

Green Market Acceleration Program

Date: April 16, 2018

To: Economic Development Committee

From: General Manager, Economic Development and Culture; Director, Toronto Office of Partnerships

Wards: All

SUMMARY

This report outlines the results of the Green Market Acceleration Program (GMAP) pilot, evaluates its effectiveness in meeting its objectives, and seeks authority to renew the program for an additional four years.

To support economic growth in Toronto's thriving green sector, Toronto companies in the green sector need sites for testing, proving concepts and demonstrating their new technologies. The Green Market Acceleration Program Pilot has allowed local business in the green sector to apply to the City to use municipal infrastructure and assets for applied research, proof of concept, and demonstrations.

The program, as a pilot project, was approved by Council at its September 30 – October 2, 2015 meeting. It is a joint project between Economic Development and Culture and the Toronto Office of Partnerships and two staff (one from each division) support the program. The program has seen a steady increase of visits to its webpage, in the number of applications received and in the number of projects that are hosted by various City divisions once full marketing began in late 2016. Thirty five applications were received with seven moving to the project stage – four of these were related to clean energy and hosted by the Environment and Energy Division. There are now an additional eight applications that GMAP staff are working with to find a host division for their projects.

Feedback from businesses in the program has been positive on the value of GMAP in supporting the development of their products and the growth of their firms.

RECOMMENDATIONS

The General Manager, Economic Development and Culture (EDC), and the Director, Toronto Office of Partnerships (TOP), recommend that:

1. City Council authorize the General Manager, Economic Development and Culture and the Director, Toronto Office of Partnerships to continue the Green Market Acceleration Program (GMAP) for a period of four years and report back to Economic Development Committee at the end of that period.
2. City Council authorize the heads of applicable City divisions to execute agreements on behalf of the City for the duration of the GMAP providing for the implementation of applied research partnerships, proof of concept projects and technology demonstrations using City assets or infrastructure in a form satisfactory to the City Solicitor.
3. City Council direct all City divisions to work with GMAP through the duration of the program to assist local businesses with their applied research, proof of concept projects and technology demonstrations, supporting the development of "made in Toronto" market-based innovative solutions to real world issues and growing Toronto's economy.

FINANCIAL IMPACT

All staff hours required to work on GMAP and the projects in the GMAP program are accommodated within divisional resources and included in the 2018 Approved Operating Budget for Economic Development and Culture Division.

The Interim Chief Financial Officer has reviewed this report and agrees with the financial impact information.

DECISION HISTORY

City Council Decision 2015 ED6.13

At its September 30, 2015 meeting Council approved the creation of the Green Market Acceleration Program as a pilot and directed staff to report back on its outcomes.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2015.ED6.13>

On May 5, 2015, City Council endorsed the report: From Concept to Commercialization: A start-up Eco-system Strategy for the City of Toronto. The GMAP addresses using the City as a testing ground for new products.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2015.ED3.6>

On June 12, 2007 City Council passed the report: Unsolicited Quotations or Proposals – Revised Policy. The GMAP addresses partnership proposals that are non-commercial in nature or did not produce a financial return for the firm.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2007.GM5.6>

GMAP supports three of the recommendations in the Collaborating for Competitiveness Strategy passed by City Council on February 20, 2013:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2013.ED19.4>

COMMENTS

GMAP's objective is to support the applied research, concept testing and demonstration segments of a local company's product development. These are the stages where there is a need for stakeholder input (applied research partnerships) or hosting of the product (proof of concept projects and technology demonstrations). Firms that cannot research, test and demonstrate their innovations in Toronto will inevitably be attracted to move their business away from Toronto and closer to where their products are being developed.

Project proposals go through a two-step process - the initial application screening process reviewed by the GMAP team and then the final approval by the proposed host division.

The GMAP program team uses the following criteria to choose technologies to present to the respective City divisions:

- Potential local economic benefits;
- Potential environmental benefits on both a local and global scale;
- Potential benefits to the City;
- Company's ability to implement the project and bring product to market;
- Compatibility with City assets;
- Amount of effort required for the GMAP program team to manage the project and time needs of divisional staff to support;
- No direct costs or risks to the City.

Implementation of the Program

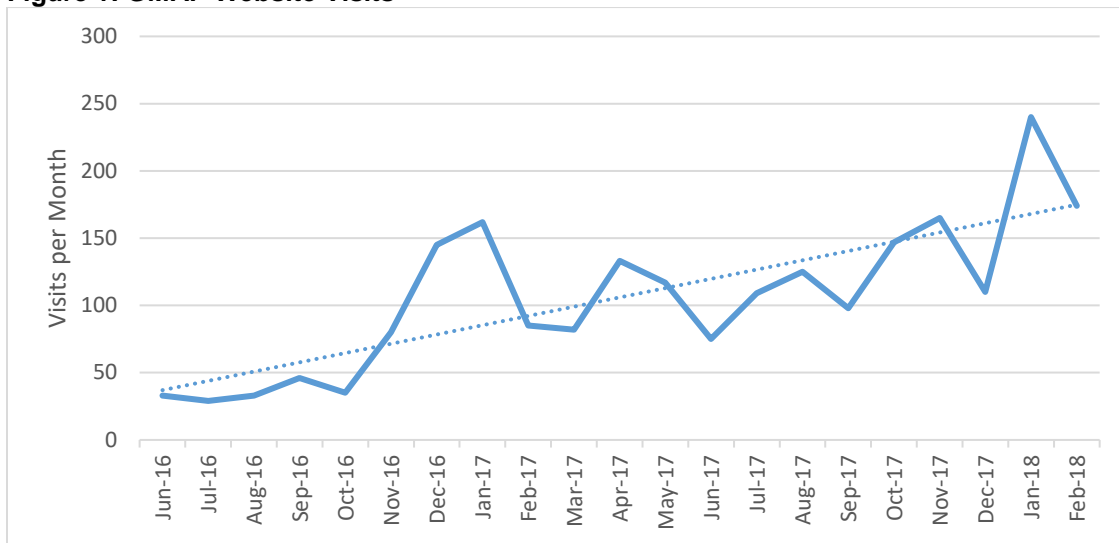
Key dates in the pilot program included:

- Passed by City Council: September 2015;
- Web-page went live: April 2016;
- Web based Electronic Application form went live: June 2016;
- Printed marketing materials produced: September 2016.

The program has seen a steady increase in the visits to the webpage (see Figure 1). There was a significant jump in visits in the last quarter of 2016 which is likely due to the

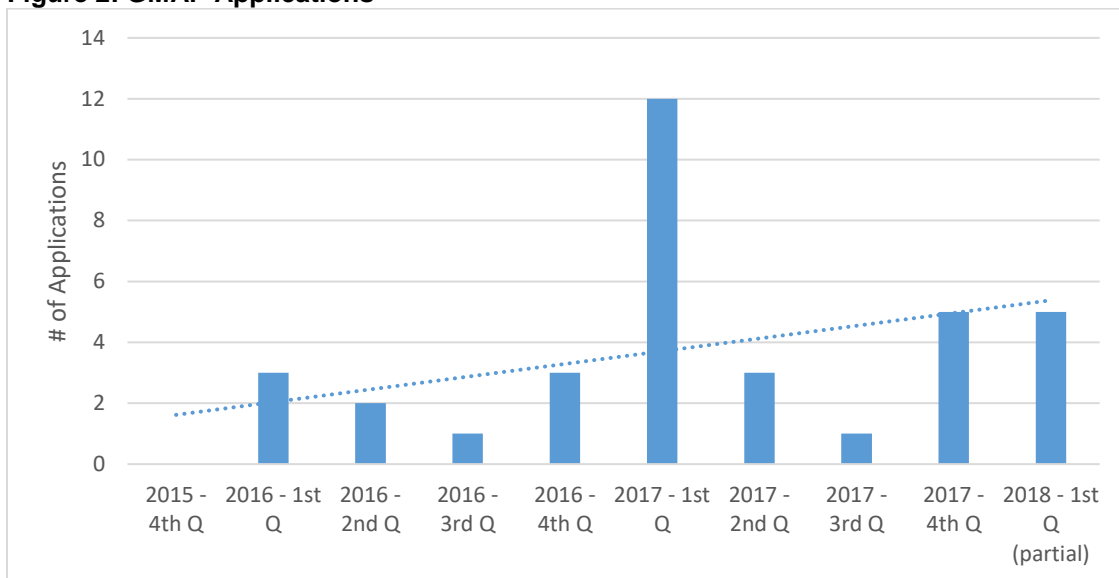
distribution of marketing material and other promotional activities at green sector events from September onwards.

Figure 1: GMAP Website Visits



Applications to the program (see Figure 2) have steadily increased. There was a significant surge in applications in early 2017 once the electronic application and the printed marketing materials became available.

Figure 2: GMAP Applications



Participation

Thirty-five applications have been received into the program. Fifteen (43%) are proposals that have viable projects. Six of these have already been hosted by City divisions, one is the final stage of moving to a project while the remaining eight are being developed to potentially turn into projects (see Table 1).

Table 1: Breakdown of GMAP Applications/Projects

Did not proceed to the project proposal stage	20
Projects undertaken	6
Project host (Solid Waste) found but project not started (as of March 15, 2018)	1
Projects approved and host search underway (as of March 15, 2018)	8
Total	35

Five of the six projects have been completed. These projects took an average of 12 months to be completed. A significant amount of time (four months on average) is spent working with the firm in developing their "pitch" to potential host City divisions and then working with the potential host City divisions to ensure that their various concerns and issues are satisfactorily addressed. As City divisions become more comfortable with GMAP, it can be anticipated that this time lag will be reduced.

Green Subsectors and Hosting Divisions

EDC divides the green sector into 5 main subcategories (Clean Energy, Green Buildings, Resource Management, Sustainable Transportation and Bio-products). GMAP projects fell into 2 of the subcategories with the majority being in the clean energy subsector. Four City divisions have or are hosting GMAP projects (see Table 2).

Table 2: Hosting Divisions and Project Types

Hosting Division	# of Projects	Green Sector Subsector		Other Sectors	Comments
		Clean Energy	Resource Management		
Environment and Energy Division	4	4			
Toronto Fire Services	1			Information Technologies	
Economic Development and Culture	1			Life Sciences	
Solid Waste	1		1		Project agreed upon
Total	7	4	1	2	

Reasons Why Applications Did Not Proceed

About a third of applications that did not proceed to the project proposal stage did not meet the program's criteria. An additional 11% of the projects did not proceed due to a common constraint for small businesses trying to commercialize their products – lack of resources (see Table 3).

Table 3: Reasons Why Applications Did Not Proceed

	Number of Applications	As % of Total Applications
Did not meet program's criteria	12	34%
Applicant did not secure the necessary funding	4	11%
Applicant did not proceed (other reasons)	1	3%
Could not find a City Division to Host	3	9%
Total	20	100%

One of the many challenges that start-ups and innovators face is the lack of resources to bring their products to market. While the City can provide support to host their demonstration and testing, it has no funding program in place to financially assist bringing products to market. This was identified as a challenge early on in the program with four applications not having the funding available to cover the project costs. GMAP staff have worked to find sources of funding for potential projects where the firm has identified this as a challenge. GMAP has partnered with two funding programs that can help firms move their products to market:

- The federal Build in Canada Innovation Program (BCIP)¹: Two GMAP applications which have moved to the project proposal stage have applied for funding.
- Toronto Hydro's Conservation and Demand Management (CDM) program.²

¹ <http://www.tpsgc-pwgsc.gc.ca/app-acq/picc-bcip/index-eng.html>

²

<http://www.torontohydro.com/sites/electricsystem/electricityconservation/businessconservation/Pages/RetofitProgram.aspx>

GMAP Projects

The seven completed or approved GMAP pilot projects identified above are summarized in Table 4.

Table 4: Description of GMAP Projects

Company	Project Description	City Host Division
Screaming Power	Development of a mobile app for monitoring building performance.	Environment and Energy Division
Peak Power	Use of City building energy data to model the impact of energy storage systems to reduce peak energy demand.	Environment and Energy Division
Advance Property Solutions	Demonstrating software that stores, digitizes and instantly delivers critical information to first responders via smart wireless technology	Toronto Fire Services
Feedback Solutions	Testing of an occupancy-based demand ventilation controller	Environment and Energy Division
Alert Energy	Testing of a building monitoring system that integrates the various utility billing and meter data into a single tool.	Environment and Energy Division
eSight	Staff volunteers to test the eSight device. The eSight device is designed to reduce the impact of certain vision conditions for staff with vision-related disabilities	Economic Development and Culture
Club Coffee	Testing of compostable coffee pods in the Solid Waste Green Bin composting system	Solid Waste

Feedback of Industry Participants in GMAP

To date, all applicants who have participated in the program have spoken well of its value and effectiveness. For instance, Screaming Power's CEO, Gary Milchor, had this to say about the importance of GMAP to his company's growth:

"Without access to Toronto's Green Market Acceleration Program and the City's expertise we could not have achieved what we did in such a short time. Through the pilot, we surpassed the original goals that we had for our prototype and we are now looking for more organizations, cities and municipalities that want to improve the management, reporting and socialization of their building and energy information. The Green Market Acceleration Program definitely works!"

Evidence of Effectiveness

The objective of GMAP is help local companies bring products to market. It is difficult at this time to provide statistical evidence such as the hiring of additional staff or increased

sales to point to meeting this objective as all of the six projects have only recently been completed. Commercialization occurs over a longer time frame.

Nevertheless, Screaming Power recently announced that they secured the Federal government as its first large enterprise customer and that GMAP was a critical step in achieving this outcome. As a result of this commitment, the firm expects to hire additional staff in Toronto and further refine its product.

Staff will continue to monitor the commercialization impact that GMAP is having and will be able to provide further documentation at the next report back to Council.

A further way to evaluate success is to compare GMAP to similar programs in other cities. From the start of full marketing late in the third quarter of 2016, the Program has averaged 21 applications and 4 projects per year.

In Canada, there are two other municipal programs which, like GMAP, allow the city to host demonstration and pilot projects with the private sector:

- Vancouver – Green & Digital Demonstration Program – introduced in May 2014³
Vancouver's program has received approximately 120 applications and 11 have moved to projects using City assets. The program is open to two sectors (green and digital). This averages to approximately 30 applications and 3 projects per year.
- Ottawa – Innovation Pilot Program – introduced in early 2016
According to IPP's website, there are 17 projects competed or underway.⁴ The project is open to all sectors. A significant number of projects involve the IT sector. This averages to 7 projects per year.

While GMAP focuses just on the green sector, the two other comparable programs have a broader focus. Toronto's applications and project numbers are similar to Vancouver's, but they are lower than Ottawa's. However, Ottawa's program is open to all sectors and only 1 of Ottawa's projects is related to the green sector.

Changes in the City's Innovation Landscape

Since the GMAP pilot was authorized by Council in 2015, the "innovation" landscape inside the City has changed significantly. The Toronto Transformation Office and the Civic Innovation Office are two examples of how the City is beginning to create opportunities to allow for more innovation. The Purchasing and Materials Management Division (PMMD) is working with both those offices to help modernize the procurement process and to enable more innovation in the procurement process. In addition, PMMD brought forward amendments to the Purchasing By-law, approved by Council, that now provides for a non-competitive rationale for a "prototype or a first good or service". The Purchasing By-law now states:

³ Conversation with Bryan Buggy; Director, Strategic Initiatives & Sector Development Vancouver Economic Development Commission on 12-mar-18 and information found on their website <http://www.vancouvereconomic.com/gddp/>

⁴ <http://ottawa.ca/en/business/business-resources/economic-development-initiatives/innovation-pilot-program#pilot-projects-completed-and-underway>

A non-competitive procurement may be undertaken where both the proposed non-competitive procurement and the particular supplier can be justified in good faith, based on one or more of the following:

N. Procurement of a prototype or a first good or service that is developed in the course of a contract for research, experiment, study or original development;⁵

While the service provided to firms in the program does not require any purchasing, a key challenge that GMAP has faced is that City staff in host divisions have felt that they could not evaluate the products and service offerings as a potential "solution" for their own use for fear of breaking the City's procurement rules. This diminished the value of GMAP to the potential City host division. However, this issue has now been largely dealt with as a result of the revised Purchasing chapter in Toronto Municipal Code.

These are positive steps that will help increase the value of GMAP to both local businesses and to City divisions that are considering hosting a GMAP project.

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⁵ Toronto Municipal Code – revised on January 1, 2017; Chapter 195 – Purchasing; 195-7.1 Non-competitive procurement exceptions. www.toronto.ca/wp-content/uploads/2017/12/8ce2-1184_195.pdf