

# Impacts from 2013 Extreme Storm Events on the City of Toronto



Presentation to Council January 10, 2014

# Agenda

1. Introduction
2. Emergency Response
3. Financial Issues
4. Report Recommendations

# Thank you to Toronto Residents and Businesses



# Thank you to City Divisions

- 311
- Office of Emergency Management
- Fire Services
- Emergency Medical Services
- Parks, Forestry & Recreation
- Transportation
- Solid Waste
- Toronto Water
- Shelter, Support & Housing Administration
- Toronto Public Health
- Children's Services
- Court Services
- Toronto Employment & Social Services
- Strategic Communications
- Long-Term Care Homes & Services
- Facilities
- Fleet
- Information & Technology
- Treasurer's Office
- Legal Services
- Purchasing and Materials Management
- Human Resources



# Thank you to City Agencies



# Thank you to External Partners



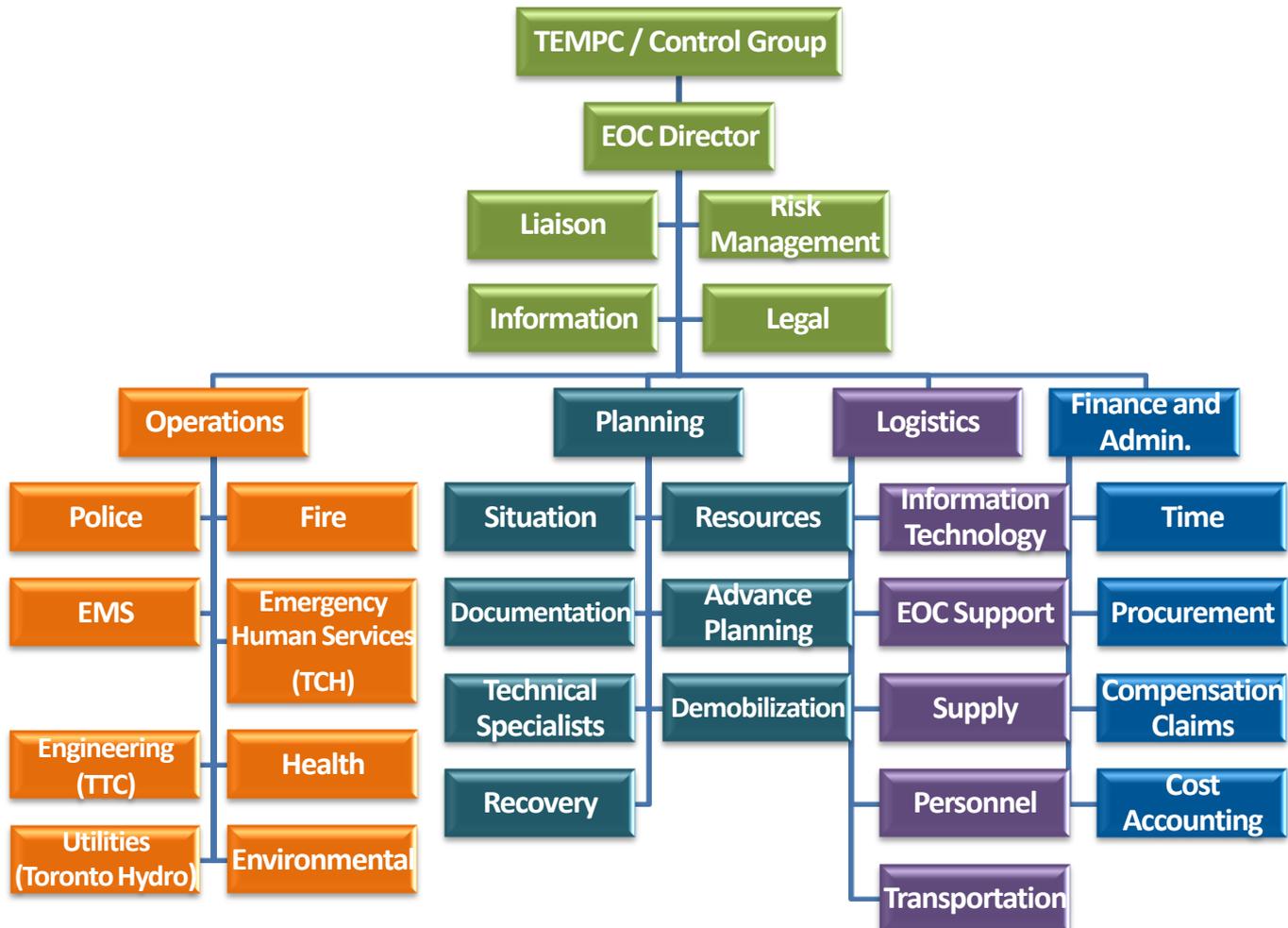
# Emergency Response

# Emergency Operation Centre: Co-ordination

- EOC provides the operational capacity for the City to meet its core functions during an emergency.
- The EOC is responsible for the co-ordination of the City's emergency response including resources management, providing information to the public and maintaining the continuity of City programs and services.
- During the December 2013 winter storm event the EOC:
  - Activated at 1:30 p.m. on **Saturday, Dec. 21**
  - Don Mills lost power on Sunday, Dec. 22 and the EOC moved to Metro Hall
  - Power restored and operations return to Don Mills on Monday, Dec. 23
  - Stood down at noon on **Wednesday, Jan. 2**
  - Ran continuously for 8 days and 3 days on standby (253 hrs)
  - Co-ordinated efforts of TEMPC, City divisions, agencies and corporations and the Provincial Emergency Operations Centre
  - 43 EOC Detailed Divisional/Agency Updates

# Emergency Operations Centre: Co-ordination

## EOC – Incident Organizational Structure



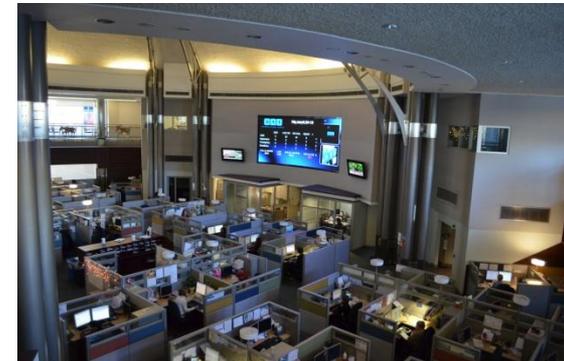
# Emergency Response: Communications

## Strategic Communications

- Co-ordinated communications efforts to ensure vital information was provided to City of Toronto staff, Councillors, partners and to the public and media:
  - 18 news releases, 10 media advisories, and 9 News Conferences
  - 14,500 unique visitors and 40,506 page visits to the City's website, which was updated daily
  - 60 calls to Councillors' hotline
  - 200 media enquiries and the co-ordination of interviews
  - 210 tweets from the City's main Twitter feed

## 311

- Responded directly to inquiries and provided information to the City's residents and businesses related to hydro outages, downed trees/limbs, debris removal, reception centres, food vouchers and frozen pipes:
  - Call volume peaked with 5,800 calls on Dec. 24
  - Average call volume during the storm was 3,000 calls per day



# Emergency Response: First Responders

## Toronto Police Service

- TPS Major Incident Command Centre was activated for 8 days
- Key role in ensuring public safety:
  - Downed power lines
  - Directing traffic
  - Officers performed door-to-door checks in multi-residential buildings

## Toronto Fire Services

- Increase call volumes from Dec. 21 through Dec. 30:
  - 2,351 downed wires (7 prior year)
  - 668 fires (91 prior year)
  - 316 carbon monoxide (53 prior year)

## Emergency Medical Services (EMS)

- Increased call volume due to medical calls, slips/trips and carbon monoxide exposure
- Volume peaked on Dec. 23 with 1,100 calls (63% higher than normal)
- EMS increased frontline staffing and triaged the most urgent calls



# Emergency Response : Transportation System Restoration

## **Toronto Transit Commission (TTC)**

- Disruptions to the transit system on Dec. 22:
  - Streetcar system disabled due to icing of overhead conductors
  - Scarborough Rapid Transit (SRT) disabled due to power loss
  - Sheppard subway service suspended
- Bus shuttle service implemented
- Most TTC service restored by Dec. 23, Sheppard restored by Dec. 24 and normal operations resumed by Dec. 25
- Shelter buses arranged to aid vulnerable populations

## **Transportation Services**

- Significant operational response Dec. 21 – Dec. 23:
  - 10 rounds of salt on expressways / arterial roads (12,970 km)
  - 6 rounds of salt on collectors (4,626 km)
  - 4 rounds of salt (1 per day) on local roads (13,164 km)
  - 3 rounds salt (1 per day) on sidewalks / bus stops (18,000 km)
- Additional roadway treatments required for Dec. 25 – 26

# Emergency Response : Hydro Restoration

## Toronto Hydro - Event Summary

- On Dec. 21 Level 2 emergency status declared
- On Dec. 22 at 2 a.m., approx. 36% of the total electricity load on the grid had been lost affecting 300,000 customers and over 1,000,000 residents.
  - 168 transformer station feeder lines offline and 49 municipal station feeder lines were offline
  - Approximately 50,000 individual service lines were down
- On Dec. 22 at 4 a.m. a Level 3 emergency was declared resulting in the following:
  - 24/7 emergency repair crews
  - The Emergency Operations Centre was opened and Local Incident Command Centres were opened in two districts; east and west
  - Emergency communications protocols were enacted
  - Toronto Hydro began coordinating its activities with the City.
- Toronto Hydro responding to the following priorities:
  - Public Safety First - Respond to 911 police, fire and ambulance calls
  - Restore power to priority infrastructure (hospitals, water treatments facilities, TTC, etc.)
  - Stabilize the main grid power supply points
  - Restore municipal stations and feeder lines
  - Restore isolated residential customers outages caused by tree damage

# Emergency Response : Hydro Restoration

## Event Summary Cont'd

- Mutual Aid requested from other utilities
- By Dec. 25, Toronto Hydro had restored the main trunk electricity feeders that enabled it to deliver power to the priority loads and approx. 250,000 customers (80% affected by the original events).

## Communications

- On Dec. 22, call centre volumes peak at approx. 128,000, which overwhelmed the systems for the next several days (normal call centre capability handles 3,000 to 5,000 calls per day)

## Summary of power restoration:

Date	Customers without Power
<b>Dec. 22</b>	300,000 (approx. 1 million people)
<b>Dec 23</b>	213,000 by 4 p.m.
<b>Dec 24</b>	178,000 (3 a.m.) down to 90,000 by 4 p.m.
<b>Dec 25</b>	70,000 by 7 p.m.
<b>Dec 26</b>	48,000 by 4:30 p.m.
<b>Dec 27</b>	25,700 by 8 p.m.
<b>Dec. 28</b>	16,000 by 8 p.m.
<b>Dec 29</b>	6,000
<b>Dec 30</b>	400 by 8 p.m.
<b>Jan. 1</b>	Full power restored

# Emergency Response : Hydro Restoration

## Communications Cont'd

- Toronto Hydro used mainstream news media, social media (Twitter and Facebook) and calls and emails to City Councillors:
  - 28 news releases issued
  - 1,027 tweets were sent providing updates and responses to customers

## Costs

- Preliminary cost estimates total approximately \$13.0 million as follows:
  - \$8.0 million for internal and external labour
  - \$2.5 million for mutual aid costs
  - \$1.5 million in materials
  - \$1.0 million in lost revenue

## Post Mortem

- Toronto Hydro is assembling an expert, third party independent panel to oversee a full review of the utility's planning and power restoration response

# Emergency Response : Hydro Restoration

## Urban Forestry

- Urban Forestry assisted Toronto Hydro to restore power and enable access on roads for emergency vehicles and other vehicular traffic.
- Priority work included:
  - Clearing trees blocking major intersections and roads to facilitate vehicular traffic, including access for emergency vehicles power lines to facilitate power restoration
  - Removing trees and limbs that were affecting
  - Removing overhead hazards.
- Costs for the initial emergency response are estimated at \$1.83 million.



# Community Assistance: Reception Centres

- Operations were co-ordinated by the Canadian Red Cross and Parks, Forestry and Recreation with the assistance of staff from five City divisions, Security and Public Health.
- 13 Emergency Reception Centres were opened at the height of the response providing displaced residents with:
  - Overnight accommodation
  - Meals
  - Personal hygiene kits
- Volunteers from the Canadian Red Cross:
  - Delivered over 1,000 cots and blankets
  - Distributed over 2,000 hygiene kits
  - Arranged 18,000 meals at Reception centres (end of day Dec. 29, 2013)
  - Registered 3,167 residents in need of support
  - Deployed 300+ volunteers, who contributed 4,700+ hours of service



# Community Assistance: Toronto Community Housing (TCH)

- At the height of the event, 168 TCH buildings were without power representing 19,400 housing units and approx. 50,000 TCH residents.
- Staff were called in to deal with 3,000+ calls from residents, to address critical building maintenance issues due to loss of power, and to ensure the safety and necessities of life for affected residents.
- TCH staff and volunteers:
  - Provided 24-hour coverage for buildings without power
  - Completed door-to-door visits and ensured identified vulnerable individuals were assisted with medical needs through co-ordination with CCAC
  - Coordinated emergency supplies for residents in buildings with no power
  - Arranged 5,900 hot meals for residents in buildings with no power
  - Arranged for shuttle bus transportation to City Receptions Centres
- By December 28, power restored to all high-rise buildings and by December 31 all buildings have had power restored.

# Community Assistance: Support to Vulnerable Populations

- Toronto Police Service and Ontario Provincial Police completed door-to-door checks in multi-residential high rise buildings without power.
- The Community Care Access Centres (CCAC) arranged assistance to vulnerable residents at reception centres.
- Long-term Care Homes and Services (LTCHS) remained open during the storm event and provided meals and linens to seniors homes that had lost power and accepted vulnerable residents from homeless shelters and the community through CCAC.
- Shelter, Support and Housing Administration (SSHA) activated emergency responses to provide emergency assistance to emergency shelters and social housing buildings affected by the power outage.
- On December 24, in response to cold temperatures, SSHA called an Extreme Cold Weather Alert and activated temporary flex beds in the shelter system.

# Recovery: Provincial Food Card Program

- On Dec. 30, the Province announced the Grocery Gift Card program to assist Toronto residents who had lost food due during the storm.
- To be eligible, residents must have experienced a power outage of 48 hours or more, confirm their address and declare the number of people in their household.
- Toronto Employment and Social Services (TESS) assisted the Province through co-ordinating the distribution of gift cards through 15 TESS locations.
- Close to \$840,000 of grocery gift cards were issued to approx. 9,300 households from the beginning of the program Dec. 31 to Jan. 3.
- Ontario Works and Ontario Disability Support Program recipients, if eligible, were issued additional financial benefits (total cost of \$735,000) up to a maximum of one week's social assistance.

# Recovery: Debris Management

- Solid Waste Management Services is leading the city-wide Debris Management Plan with Transportation Services, Parks, Forestry & Recreation, and Toronto Water.
- The removal of storm debris will take approx. 8 weeks
- Beginning January 3, the debris will be collected, removed and processed at 15 temporary sites
- The sites will operate seven days a week from 7 a.m. – 7 p.m. until all material stored has been processed.
- Cost for Debris Management cleanup are estimated at \$25 million

# Recovery: Tree Canopy Management

## Hazard Abatement

- Immediate threats have been addressed, however, there remain a numbers of overhead hazards and broken branches
- The inspection and removal of overhead hazards is ongoing
- Over an 8-10 week period, 240 crews (double the existing resources) will perform hazard abatement in parklands, pathways and roadways.
- This timeframe is dependent upon securing additional resources. Should adequate resources not be available the time frame will extend to 16-20 weeks using current resources
- Costs for Hazard Abatement are estimated at \$30.32 million.

# Recovery: Tree Canopy Management

## Post Clean-up Measures

- Remedial work will be performed over a 6-7 month to assess and undertake the work to restore trees.
- Trees which were made safe as part of hazard abatement efforts will be reassessed:
  - Where trees are to be retained, crown restoration pruning to be completed
  - Where the tops of trees were removed previously, complete removal of stems/stumps will be performed followed by application of soil/grass seed
  - Replacement tree planting will also be planned and implemented.
- As the necessary remedial work is performed to ensure public safety, Parks and Urban Forestry will begin to have a better understanding of the impact the storm has had on the street and park tree population.
- Costs for Post Clean-up Measures are estimated at \$16.56 million.

# Declaring an Emergency

# What is an emergency?



- An emergency is defined under the *Emergency Management and Civil Protection Act* (EMPCA) as "a situation or an impending situation that constitutes a danger of major proportions that could result in serious harm to persons or substantial damage to property and that is caused by the forces of nature, a disease or other health risk, an accident or an act whether intentional or otherwise."
- Under the EMPCA, the Mayor has the authority to declare an emergency and to take actions he or she considers necessary to implement the emergency plan of the municipality and to protect property and the health, safety and welfare of the inhabitants of the emergency area.
- Provincial assistance is not dependent on a formal declaration of emergency by the municipality. In the specific instance of the ice storm, **the Province repeatedly indicated that its assistance was not dependent on the declaration of an emergency.**

# Declaring an Emergency

- The Mayor is not obligated to declare an emergency and the absence of a declaration doesn't mean that an emergency situation doesn't exist.
- Relevant legislation authorizes the employees of the municipality to take action under the emergency plan where an emergency exists, but has not yet been declared.
- In summary, legislation recognizes that a declaration of an emergency is not required in order for the City to respond to the emergency and for extraordinary powers to be available.

# Financial Issues

# Summary of Preliminary Winter Storm Cost Estimates

<b>Table 3: City of Toronto Services</b>	<b>Emergency Response</b>	<b>Immediate Clean-up</b>	<b>Post Clean-up</b>	<b>Revenue losses</b>	<b>Total Costs</b>
Parks, Forestry and Recreation	2,963,000	30,400,000	18,500,000	350,000	52,213,000
Employment and Social Services	1,009,000				1,009,000
Transportation Services	3,326,735	1,549,349	3,926,877		8,802,961
Toronto Water		604,610	901,950		1,506,560
Solid Waste Management Services	15,890	24,452,907		6,000	24,474,797
Other city Divisions	1,414,054	31,500	211,566	46,357	1,703,477
<b>TOTAL CITY DIVISIONS</b>	<b>8,728,679</b>	<b>57,038,366</b>	<b>23,540,393</b>	<b>402,357</b>	<b>89,709,795</b>

# Summary of Preliminary Winter Storm Cost Estimates

<b>Table 3 continued: City of Toronto Services</b>	<b>Emergency Response</b>	<b>Immediate Clean-up</b>	<b>Post Clean-up</b>	<b>Revenue losses</b>	<b>Total Costs</b>
Toronto Hydro	12,000,000			1,000,000	13,000,000
Toronto Police Service	245,000				245,000
TRCA					0
Toronto Transit Commission	700,000				700,000
Toronto Library	15,829	8,000	12,000	18,167	53,996
Toronto Community Housing	1,084,337	441,000	620,000		2,145,337
Toronto Zoo	3,000	23,500	91,000	69,500	187,000
<b>TOTAL AGENCIES, CORPORATIONS AND TRCA</b>	<b>14,048,166</b>	<b>472,500</b>	<b>723,000</b>	<b>1,087,667</b>	<b>16,331,333</b>
<b>GRAND TOTAL</b>	<b>22,776,845</b>	<b>57,510,866</b>	<b>24,263,393</b>	<b>1,490,024</b>	<b>106,041,128</b>

# Summary of 2013 Severe Storm Costs – July and December

<b>Table 1: City of Toronto Services</b>	<b>July 8<sup>th</sup> Final Cost Estimate</b>	<b>Dec. 21<sup>st</sup>/22<sup>nd</sup> Preliminary Cost Estimate</b>	<b>Total</b>
Parks, Forestry and Recreation	12,684,085	52,213,000	64,897,085
Solid Waste Management Services	1,665,607	24,474,797	26,140,404
Toronto Employment and Social Services	6,100	1,009,000	1,015,100
Transportation Services	310,445	8,802,961	9,113,406
Toronto Water	8,547,875	1,506,560	10,054,435
Other City Divisions	4,977,365	1,703,477	6,680,842
<b>TOTAL CITY DIVISIONS</b>	<b>28,191,477</b>	<b>89,709,795</b>	<b>117,901,272</b>

## Summary of 2013 Severe Storm Costs – July and December

<b>Table 1 continued: City of Toronto Services</b>	<b>July 8<sup>th</sup> Final Cost Estimate</b>	<b>Dec. 21<sup>st</sup>/22<sup>nd</sup> Preliminary Cost Estimate</b>	<b>Total</b>
Toronto Hydro	1,410,776	13,000,000	14,410,776
Toronto Police Service	114,610	245,000	359,610
Toronto and Region Conservation Authority	36,053,614	0	36,053,614
Toronto Transit Commission	1,318,885	700,000	2,018,885
Toronto Library	2,614,123	53,996	2,668,119
Toronto Community Housing	432,357	2,145,337	2,577,694
Toronto Zoo	0	187,000	187,000
<b>TOTAL AGENCIES, CORPORATIONS, AND TRCA</b>	<b>41,944,365</b>	<b>16,331,333</b>	<b>58,275,698</b>
<b>GRAND TOTAL</b>	<b>70,135,842</b>	<b>106,041,128</b>	<b>176,076,970</b>
<b>Anticipated Insurance Recovery</b>	<b>(4,900,000)</b>	<b>0</b>	<b>(4,900,000)</b>
<b>GRAND TOTAL NET OF RECOVERY</b>	<b>65,235,842</b>	<b>106,041,128</b>	<b>171,276,970</b>

# What is ODRAP?

- The Ontario Disaster Relief Assistance Program (ODRAP) is a provincial program initiated in the 1960's, coordinated by Ministry of Municipal Affairs and Housing (MMAH) and designed to help municipalities, individuals, farmers, small businesses and non-profit organizations to get back on their feet after a natural disaster
- Provides financial assistance within the declared disaster area to restore damaged public infrastructure and/or private property to pre-disaster condition, funding only when the cost of restoration exceeds the financial capacity of the affected individuals, municipality and community at large to manage



# ODRAP Assistance and financial resources

- ODRAP is geared towards small and typically rural municipalities who do not have the financial capacity to address an emergency situation
- In determining whether a disaster has occurred, the Minister will consider both the cause of the damages, the extent of the damages relative to the financial resources of the City, and its ability to cope and fully recover
- Since 1998, the largest ODRAP funding was provided to municipalities in Eastern Ontario that experienced a severe ice storm. This ODRAP funding was approximately \$178 million (the majority reimbursed by the Federal Government)
- The December 2013 winter storm is similar to the 1998 situation in Eastern Ontario and Toronto and Southern Ontario municipalities require similar assistance

# What we need to do to apply

- To be eligible for ODRAP, the Minister of Municipal Affairs and Housing (Minister) must make a declaration of a disaster area
- City Council must adopt a resolution and forward it to the Minister within 14 working days of the date of the disaster (required by January 14, 2014)
- Recommendation 2 of this report contains the necessary components to support the City's request for ODRAP



# Why we should get assistance

- Significant cost pressures are exacerbated by the financial pressures resulting from the December ice storm as well as the July 8, 2013 summer rain storm and flooding event
- The two extreme weather events combined in 2013 are estimated to cost the City in excess of \$171 million.
- The City of Toronto requests a tri-government funding partnership for the costs of the severe storms during 2013:
  - 1/3 City = \$57 million
  - 1/3 Province = \$57 million
  - 1/3 Federal = \$57 million
  - **Total Funding = \$171 million**

# Report Recommendations

# Recommendations



1. Given that, in 2013, in excess of \$171 million in storm related costs have been incurred by the City of Toronto, City Council request the Provincial and Federal governments to provide financial assistance to the City of Toronto and Toronto Hydro for 2013 storm events;
2. Since the City of Toronto recently experienced a severe winter storm event weather event on December 21/22, 2013 and has experienced substantial damage to municipal forestry infrastructure and related costs of approximately \$106 million and has received reported losses of private damage, City Council request that the Minister of Municipal Affairs and Housing declare the City of Toronto a "disaster area" for the purposes of the Ontario Disaster Relief Assistance Program;

# Recommendations



3. City Council request the Provincial and Federal governments, to establish new programs and expand existing programs addressing disaster mitigation involving urban forestry, erosion control, winter storms, tree canopy, and other severe storm events, that reflect the reality of climate change and such programs to include funding for rehabilitation of municipal infrastructure to mitigate future environmental and storm event impacts;

# Recommendations



4. City Council request the City Manager in consultation with the Deputy City Managers, and Chief Financial Officer, to report to the January 22, 2014 meeting of Executive Committee on the financial impacts of the storm event on the 2014 Operating and Capital Budgets, and to provide options to finance the City's share of storm related costs; and
5. City Council request the City Manager to report to Executive Committee no later than the second quarter of 2014 on the City's review of the emergency response to the ice storm, including recommended improvements to the management of future emergencies including the actions to enhance the resiliency of the interdependent infrastructure and services to extreme weather.

