

Report to Council



Date: November 6, 2017
File: 1200-40
To: City Manager
From: Ross Soward, Planner Specialist
Subject: A Changing Climate: Special Edition Community Trends Report

Recommendation:

THAT Council receives, for information, the report from the Planner Specialist dated November 6, 2017, with respect to Kelowna's 2017 Community Trends Report.

Purpose:

To introduce "A Changing Climate: Special Edition Community Trends Report 2017"

Background:

A Changing Climate: Special Edition Community Trends Report examines four subject areas, including: our people/health, our economy, our infrastructure and our environment through the lens of climate change. This is the fourth year that staff has prepared the community trends report and given the extreme weather events of 2017 and imminent future impacts of climate change, staff determined that a special edition of the trends report with a climate change focus was timely for the community.

This year's report looks at how the extreme weather events experienced in 2017 are similar to those expected in a future influenced by climate change.¹ By understanding the regional impacts of climate change, it is possible to identify areas where the City and community will need to adapt in the future. In looking at how the city can respond in the face of climate change there are two different, but equally important areas for action. The first, mitigation, refers to efforts to reduce or prevent greenhouse gas emissions to limit the extent of climate change. The second, adaptation, refers to efforts to prepare for

¹ Based on the projections from the Pacific Climate Impacts Consortium Summary of Climate Change for British Columbia in the 2050s retrieved from <https://pacificclimate.org/>

and guard against the negative effects of climate change. While the City has a Climate Action Plan that focuses on mitigation, this trends report focuses on the adaptation side of climate action.

The community trends report is one of several analytical reports produced by the Policy and Planning Department. While other reports focus on specific areas, such as housing or development statistics, the community trends report explores major global and/or local trends that will impact Kelowna. Ultimately, the aim of the community trends report is to research and understand future potential trends that will inform how the City, businesses, citizens and community partners may need to respond to a changing and evolving community.

Discussion

At first glance, the last two years were successful years for Kelowna with the early signs of an economic boom in 2016 carrying into 2017. Population growth remained robust as many people continue to choose Kelowna as a place to retire, start a business, study or raise a family. Specifically, people moving here from the lower mainland represented a major part of the increase of 1,700 new residents. At the same time, the economy took major steps forward with job growth in construction and real estate as well as the burgeoning tech sector. Recent labour reports for 2017 list Kelowna as the top job market in Canada with an average unemployment rate of 5.2 per cent in 2017, reflecting the growing number of people employed in the booming construction and real estate sector.

Even though 2017 was a banner year for economic growth in the region, it was also a year that was defined by extreme weather events that caused significant damage and disruption in the community. Starting with a wet spring that led to exceptional volumes of water entering Okanagan Lake, Kelowna was faced with serious flooding. And while the Lake level was still elevated and the response was underway, the drought began in many parts of the province, setting up conditions for wildfires. Although these extreme weather events cannot be said to have been caused by climate change, projections for the region show that the climatic trends for the region will make these extreme weather events more frequent and more severe in the future.² Due to the flooding events of 2017 and wildfires in the region, the regional Emergency Operations Centre was active for 131 consecutive days, highlighting the importance of a sustainable and dynamic emergency preparedness model to prepare the community for a future with more extreme weather events.

Highlights from the report include:

- Kelowna added approximately 1,700 new residents in 2017
- 2016 median household income increased to \$68,627 for Kelowna residents (up \$6,000 from 2014)
- Average unemployment rate of 5.2 per cent for 2017 through September
- 2016 Building permit values total \$537 million (up 16 per cent from 2015)
- Median single detached house price hit \$580,000 in 2016
- Kelowna International Airport saw an increase of 9 per cent in total passengers in 2016

² - Due to the complexity of the weather system, it is very challenging to prove causality for any one specific weather event.

- Zero precipitation in July and August 2017 resulted in the Province declaring a level 3 drought³
- 265 wildfires consuming 215,000 hectares in the Kamloops fire region in 2017⁴
- 25 days this summer where air quality levels posed a public health risk
- May inflow to Lake Okanagan was 229 per cent above average, since 1970
- Approximately 3,200 Kelowna citizens directly impacted by 2017 flood event
- 131 consecutive days where Central Okanagan Emergency Operations Centre was active
- Two million sandbags deployed in the Central Okanagan

The community trends report is organized around four subject areas: economy, infrastructure, people/health and environment to understand the impacts of climate change now and in the future. A 2017 key trend is highlighted from each of the four subject areas:

- **Freshet Event in 2017** – The historic flooding of 2017 was the result of various factors, including record levels of spring precipitation, a major rain event on May 4th, and a large spring snowpack combining to create a major freshet that resulted in a historic flood of Lake Okanagan, Mission Creek and Mill Creek. The flooding event directly impacted 3,200 residents and caused roughly \$10.7 million dollars in damage to City of Kelowna property and infrastructure.
- **Long Emergencies** – The regional Emergency Operations Centre (EOC) was originally designed for short bursts of activity. However, with the 2017 spring flood events and the summer wildfire season stretching into October, the EOC was active for 131 days. As extreme weather events become more common, the City (and the region) will need to continue to ensure community resiliency in the face of a changing climate.
- **Smokey Summers** – As Kelowna’s summers become hotter and drier, the conditions become more favourable for wildfires. In 2017, there were 25 days where smoke from the wildfires in the region resulted in public health risks based on preliminary provincial air quality data. As wildfires become more common and last longer, there is a risk that poor air quality could impact the appeal of the Okanagan for tourists who are looking to enjoy Okanagan Lake and other outdoor recreation activities.
- **Green Infrastructure Response** – To prepare for increased precipitation and higher likelihood of flood events, cities across Canada are investing in “Green Infrastructure”. These cities are using various approaches to reduce runoff and limit the amount of water that ends up in stormwater infrastructure. Green infrastructure helps to improve water quality and increases groundwater recharge, while often providing a recreational amenity in the form of parks, public spaces, paths and green space.

³ According to the Provincial Government a Level 3 Drought is characterized by very dry conditions with potentially serious ecosystem or economic impacts. In these situations, voluntary restrictions are intended to reduce water usage by 20 per cent.

⁴ The Kamloops fire region is a significant area encompassing the lands from Blue River north of Kamloops to the United States border, other key centres include: Kelowna, Vernon, Penticton, Salmon Arm, Princeton, Merritt and Lillooet.

The community trends report is more than just reporting on data and trends. The Policy and Planning Department recognizes the need to document the emerging trends both globally and locally with a long-term view, and use these forecasts to guide actions and prioritize policy for the City to be prepared. Mindful that there are many possible 'futures', this report examines some of the possibilities, as a way of opening our minds to developments that we might otherwise miss. Trends such as the ones discussed in this report underscore the collective response from both the City and other partners about how to respond to climate change and its impacts moving forward. The plans and strategies listed below reflect some of the City's efforts to adapt to a changing climate.

Key Actions

- Supporting the Mission Creek Restoration Initiative, re-naturalizing for environmental benefit and enhanced flood capacity
- Protecting agricultural land, which acts as a major environmental and stormwater benefit
- Enforcing riparian protection and preservation of natural areas
- Explore opportunities to create more green infrastructure
- Examine infrastructure design standards and enforcement
- Update the Community Wildfire Protection Plan to reduce the risk of future wildfires and limit the impact on development in the interface zone
- Develop a Community Climate Adaptation Strategy
- Update the 2040 Official Community Plan and 20 Year Servicing Plan from a 'resiliency' lens and have a responsive growth strategy, that helps the City adapt to new realities
- Ensure a sustainable and dynamic emergency response model remains in place

The impacts of climate change have and will be felt locally here in Kelowna. The City has a responsibility to continue to take a leadership role on climate action to mitigate the impacts and to consider how to adapt to the coming changes. Further action on adaptation and prevention will require partnership with various levels of government and actions from the community, shifting how we build infrastructure, plan for emergencies and prepare for increased risk of extreme weather events.

Internal Circulation:

Community Planning & Real Estate, Divisional Director
Corporate Strategic Services, Divisional Director
Infrastructure, Divisional Director
Infrastructure Operations, Department Manager
Long Range Policy Planning Department Manager
Policy and Planning Department Manager
Manager, Integrated Transportation Department
Director, Business and Entrepreneurial Development

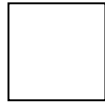
Communications Comments:

The 2017 Community Trends report can be found on kelowna.ca/about. The report will also be highlighted through corporate communications channels and distributed to key stakeholders and the broader community.

Submitted by:

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Approved for inclusion:



D.Noble-Brandt. Policy Planning Department Manager

Attachment A Changing Climate: Special Edition Community Trends Report