



Report to: Development Services Committee

Meeting Date: May 25, 2021

SUBJECT:	Sustainability Metrics - Information Report
PREPARED BY:	Mattson Meere, M.C.I.P., R.P.P, Senior Planner, Urban Design, Ext. 5790
REVIEWED BY:	Parvathi Nampoothiri, A.I.C.P, LEED AP, Manager Urban Design, Ext. 2437

RECOMMENDATION:

1. That the Information Report dated May 25, 2021 titled “Information Report, Sustainability Metrics” be received;
2. That the Sustainability Metrics – Final Report, prepared by Morrison Hershfield, attached as Appendix 1, be endorsed in principle subject to further consultation with development industry stakeholders;
3. That Staff report back to Development Services Committee with final recommendations on an implementation framework to integrate the Sustainability Metrics with the planning and development application process; and
4. That Staff be authorized and directed to do all things necessary to give effect to this resolution.

EXECUTIVE SUMMARY:

The purpose of this report is to provide an update on the Sustainability Metrics program, which aims to develop and implement green development standards that will measure and enhance the sustainability performance of new developments.

The Sustainability Metrics builds on past sustainability initiatives by the City of Markham and utilizes a collaborative approach to establish a joint set of sustainability standards by partnering with the municipalities of Brampton, Vaughan and Richmond Hill. Markham’s participation in the municipal partnership supports sharing of knowledge and resources and will support the adoption of a consistent sustainability standard across multiple municipalities, which provides clear and predictable expectations for the development industry.

The Sustainability Metrics project is being completed in two phases. Phase 1 began in Spring 2019, in collaboration with the three municipalities, to establish and implement a set of shared targets. The Sustainability Metrics has been developed based on analysis of best practices in green development, consultation with industry experts, and feedback from the City’s technical staff.

The upcoming Phase 2 of the project will involve ongoing refinements to the Metrics based on feedback received from a working group that has been setup with representatives from the Building Industry and Land Development Association (BILD). Markham staff will also develop an implementation framework for integrating the Metrics with Markham's development review and planning approvals process prior to reporting back to Development Services Committee (DSC) with a final recommendation report.

PURPOSE:

The purpose of this report is to provide an update on the Sustainability Metrics program, which aims to develop and implement green development standards that will measure and enhance the sustainability performance of new development.

BACKGROUND:Purpose of the Sustainability Metrics

Green development standards are measures created by municipalities and integrated into the planning approvals process in order to quantify and improve the sustainability performance of new developments. The Sustainability Metrics program will serve as an implementation tool for achieving Markham's objective of building healthy, sustainable and complete communities. It will ensure that measurable actions are incorporated into new development, providing a number of short and long-term benefits including: using municipal infrastructure more efficiently; reducing GHG emissions from new buildings and automobile use; improving health and wellness of residents; increasing resilience; and offering cost savings (lower electricity and heating costs) for residents and businesses.

Green Development Standards in Markham

The City of Markham has utilized various green development standards as part of new developments for nearly two decades. In 2002, the City developed performance measures for Markham Centre, which focused on transportation, built form, green infrastructure, public spaces and natural heritage. The performance measures were revised in 2007 to further consider LEED criteria (Leadership in Energy and Environmental Design). The Markham Centre performance measures provided an early basis of green development in Markham. In 2006, Council directed that all medium and high density residential developments achieve a minimum LEED silver rating. The LEED Silver standard was intended to be an interim measure until a citywide Sustainable Development Checklist could be implemented for all types and scales of development. In addition to LEED Silver requirement for medium and high density projects, the City has utilized a draft Sustainability Checklist in the Future Urban Area and successfully negotiated the adoption of sustainable features as part of individual development approvals. However, there remains a need to establish a comprehensive sustainability standard that is applied consistently to new developments across the City.

Municipal Partnership

In Spring 2019, the City of Markham entered into a Memorandum of Understanding with the municipalities of Brampton, Richmond Hill and Vaughan to participate in an update to a joint sustainability standard, known as the Sustainability Metrics. The first iteration of the Sustainability Metrics has been applied successfully to new developments in Brampton, Richmond Hill and Vaughan since 2014 and prior to Markham joining the partnership. The Metrics are now being updated to reflect changes in legislation, provincial policy, evolving best practices and to recommend new metrics that help reduce GHG emissions and promote energy efficiency. The current update to the Metrics provides an excellent opportunity for Markham to collaborate with the other municipalities, learn from past experiences, and share knowledge and resources. Furthermore, the establishment of a consistent sustainability standard across multiple municipalities supports buy-in from the development industry by providing clear and predictable expectations. Markham's participation in the Sustainability Metrics update also enables the City to build off an existing framework and utilize targets that have been tested on development applications.

Policy Direction

Concerns over public health, climate change, energy and resource use have brought sustainability to the forefront for municipalities when planning, building and managing growth. In response to these priorities, there is a clear legislative framework and policy direction supporting sustainable development and green development standards at the provincial level, as outlined in the Municipal Act, the Planning Act, and the Provincial Policy Statement. In addition, the York Region Official Plan provides policy direction for Regional Staff to work with local municipalities to improve energy efficiency, conserve water, support solar readiness and develop incentive programs.

The need to address sustainability is also supported by Markham's Strategic Plan, Greenprint (Markham's Sustainability Plan), the Municipal Energy Plan and the Official Plan. Markham's Municipal Energy Plan establishes the objective of achieving net zero energy and emissions by 2050 and recommends the adoption of energy performance targets as part of a citywide green development standards program. The 2014 Official Plan provides specific policy direction to apply a sustainable development checklist as part of the development approval process to ensure a full range of innovative sustainable design practices and technologies are considered. The goals of the sustainability checklist include promoting energy conservation and renewable energy, encouraging the use of environmentally preferable building materials, and encouraging walking, cycling, and transit use.

Project Phases

The Sustainability Metrics project is being completed in two phases. Phase 1 began in Spring 2019 and has focused on updating the 2014 version of the Metrics. This was undertaken in collaboration with the other partnership municipalities and aimed to establish a consistent set of green development standards that will be used by the four

municipalities. Phase 2 will begin Q2 of 2021 and will focus on developing an implementation framework for integrating the Metrics with Markham's planning approvals process.

1) Project Team

Phase 1 of the project was jointly led by a core project team consisting of staff from each of the partner municipalities. Morrison Hershfield was retained by the partnering municipalities as the lead consultant to provide technical expertise, facilitate the initial stakeholder consultation and draft the updated Metrics. The City of Markham also formed an inter-departmental working group that met periodically throughout Phase 1 to review the Metrics and provide feedback. The inter-departmental working group consists of staff from Development Planning, Development and Environmental Engineering, Transportation, Operations, Sustainability & Asset Management, and Building Standards.

2) Background Analysis

Phase 1 began with a background analysis of the 2014 version of the Metrics and recommended updates to the Metrics based on changes to legislation, emerging industry best practices, and revisions to reference documents. The analysis included a review of over 30 existing green standards and guideline documents, including LEED v4 for Building Design and Construction and the Toronto Green Standards. Technical staff from each municipality were also consulted early in the process to set priorities, gather preliminary feedback and inform development of the draft Metrics.

3) Stakeholder Engagement

In January 2020, the municipal partnership project team and consultant consulted with stakeholder in a series of workshops to gather additional feedback on the draft Metrics. These workshops engaged various stakeholders, including BILD, industry professionals, staff from York Region, Peel Region, the Toronto and Region Conservation Authority, Clean Air Partnership, the Atmospheric Fund and the Canadian Green Building Council. Feedback from these workshops helped inform additional updates and refinements to the draft Metrics.

Stakeholder engagement with the development industry took place at key points throughout Phase 1 of the project. The municipal partnership project team held an additional follow-up meeting with members of BILD on December 2, 2020 and Markham staff provided an update on the Metrics program to the Markham City Builder's Forum on December 10, 2020. The key comments and themes raised by BILD and the City Builder's Forum are outlined in the discussion section of this report and this valuable feedback and ongoing engagement continue to inform the Sustainability Metrics project.

4) Metrics Update Report

Phase 1 of the study concluded with the delivery of a Sustainability Metrics Update Report (see Appendix 1) based on feedback received from the stakeholder consultation and ongoing discussion with Markham's technical staff.

5) Next Steps

In Phase 2 of the Metrics project, the municipal partnership will facilitate a Working Group consisting of representatives from BILD to review additional refinements to the Metrics. In addition, Markham staff will work to formalize an implementation framework, prior to reporting back to Development Services Committee (DSC) with a final recommendation report.

Sustainability Metrics Overview

The Sustainability Metrics program is based on a similar approach to LEED, a point based system in which applicants are not required to achieve every metric or target, but they are required to achieve enough metrics to attain a total score that is above a minimum threshold score approved by each municipality. The threshold score approach provides two benefits. First, it supports the City of Markham sustainability goals by ensuring that development applications are achieving a measurable level of sustainability performance. Second, it aims to provide some flexibility for developers to tailor the sustainability design features of a project to their site and development objectives. However, a detailed study of recommended threshold scores, will be completed in Phase 2 of the Sustainability Metrics project and will review the potential use of mandatory targets through testing and benchmarking of existing development applications.

The Sustainability Metrics are organized into four general categories of sustainability: (1) built environment, (2) natural environment, (3) mobility, and (4) infrastructure and buildings. There is also a fifth category dedicated to innovation that is designed to support any innovative sustainability measures that are not captured by the current Metrics.

The metric tables, included in Appendix 1, provide a detailed breakdown of the 43 metrics by providing an explanation of the intent and performance targets. The targets are labelled as good, great or excellent to reflect the progressive level of performance that can be achieved and the increasing number of points allocated. The Metrics are further structured based on their applicability to draft plan of subdivision and site plan control applications. Some of targets and points are only applicable to certain land uses, such as low-rise residential, medium and high-rise residential, mixed-use or industrial, commercial and institutional. Appendix 1 provides a detailed list of the 43 metrics and includes a breakdown of the requirements for each metric, including the application type, metric intent, targets, point allocations, document compliance and references.

OPTIONS/ DISCUSSION:**Development Industry Feedback and Working Group**

The Sustainability Metrics were generally well received, but a number of comments were provided by BILD (see Appendix 2) and Markham's City Builder's Forum. This section provides a summary of the four main comment themes that were received along with responses from City Staff.

In response to the comments provided by the development industry, the municipal partnership has formed a Working Group with members of the York and Peel Chapters of BILD. The aim of the Working Group is to work collaboratively to address issues and review technical comments regarding the Metrics, thus improving clarity, uptake and the supporting documentation requirements.

1) Effectiveness of the Existing Sustainability Metrics

BILD sought to understand the effectiveness of the Metrics by the other municipalities. The municipalities of Brampton, Richmond Hill and Vaughan have successfully implemented the 2014 version of the Sustainability Metrics over the last six years. Monitoring shows that the Sustainability Metrics have been applied to all site plan and subdivision development applications. The submission of the Sustainability Metrics score and supporting documentation provides the cities with a clear understanding of the sustainability measures undertaken by each development. The integration of the Sustainability Metrics into the development approval process has established consistent standard across the municipalities and has not increased review timelines.

2) Overlap with the Building Code

Through stakeholder consultation, BILD noted that some of the proposed Metrics surpass the minimum requirements set out in the Ontario Building Code and requested clarification whether the Metrics include mandatory requirements above the Building Code.

The Metrics are structured in a manner that provides flexibility to developers by allowing them to choose from a menu of metrics in order to achieve a minimum threshold score. The inclusion of Metrics that apply to the interior of building and are above the Building Code are intended to reward applicants that are pursuing these measures. Additionally, over 70% of the available Metric points relate to criteria at the site scale or external to buildings, which align with a municipality's authority under the Planning Act. Accordingly, it is anticipated that applicants will be able to achieve the minimum threshold score based solely on the Metrics that relate to the site and exterior of buildings.

3) Clarity on Implementation

From an implementation perspective, BILD requested more information on how the Metrics will be coordinated with the development application review process. Markham

Staff have coordinated with various departments with subject matter expertise related to specific Metrics to ensure they align with current Markham policies and standards. City Staff are also working on a coordinated review process, where each department is responsible for the Metrics specific to their expertise to ensure application comments are consistent and streamlined. The details of the implementation framework will be further elaborated in a final recommendation report to DSC.

BILD requested examples of how the Metrics can be achieved. The project team has identified references for each Metric that aim to help applicants with implementation by providing additional background information. Furthermore, the “Requirements and Documentation Compliance” section under each Metric provides clarification on specific targets and submission materials that will need to be addressed by the applicant. City Staff will continue to work with various City departments and the BILD Working Group to refine the Metrics and address challenges related to implementation.

4) Affordability

The impact of implementing the Sustainability Metrics on the cost of development projects and housing affordability is an important consideration. While a comprehensive cost analysis is beyond the scope of this project, previous studies have estimated the cost of implementing green development standards. A March 2008 report to Markham’s Development Services Committee (DSC), assessed the approximate cost premium for LEED Silver certified building is around a 2% - 4 % of the construction cost, which is typically \$3.00 - \$5.00 per square foot. The report also highlighted that the financial benefits or savings of green design run from \$50.00 (certified and silver) to \$75.00 (gold and platinum) per square foot in LEED buildings, over their life cycle. When considering the cost impact of sustainability measures, the long-term savings on energy and maintenance for homeowners and businesses typically exceed the initial capital costs.

The Toronto Green Standard Cost Benefit Study (2008) concluded that the benefits derived from green development overwhelmingly outweigh the associated costs. The study estimated a 2% cost premium for multi-unit residential buildings to comply with the Toronto Green Standards’ requirements, while the cost savings would pay back the capital costs in less than 7 years. The study found that low-rise residential developments can pursue ENERGY STAR for New Homes certification to achieve high levels of energy and water efficiency without compromising affordability. There were also several unquantifiable benefits, including using municipal infrastructure more efficiently, supporting innovation and local green businesses, improving health and wellness of residents and increasing resiliency to extreme weather events.

Implementation Framework

The general implementation framework is outlined in this section. Phase 2 of the Sustainability Metrics project will focus on further developing a detailed implementation framework for applying the Sustainability Metrics to new development applications as part of the approvals process.

The Sustainability Metrics is proposed to be a standard requirement for all draft plan of subdivision and site plan control applications and the documentation and compliance requirements will be formally integrated with the existing development review and planning approval process. Applicants will be notified at the pre-consultation stage of the requirement to achieve a minimum sustainability score, and will be provided a Sustainability Metrics Guidebook that clearly outlines the submission requirements. Through the development review process, staff from various departments with technical expertise related to specific metrics will review the development application materials and supporting sustainability documentation to verify that the selected Metrics are being achieved and to provide comments where required. The sustainability score will be reported to DSC as part of the preliminary and recommendation reports. The achievement of a minimum threshold score should be a requirement for an application to receive endorsement. The applicant's commitment to specific sustainability measures would also be included as a condition in the site plan or subdivision agreements.

The implementation framework will also include recommendations for threshold scores, a review of potential incentives, roles and responsibilities of different City departments and the preparation of training and guidance materials for staff and applicants. As previously noted, recommendation report outlining the above will be brought to DSC in Q4 of 2021.

FINANCIAL CONSIDERATIONS

Not applicable.

HUMAN RESOURCES CONSIDERATIONS

Not applicable.

ALIGNMENT WITH STRATEGIC PRIORITIES:

The Sustainability Metrics helps to achieve the City's strategic priorities identified in the *Building Markham's Future Together: 2020-2023 Strategic Plan*, including building a safe sustainable and complete community. The Sustainability Metrics will further support the objectives of the City's Official Plan and Municipal Energy Plan.

BUSINESS UNITS CONSULTED AND AFFECTED:

Urban Design, Development Planning, Development and Environmental Engineering, Transportation, Operations, Sustainability & Asset Management, Waste & Environmental Management and Building Standards will continue to be consulted on the implementation of the Metrics.

RECOMMENDED BY:

Biju Karumanchery
M.C.I.P., R.P.P.
Director of Planning &
Urban Design

Arvin Prasad
M.C.I.P., R.P.P.
Commissioner of
Development Services

ATTACHMENTS:

Appendix '1' – Final Sustainability Metrics Update Report
Appendix '2' – BILD Letter – December 11, 2020
Appendix '3' – Sustainability Metrics Presentation