labelling of food products consistent with the CFIA message. This campaign would need to be completed in partnership with York Region Community and Health Services Food Safety staff, which directs and promotes the safe handling of food message.

4.3 Outreach and Engagement

The following provides an overview of outreach and engagement activities (specifically targeted to food waste) that are being recommended to support the implementation of the food wastage strategy. It is important to note that all these activities do not have to be completed simultaneously, nor do they need to be completed in sequence. As the implementation plan is developed and finalized, the preferred sequencing of these activities will be further defined.

4.3.1 Establish booth at local fairs

Every community has a local fall or spring fair. A booth could be developed that can be easily installed at each local fair to educate fair attendees about the challenges and solutions to food waste.

4.3.2 Promote local farmers' markets and local food

Stakeholders participating in the SM4RT Living workshops identified community supported agriculture as an important goal. "Collaboration between farmers and communities delivers produce across the community, providing freshness, keeps money in the community, and uses very or little packaging and transport. This option also offers knowledge exchange and skill-building between the farmers and community members".³⁰

One way to promote collaboration between farmers and communities is through local farmers' markets. Local farmers' markets have become well established in many communities, offering local variety of foods to consumers. Purchasing food at a farmers market has the following advantages:

- Promoting local food security by keeping local farmers employed and active
- Reducing transportation of produce which results in fresher produce and fewer greenhouse gases
- Ability to sell cosmetically imperfect fruits and vegetables that taste the same but, otherwise, would be rejected at the supermarket

³⁰Ascentia. Game Changers and SM4RT Living 101. September 9, 2012

Les Murphy has a family-owned and operated farm in Binbrook, Ontario, which sells seasonal fruits and vegetables. In 2012, Mr. Murphy established an agreement with a local Longo's supermarket to supply the strawberries grown on the farm directly to the supermarket. This win/win situation provided the supermarket with fresh strawberries, picked that morning (rather than being days old as a result of going through a distribution system) and Mr. Murphy made more profit by dealing directly with the store.

Source: Conversation with Les Murphy, Binbrook, Ontario on July 24th, 2012

Many communities in York Region offer weekly farmers' markets (seasonally). York Region could help promote these markets by sharing the York Region Farm Fresh map and distributing relevant promotional material at food waste reduction events. York Region Farm Fresh is a partnership to promote local food venues and producers in the Region. In addition, establishing farmers' markets in concentrated work places during lunch hours could help boost the local food industry.

Also, there are a number of local restaurants and food retailers offering local foods on their menus or for sale. The Region could help to promote these establishments on a dedicated Stop Food Waste web site. Partnering with organizations such as York Region Food Network to host workshops and seminars are planned for 2013 and beyond.

The Co-operative Group in the United Kingdom puts instructions on plastic bags and packs on how to store fruit and vegetables. The company also displays "Love Food Hate Waste" ads in 12,000 stores.

Source: Co-operative website at <http://www.co-operative.coop/food/ethics/Environmental-impact/food-waste/>

There is also opportunity to promote local food in the way that it is distributed and delivered to York Region residents. For example, local food can be distributed through Community Supported Agriculture (CSAs), a collaboration between farmers and the community. Restaurants and supermarkets can also be important vehicles for the distribution of local food, as well as the provision of surplus food to members of the community in need.

Local food and local distribution could also be promoted and piloted through a mobile food truck project which would sell fresh produce within a community-designated route with stops at various locations on specific dates. The truck could also have cargo bikes for greater outreach. This mobile truck would make it easier for people to access fresh food, especially rural communities with limited access to public transit. The key of this pilot is to encourage and support a change in both eating and purchasing habits, such as to 'buy as you need' as opposed to the 'bulk' purchases typically done by Canadians, hence contributing to our waste. The concept would also explore how to incorporate a community composting element which would have the truck having dual functionality in that it distributes fresh local food while collecting compost for the community compost (health standards permitting).

Lastly, an additional opportunity to promote Local food and food programs, organizations would be through municipal websites. For example through Markham's official website, they have launched a page specifically dedicated to information on buying and growing local food. The site provides links and information on local farmers' markets, community supported agriculture, community gardens, farms where people can pick their own food, events and festivals, food banks and guides on buying local and Ontario grown food.

4.4 Pilots and Demonstrations

The following provides an overview of pilots and demonstration projects recommended to support implementation of the food waste reduction strategy. It is important to note, these activities do not have to be completed simultaneously, nor do they need to be completed in sequence. As the implementation plan is developed and finalized, the preferred sequencing of these activities will be further defined.

4.4.1 Conduct a food waste audit within York Region

There is very little information and understanding about the type of food that is discarded in the green bin and/or garbage and to what extent the food is classified "once edible" food allowed to go to waste or "inedible" food waste such as coffee grounds, peelings, bones, etc. The audit should be conducted in at least 100 households from different communities, representing different cultural and socioeconomic groups and over a four season period of time.

The information will help York Region set more specific goals and targets around food wastage, project future collection and processing needs and develop a more effective food wastage campaign.

4.4.2 Set up pilots with local supermarkets to accept local foods

Many large supermarket chains rely on fruits and vegetables delivered through centralized distribution centres. As such, local farmers may need to ship goods hundreds of kilometres to a central distribution centre, only to be shipped back to a supermarket situated within tens of kilometres of the farmer's door. This distribution system can result in days before a good reaches the supermarket, thus increasing the chances of fresh fruits and vegetables perishing sooner.³¹

Prior to any pilots being initiated, York Region should conduct research to determine the current level of effort by retailers and community organizations within the Region to promote the sale of local foods and determine why some retailers participate and some do not. The research would help to identify the benefits and barriers to promoting local food at the retail

³¹ Conversation with Les Murphy of **Murphy's Country Produce**, Binbrook Ontario on July 24th, 2012

level. As part of the research, surveys with consumers could help identify local food needs that are not being met or challenges in accessing local foods. This information will help in fine-tuning the pilots to enable the local agricultural community to best meet the needs of the consumers.

Through the research, York Region can work with the local agricultural community to facilitate small contracts with smaller, local supermarkets to allow them to supply seasonal fruits and vegetables directly and identify other opportunities to supply other locally produced food. The Region could pursue smaller grocery store chains and independent grocery stores, which may be more willing to directly source through local farmers. According to the Canadian Council of Grocery Distributors, 78 per cent of food is purchased from three food retailers (Loblaws, Metro, and Sobeys). The size of operations makes it very difficult to source food from smaller local farmers who may not be able to guarantee consistent supplies.³²

As part of the pilot with local supermarkets, it is recommended that the Region request local supermarkets to accept imperfect fruits and vegetables delivered from the local farms. According to a survey conducted in the United Kingdom, consumers are willing to purchase imperfect fruits and vegetables as long as their taste is not compromised.³³ A campaign is suggested to shift consumer perspectives about the look of imperfect fruits and vegetables. This could be coupled with a pilot to get retailers to set up an area in grocery stores to sell imperfect fruits and vegetables at discounted prices.

The local food movement in the United Kingdom has paralleled the Love Food, Hate Waste campaign by encouraging consumers to purchase local, fresh, non-packaged local foods at farmer markets and supermarkets. Increased demand for local foods by consumers and a pressure to be seen as supporting environmentally sustainable activities has resulted in UK supermarkets sourcing and selling local foods.

Source: Understanding of Consumer Attitudes and Actual Purchasing Behaviour, with Reference to Local and Regional Foods. Commissioned by Defra. June 2008.

4.4.3 Pilot Stop Food Waste Education Campaigns in Local Supermarkets

Work with several local supermarkets to introduce a Stop Food Waste educational campaign, including:

- Signage supporting the Stop Food Waste campaign
- Education on best before dates and food storage techniques

³²Canadian Institute for Environmental Law and Policy. Bringing Local Foods Home. December 2008. Prepared for Friends of the Greenbelt Foundation

³³ T. Stuart. Waste: Uncovering the Global Food Scandal. Penguin Books, London. 2009.

- Information on using leftovers
- Introducing sale promotions that do not promote excess food purchases (i.e. buy one get one later)

This initiative will need to be partnered with York Region Community and Health Services.

4.4.4 Promote Local Food and Food Waste Pilots in Restaurants

The Region, local partners or community partner(s) could work with local restaurants to establish local food events and help restaurants identify food waste reduction opportunities. The Region could start by targeting restaurants using Regional waste disposal and composting services.

It is suggested that York Region establish an event featuring restaurants using local foods in their menus; for example, Oxford County has launched its Oxfordlicious event to “Celebrate Local Food from Field to Fork.” During the month of September, Oxford County works with local chefs to use local produce and develop locally-inspired menus at the participating restaurants. Other similar initiatives include the Eat Local Caledon, which promotes local food through a number of activities, such as farmers’ markets, local food in restaurants, farmer/restaurant meet-and-greet sessions.

York Region could also develop information brochures and website links to restaurants using local foods in their menus on a daily basis. A classification system could be developed whereby restaurants that locally source up to 10 per cent of their food would receive a bronze icon, 11-25 per cent would receive a silver icon and over 25 per cent would receive a gold icon. Further award systems could be established based on different criteria, such as using foods grown within York Region, working with food banks to distribute unused food, providing different portion sizes and composting food waste.

4.4.5 Promote Local Food and Food Waste Pilots in Institutions

The Region could also work with institutions (hospitals, schools, daycares) to demonstrate the benefits of purchasing local food and reducing food waste. The Region could start by targeting institutional establishments, which use Regional waste disposal and composting services.

In the case of St. Joseph Health Care Centre in Guelph, a decision was made to purchase local produce and meats and prepare the food on-site rather than source off-site meals. Today, 75 per cent of the Centre’s meals are now made on-site and within the daily meal budget. The meals are made from healthy, fresh, high quality meats and produce produced within a 100 kilometre radius. The cafeteria now boasts a locally enhanced menu and is making a profit. Satisfaction with St. Joseph’s food services has risen to 87 per cent among the Centre’s patients.

4.4.6 Food Distribution Demonstration

One way to fight food waste, and at the same time, provide healthy meals to disadvantaged families is to establish a link between supplies of excess food and places of demand. Organizations, such as Second Harvest establish the important link between the supply and demand by providing food collection and distribution services. It may also become important for food distribution centres and organizations to provide instructions on how to use or prepare food to further avoid waste. For example, some exotic or locally uncommon foods may go to waste if residents do not know what it is or how to cook or prepare.

The Last Minute Market (LMM) was launched in Italy in 1998. LMM links retailers, farmers and producers who have unsold food, which would otherwise be discarded with organizations that can use and distribute the food to people in need of food. The program has been implemented in more than 40 Italian communities and internationally.

Source: Transforming Food Waste into a Resource. November 2011. Presentation to European Parliament by Last Minute Market

Second Harvest is the largest food rescue program in Canada. Since 1985, Second Harvest has redistributed food which would otherwise go to waste, delivering that food to more than 200 community agencies in Toronto. Second Harvest works with grocery retailers, food manufacturers, food distributors, the Ontario Food Terminal, St. Lawrence Market, event planners, hotels and restaurants to prevent good food from going to waste. Over the last 26 years, Second Harvest has prevented more than 32,000 tonnes of food from being wasted and has fed millions of hungry neighbours. By preventing more than 32,000 tonnes of food from going to waste, Second Harvest has also prevented more than 18,000 tonnes of greenhouse gas equivalents from entering our atmosphere.³⁴

Life Corps Food Share, a non-profit organization in York Region, operates a food rescue program similar to Second Harvest. Based out of Richmond Hill, Life Corps collects perishable foods from food retailers, manufacturers, distributors, restaurants, hotels, farmers and food banks and delivers it across the GTA and York Region.

The Stop Community Food Centre is a Toronto-based non-profit organization that began operations as a food bank but has transitioned to a learning centre promoting access to healthy, locally produced food through skills training and community development. This is another successful organizational model of food security, local food and food waste reduction programming that could be established in York Region.

³⁴Second Harvest. (2012). <http://www.secondharvest.ca/hunger>

York Region could work with existing organizations, such as York Region Food Network, Life Corps, Second Harvest and The Stop Community Food Centre to facilitate food donation as an alternative to food waste for local businesses. Tie-ins with community garden and composting pilots outlined below would add even more value to this initiative. Partnerships with Community and Health Services and Economic Development would help to address potential donor concerns about food safety and promote the program and its benefits to the business community.

4.4.7 Community Gardening Demonstrations

Community food gardens offer numerous benefits to a community by helping people feel connected, and offering people a place to share in an interest, grow food and encourage healthier diets. When related to the waste diversion goals, food and garden waste can be used in the generation of compost, which in turn can be used to grow more food.

Toronto Community Housing (TCHC) has been a strong advocate of community food gardens, which help foster a sense of a community and provide healthy food for their clients' tables. As part of its Green Works program, Toronto Community Housing has established more than 100 community gardens at TCHC buildings. TCHC is also working with a community food network organization to develop the Toronto Community Food Animators Program. This program helps to ensure the success of community gardens by working with TCHC tenant groups involved in community gardens, kitchens and markets to provide advice, support and training to community food project co-ordinators. In addition, TCHC has developed a Community Gardening manual, explaining the benefits of community gardens and how to plan and develop a community garden within Toronto Community Housing.³⁵

York Region Food Network has helped to open community gardens in Markham, Newmarket and Aurora. However, the Region could become involved in a project already underway spearheaded by *Seeds for Change* that is entitled **2015 Gardens by 2015**. The goal is to generate an inventory of 2015 food garden plots, whether they're community gardens, on rooftops or balconies by 2015. These gardens do not have to be traditional, but instead can be planters, containers, balconies, or windowsills in shared accommodation. The project includes a number of components: a community education/awareness component, award for the 1000th garden, and connections to restaurants through Savour York Region, which features locally sourced menu items not just a local restaurant. York Region and/or the local municipalities could provide further support to York Region Food Network's efforts by donating land and resources to enable more community gardens to open and flourish.

³⁵ Toronto Community Housing Corporation. Community Gardening Manual. 2007.

The York Region Food Network has operated since 1986 to raise awareness and promote food security for all families living in York Region. The organization has introduced numerous programs, such as food re-distribution, food banks, community gardens, and community kitchens to help achieve its objective. In addition, the organization works to address issues and situations that encourage food security problems.

For more information about the York Region Food Network, visit www.yrfn.ca

The Region could help to develop a food skills education program to help train community volunteers to provide classes in gardening, composting and food preservation (such as canning and food storage). This project could also focus on developing gardens in schools, building on pilots being planned in Markham and Woodbridge. King Campus of Seneca College includes a horticulture component, culinary, hospitality and arts program which provides a good partnership opportunity as a technical resource partner. These school gardens can demonstrate many designs, including raised beds, aquaponics, planters, window gardens, rooftop gardens and communal space. Education would be provided through interactive online components to include stories and pictures and support from a master gardener to answer questions. Waste education would focus on how gardens reduce waste (less packaging and transportation), along with food waste reduction tips and composting. This project is also ripe for a wide range of collaborations with local businesses, media outlets and community groups.

The community animator pilot could build on York Region's existing educational programs for residents. The York Region Environmental Services Department has developed a program called "Greener Home and Garden Seminars" in which residents can sign up for seminars and events to learn creative ways to 'green' their home and garden. All seminars are free, taught by regional or community experts and focus on growing vegetables, organic lawn care, creative landscaping, home organization and more. The events run from March to November.

Emphasis on local food could also be promoted through urban agriculture. Urban agriculture is the practice of cultivating, processing and distributing food in, or around a town or city. The most striking feature of urban agriculture, which distinguishes it from rural agriculture, is that it is integrated into the urban economic and ecological system. Urban Agriculture can also be an integrative medium for other activities. Working with Unionville High School, *Feeding the Future* incorporates art and horticulture with a number of proposed workshops (e.g. community food mapping) and the construction of an urban demonstration farm at the Markham Museum (indoor and outdoor food growing). Another example of urban agriculture is the creation of community greenhouses.

Another initiative could be a community compost which would have a focus on 'retail compost' which could be used to a) help retailers assess their internal processes and policies, b) develop strategies to raise awareness in a range of jurisdictions - municipalities, retailers, restaurants and residents, and c) develop a large educational campaign that includes various media that focus on the educational component of food consumption such as food skills and food waste

tips. The community compost can be used to support the local community gardens and schools so the project has moved full circle.

4.4.8 Community Cooking Skills demonstration

Food consumption is also something York Region could target with several initiatives and pilots. There are some exciting ideas happening in this area, such as the concept of community kitchens, which is comprised of small groups of people who get together to prepare meals for themselves or their families. There are many benefits to joining a community kitchen.

- Meet new people and share ideas
- Take home nutritious, home cooked meals for yourself and your family
- Learn new recipes and try new foods
- Save time and money

A local example is *Fresh! Outreach Community Kitchens*, an initiative of the York Region Food Network/York Region Food Charter to partner with housing co-ops, women's centres, etc. to facilitate community kitchen sessions. This has proven to be a great way for people to get to know their neighbours.

The York Region Food Network and York Region Community and Health Services Department have a program run through *Fresh Food Partners* to provide community members living on a limited income with fresh fruits and vegetables. Gleaning is a way of gathering vegetables and fruits in the field that would otherwise be left to rot. The program allows those in need to glean the produce in the field at no cost. Once a farmer is near the end of their harvest season they contact *Fresh Food Partners* and provide availability for gleaning. *Fresh Food Partners* organizes a pick-up location, time and date and all participants arrive at the farm together. *Fresh Food* is connected to farmers that grow a variety of items including; strawberries, corn, zucchini, squash, peppers, tomatoes, broccoli, cauliflower, cabbage and apples. The program is open to York Region Community members who are living on a limited income.

Ontario's Greenbelt represents more than 1.8 million acres of protected farmland that sustains a \$5.4-billion farming and food-processing industry.

Source: Local Matchmakers. Toronto Star. GTA Section, June 22, 2011

4.5 Regional Local Food and Food Waste Policy

A number of communities have begun to address local food procurement within municipal facilities and are in the process of developing local food procurement policies and programs in their own facilities and offices. Many of the efforts are tied in to climate change action plans, which promote purchase of local products to reduce transportation impacts and promote the local economy. Other benefits may include the reduction of food waste through purchasing

fresher, seasonal foods and cosmetically “imperfect” foods.

Local food procurement policies tend to address procurement of food grown locally and sustainably. Often a boundary is established to define local (such as within Southern Ontario and/or within a 100 kilometre radius). The sustainable component addresses the manner in which the food is grown, focusing on environmentally and socially responsible growing processes.

The Province of Ontario estimates that if every citizen spent just \$10 per week on buying locally grown food it would generate an additional \$2.4 billion in sales and create 10,000 jobs. Furthermore, buying locally produced foods will reduce environmental impacts.

Source: Canadian Waste Billions in Food Each Year. The Kingston Whig. October 6, 2012

In October 2008, Toronto’s City Council unanimously adopted a Local Food Procurement Policy and implementation plan. The City of Toronto has defined local as food that is grown in the Greater Toronto Area (GTA), the Greenbelt and other regions of Ontario. It has defined sustainable as:

“meaning utilizing food production and processing processes that are environmentally and socially responsible and which will guarantee the lands will be viable for agricultural production for future generations. This means being able to show that production processes are reducing and minimizing greenhouse gas and smog causing emissions; that the processes are financially viable over the long term for all stakeholders; and production processes that keep pesticide and fertilizer usage to a minimum”³⁶.

In June 2008, the City of Markham was the first Ontario municipality to develop a Local Food Policy and introduce new local food procurement policy at the cafeteria of its Civic Centre. The highlights of the policy included a commitment to procuring no less than 10 per cent Local Food Plus (LFP) certified Ontario food in the municipal cafeteria, with a target of five per cent yearly increases. By 2010 more than 30 per cent of food procurement was Local Food Plus certified, Canada’s only local sustainable food certification.

In November 2013, the Government of Ontario passed the *Local Food Act* with the intent to:

- Support one of the province's leading industries, one that contributes more than \$33 billion to the economy each year and employs more than 700,000 Ontarians
- Provide a tax credit for farmers donating surplus food to food banks and other charities
- Promote and celebrate the local things Ontarians grow, make, serve, sell or eat

³⁶City of Toronto. May 1st 2008. Proposed Local and Sustainable Food Procurement Policy and Implementation Plan

- Provide a framework for developing goals and targets around the production, processing, distribution, sales and marketing of Ontario food ³⁷

With the *Local Food Act* in mind, York Region could develop a local food and food waste policy for its facilities that addresses procurement of local food, food waste and food re-distribution to local food banks.

York Region could consider adopting the York Region Food Network Food Charter. The Charter was developed in September 2012 and identified actions required to make the Charter's vision of "a resilient food system, where all components including production, processing, distribution, access, transportation, marketing, education, consumption and waste management work well together" a reality. The York Region Food Charter supports the following principles of a healthy food system:

- Health and wellbeing
- Economic opportunities
- Environmental sustainability
- Equity and social justice
- Education and skills

Although all of these principles are related to food and the reduction of waste through education, awareness and regulations, of particular importance are the principles related to Environmental Sustainability which include:

- Encouraging rural and urban agriculture
- Integrating agriculture into energy and climate change strategies
- Supporting farmers through protection of agricultural land
- Reducing food and packaging waste

By adopting a policy which has already been developed and familiar with York Region residents, the Region and its local municipal partners will save resources, while promoting awareness and education regarding food waste.

Adopt the US Department of Agriculture's Food Hierarchy

The Food Hierarchy developed by the US Environmental Protection Agency and Department of Agriculture recommends the "food recovery hierarchy" (refer to Section 3.1) as the preferred options to make the most of excess food. It is recommended the Region adopt the Food Recovery Hierarchy and its priorities to ensure greater focus on food waste reduction.

³⁷Announcement at Government of Ontario website at http://news.ontario.ca/omafra/en/2012/09/setting-the-table-for-local-food-in-ontario.html?utm_source=ondemand&utm_medium=email&utm_campaign=m

5.0 Implementation

The following provides an overview of the approach to implementation of this strategy.

5.1 Partnerships

Opportunity exists for the Region and its local municipal partners to explore the reasons why over-purchasing is so prevalent and look at initiatives that could drive more sustainable food purchasing habits to the benefit of both the consumer and the environment. Promotion and education on these matters in schools and through other community outreach programs are possible starting points to change attitudes regarding the current massive food waste.

One of the key approaches for the numerous food waste reduction strategies is to use large community organizations and businesses to assist in implementing a wide-scale food waste reduction strategy. Collaboration and partnerships with these organizations can expand the resources necessary to promote and implement programs. Businesses and organizations not only have connections to the greater community by providing products that residents need, these organizations are driven to reduce costs and promote their services. Therefore, the Region has great opportunity to use these industry and business partnerships to assist in future advocacy and awareness, as well as strategy implementation.

York Region could work with local businesses involved in food retail (grocery stores and restaurants) to pilot programs that focus on reducing food waste. While large supermarket chains may be more reticent to engage in pilot and demonstration programs set up by the Region, smaller grocery stores and food chains and independent retailers may be much more amenable.

York Region could work with local farm organizations such as the Greenbelt Foundation, the Ontario Fruit and Vegetable Growers' Association to develop programs and demonstration projects promoting local food and ways to use leftovers. Foodland Ontario, part of the Ministry of Agriculture, Food, and Rural Affairs has developed new strategies to promote local food procurement to Ontario retailers.

York Region has connections with several existing groups and organizations with which it can further promote food waste strategies. For example, York Region has a York Region Food Charter Working Group that is managed by the York Region Food Network. The York Region Food Network receives government support from the Economic Development and Community and Health Services departments. A connection also exists between the SM4RT Living Plan and the 'Making Ends Meet in York Region' plan from the Human Services Planning Board of York Region to leverage common resources to decrease food waste and increase food security.

As noted throughout the strategy, there is an opportunity to partner with other York Region departments, including Community and Health Services and Economic Development to support delivery of the strategy. Community and Health Services would be a beneficial partner for this

strategy which could complement their food related programs on nutrition, food safety and security.

5.2 Resources, Timeline and Targets

The following provides an outline of the resources (staff and financial) required, as well as performance targets and monitoring.

5.2.1 Roles and Responsibilities

The proposed arrangement for the implementation of this strategy is as follows:

- | | |
|------------------------------|-------------------------------------|
| York Region: | Lead and/or Supporter |
| Local Municipalities: | Supporter |
| Community Partners: | Lead, Supporter, and/or Participant |

5.2.2 Resources

York Region could consider hiring one full-time person and one part-time person to oversee the development of the food waste strategy within its Environmental Services department. The contract could be established for at least a three year period, with options to extend the contract beyond the second year.

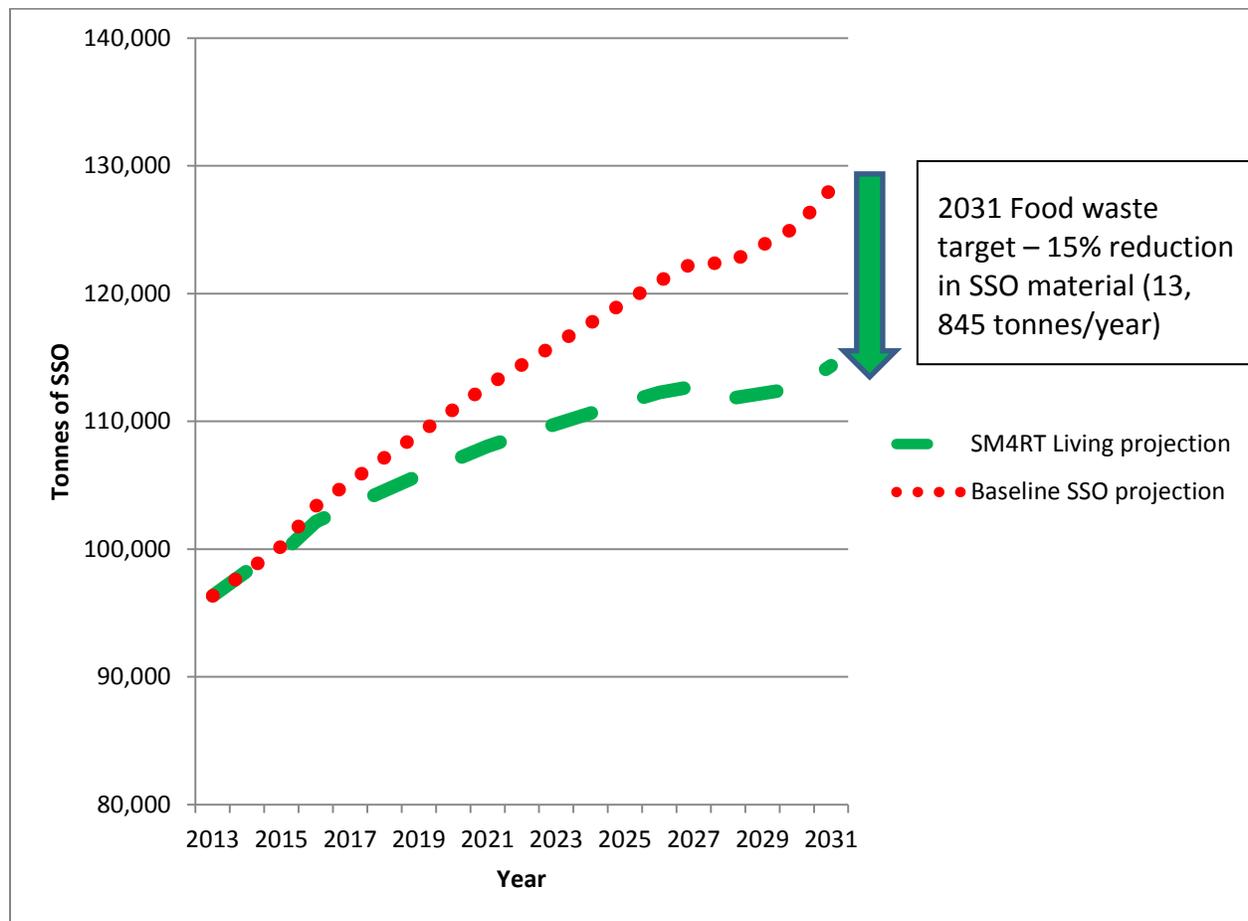
5.2.3 Targets

The Food Waste Strategy should set realistic targets that help York Region reduce food waste in sectors which it services. With an implementation date in 2013, the Region should aim to achieve 15 per cent reduction in food wastage by 2031 with an additional five per cent reduction achieved every five years thereafter. These targets are based on food waste reduction rates achieved in the United Kingdom as a result of its Love Food, Hate Waste campaign. Over a period of four years, it has been estimated that the Love Food, Hate Waste campaign has resulted in 18 per cent reduction in food waste in the United Kingdom. The estimates were based on the difference between baseline food generation estimates produced in 2006 and food waste generated in 2010 using data collected on food waste collected from local authorities through green bin programs, food waste disposed down the sewer (mainly via the kitchen sink), and food waste home composted and fed to animals.³⁸

Assuming achievement of these targets, the following figure presents the potential impact of implementing this initiative.

³⁸ New Estimates for Food and Drink Waste in the UK. November 2011. Waste Reduction Action Plan (WRAP).

Figure 2: Projected reduction in SSO by 2031 resulting from Food Waste Reduction Strategy



5.2.4 Performance Measurement

For each new initiative in the SM4RT Living Plan, there are specific performance measurements identified, however, there are several overarching metrics to measure the performance of the value of food strategy as a whole, including:

- Decrease in per capita organic waste generated by Regional residents
- Increase in the number of community food gardens
- Number of participating institutions in local food/food waste pilots
- Percentage of locations in the Region that locally source 10 per cent, up to 25 per cent and more than 25 per cent of their food
- Completion of food waste survey (statistically representative, with data points that support program development)
- Number of participants in annual or location based surveys that recognize and acknowledge the campaign and that indicate it has changed their food buying habits
- Number of participating 'buy local' supermarkets/retail locations

- Increase in customers at participating 'buy local' locations
- Implementation and number of awards through award system

6.0 Key Benefits of this Strategy

The following provides a summary of the key benefits of this strategy:

- Reduction of 13,800 tonnes of food waste by 2031.
- It is estimated in Section 2, the average household spends approximately \$7,500 on food annually, which means a potential saving to the household of \$750 to \$1,500 based on a range of 10 to 20 per cent food waste occurring; a 25 per cent reduction in food waste would result in savings to the average household between \$200 and \$400 annually.
- York Region could potentially experience a reduction in costs to manage waste (processing only) of approximately \$4.2million each year by 2031³⁹ if it were to reduce food waste by 15 per cent by 2031.
- Significant reductions in environmental burden associated with food production, transportation, and organics collection and processing. The government of United Kingdom has estimated that for every tonne of food waste eliminated, there are savings of 3.8 tonnes CO₂ equivalent of greenhouse gas associated with the greenhouse gas emissions relating to the production, manufacture, storage, distribution, retail sale, in-home use and disposal.⁴⁰ Using this GHG number, York Region could potentially save 53,200 tonnes of greenhouse gases by 2031.
- Considerable water use avoidance and conservation opportunities. It is estimated that on average every Canadian consumes an equivalent of 3,000 litres of water per day that is used in the production of food consumed daily; for example, it takes 16,000 - 100,000 litres of water to produce 1 kg of beef and 1,350 - 1,500 litres of water to produce 1 kg of wheat.⁴¹ A reduction in food waste could potentially save hundreds of litres of water per York Region resident annually.
- A "leveling" of organics quantities requiring processing will mitigate need for additional processing capacity over what is currently required.

³⁹ Assumes 2011 fully burdened cost/tonne of \$263.00

⁴⁰ New estimates for household food and drink waste in the UK. November 2011. Waste and Reduction Action Programme (WRAP), UK. The UK estimate also includes drinks.

⁴¹ Jane Goodall Institute Project Blue at <http://www.janegoodall.ca/project-blue/FoodProductionandWater.html>