PE15.1

TORONTO

STAFF REPORT
ACTION REQUIRED

TransformTO: Climate Action for a Healthy Equitable, and Prosperous Toronto – Report #1

Date:	November 2, 2016
To:	Parks & Environment Subcommittee on Climate Change Mitigation & Adaptation Parks & Environment Committee
From:	Chief Corporate Officer
Wards:	All
Reference Number:	P:\2016\Internal Services\E&E\Pe16013e&e (AFS 22280)

SUMMARY

Initiated in 2015, *TransformTO* is a community-wide, cross-corporate initiative designed to engage residents, experts, stakeholders and all City Divisions, Agencies and Corporations on how Toronto can achieve a low-carbon future that meets the needs of all Torontonians. In March 2015 the Parks and Environment Subcommittee on Climate Change Mitigation and Adaptation was created to guide and support the project. *TransformTO* is co-managed by the Environment & Energy Division and the Toronto Atmospheric Fund.

Between March 2015 and July 2016 over 2000 Torontonians participated in *TransformTO* conversations about our low-carbon future. *TransformTO* is undertaking comprehensive technical analysis of strategies and actions to get Toronto to our long-term low-carbon target of reducing emissions by 80% from 1990 levels by 2050.

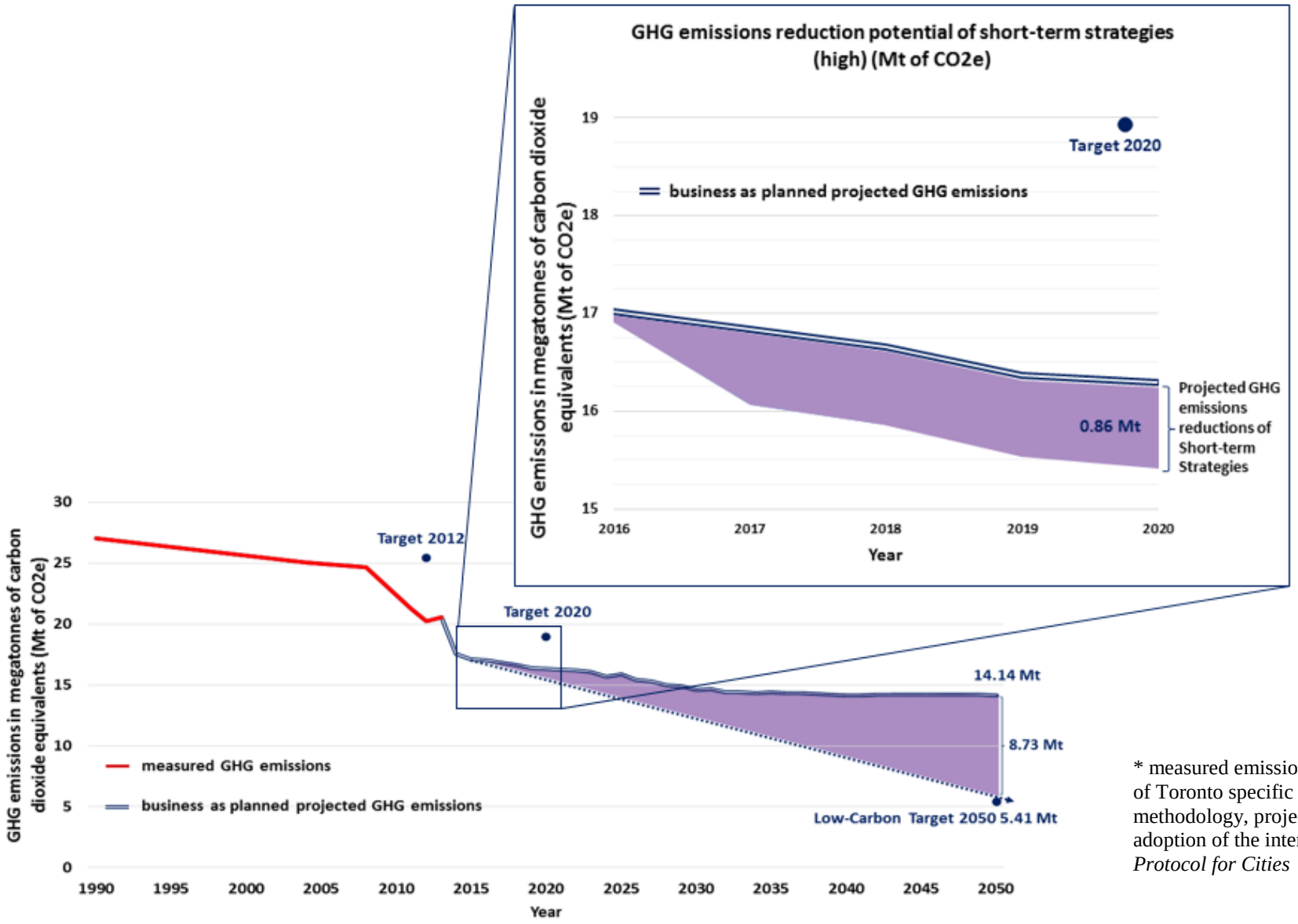
Toronto will not meet Council's 2050 goal without significant action and investment. There is a 8.7 million tonne gap between our projected GHG emissions in 2050 and our low-carbon target. Over the next 34 years transformative changes to the City's core urban systems - transportation, building design & operation, energy systems and waste management – will be necessary.

In 2007 City Council adopted the progressive Climate Change and Clean Air Action Plan, positioning Toronto as a leader and innovator in climate action. The programs and policies developed and championed here are emulated across North America and internationally. Many of the programs and policies from the 2007 Climate Change and Clean Air Action Plan and the 2009 Sustainable Energy Strategy continue to reduce GHG emissions, however we will need to aggressively expand and enhance these while adding others over the intervening 33 years to meet the 2050 goal established by Council. To date, GHG emissions in Toronto have dropped by over 24% since 1990. *TransformTO* is the next step along Toronto's climate action path.

This report presents a package of short-term strategies to expand and accelerate our existing innovative programs and policies to maximize their emission reduction potential to 2020. In the short-term we need to exceed our 2020 target to put us closer to the necessary trajectory to Council's 2050 low-carbon target. This report also identifies the building blocks of our long-term low-carbon strategy as Council needs to align its decisions today with Toronto's long-term low-carbon goals.

Successful implementation of the proposed package of Short-term Strategies in Attachment A will lead to between 455,000 and 857,000 tonnes of additional GHG reductions by 2020, beyond the emission reductions already anticipated from Toronto's existing programs and policies (see Figure 1).

Figure 1: Toronto's measured and projected GHG emissions to 2050 and impact of proposed *TransformTO* Short-term Strategies



* measured emissions are based on a City of Toronto specific GHG accounting methodology, projected emissions reflect adoption of the international *GHG Protocol for Cities*

RECOMMENDATIONS

The Chief Corporate Officer recommends that:

1. City Council approve the *TransformTO* Short-term Strategies, as presented in Attachment A to this report (November 2, 2016) from the Chief Corporate Officer.

2. City Council direct City Divisions, Agencies and Corporations with support from the Chief Corporate Officer, to develop business cases as part of the 2018 budget process to support the implementation of the strategies outlined in the *TransformTO* Short-term Strategies.

3. City Council direct the City Manager to advocate to the provincial and federal governments for program funding, co-delivery opportunities and related policy and regulatory supports necessary to implement the *TransformTO* Short-term Strategies and prepare the City for success in achieving the 2050 target.

4. City Council authorize the City Manager or his/her designate to negotiate and enter into all necessary agreements, including funding agreements, to support the implementation of the *TransformTO* Short-term Strategies in forms satisfactory to the City Solicitor.

Financial Impact

There is no direct financial impact associated with this report.

Approval of future budget requests is critical to expanding the staffing and resource capacity of the Environment and Energy Division to jump-start the *TransformTO* Short-term Strategies. Future year funding commitments by the City, combined with leveraging private capital and senior government funding, will ultimately influence the City's success in achieving the City's emissions reduction potential by 2020.

In subsequent fiscal years, business cases will be initiated to request the necessary operating and capital funds to support the implementation of the cross-corporate actions identified in the *TransformTO* Short-term Strategies, in concert with the City’s budget process.

Provincial and federal programs are also creating new direct funding and co-delivery opportunities for municipalities and/or their residents to support emission reduction activity. Ontario’s cap and trade system is expected to generate $1.8 billion a year in proceeds to be directed towards carbon emission reduction activities and programs. The anticipated price on carbon also creates more favourable business cases for investments in low-carbon capital projects (e.g. building energy efficiency retrofits). Toronto should proactively position itself to take best advantage of these new funding resources. The short-term strategies presented in Attachment A indicate when they are aligned with provincial priorities. Private investment will also have a role to play in some capital projects and will be sought as appropriate.

The Deputy City Manager & Chief Financial Officer has reviewed this report and agrees with the financial impact information.

DECISION HISTORY

In July 2007, Toronto City Council unanimously adopted the 64 consolidated actions proposed in the *Climate Change and Clean Air Action Plan* (item 2007.EX10.3) and the following community-wide greenhouse gas reduction targets:

- 6% reduction against 1990 levels by 2012;
- 30% reduction against 1990 levels by 2020; and
- 80% reduction against 1990 levels by 2050.

To further advance Toronto's efforts towards a low carbon future, in November 2009, Toronto City Council adopted the *Power to Live Green: Toronto's Sustainable Energy Strategy* (item 2009.EX36.9).

In July 2014, City Council requested the preparation of a program for accelerating the actions being taken to address climate change (item 2014.PE28.4).

In response to this direction, City Council approved in May 2015 (item 2015.PE3.6) the terms of reference for Transformation Toronto 2050 (now called ***TransformTO: Climate Action for a Healthy, Equitable and Prosperous Toronto***), which outlined the steps to be taken towards the renewal of Toronto's 2007 Climate Change and Clean Air Action Plan and the 2009 Sustainable Energy Strategy.

In April 2015, the Parks and Environment Committee established the Subcommittee on Climate Change Mitigation and Adaptation with a mandate to advance action on climate change by among other things, providing guidance and recommendations towards the Transformation Toronto 2050 initiative (item 2015.PE3.7).

EQUITY LENS

A key principle of *TransformTO* is that an inclusive and accessible engagement process will be followed in the development and implementation of the city's climate change action plan. In addition, all proposed actions will provide multiple community benefits and recognize:

- the need for a fair distribution of benefits and burdens across all segments of society; and
- the need to consider generational impacts and propose actions that do not result in unfair burdens for future generations.

Climate change impacts disproportionately affect communities that are already marginalized and disadvantaged. All climate actions will be designed to maximize their benefit to diverse and equity seeking groups.

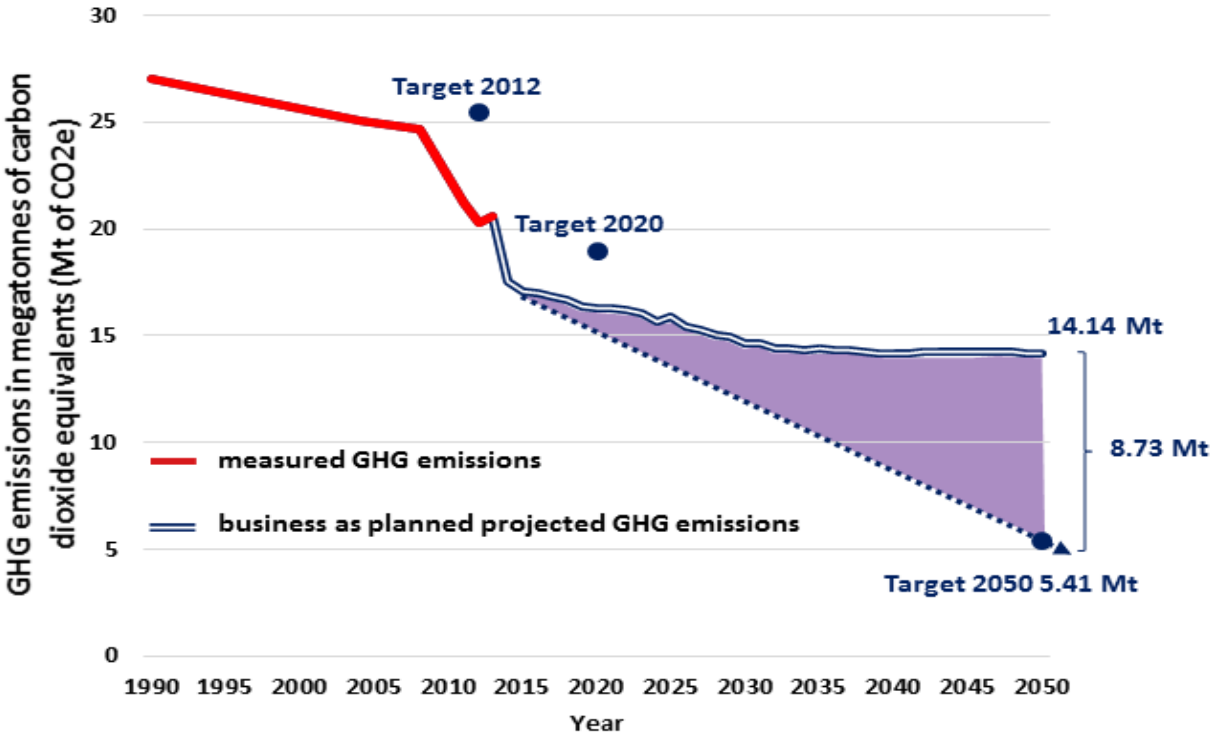
ISSUE BACKGROUND

Approximately two-thirds of the world's carbon emissions are tied to activities occurring in cities and urban areas[1] and cities are at the forefront of facing the increasing cost of adapting to the impacts of extreme weather caused by climate change.

This report focuses on climate change mitigation by reducing Toronto's GHG emissions. The Resilient City project is submitting a separate report focused on resilience to climate change. The project teams from the two projects have worked closely to identify complementary components of the respective projects.

Commitment and investment since 2007 in Toronto's *Climate Change and Clean Air Action Plan*, supported by the provincial coal-power generation phase-out, and federal fuel efficiency standards, mean Toronto is projected to be on track to meet our 2020 target. However our 2050 goal requires we significantly accelerate and enhance our efforts to drive our GHG emissions trajectory down towards what is required for Council's 2050 goal (Figure 2).

Figure 2: Measured and projected GHG emissions to 2050



* measured emissions are based on a City of Toronto specific GHG accounting methodology, projected emissions reflect adoption of the international *GHG Protocol for Cities*

[1] Source: Carbon Neutral Cities Alliance, 2015. **Framework for Long-Term Deep Carbon Reduction Planning.**

COMMENTS

Analysis of Toronto's Low-Carbon Pathway

TransformTO analysis explores both the 2020 and 2050 timeframes. Using an iterative process of community engagement and technical modelling *TransformTO* is harnessing community knowledge and technical expertise to identify Toronto's low-carbon pathway. This low-carbon pathway includes both the short-term strategies recommended in this report and longer-term strategies outlined as the building blocks of the path to 2050.

Community Engagement

From March 2015 to July 2016, *TransformTO* encouraged residents to submit their ideas for a shared vision of a low-carbon Toronto in 2050, and to comment on the types of actions they felt were most relevant. A variety of engagement and outreach tools promoted participation from residents, community groups and stakeholders online and at events – some of which were formally organized by the City and some of which were hosted by community organizations.

To date, over 2,000 people have shared their ideas about how to create the low-carbon Toronto they envision in 2050. Table 1 provides a summary of the community engagement activities delivered by *TransformTO,* while a comprehensive summary report and copies of all community submissions can be found in Attachment B.

Table 1: Community Engagement Results

***TransformTO* Community Engagement & Outreach Activities March 2015 to July 2016**		
Resident Engagement	**Online Engagement**	**Community Outreach**
Subcommittee on Climate Change 300 people attend the first meeting of the Subcommittee in March 2015. **Talk Transformation Panels** 550 attendees at 3 events held Sept to Nov 2015. **The Six in 2050** 70 key stakeholders engaged by the Centre for Social Innovation. ***TransformTO* Community Conversations** 500 attendees at 4 City hosted events & 11 community organization hosted events held April to June 2016.	**Talk Transformation Workbooks** 200 individual responses ***TransformTO* Website** 10,000 website visits. ***TransformTO* Newsletter** 860 subscribers. **Social Media** 1,950 connections.	**Youth Engagement** 400 youth aged 9 to 12 engaged in activities to describe their vision of Toronto in 2050. **Non *TransformTO* but Related Climate Change Events** Staff participated in a number of related climate change events (e.g. Hack to Climate Action; Live Green Toronto events; UN event; Toronto Climate Film Festival; local MPs Federal Climate Change consultations) to inform & hear what where the climate change issues of concern to the participants.

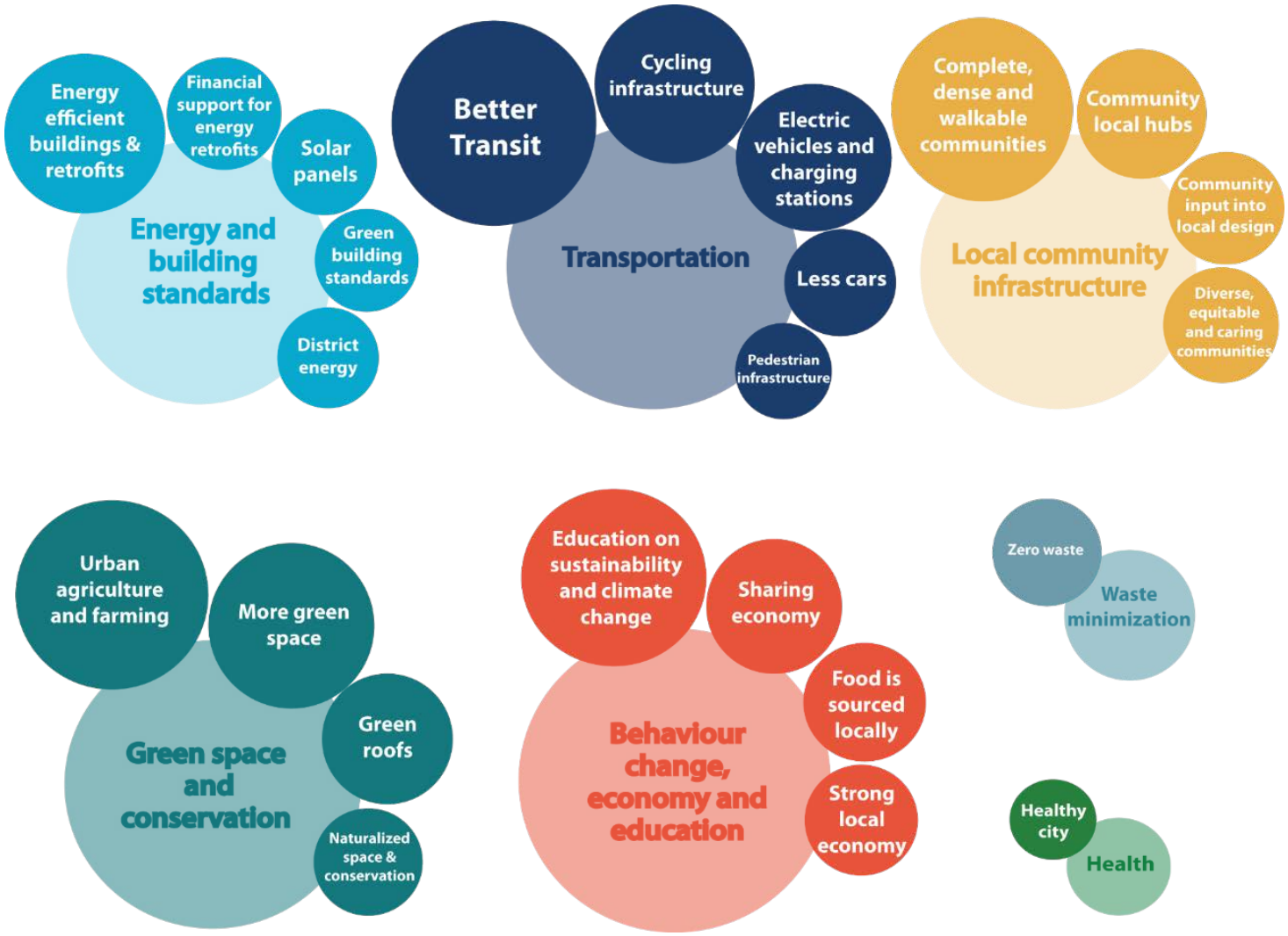
TransformTO has also convened a multi-sectoral advisory group comprised of 10 inter-divisional City representatives, and 25 diverse community leaders. The group includes representatives of government, utility, business, academic, health, labour, environmental, and social sectors. Climate change is an equity and quality of life issue. To best design climate action to benefit all Torontonians and advance social, economic and public health objectives this advisory group is undertaking a multi-criteria analysis of all proposed climate actions.

The terms of reference for the advisory group as well as a list of its members can be found online here: TransformTO advisory group terms of reference

The outputs of *TransformTO*'s community engagement define the building blocks of Toronto's long-term low-carbon pathway, and directly inform the technical analysis and projections completed as part of this project. Alignment between community priorities and the recommended short-term strategies is documented in Attachement A.

Figure 3 below shows the relative community interest and support for various GHG emission reduction actions grouped by theme. The full community engagement report found in Attachment B expands on these community priorities.

Figure 3: Phase 1 *TransformTO* Community Engagement Results



Technical Modelling

Through a competitive procurement process, Sustainability Solutions Group (SSG) was retained in April 2016 to deliver technical analysis and scenario modelling services for *TransformTO*. SSG uses specialized, open-source software called CityInSight to analyze local GHG emissions and project emission trends and their sensitivity to possible interventions.

Key features of this software include:

1. its specific design for use in Canadian municipalities;
2. adherence to the Global Protocol for Community-Scale Greenhouse Gas Emissions Inventories (GPC), the global standard for city-scale GHG emissions accounting. The GPC standard aligns with ISO 37120 Sustainable Communities reporting;
3. its ability to present findings spatially, using Toronto's transportation zones, to assess how GHG trends and impacts are distributed in different areas of the city.

The Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC), is a globally recognized standard GHG methodology that has been adopted by more than 100 cities around the world. The GPC ensures consistent and transparent reporting of greenhouse gas emissions between cities. The City of Toronto committed to report using this methodology in 2015. In 2007, Toronto was an international leader by developing a city-specific methodology to generate our first GHG inventory, the GPC has provided a useful standardized framework for Toronto to use moving forward. Over time more granular data has become available also altering and enhancing Toronto's ability to account for GHG emissions. The analysis in TransformTO conforms to the GPC, representing an evolution and enhancement in Toronto's GHG reporting.

TransformTO has achieved an unprecedented consolidation and integration of cross-departmental data about Toronto's core urban systems and their associated GHG emissions. City staff from Divisions and Commissions including City Planning, Engineering and Construction Services, Information and Technology (Geospatial Competency Centre), Parks, Forestry and Recreation, Solid Waste Management Services, Toronto Water, Social Development Finance and Administration, Transportation Services, and the Toronto Transit Commission, have provided raw data regarding their current programs and operations and if applicable, their near future plans that were used as inputs into the model.

SSG prepared the 2050 projected emissions profile utilizing the following key inputs:

1) 2011 baseline of existing carbon emissions and sources;
2) official population forecasts as developed by the City of Toronto and in alignment with the Provincial Growth Plan;
3) utilizing existing Official Plan policies and the population forecasts, estimating the amount and type of new residential construction and location;
4) employment projections as developed by the City;

5) utilizing existing Official Plan policies and the employment forecasts, estimating where those new jobs will be located within the city and any new construction;
6) estimating the rate of energy efficiency retrofits of existing buildings based on past trends and existing program offerings;
7) estimating the energy performance for new construction based on past trends in implementing the Toronto Green Standard;
8) making some assumptions about energy use of major appliances, lighting and space conditioning systems;
9) making some assumptions about how the climate will change over the next thirty years as per Toronto's Future Weather and Climate Driver Study (2012) (e.g. increasingly hotter summers)
10) utilizing modelled origin-destination matrices for each of the transportation zones as developed by the City of Toronto;
11) planned, funded and under construction transit infrastructure;
12) projected changes in how energy is generated;
13) projected waste generation, composition and implementation of the City's Long Term Waste Management Strategy.

The CityInSight model that has now been calibrated to Toronto's data is a cutting edge tool. Due to the contributions of staff across multiple Divisions it is now possible to identify the interactions and interdependencies among urban systems and to isolate the key opportunities for potential GHG emission reduction.

A technical description of the model and related methodology can be found in Attachment C to this report.

TransformTO Short-term Strategies: Meeting and Exceeding Toronto's 2020 GHG Reduction Goal

Between 455,000 and 857,000 tonnes of additional GHG emissions reductions can be realized by 2020 if the short-term strategies presented in Attachment A of this report are funded and implemented. These short-term strategies reflect many of the communities key priorities expressed in community consultation activities.

Attachment A presents a package of short-term strategies to maximize the GHG reduction potential of existing City of Toronto programs and policies. Each strategies includes:

1. the range of carbon emission reduction potentials related to completing the action
2. alignment with community priorities expressed in the engagement activities to-date, and
3. alignment with priorities in the provincial Climate Change Action Plan.

The *TransformTO* Short-term Strategies are based on three guiding principles:

1. **Building on Past Success:** Toronto has made considerable progress with a comprehensive suite of programs, plans and policies that address carbon emissions from buildings, transportation and waste sectors. It will continue to

build on this foundation by scaling-up, expanding and enhancing high-impact, readily deliverable programs to drive even greater emissions reductions.

2. **Charting a long-term course, starting now:** Recognizing that decisions leading up to 2020 will 'lock-in' sufficient emissions that will define the City for future generations, the pathway to reducing emission by 80% by 2050 starts today. Enabling policies, programs and investments must be consistent with positioning the City towards realizing its low-carbon future.

3. **Linkage with Provincial Climate Change Action Plan:** The City of Toronto and Province of Ontario share common long-term carbon reduction goals. The City will seek to capitalize on the estimated $7 billion short-term investment in low-carbon actions under Ontario's Climate Change Action Plan. Alignment between City programs and provincial opportunities for funding and co-delivery will be explored.

The *TransformTO* Short-term Strategies are organized around five categories of strategy. Details of the proposed strategies in each category are provided in Attachment A.

1. Supporting energy efficiency in buildings

- Expand current programs to reduce energy use in houses, multi- residential and other buildings. This includes offering a suite of resources, incentives and innovative financing to save on energy costs, enhance the quality of housing stock and improve affordability across all neighbourhoods.
- Anticipated cumulative GHG reductions by 2020: 193,000 – 480,000 tonnes

2. Raising the bar for new construction & low carbon community energy planning

- Continue to elevate the energy performance of new buildings trending towards net-zero energy through the Toronto Green Standard. Implement opportunities to integrate community energy planning and neighbourhood-scale energy solutions and build upon existing Council directions, such as the direction to create net-zero energy plans for four neighbourhoods in Toronto and the recent direction to investigate opportunities to develop low carbon thermal energy networks.
- Anticipated cumulative GHG reductions by 2020: 20,000 – 110,000 tonnes

3. Advancing sustainable transportation

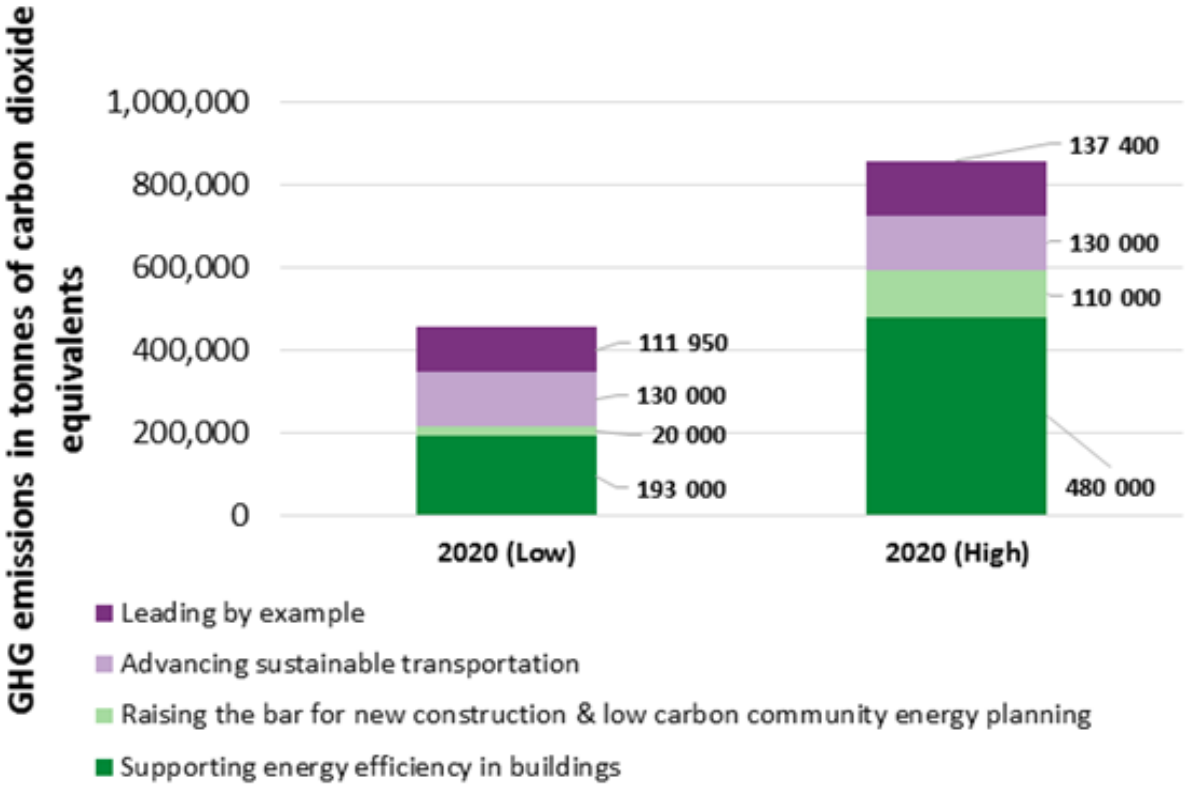
- Encourage the shift towards sustainable methods of transportation, which promote active living and reduces human health risk. In the near term this includes investigating tolls or other financial mechanisms that have been successfully used in other cities to reduce congestion and GHG emissions, and scaling up efforts through programs like Smart Commute to help employers establish workplace programs that support their employees in alternative commute choices.
- Anticipated cumulative GHG reductions by 2020: 130,000 tonnes

4. **Leading by example**
- Accelerate investment in low-carbon technologies and processes across City-owned facilities and operations. Through energy efficiency retrofits, renewable energy projects and employee commuter options, the City will demonstrate leadership in curbing carbon emissions by strategically managing its own assets. The City will also implement its long-term waste management strategy which is designed to minimize future carbon emissions from waste.
- Anticipated cumulative GHG reductions to 2020: 111,950 – 137,400 tonnes

5. **Engaging and collaborating with residents stakeholders**
- Support effective inter-divisional collaboration and work closely with the community, local utilities, and other orders of government.

Figure 4 demonstrates the range of emission reduction potentials of strategies in each of these five short-term strategies categories.

Figure 4: Cumulative GHG Emission Reductions Potential by Strategy Category

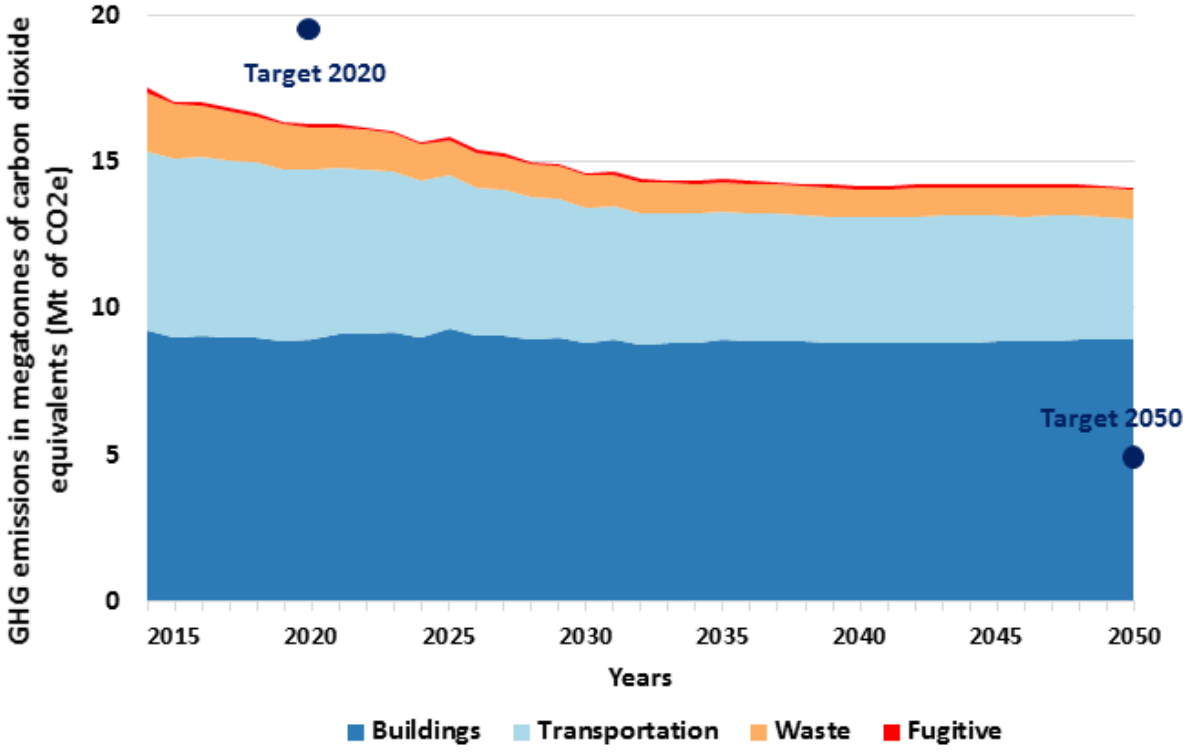


2050 Strategies

Beyond advancing these short-term strategies we know significant action will be required looking forward to 2050. In each of the core urban systems transformation will be dependent on policies, programs and investment strategies.

The modelled "business as planned" projection to 2050 reflects Toronto's GHG emissions trajectory from core urban systems should we fully implement all currently planned programs and policies (Figure 5). After the 2020 period, current policies and programs have very little impact on Toronto's emissions profile. In fact emission levels are projected to stagnate unless additional action is taken. There is a 8.7 million tonne gap between Toronto's emissions under "Business as Planned" and our target for an 80 percent reduction by 2050.

Figure 5: Projected GHG Emissions by Sector to 2050



Projections to 2050 demonstrate that the current major sources of emissions remain significant and are the critical areas for climate action today and going forward. Under business as planned projections, in 2050, each sector is expected to contribute the GHG emissions outlined below in Table 2.

Table 2: Projected City-wide GHG emissions by sector in 2050

Sector	Projected GHG emissions (Million Tonnes)	Percentage (%) of total emissions
1. Buildings & Energy	9	63
2. Transportation	4	30
3. Waste Management	1	7

The building blocks of Toronto's low-carbon pathway are strategies to transform these core urban systems. An initial list of strategies to 2050 for further analysis and refinement is outlined below. *TransformTO* continues to analyze in greater depth the following strategies for:

1. emission reduction potential to 2050
2. scale of necessary investment
3. public health, social equity and local economic impacts

BUILDINGS AND ENERGY

Building Energy Efficiency

The efficiency of both new construction and existing buildings is essential to Toronto's long-term emission reductions strategy. Existing buildings have a major impact on GHG emissions and an ambitious retrofit program will be critical.

- **Aggressive Retrofits of existing buildings**
  Aggressively scaling our existing award winning programs including the Better Building Partnership and HELP/ Hi-RIS, as recommended in the short-term strategies, is an important step towards reducing the emissions of Toronto's buildings. Regulation for existing building energy performance will also need to be explored to 2050.

- **TGS Update**
  Toronto Green Standard (TGS) is a two-tier set of performance measures and guidelines for sustainable site and building design for new development in the city. Tier 1 is required for all new construction and Tier 2 is a higher, voluntary performance package with a financial incentive. TGS requires buildings to be designed to achieve 15% energy efficiency improvement over the current Ontario Building Code for all new developments under Tier 1, and 25% above the Ontario Building Code under Tier 2. An update is underway to the TGS with Version 3 of the expected to be presented to City Council in 2017. This latest version is exploring adopting a long-term zero emissions target, using Thermal Demand and Total Energy Use to guide design of architecture and mechanical systems by building type and establishing a roadmap of successive targets.

Community Energy

Community scale energy solutions will be essential to achieving Toronto's 2050 energy and buildings emission reduction potential. Low-carbon thermal networks and community energy planning are advanced in *TransformTO* Short-Term Strategies and will need to be realized at scale over the long-term.

- **Net-Zero Community Energy Plans (CEP)**
  The updated Official Plan requires an Energy Strategy be submitted for large development proposals and encourages the completion of a Community Energy Plan (CEP) for areas targeted for growth, and encourages developments to connect to district energy systems where feasible. Community Energy Planning (CEP) is an area-based approach to energy planning that models energy needs for existing and future development. Energy storage innovations at the neighbourhood and city-wide scale will be important in realizing Toronto's low-carbon goals. There are currently four planning studies underway where the City is investigating the potential to be net-zero communities under the updated CEP requirements. The *TransformTO* Short-term Strategies recommended scaling up investments in community energy planning now.

- **Low-Carbon Thermal Networks**
  The investment and scale up of low-carbon thermal networks to 2020 could realize up to 100,000 tonnes of GHG reductions. Natural gas is the most significant source of emissions. Going forward fuel switching away from natural gas for thermal heating requirements of buildings offers one of the largest emissions reduction opportunities and low-carbon thermal networks will have a critical part to play.

TRANSPORTATION

To achieve our long-term 2050 target, a massive shift to low-carbon modes of transportation will be needed. This means active transportation for short-trips and electrical public transit for trips beyond the scope of walking or cycling.

- **Transit Supportive Development**
  Toronto’s Official Plan includes mandates to reduce auto dependency, improve air quality, and provide an integrated, accessible transportation system for all users. Toronto coordinates growth around the existing transportation network to make sustainable transportation options, such as public transit, cycling, and walking, readily available. Between 2010 and 2014, 83% of new residential development was proposed in areas targeted for growth by the City’s Official Plan, concentrating people and jobs in areas with sustainable transportation options. Toronto will need to continue to pursue this kind of development and explore concepts such as "retrofitting suburbs" to more sustainable land-use configurations.

- **Transit Network Plan Update**
  A comprehensive review of transit expansion projects is currently under assessment, including how each project contributes to the development of Toronto's future transit network. Analysis shows that currently planned transit investments hold the line on transportation emissions but do not support a significant modal shift. Community engagement demonstrated clearly that affordable and accessible public transit is key element of residents' desired long-term low-carbon future.

- **Active Transportation**
  The City of Toronto has adopted the Toronto Pedestrian Charter (2002), Toronto Walking Strategy (2009) and the Ten Year Cycling Network Plan (adopted in June 2016). These plans identify principles and recommendations to improve active commuting modes like walking and cycling. Increased use of these modes is associated with human health benefits, and reduced auto use, particularly single occupancy vehicles. Active transportation infrastructure will be a critical component of achieving the modal shift necessary to reach the 2050 target.

- **Fuel Switching – Electric Vehicles (EVs)**
  The City will work with the Province to support the anticipated adoption of EVs by developing policies and program to expand EV use in Toronto, particularly with respect to vehicle charging stations and parking. Also, the City will partner with Toronto Hydro to provide needed infrastructure and electrical grid resilience for EV use.

WASTE

Toronto is a leader in providing innovative waste management services that create environmental sustainability, promote diversion, and maintain a clean city. One third of all waste in Toronto is collected by City operations, while two thirds of waste is collected and managed by private operators. Going forward improved data and diversion in the management of privately handled waste will be critical to the 2050 goal.

- **Long-Term Waste Strategy**
  In June 2016 Council adopted a new Long-Term Waste Strategy that sets a target of Toronto becoming a zero-waste community. This Strategy lays out a road map to 2050 to achieve this goal. *TransformTO* will explore the emission reduction potential of the implementation of this strategy.

NEXT STEPS FOR THE *TransformTO* INITIATIVE

TransformTO will continue technical modelling to quantify and further define our 2050 strategies in terms of reduction potential and necessary investment. In consultation with residents and stakeholders on *TransformTO*'s multi-sectoral advisory group these actions will be evaluated in relations to public health, local economy and social equity. This analysis will consider how to design deep GHG reduction action in a way that maximizes public benefits.

In May 2017, a second *TransformTO* report will be brought to City Council quantifying the necessary scale of change and investment over the next 34 years, how to design climate actions to enhance public health, local economy and social equity, and how to advance the early implementation of proposed climate actions. The project next steps are outlined below:

1) Analyzing and reviewing existing City of Toronto strategies and policies to identify key economic, health and equity objectives that could be advanced by climate action.

2) Reviewing and evaluating international best practices for addressing the low-carbon pathway strategies identified in this report, and considering which of these best fit the Toronto context

3) Quantifying the necessary scale of change and evaluating possible transformative strategies from public health, local economy and social equity perspective.

4) In consultation with stakeholders develop a recommended pathway strategy to engage Torontonians in implementation of climate solutions.

CONCLUDING SUMMARY

TransformTO is harnessing technical advice, community input and synergies within City of Toronto divisions and agencies to create important new information to guide the City's emission reduction strategy. The approach is highly collaborative and is beginning to create new insights about the relationships between climate actions and public health, local economy and social equity. These insights will help to establish the relevance of carbon action to the Toronto community as a whole, and will set the stage for the increase in momentum that will be required to fully envision and implement transformational solutions to support the city's goals.

Toronto can meet and exceed its 2020 emissions reduction target through implementation of the actions presented in Attachment A. While these are critical and important actions these steps will not be enough for Toronto to reach its GHG reduction goal for 2050. The next phase of *TransformTO*, to be reported on in May 2017, will quantify the strategies and directions needed to guide Toronto to a low carbon future in balance with its goals of economic prosperity, social equity and public health.

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SIGNATURE

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Josie Scioli
Chief Corporate Officer

ATTACHMENTS

Attachment A: *TransformTO* Short-term Strategies.
Attachment B: *TransformTO* Phase 1 Community Engagement Report
Attachement C: *TransformTO* Technical Backgrounder