EICS-02-2022 Staff & Consultant Presentation

Environment, Infrastructure and Committee Services (EICS) Committee Meeting

May 5, 2022

Overview

1 Background

Climate Change Terms

Local Climate Hazards and Impacts

Existing Local Initiatives

2 Climate Resilient Burlington (CRB)

CRB Vision and Objectives

Vulnerability and Risk Assessment

Adaptation Actions

3 Next Steps

Implementation, Monitoring and Reporting

Weather

Short term day-to-day changes in atmospheric conditions like temperature and precipitation.

Climate

The weather of a specific region averaged over a long period of time, typically 30-year periods.

Climate Change

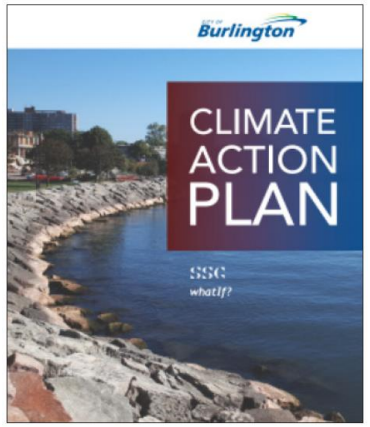
Significant changes in climate that occur over several decades or longer.

Mitigation

Actions to reduce emissions that cause climate change.

Adaptation

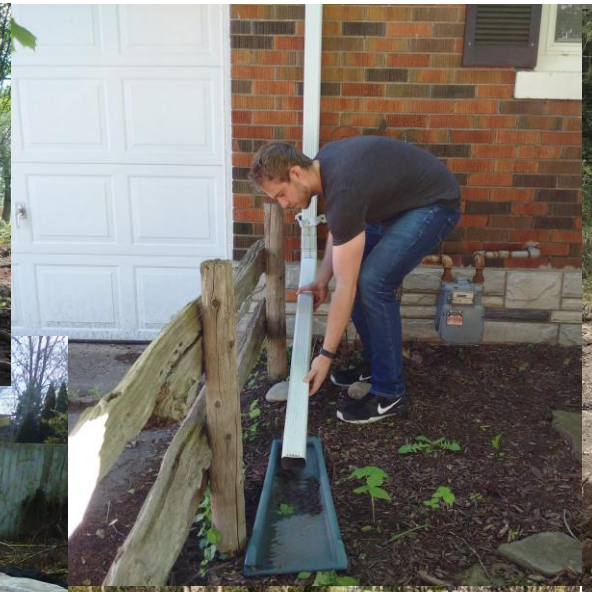
Actions to manage the risks of climate change impacts.



Climate Change Terms

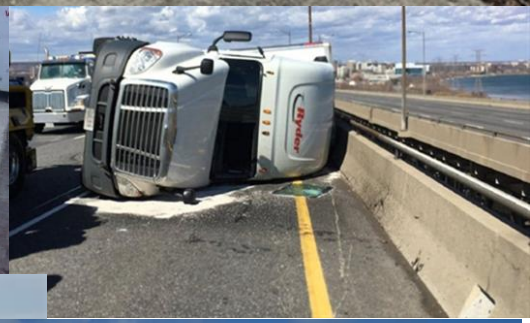
For every 1°C increase in temperature, the atmosphere holds 7% more water vapour. A warmer atmosphere can also hold water vapour longer. The more emissions are reduced, the less severe future climate change impacts will be.

Local Climate Impacts








Climate Change Impact Story Map is available at burlington.ca/environment

Existing Local Initiatives

Programs
HR Enhanced Basement Flooding Prevention Subsidy Program
Home Flood Protection Program
Plumbing Permit Fee Grant Program
CH Floodplain Mapping
Warming and Cooling Centres

Strategies and Plans
2021 Asset Management Plan and Financing Plan
Urban Forest Master Plan (update underway)
Parks, Recreation and Culture Assets Master Plan (update underway)
Flood Vulnerability and Prioritization Mitigation Study

Policies
Stormwater Management Design Guidelines
Working in Hot Weather, Health and Safety Standards

Partnerships
Cootes to Escarpment EcoPark System
Municipal Natural Assets Initiative: Grindstone Creek Project

View the draft CRB plan for additional initiaitives

VISION

Through collective action, Burlington is a net zero carbon community and is prepared for warmer, wetter and wilder weather.

150 public comments on Vision and Principles

Principles

Equitable

Accountable

Collaborative

Proactive

Innovative

Empowered

Plan Objectives

1. Uphold a set of agreed-upon principles to guide the actions in achieving a long-term vision
2. Focus City efforts on best opportunities where the City can take the lead or play a significant role in managing the highest risks
3. Align, augment or integrate climate actions into existing City initiatives
4. Work collaboratively by identifying synergies with key community stakeholders

Climate Resilient Burlington Engagement Report (2022) is available at burlington.ca/environment

Plan Development Process

Scope

Climate risks for 2051-2080

Climate emission scenario RCP8.5

Actions implemented by the City for 2022-2032

- Climate impact statements
- Vulnerability assessment
- Risk assessment
- Action planning

Vulnerability & Risk Assessment Results

Considered in adaptation planning phase

Extreme Risk

- High Winds
- Shifting Ecoregion
- Freezing Rain
- Wet Conditions
- Water Quality (algal blooms)

High Risk

- Heavy Snowfall
- Vector-Borne Disease
- Extreme Heat

Medium Risk

- Cooling Demand
- Freeze-Thaw Cycles
- Late Spring Frost
- High Water Levels (Lake Ontario)
- Stormwater Flooding
- Mismatched Timing of Plant and Animal Lifecycles

Lower priority for this 10-year plan

Lower Risk

- Air Quality*
- Invasive Species and Pests*
- Increased Water Demand
- Increased Heating Demand
- Drought
- Loss of Winter Recreation
- Creek Flooding*
- Low Water Levels
- Grass Fire
- Forest Fire

Climate Opportunities

- Increased Active Transportation
- Increased Summer Recreation Season
- Longer Growing Season

Climate Change Vulnerability and Risk Assessment Report (2021) is available at burlington.ca/environment

Adaptation Action Layout

660 stakeholder input hours

2650 stakeholder comments

items scored/voted on **690**

60 Actions identified by stakeholders

Cost	Benefit
Lifecycle costs	Effectiveness
Negative side effects	Co-benefits
Feasibility	Equity
Acceptability	Flexibility

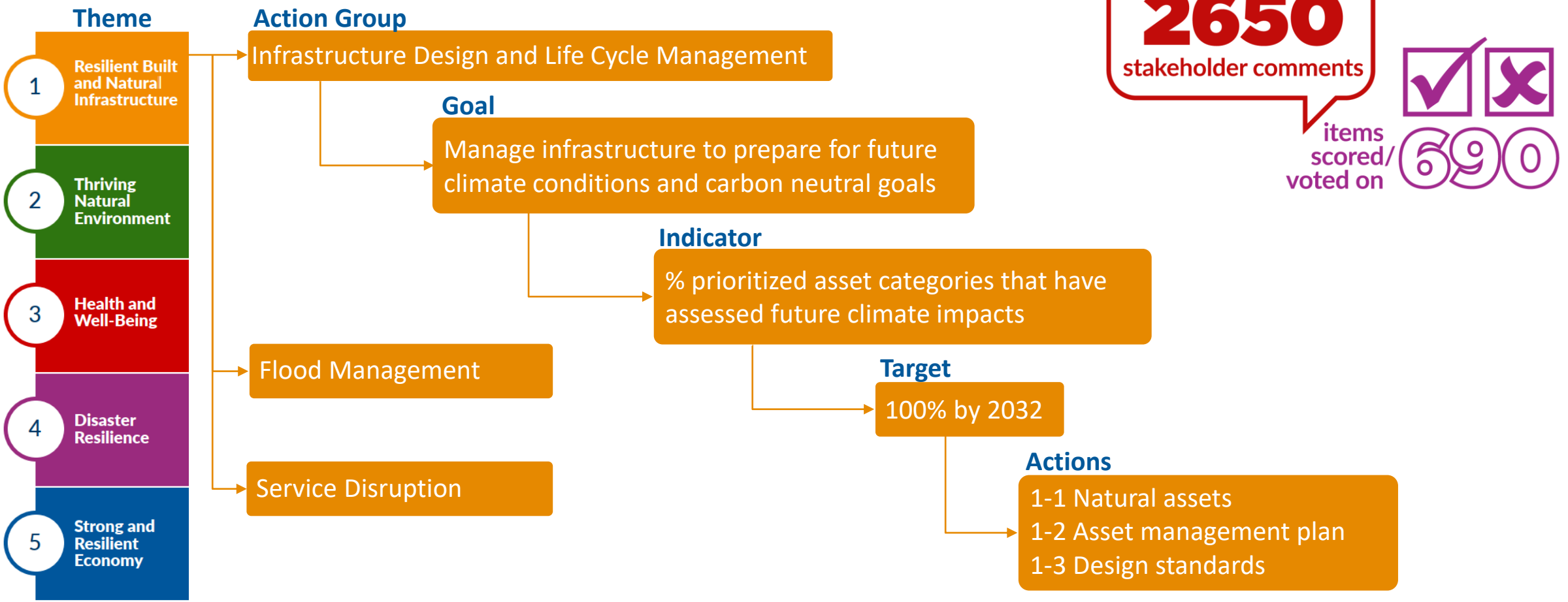
Theme	Action Group	Goal	Indicator	Target	Actions
5	10	10	13	13	32

Adaptation Action Layout

660 stakeholder input hours

2650 stakeholder comments

items scored/voted on 690



Theme 1 Resilient Built and Natural Infrastructure

3 Action Groups

13 Actions

5 City Leads

Infrastructure Design and Life Cycle Management

Action	City Lead
1-1 Natural assets in Asset Management Plan	Engineering Services
1-2 Asset Management Plan	Engineering Services
1-3 Design standards	Engineering Services

Flood Management

Action	City Lead
1-4 Lake shoreline flood management strategy	Engineering Services
1-5 Creek flood protection plans	Engineering Services
1-6 Emergency preparedness plans	Fire
1-7 Coordination with partner agencies regarding flood risk	Engineering Services

Theme 1 Resilient Built and Natural Infrastructure

3 Action Groups

13 Actions

5 City Leads

Service Disruption

Action	City Lead
1-8 Post-storm assessment tracking	Roads, Parks and Forestry
1-9 Tree pruning and risk assessment	Roads, Parks and Forestry
1-10 Backup power for City infrastructure	EICS
1-11 Wind risk and vulnerability mapping	Fire
1-12 Snow management plan	Roads, Parks and Forestry
1-13 Recreation services impacts	Recreation, Community and Culture

Theme 2 Thriving Natural Environment

2 Action Groups

5 Actions

3 City Leads

Tree Management

Action	City Lead
2-1 Tree life cycle management	Roads, Parks and Forestry
2-2 Climate lens in Urban Forest Master Plan	Roads, Parks and Forestry
2-3 Implementation of Urban Forest Master Plan	Roads, Parks and Forestry

Natural Area Management

Action	City Lead
2-4 Green infrastructure projects	Engineering Services
2-5 Biodiversity Plan	Community Planning; RPF

Theme 3 Health and Well-Being

Extreme Heat and Health

Action	City Lead
3-1 Cooling for vulnerable populations	EICS
3-2 Public space cooling	Recreation, Community and Culture
3-3 Urban heat island assessment	EICS
3-4 Indoor temperature thresholds for hot weather	Building and Bylaw
3-5 Public shade, water play and hydration	Engineering Services

Theme 4 Disaster Resilience

2 Action Groups

5 Actions

4 City Leads

Community Capacity Building

Action	City Lead
4-1 Emergency notification and communications	Fire
4-2 Community climate resilience education	EICS
4-3 Social resilience programs	Recreation, Community and Culture

Citizen and Business Support Programs

Action	City Lead
4-4 Home and business retrofit programs	EICS
4-5 Stormwater management practices	Engineering Services

Theme 5 Strong and Resilient Economy

Agriculture

Action	City Lead
5-1 Agricultural action plan	Community Planning
5-2 Local food production	Recreation, Community and Culture

Local Economy

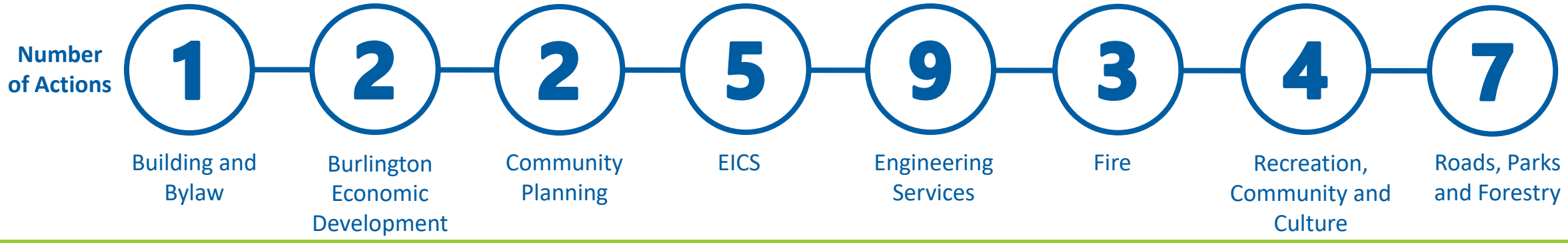
Action	City Lead
5-3 Feasibility of preference to local suppliers	Burlington Economic Development
5-4 Feasibility of business innovation ecosystem	Burlington Economic Development

Implementation

This is a CORPORATE plan and implementation is EVERYONE's responsibility

EICS supports coordination and reports annually

Business cases for budget and resources will be required and included in upcoming business cycles



Next Steps

1 Draft CRB

- Community feedback on the draft plan underway (April 22 to May 8) via getinvolvedburlington.ca/crb

2 Final CRB

- EICS: July 7
- Implementation process begins, pending Council approval

3 Ongoing

- Use a climate lens when developing workplans and budgets
- Annual reporting via the Carbon Disclosure Project and to City Council

Thank you

Climate change is
a risk multiplier

Weather on
“steroids”

CRB Project Page: getinvolvedburlington.ca/crb
Environment Page: Burlington.ca/environment
Blog: TakeActionBurlington.ca

Contact: fleur.storace-hogan@burlington.ca