

Climate Adaptation Strategy and Action Plan

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Project Overview

- **Alignment:** Environment Policy, Municipal Development Plan policies, and presentation to Assets and Infrastructure SPC on June 1, 2023 regarding the vision and guiding principles
- Work completed from March 2023 – March 2024, including public engagement
- **Acknowledges the great work already done** by the City and provides a framework to advance adaptation
- Priority actions for **the City** to build community resiliency to extreme weather and climate events

What We'll Cover Today

1

Background

- Project Overview
- Presentation Overview
- Climate Change Terms & Projections

2

Climate Adaptation Strategy & Action Plan (CASAP)

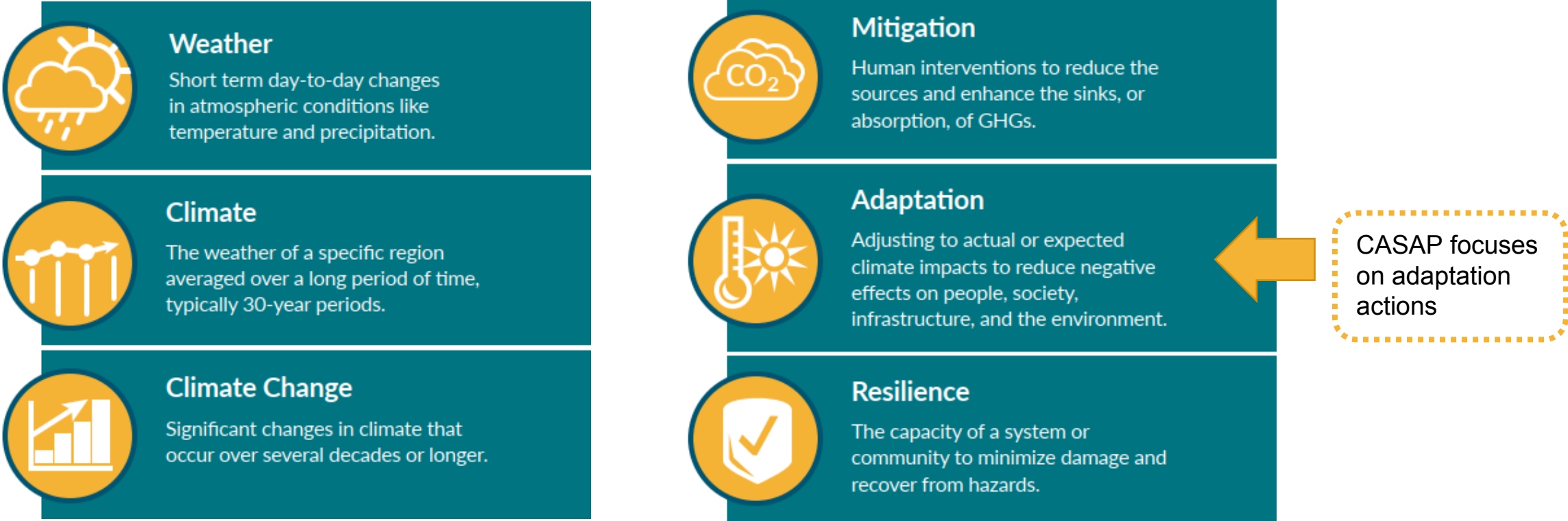
- The Cost of Inaction
- CASAP Development
- Adaptation Themes

3

Administration Recommendation

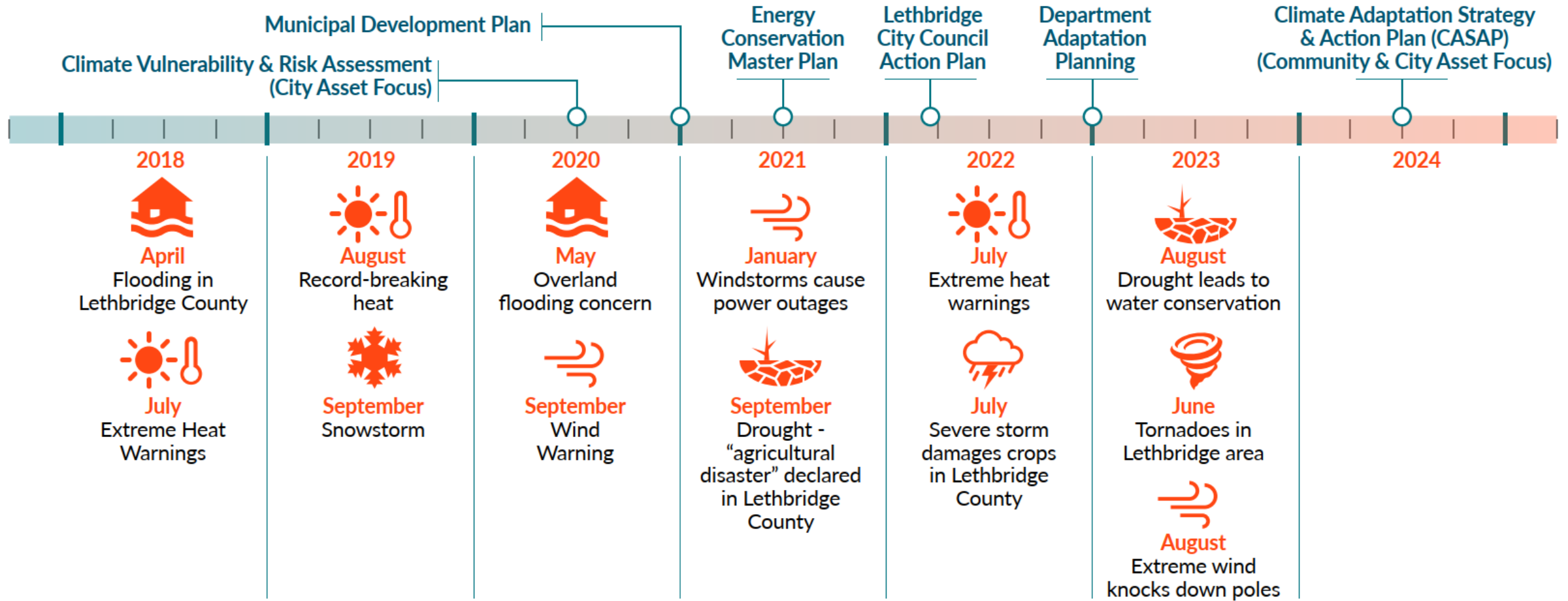
- Managing the CASAP

Climate Change Terms

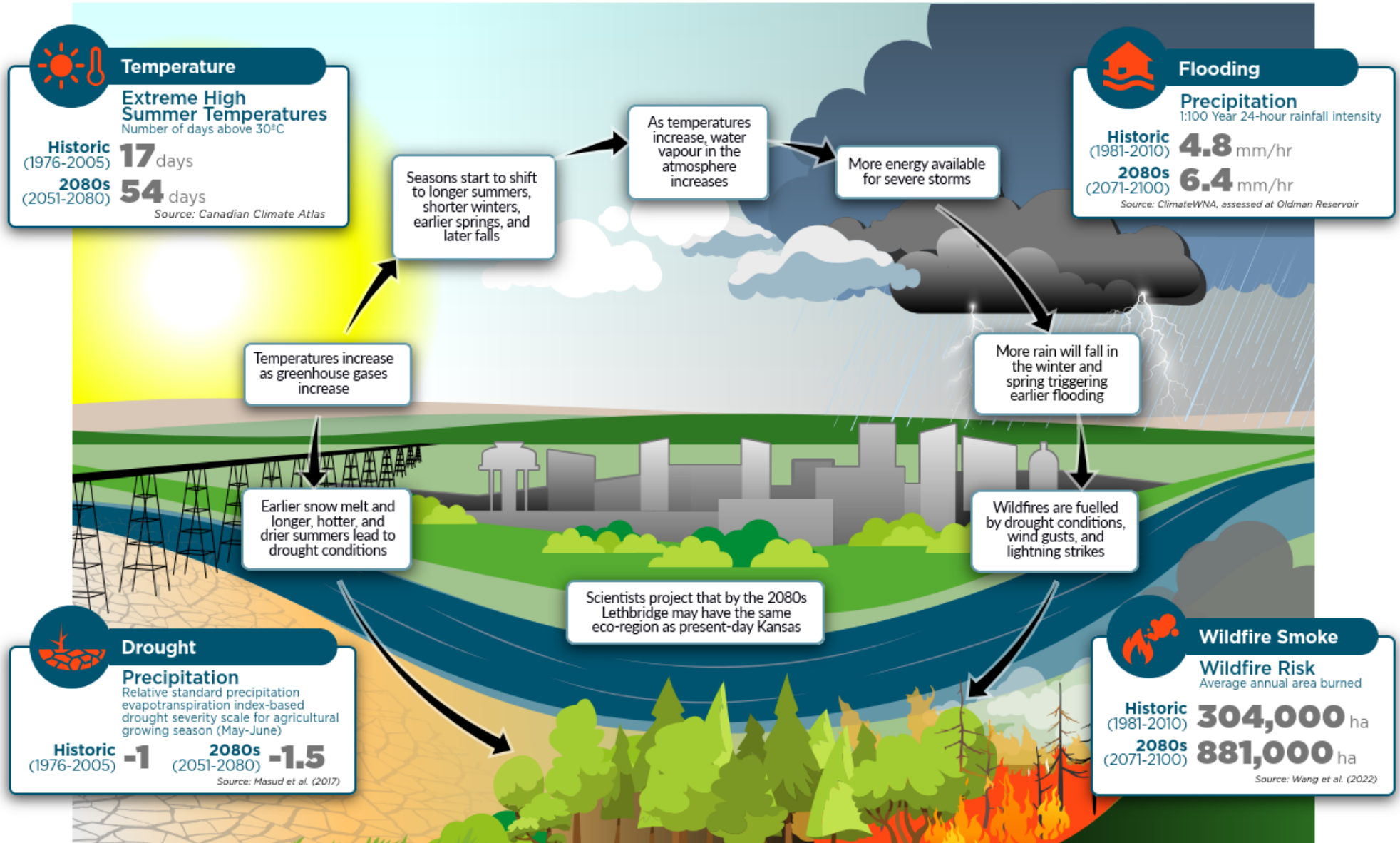


For every 1°C increase in temperature, the atmosphere holds 7% more water vapour. A warmer atmosphere can also hold the water vapour longer. This is why periods of drought with longer, hotter, drier summers, can be expected, but when it does rain, it will fall with more intensity.

Recent Climate Events & Initiatives

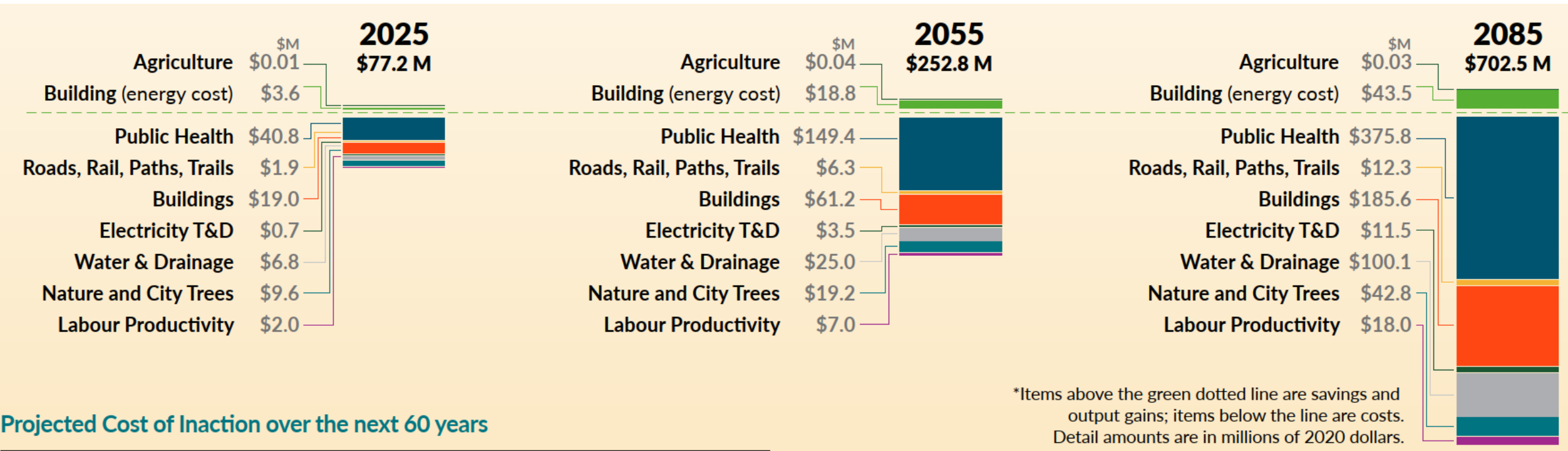


Climate Projections for Lethbridge



The Cost of Inaction in Lethbridge

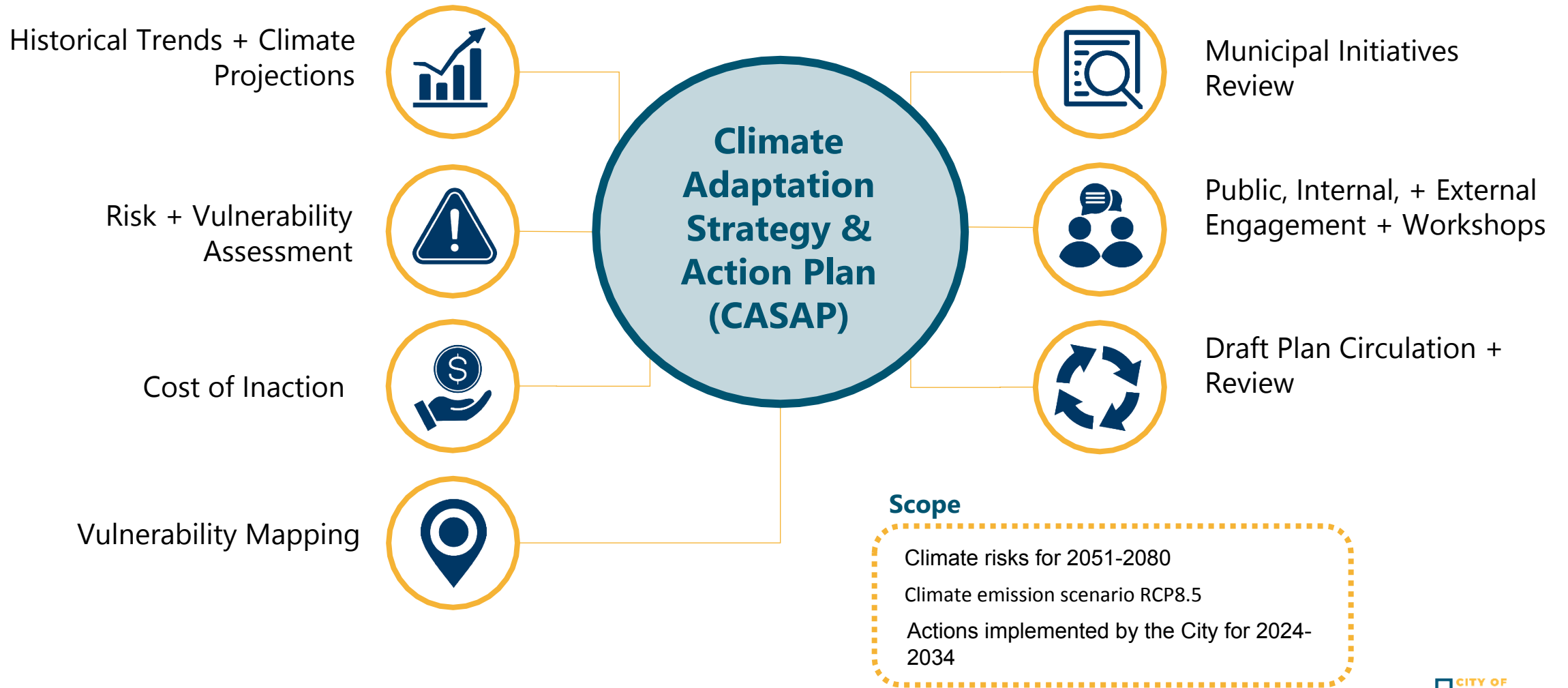
Projected Direct **Annual** Economic Losses



Projected Cost of Inaction over the next 60 years

Costs from impacts within Lethbridge boundaries
 Costs to public and private; tangible and intangible

What Informed the CASAP?





Who Did We Talk To & What Did We Hear?

- **Develop Vision and Principles** to guide methodology and plan
- **Evaluate the highest climate risks** for the City and community (extending beyond City assets and services)
- **Co-create adaptation actions** that can be undertaken by the City
- **Inform thematic grouping of actions** to ensure the plan is clear and reflects the priorities of Lethbridge as a community
- Provide information on **how the CASAP can be implemented**



VISION

A thriving, climate resilient community.



Safe & Secure

Protect wellbeing of people, the environment, infrastructure, and local economy.



Sustainable & Reliable

Durable, diversified, and adaptable infrastructure and programs to consistently provide basic needs and services.



Trust

Effective, transparent, and accessible communication people can trust.



Community Support Networks

Strengthen self reliance & collective action in response to climate impacts.



Affordable, Fair Access for All

Ensure the most vulnerable are not left behind.



Accountable

Embed climate considerations in City decisions.



Leadership

Provide direction, advocacy, and support for local and regional climate action.

169 public comments on
Vision and Principles

Vulnerability & Risk Assessment Results

Considered in adaptation planning phase

Very High Risk

- Extreme Heat
- Drought
- Ecoregion Shift
- Grassfires and Grassfire/Wildfire Smoke



Climate adaptation actions were developed for these 'very high' risk hazards due to the large number of risks identified by community stakeholders.

Lower priority for this 10-year plan

High Risk

- Heavy Snow
- Freezing Rain
- Localized & River Flooding

Medium Risk

- Severe Storms (Hail/Lightning)
- High Winds
- Tornadoes

Eight Themes

-  1 Enabling Initiatives
-  2 City Emergency Preparedness Planning
-  3 Healthy, Safe, and Prepared Communities
-  4 Protecting Critical Infrastructure
-  5 Resilient Design
-  6 Water Stewardship
-  7 Transitioning Landscapes
-  8 Protecting and Enhancing Nature

CASAP Structure

Each theme includes:

Goal

Long term objective

Indicator

Measurable factor to show progress

Target

Defines what to achieve

Actions

Priority actions to be led by the City

Each action includes details to support implementation:

- Action Type
- Lead Department
- City Support
- Cost Estimate
- Start (business cycle)
- Community Connections
- Related Initiatives
- Alignment with Key City Documents



Theme 1: Enabling Initiatives

Goal: Internal and external adaptation coordinated

- Governance structures are the **foundation for success**
- Action in public and private spheres requires collaboration **with external organizations**
- Opportunities for Lethbridge to demonstrate adaptation **leadership**



Theme 2: City Emergency Preparedness Planning

Goal: Increased preparedness for climate-related emergencies

- Emergency planning must **continue to improve** as extreme weather becomes more common and severe
- Requires planning for **acute and long-term chronic events**
- Opportunities to **find efficiencies** in protecting workers and vulnerable populations and pooling resources



Theme 3: Healthy, Safe, and Prepared Communities

Goal: Resources are available to support the community during events

- Special consideration for **vulnerable populations**
- Many supports available, the City can **help share information**
- The City can **consider expanding emergency facilities** to act as “Climate Centres” to be spaces of refuge during extreme events



Theme 4: Protecting Critical Infrastructure

Goal: Critical infrastructure and services protected and maintained during events

- Maintaining assets and services **essential to health, safety, and economic wellbeing**
- Water, wastewater, and roads must be prioritized
- Strong existing initiatives should be **enhanced** to withstand future climate events



Theme 5: Resilient Design

Goal: Community and infrastructure design accounts for future climate

- **Current design requirements are suited for past climate conditions**, not future projected extremes
- Nationally, **codes are being updated** to support climate adaptation
- Lethbridge can **guide and incentivize resilient design**



Theme 6: Water Stewardship

Goal: Reduce water use and prepare for a future with less water

- The City is **developing a Water Conservation Plan and Strategy** and **Water Rationing Action Plan** for adaptation to drought.
- Drought is expected to be **more frequent and severe**
- Public communication and regional collaboration is key



Theme 7: Transitioning Landscapes

Goal: Increase equity of drought and heat tolerant landscapes

- Use of **native plantings** is important as the climate changes
- Tree and vegetation **maintenance** is key
- Thoughtful landscape planning can be **drought resistant and help reduce flood risk**



Theme 8: Protecting & Enhancing Nature

Goal: Value, conserve, and enhance services natural areas provide

- Nature provides **multiple services** (e.g., water storage, shade, flood control, and recreation)
- **Invasive species management** helps protect nature
- **Natural areas**, like the Lethbridge River Valley, are important for ecosystem health



Managing the CASAP

- **Visible sponsorship from City Council will be key**
- Some actions will **require further direction from Council and funding** from operating budgets/capital improvement programs
- **Waste & Environment will coordinate and report** on progress
- Progress can be publicly reported on an annual basis
- Review and update the CASAP on a regular basis

Preliminary goals, indicators, and targets will continue to be refined



Administration Recommendation

Decision/Direction Requested: That the Governance Standing Policy Committee recommends that Council:

1. Adopt the Climate Adaptation Strategy and Action Plan, as in Attachment 1, in principle, as a guiding document to provide direction for the continued development of Climate Adaptation planning; and
2. Direct Administration to return to City Council, through the Economic and Finance Standing Policy Committee, for approval of any of the objectives identified in the Climate Adaptation Strategy and Action Plan that require a change in budget or service level, as follows:
 - a) Capital Projects to be submitted to future Capital Improvement Program (CIP) deliberations; and
 - b) Operating initiatives to be submitted to future Operating Budget deliberations.

- Rationale:

- CASAP aligns with other City corporate documents and existing initiatives (e.g., Municipal Development Plan)
- The Plan provides a clear framework to implement impactful adaptation actions and tangibly track progress
- CASAP Vision and Principles can guide decision-making across the organization and help improve climate resilience across service lines