



P.O. Box 1749  
Halifax, Nova Scotia  
B3J 3A5 Canada

**Item No. 9.1.2**  
**Environment & Sustainability Standing Committee**  
**October 1, 2015**

**TO:** Chair and Members of the Environment & Sustainability Standing Committee

ORIGINAL SIGNED

**SUBMITTED BY:**

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Bob Bjerke, Chief Planner and Director, Planning & Development

**DATE:** September 18, 2015

**SUBJECT:** Operationalization of Resiliency in HRM

### INFORMATION REPORT

#### ORIGIN

Environment & Sustainability Standing Committee, February 5, 2015, Item 10.1: Operationalization of Resiliency

#### LEGISLATIVE AUTHORITY

HRM Charter, Purpose of Act, 2 (c) (iii) recognize that the functions of the municipality are to ...develop and maintain safe and viable communities.

#### BACKGROUND

At the February 5, 2015 meeting of Environment & Sustainability Standing Committee, the following motion was approved: that the Environment and Sustainability Standing Committee request staff prepare a brief presentation of how resiliency is operationalized in HRM and what steps are being taken to integrate with the Emergency Management Organization.

## **DISCUSSION**

City resilience is an emerging term around the world that incorporates emergency management as well as environmental, economic and social considerations. Resilience reflects a city's ability to persevere in an emergency and to continue its core mission despite large challenges.

The United Nations office for disaster risk reduction recently launched a Making Cities Resilient programme. At the Rockefeller Foundation, the 100 Resilient Cities project is highlighting urban hardiness around the world. The International Council for Local Environmental Initiatives (ICLEI) is hosting its resilience series, and companies like Siemens are joining this movement along with organizations like the World Bank.

Energy & Environment received recent direction from the Environment & Sustainability Standing Committee to apply for the third and final round of the 100 Resilient Cities competition in fall 2015. The 100 Resilient Cities program defines city resilience as, *"the capacity of individuals, communities, institutions, businesses, and systems within a city to survive, adapt, and grow no matter what kinds of chronic stresses and acute shocks they experience."* 100 Resilient Cities encourages cities to evaluate their exposure to specific shocks and stresses, to develop a proactive and integrated plan to address those challenges, and to respond to them more effectively. HRM operationalizes resilience in two streams: Corporate Planning & Service Delivery and Community Planning.

### **Resilience in Corporate Planning & Service Delivery**

The corporate planning approach considers resilience primarily as it relates to the Council Outcome of Healthy Communities. However, improving HRM's resilience benefits all other Council Outcomes: Transportation, Economic Development and Governance & Communication. Improving resilience will increase the ability of the municipality to withstand and respond to any issue that may arise. Efforts to decrease any identified chronic stresses (such as lake quality, food security and aging population) will improve the overall sustainability of the municipality.

The Halifax Green Network Plan (HGNP) is a key component of resiliency planning in HRM. The network will establish a planning and land management framework for open space to help advance multiple environmental, social, cultural and economic objectives of the municipality and its communities. Some of these benefits include healthy lakes and streams, stormwater management and flood protection, protection of vital natural ecosystems and environmentally sensitive lands and waters, conservation of natural resources to support farming, fishing, forestry and mining, access to nature and recreational spaces, and more connected and "complete" communities.

The HGNP identifies the importance of working landscapes in establishing long-term resiliency. Working landscapes include lands that provide long-term viability for forestry, farming, fishing and resource extraction. Ensuring the ongoing productivity of these natural resource lands is important to the economic health of the Region. The HGNP will identify where the important resource areas are located and by engaging with the public, private land-owners, and government agencies and jurisdictions will establish appropriate objectives, guidelines and tools for their long-term protection using land-use planning, public lands management, and stewardship approaches.

Integration of an Enterprise Risk Management Framework within the overall corporate planning process serves to enhance HRM's resilience. Programs and services that consider the likelihood and impact of possible risks will be better prepared to mitigate and accommodate these risks, should they occur. Applying a risk lens enhances our opportunity to be more resilient and sustainable.

Through HRM's efforts on Enterprise Risk Management, the need to update the municipality's Hazard, Risk and Vulnerability Analysis (HRVA) was identified as a risk and a project was created to update the HRVA. A final version of the updated HRVA was recently submitted to HRM's Emergency Management Organization (EMO) for approval and adoption.

Resiliency is also being considered in the context of stormwater management and flooding, and a stormwater bylaw is under development. HRM is also working on several watershed and floodplain studies to inform planning and management.

Other resiliency efforts include implementation of the Urban Forest Master Plan, participation in climate adaptation cost benefit studies, updating the Community Energy Plan, ongoing efficiency and renewable energy efforts, climate mitigation and greenhouse gas reduction targets, climate considerations at the project level (such as seawall repairs on the Northwest Arm), and participation in an EU funded EU-Canada Policy Exchange Project. Energy & Environment staff is working with the team responsible for the development of the CentrePlan to ensure that climate considerations and resiliency are meaningfully addressed.

### **Resilience in Community Planning**

Resilience is embedded in community planning efforts in a variety of ways. HRM's Regional Municipal Planning Strategy serves as its Integrated Community Sustainability Plan (ICSP), a federal requirement for the 2010 – 2014 Gas Tax Agreement and the Municipal Funding Agreement. A recent change now also requires a Municipal Climate Change Action Plan (MCCAP) as an amendment to the ICSP. HRM's MCCAP was submitted to Service Nova Scotia and Municipal Relations in December 2013 and approved. The MCCAP focuses on municipal climate change adaptation and mitigation efforts.

EMO has set up Joint Emergency Management (JEM) teams in five communities to date in HRM, with a mission to promote awareness of local community resources, train local agencies to work together and provide a structure for coordinated local emergency response. The JEM concept was created to allow community organizations to prepare for, and respond quickly to, a wide range of emergencies. In times of crisis, EMO can activate JEM Support Centres to coordinate humanitarian response to the JEM coverage area. These centres are facilities where trained individuals can meet to provide local input to the Emergency Operations Centre, located in Dartmouth.

The JEM concept is based on the principle of "neighbour helping neighbour". In the critical hours following a crisis situation, while local and provincial response agencies are dealing with the immediate and urgent needs of the municipality, residents in affected communities need to be prepared to help themselves and to assist their neighbours, who may have been seriously impacted by the event. It is during this period that the JEM will be activated and will mobilize local resources.

Much of the rationale behind the creation of the climate change workshops for the Eastern Passage and Cow Bay areas was to use the existing JEM structure to work on empowering communities in climate change emergency preparedness planning.

Staff has identified an opportunity to use the JEMs for community planning purposes. A key recommendation of the updated HRVA is to create new JEMs in the remaining (urban) areas of HRM. Once a complete system of JEMs is in place, they can be used for two-way communications during emergencies but can also be engaged on matters of resiliency. HRM's ongoing work on sea level rise and flood mapping, land vulnerability assessment, wildfire research, living shorelines and more can all be communicated through the JEM network. JEMs can be engaged about their community knowledge and experience with climate hazards, ideas for improving community resilience, emergency preparedness for climate hazards and more.

Staff will be collaborating to implement the recommendations of the HRVA once adopted, which includes the development of urban JEMs and an incorporation of climate change risks in overall risk assessment and emergency response. Our offices will also work to improve the connection of JEMs with community planning projects.

Accessing affordable, adequate, and suitable housing is a pressing concern for many individuals and families. Housing affordability is a critical element in the social wellbeing of all residents of the Halifax region. An adequate supply of affordable housing greatly contributes to the creation of healthy and

prosperous communities, correlating directly to economic resilience. HRM is a member of the Housing and Homelessness Partnership, and has recently released *Halifax Regional Municipality Housing Needs Assessment*, a report addressing housing affordability and demand.

HRM is an active partner with the Halifax Food Policy Alliance (HFPA), which has recently published *Food Counts: Halifax Food Assessment*, reporting on the state of community food security in Halifax, Nova Scotia. The report was fueled by the need to better understand our local food system in order to lay the foundation for a food strategy and municipal policies that better support community food security. Food assessments are useful tools and starting points that can demonstrate the state of our food system and identify focus areas and opportunities for resilience, leading to the improvement of municipal by-laws, practices, and policies.

In summary, there is a growing conversation and awareness around the need to improve city resiliency in the face of climate change and other potential shocks to communities around the world. By considering and addressing municipal stresses and anticipating and preparing for possible shocks, the municipality can improve the ability for its communities to respond to a changing climate and its associated risks.

### **FINANCIAL IMPLICATIONS**

There are no financial implications associated with this report.

### **COMMUNITY ENGAGEMENT**

Community engagement was not required for the completion of this report.

### **ATTACHMENTS**

None.

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A copy of this report can be obtained online at <http://www.halifax.ca/commcoun/index.php> then choose the appropriate Community Council and meeting date, or by contacting the Office of the Municipal Clerk at 902.490.4210, or Fax 902.490.4208.

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Report Prepared by:

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Shannon Miedema, Acting Manager, Energy & Environment, 902.490.3665