

PE19.4

Attachment C

Attachment C: Evaluation of potential additions to TransformTO Report #1 Strategies

1. Introduction

In November, 2017 the Parks and Environment Committee received the first report from the TransformTO: Climate Action for a Healthy, Equitable and Prosperous Toronto. At that time the Committee directed that an evaluation be prepared a set of addition actions for potential inclusion in the short-term strategies. Those possible additional actions are:

1. A ban or restrictions on gas powered lawn and garden equipment;
2. By-law changes to encourage urban agriculture in new development;
3. Move to zero carbon district energy option;
4. Policies to reduce construction waste;
5. Feasibility of installing renewable energy on parking facilities; and
6. Requiring climate change warning labels at gas stations in Toronto, under the City of Toronto Act.

In addition, the Parks and Environment Committee requested a report on:

7. recommendations for new energy efficiency standards for new construction under Tier 1 of the Green Buildings Standards with the goal of net neutral buildings; and
8. a strategy to expand the uptake of the Sustainable Energy Plan Financing loans and increase technical support for the Better Building Partnership.

The Parks and Environment Committee also requested a review of the impact of TTC fare cost on ridership with a recommendation on how to achieve greater ridership on existing transit routes.

City Staff have conducted a preliminary review of these possible actions and the outcomes are summarized in this appendix.

2. Gas Powered Lawn & Garden Equipment

2a. Issue/Background:

Examples of gas powered lawn and garden equipment include leaf blowers, lawnmowers, string trimmers, hedge trimmers, chain saws, and snow blowers. Residents have raised issues related to air quality and noise associated with the use of this equipment.

Air Quality: Like all gas-powered devices, small engine equipment release emissions that can contribute to poor air quality. While it is difficult to determine the exact contribution of small engine emissions to air pollution in Toronto, it can be considered minimal when taking into account all sources, with motor vehicles being the largest. Equipment being sold today utilizes cleaner technology and is subject to stricter emission standards, significantly reducing emissions.

Noise: Leaf blowers and other lawn and garden equipment can contribute to community noise and annoyance among residents. The Noise By-law (Toronto Municipal Code Chapter 591) addresses the importance of protecting Toronto residents from the health effects of excessive noise. Under the existing By-law, leaf blowers and other small engine equipment fall under the definition of "power devices" and their time of use is regulated. New equipment being sold today tends to be quieter, with electric models being quieter than gas-powered models.

Federal Regulations: The Federal Government regulates emissions to air from lawn and garden equipment through its *Off-Road Small Spark-Ignition Engine Emission Regulations*. In 2016 the government aligned with the stricter Phase 3 standards of the U.S. Environmental Protection Agency's (EPA) emission control program, ensuring that all small engine products manufactured and sold in Canada are meeting the most stringent emission standards available. According to Environment Canada, 99% of all small spark ignition engines sold in Canada already meet the U.S. EPA Phase 3 standards.

2b. Existing City Policies/Programs and Past Actions

Examples of current City regulations and policies governing the use of small engine equipment are parameters in the Noise By-law to regulate time of use of power devices, mandatory use of hearing protection for City staff operating small engine equipment and cessation of gas-powered devices on Smog Alert days. In addition, between 2009 and 2013 older inefficient small engine equipment was replaced in City of Toronto operations and in 2009 and 2010 the City in partnership with Canadian Tire delivered the "*Cut it Out Toronto*" program where residents were encouraged to retire up older, inefficient equipment. . In 2009, a total of 283 small engine pieces were dropped off and in 2010 this number grew to 387.

Recent staff reports and City Council directives on this issue are:

- The 2009 report "*Small Engine Equipment (Two-Stroke Engines) Greening Strategy for City Operations and the Broader Public*". The report recommended replacement of less efficient equipment used in City operations and the creation of a public outreach campaign/incentive program to accelerate the phase out of older small engine equipment. These directions were implemented and completed between 2009 and 2013.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2009.EX32.6>

- The May 2016 report "*Chapter 591, Noise – Amendments After Further Consultation*". This report included research on options to ban or restrict leaf blowers.
<http://www.toronto.ca/legdocs/mmis/2016/ls/bgrd/backgroundfile-92915.pdf>
- At the September 2016 meeting of the Licensing and Standards Committee adopted the following motion: Requested the Executive Director, MLS to include in her future report options to address noise from leaf blowers by either: a. banning leaf blowers; or b. setting a decibel limit of 45 decibels for leaf blowers sold or used within the City. <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2016.LS13.1>

2c. Air Quality Implications of the Small Engine Equipment

The total amount of emissions from small engine equipment in relation to other sources (e.g. transportation, heating equipment in buildings) is most likely very small.

There is insufficient data to support discussions about an absolute ban under the City's powers to regulate for the purpose of the health, safety and well-being of persons and the environmental well-being of the City.

There is limited research on the direct impacts of the use of leaf blowers on health; the health evidence available looks at overall exposure to air or noise pollution, rather than health impacts from specific sources.

There has been significant improvement in technology and emissions standards for modern small engine equipment (Federal emission standards are now aligned with the US EPA Phase 3).

2d. Recommended approach

Based on available research, not enough evidence exists to make a strong link between the use of small engine equipment and air quality and climate change concerns. Thus restricting the use of such equipment from an environmental perspective does not appear to be a justifiable approach.

Through our investigation of strategies taken by other jurisdictions, it was discovered that the majority of other cities, who have addressed concerns related to small engine equipment use, have done so through the use of noise regulations. We believe this is the most feasible option for the City of Toronto as well.

MLS is currently reviewing the Noise By-law, engaging with stakeholders through surveys and public consultations, and presenting a report to the Licensing and Standards Committee in the fall of 2017. That report will evaluate the feasibility of additional regulations to govern the use of gas powered small engine equipment.

3. By-law changes to encourage urban agriculture in new development

Urban Agriculture in its various forms is generally permitted in residential and residential apartment neighbourhoods in the city. Growing fruits and vegetables for the purposes of sale is explicitly allowed in those parts of the City where either a market garden or agricultural use is permitted. Market gardens are permitted in the Residential Commercial (RAC) and the Utility Transportation (UT) zones. Agricultural uses are permitted in the Open Space Natural (ON) zone (Black Creek Community Farm is an example of urban agriculture in the ON zone).

At its meeting June 23, 2014 the Parks and Environment Committee adopted a report on "Update on the Toronto Agricultural Program" which stated that one of the three key activities moving forward would be "identifying and addressing policy barriers to the expansion of agriculture in Toronto". To this end City Planning is currently reviewing a variety of forms of urban agriculture in terms of land use impacts, potential zoning changes (e.g. definitions), and potential green roof bylaw changes.

4. Move to a zero carbon district energy option

At its meeting of October 26, 2016 the Executive Committee adopted a report from the Chief Corporate Officer recommending a three stage approach for procuring and developing a partnership for the development of low carbon thermal energy networks (district energy).

The technologies for local low carbon energy supply include:

- Sewer heat recovery;
- Ground source heat pumps;
- Solar thermal collectors;
- Waste heat recovery;
- Urban biogas utilization; and
- Urban biomass utilization.

The request for proposals has been issued and proponents are being evaluated for potential selection and partnership. A report identifying recommended market partners is planned for the June 19th, 2017 meeting of the Executive Committee.

In addition, to this initiative City Council has also directed that a net zero community energy plan be developed for the Mount Dennis community. Work is currently underway and report will be provided to the Parks and Environment Committee later in 2017.

5. Policies to reduce construction waste

5a. Issue / Background

- Based on data from the 2010 Statistics Canada Waste Management Industry Survey, it is estimated that there are approximately 360,000 tonnes of Construction, Renovation & Demolition (CRD) waste generated annually within the City of Toronto.
- Presently, the City provides limited waste management services for CRD materials at City transfer stations, predominantly consisting of waste from yard and single family home renovations.
- The majority of CRD waste materials are generated and managed by the private sector. Most CRD waste is generated by the Industrial, Commercial and Institutional (IC&I) sector.
- CRD Waste generated by the IC&I sector is predominantly regulated under the Ontario Environmental Protection Act, including:
 - O. Reg 342/90 – Designation of Waste
 - O. Reg 347/90 – General – Waste Management
 - O. Reg 102/94 – Waste Audits and Waste Reduction Work Plans
 - O. Reg 103/94 – Industrial, Commercial, and Institutional Source Separation Programs
 - O. Reg 104/94 - Packaging Audits and Packaging Reduction Work Plans

5b. Existing City Policies/Programs for CRD Wastes

- Currently, the City diverts limited quantities of drywall (less than one tonne permitted per customer) and scrap metal at three of its seven transfer stations – Bermondsey, Ingram and Commissioners. This material is accepted for a fee.
- The City accepts other CRD waste from small renovation companies, for a fee, at transfer stations, but this material is treated as garbage. Prohibited CRD materials include: bricks, cement/concrete, cinder blocks, stones, asphalt, and soil. These materials must be managed at a private disposal facility.
- Where the City has tried to implement new diversion programs (for materials such as shingles, clean wood, etc.), there has been difficulty in finding appropriate sustainable markets to make these services financially viable.
- Private sector initiatives to construct and operated CRD recycling facilities in the Greater Toronto Area (GTA) have failed due to economics, as landfill disposal remains the lowest-cost option. The last CRD processing facility located in the GTA closed in 2015.
- The City has developed the Toronto Green Development Standard for public and private construction projects. These standards set required for Tier 1 (mandatory) and Tier 2 (voluntary) performance measures. There are no CRD waste diversion requires under Tier 1. Tier 2 targets 75% diversion of CRD materials.

5c. Future Policies/Programs for CRD Wastes

- City Council adopted the Long-Term Waste Management Strategy (LTWMS) in July 2016.
- The LTWMS includes two recommendations for CRD Wastes.
 - Depots and Policies to Divert CRD Waste
 - The City will explore options to establish dedicated CRD drop-off bins at transfer stations for materials such as: clean wood, drywall, concrete, plastic piping, corrugated cardboard, metal, ceramic, and shingles. Mixed CRD wastes would be accepted for a higher fee than separated CRD waste.
 - The City will investigate the feasibility of developing policies, by-laws and economic incentives (e.g. differential tipping fees, CRD debris deposit, requirement of proof of recycling for occupancy permit, etc.) to encourage greater reuse and recycling of CRD waste.
 - CRD Disposal Ban
 - The City will consider phased-in disposal bans on CRD materials at City transfer stations, ensuring the well-established and stable markets are available for diverted materials.
 - The City will liaise with the Ministry of the Environment and Climate Change (MOECC) to ensure that CRD bans are consistent with any under consideration by the Province.
 - The City will work with GTA municipalities and other stakeholders to seek input on which materials should be banned and to encourage similar bans
 - The City would work closely with CRD association to gather input and help educate members about the bans.
- City Council also adopted the following recommendations as components of the LTWMS in July 2016:
 - City Council requested that the MOECC commit to a thorough review of the “3Rs Regulations” (O.Reg 101/94, 102/94, 103/94, 104/94, 105/94) and revise these accordingly to consider new tools and prioritization of waste diversion from the IC&I sector, including:
 - Recommendation 8: “City Council direct the General Manager of Solid Waste Management Services to report to Public Works and Infrastructure Committee, as part of the Long Term Waste Management Strategy implementation, with a plan to divert Construction, Renovation, and Demolition Waste including:
 - A. development of an educational pamphlet outlining opportunities to recycle or reuse construction materials provided to all applicants of any demolition, renovation or building permits; and
 - B. feasibility and opportunities to partner with the architectural, development and construction salvage industries including education, promotion and opportunities to coordination of collection of salvageable materials at City of Toronto facilities.”

- Recommendation 16.c. "...addressing diversion of Construction, Renovation and Demolition waste in the institutional, commercial and industrial sector through revision of regulations to support waste reduction and diversion in this sector so consumers and taxpayers have the opportunity to minimize and divert waste through the purchase of goods (i.e. options for reusable packaging, return to retail) and services.
- In November 2016, the Province of Ontario (Province) proclaimed the *Waste Free Ontario Act* (the Act). The Act and associated Waste Free Ontario Strategy will consider strategies for reducing CRD and IC&I wastes. Future programs created by the City to address these wastes should be consistent with the Provincial policy objectives outlined in the Act. No timeline is currently available for the implementation of IC&I/CRD policies and programs under the Act.

6. Feasibility of installing renewable energy on parking lots

In December, 2016 Toronto City Council adopted Report #1 as part of the TransformTO initiative. Included in that report were a series of actions that if implemented will help put Toronto on the trajectory to achieving the goal of reducing greenhouse gas emissions by 80% by the year 2050.

Action 2.3 in that report, will see the City develop a Renewable Energy Strategy that will include investigation of ways to advance the city-wide adoption of clean, renewable energy technologies such as solar PV, wind and geo-exchange through a comprehensive long-term strategy developed with industry stakeholders. Exploring the feasibility of installing renewable energy on parking lots will be included in the development of this strategy. This research will build upon the pilot work the City has done where it has installed a car-port at one of the City's work yards and installed solar panels on top of the car-port.

7. Requiring climate change warning labels at gas stations, under the City of Toronto Act

7a. Council's authority to mandate climate change warning labels

Section 8 of the City of Toronto Act, 2006, provides the City power to enact bylaws and a business licensing system on matters related to the economic, social and environmental well-being of the City, the health, safety and well-being of persons.

After consulting with the City's Legal Services and Municipal Licencing and Standards divisions, staff concluded an amendment to Toronto Municipal Code Chapter 545 (Licencing) would be necessary in order for the City to require climate change warning labels at gas stations. The amendment would stipulate a business licencing provision to mandate businesses licenced, or wishing to be licenced, as a class gasoline Public Garage to display the climate change warning labels in a visible, conspicuous space,

such as on the gas pump nozzle talker, as proposed. An enforcement and penalty system would also need to be established.

The bylaw amendment would apply to all existing 367 licenced gas stations and any future gas stations in Toronto. Our Horizons, the organization who requested the City investigate the issue, is suggesting that the labels be placed on each gasoline pump nozzle talker. A nozzle talker is the piece that fits over a gas nozzle with a flat display area facing the consumer. The total number of gas pumps is not recorded, but if each station has 6-8 pumps, Toronto may have between 2,200-3,000 gasoline pumps. The City does not currently monitor the number of gas pumps already fitted with a nozzle talker, and which existing nozzle talker is currently being used for advertising purposes.

7b. Considerations for Application in Toronto

Should Toronto pursue mandatory climate change warning labels, consideration should be paid to the following:

- 1. Economic, social and environmental impacts:** The effectiveness of the labels will be difficult to assess, and any potential environmental, health, quality-of-life and/or economic benefits would be difficult to attribute directly to implementation of the proposed gas pump labels.

The City and gas stations in the city may be financially impacted if the labels are required.

Based on estimated costs of implementation from the City of North Vancouver, where greenhouse gas labels are mandatory, and the City of Terrace, where the labels are voluntary, the City of Toronto may expect the material cost of implementing the warning labels to be over \$300,000. A more refined estimate will be dependent on factors that include staffing resources, the number of gas pump nozzle talkers to be supplied by the City, and the number of labels to be supplied by the City. The cost may be less if industry members wish to supply their own materials. Ongoing resources for the City to maintain the initiative, including staff time to create and approve designs, enforce implementation, and evaluate the program, will be required.

For labels to be effective, or at least visible, the labels would need to be placed in a highly conspicuous space, such as on the nozzle talker. Nozzle talkers are typically used for advertising. Climate change warning labels on gas pumps may interfere with existing rental contracts with companies to use the space for advertising, and/or with the gas station's own use of the space for advertising. Application of the proposed labels may result in gas stations breaching contracts with their advertising partners, loss of revenue from rental of the advertising space, and/or loss of revenue from sales of gas stations' in-store products.

Additional costs would be accrued by the City and by gas stations should non-compliance occur. If Chapter 545 is amended to require mandatory labels, the City would have to prosecute stations who do not display the labels. Considering there are 367 existing licenced gasoline stations enforcement would be both difficult and time consuming, and may result in possible time and resource intensive litigation.

- 2. Approach and effect:** Warning labels are typically seen as being punitive in nature, as opposed to being educational and solution-based. The use of negative messages may potentially lead to inadvertent negative outcomes, such as the denial of the issue or relevance of the messaging, minimizing of purported negative outcomes, or avoidance of the messaging altogether. Canadian jurisdictions that examined climate change gas pump labelling cautioned against the use of warning labels and/or negative messaging.

Research on sustainable behaviour promotion from the UC Berkeley¹ and DePaul University (Illinois)² show that it is more effective to provide solutions to barriers than it is to shame individuals. Existing environmental programs of the City currently apply solution-based techniques to educate and empower residents. By advancing existing sustainable transportation programs identified in the adopted TransformTO Short-term Strategies the City can potentially reduce an estimated 130,000 tonnes of greenhouse gas emissions.

Research also suggests that behaviour change messages tend to be most effective when delivered at a time when options are available and alternative decisions can actually be made. A warning label at the pump may not likely dissuade an individual from fueling their vehicle once they arrive to the gas station with an empty tank. The immediate need to fuel an already purchased vehicle for personal transportation may outweigh the problem of climate change, which is typically perceived as a distant and future problem. Messages around climate impacts of transportation choices are perhaps timelier during up-stream decision-making points, such as the time of vehicle purchase. Electric vehicles (EVs) are recognized as a Provincial Climate Change Plan priority, and the Province of Ontario provides incentives to support the purchase of eligible electric vehicles. Community consultation from the City's TransformTO initiative also recognize electric vehicles as a priority. The City is committed to working with the Province to support the anticipated adoption of EVs by developing policies and programs to expand EV use in Toronto.

¹ University of California, Berkeley. (2010). Promoting Sustainable Behaviour: A Guide to Successful Communication. http://sustainability.berkeley.edu/sites/default/files/Promoting_Sustain_Behavior_Primer.pdf

² DePaul University (2013). The Effects of Messages on Environmental Behavior. <http://via.library.depaul.edu/cgi/viewcontent.cgi?article=1025&context=depaul-disc>

- 3. Existing greenhouse gas emission reduction strategies with greater potential:** The adopted greenhouse gas emission reduction short-term strategies identified in the TransformTO report) expand and accelerate existing programs and policies to maximize their emission reduction potential to 2020. The emission reduction potential of each strategy has been modelled based on each action's achieved emission reductions to date. The identified strategies may provide a more definitive and efficient greenhouse gas emission reduction solution.

The existing sustainable transportation programs identified in the TransformTO Short-term Strategies, such as carpooling, cycling and walking initiatives like Smart Commute, Cycling Network Plan and Complete Street Guidelines, can potentially reduce an estimated 130,000 tonnes of greenhouse gas emissions. Resources may be more efficiently used to implement these verified strategies.

- 4. Market:** The gasoline industry has already established an initiative, known as Smart Fuelling, to apply information based labels at gas stations, through the Smart Fueling initiative. Smart Fuelling is an effort between the Canadian Fuels Association, Canadian Independent Petroleum Marketers Association (CIPMA) and the Canadian Convenience Stores Association. Smart Fuelling provides CIPMA member gas stations with information based labels showcasing tips for drivers to use fossil fuels more efficiently, such as to avoid idling, plan errands strategically, and practice smart fuel consumption driving techniques.

Smart Fuelling is intended to be a nation-wide campaign. Smart Fuelling labels have been applied to gas stations in North Vancouver, British Columbia where the municipality has requested mandatory greenhouse gas labels at gas pumps, and in Terrace, British Columbia where the municipality has a voluntary program in place.

CIPMA reports its members consist of large gasoline retailers as well as smaller, independent retailers in all provinces and territories, and accounts for 36% of all gasoline sold in Canada.

Should labels be desired across jurisdictions, the City may wish to examine working with the CIPMA network and any other industry network as it may contribute to quicker and consolidated dissemination and application.

- 5. Financial implications for the City:** Based on estimates from the City of North Vancouver and the City of Terrace, the City of Toronto may expect the material cost of implementing warning labels at gas pumps of up to \$300,000. A more refined estimate will be dependent on factors that include staffing resources, the number of gas pump nozzle talkers and the total number of labels to be supplied by the City. The cost may be less if industry members are able to use their own materials and labels.

Ongoing resources to maintain the initiative, including staff time to create or approve designs, evaluate the program, and enforce implementation are not yet estimated. The 2017 work plans for the Environment and Energy Division and Municipal Licensing and Standards Division do not include resources for undertaking this initiative. Should the City wish to further examine or implement the issue, the Divisions would need direction from Council and additional resources.

7c. Conclusion and recommendation

Mandatory climate change warning labels at gas pumps is possible through an amendment to Chapter 545, but not recommended based on the following being likely to exceed possible benefits:

- Potential unintended negative financial effects on gas station operations due to:
 - possible breach of existing advertising contracts with companies
 - possible loss of future revenue otherwise generated from rental of advertising space
 - possible loss of future revenue otherwise generated from advertising and sale of in-store products, and/or
 - possible fines accrued for non-compliance
- Potential resource intensive effects on the City due to:
 - Enforcement that is both difficult and time consuming
- Possible time and resource intensive litigation stemming from infractions
- Potential unintended negative social effects from use of negative messaging that may cause individuals to deny the issue, minimize any negative outcomes, and/or ignore the campaign altogether.
- An existing voluntary labeling initiative by industry that features can-do actions.
- Existing strategies that provide a more definitive greenhouse gas emission reduction solution. The adopted strategies identified in the TransformTO report leverage and advance existing programs and initiatives, and the sustainable transportation initiatives have a modelled potential to reduce 130,000 tonnes of GHG emissions. Focusing on these already established areas can likely yield a greater emission reduction, and do so more efficiently and definitively.

Staff's recommendation is consistent with other Canadian jurisdictions who have abandoned or hesitated to adopt the measure, or have adopted it and found it difficult to measure greenhouse gas emission reductions.

Should the City wish to further investigate adoption of climate change warning labels at gas stations, further resources will be required to conduct research, undertake stakeholder consultation(s), and assess implementation approach.

8. New energy efficiency standards for new construction under the Green Building Standards

At its meeting on April 6, 2017 the Parks and Environment Committee received a report from the Chief Corporate Officer providing an update on the review of the Toronto Green Standard (item PE18.5). As outlined in that report, the Toronto Green Standard is currently being reviewed and updated and a report from City Planning is planned for the 3rd quarter of 2017. That report will identify new energy efficiency standards for new construction and evaluate options for achieving net zero emissions in those buildings.

9. Expand uptake of the Sustainable Energy Plan Financing loans and increase technical support for the Better Building Partnership

As part of the 2018 Budget, Toronto City Council adopted two actions which begin to address this request. The first was an increase in operating budget for the Better Buildings Partnership that will result in an increase in 4 staff positions for this initiative. Staff working in the Better Buildings Partnership are responsible for managing the Sustainable Energy Plan Financing loans. The second was an increase of \$5 million in capital funds allocated to the Sustainable Energy Plan Financing loans providing greater capacity to utilize this financing tool to support energy retrofits.

More recently, the Budget Committee at its meeting of March 27, 2017 approved an increase of \$35 million in Sustainable Energy Financing for the express purpose of supporting the Toronto Community Housing Corporation in conducting deep energy efficiency retrofits in nine buildings (item BU31.5). This loan leverages \$28 million in grant funding through the Province's Social Housing Apartment Retrofit Program, making the total investment \$63 million.

10. Impact of TTC fare cost on ridership

The City of Toronto, Toronto Transit Commission and Metrolinx are working together to bring more transit to communities across the city. There are a number of planning studies completed and underway in support of this effort in addition to already occurring construction.

Included in this work are studies on systems for fare integration and the social equity implications of transit fare policy.

TTC as part its annual budget, evaluates fare cost increases and potential implications on ridership. For the 2017 budget TTC staff recommended a 10 cent fare increase which they estimated would cause an expected reduction in ridership of 1.2 million rides (see report dated November 21, 2016 from the TTC Chief Executive Officer).

As outlined in the TransformTO Report #2, the technical modelling completed highlights the need for continued implementation and investment in funded and being considered expanded transit infrastructure and services.

Specific actions to increase ridership on existing transit routes is an element of both TTC and Metrolinx's annual and five year business plans. It is also connected to policies and actions taken regarding implementation of the City's Official Plan and strategies, such as the Congestion Management Plan and programs like the Smart Commute initiative. Staff from relevant City Divisions and Agencies and Provincial Agencies will continue to collaborate on the approaches to increase ridership on existing transit services.