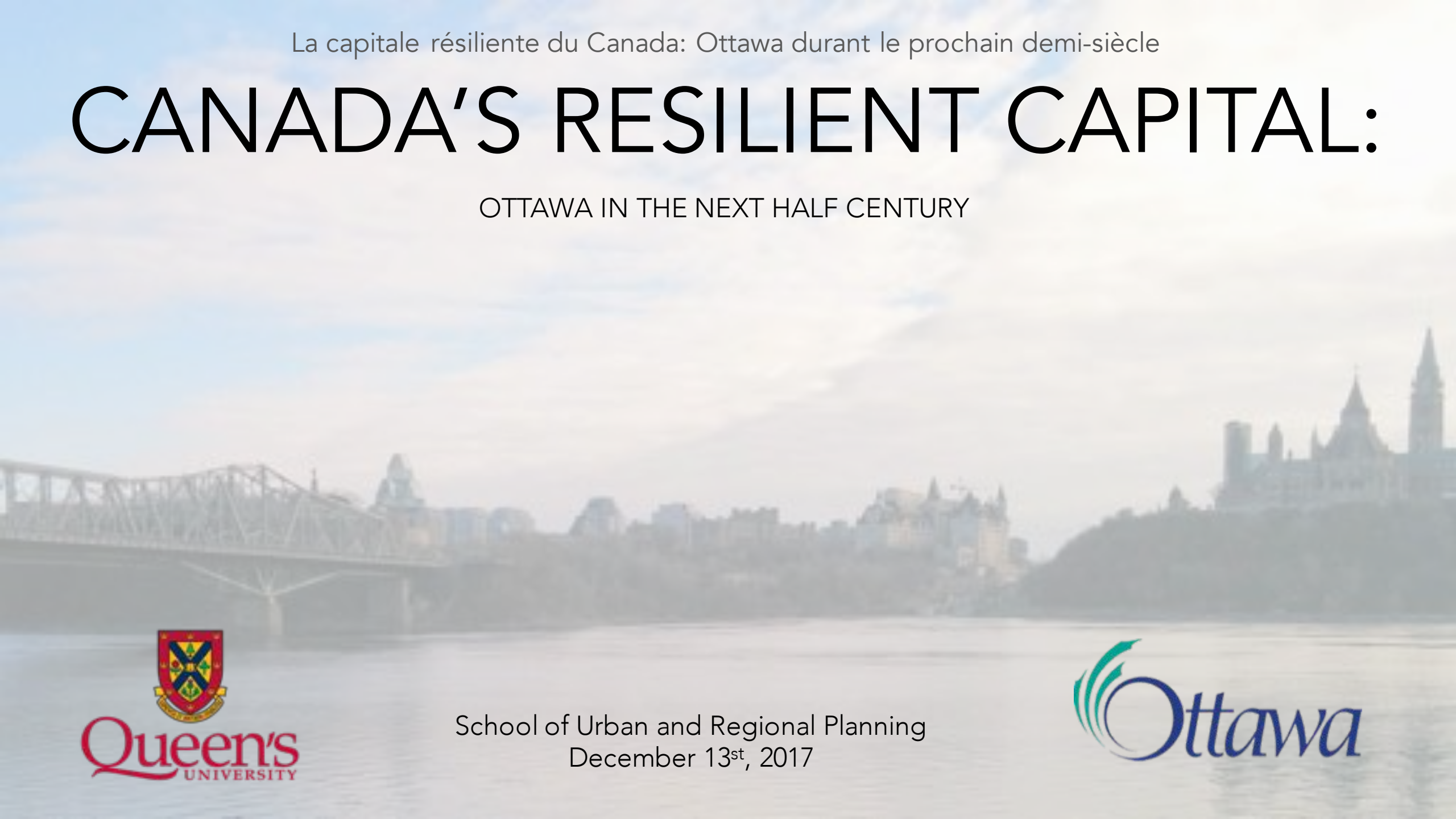
La capitale résiliente du Canada: Ottawa durant le prochain demi-siècle

CANADA'S RESILIENT CAPITAL:

OTTAWA IN THE NEXT HALF CENTURY



Queen's University

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December 13st, 2017

Ottawa

INTRODUCTIONS

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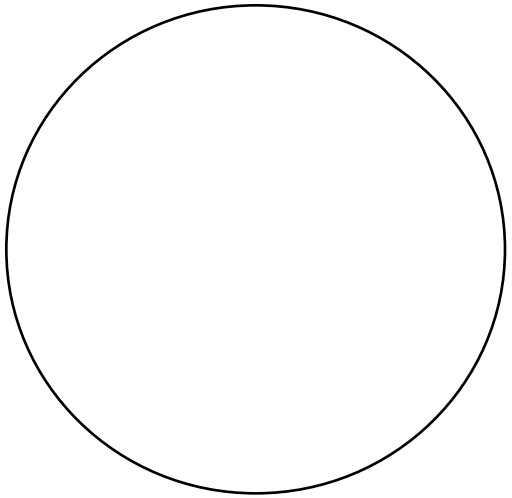
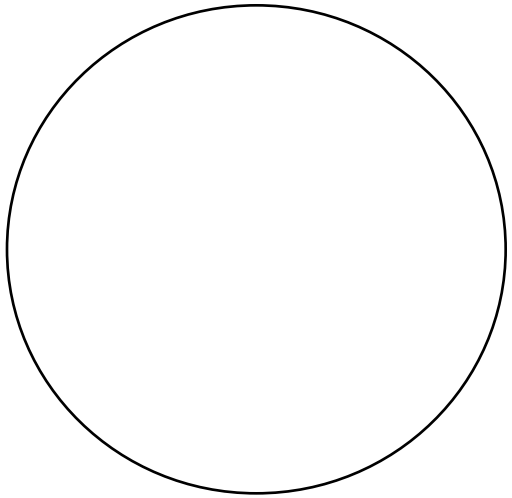
OUTLINE

1

Project Context





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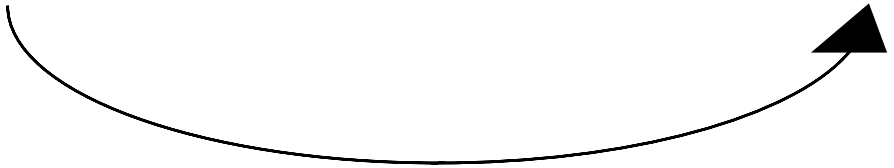
Project Context

Summary of Research



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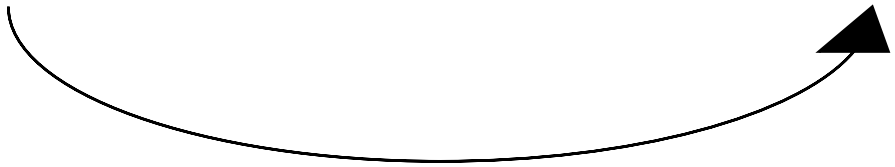
Project Context

2

Summary of Research

3

Precedent Collection



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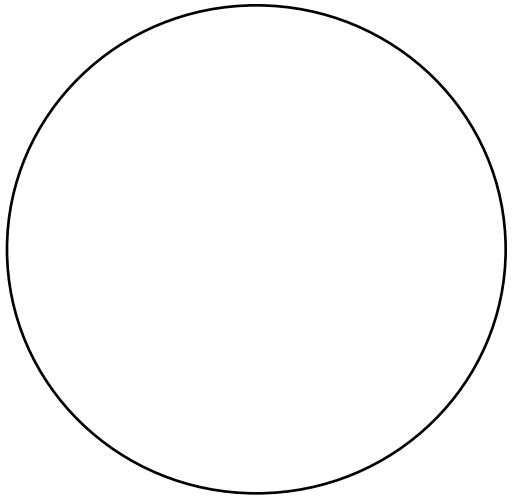
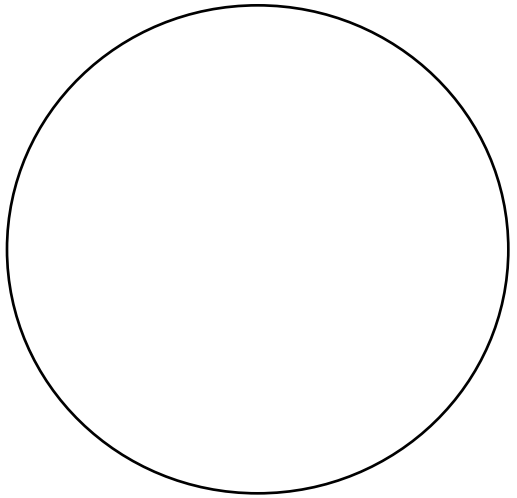
Workshop





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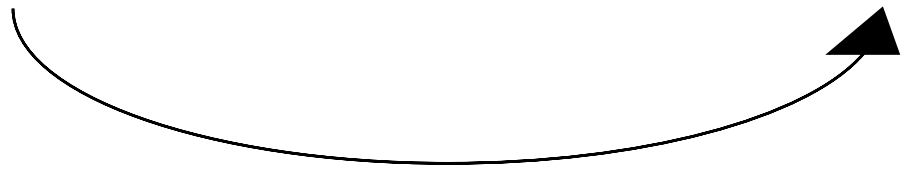
Workshop

Narrowing of Precedents



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Workshop

5

Narrowing of Precedents

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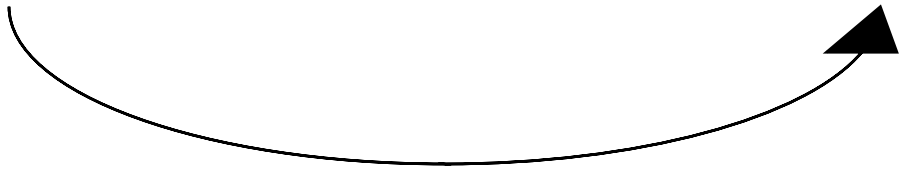
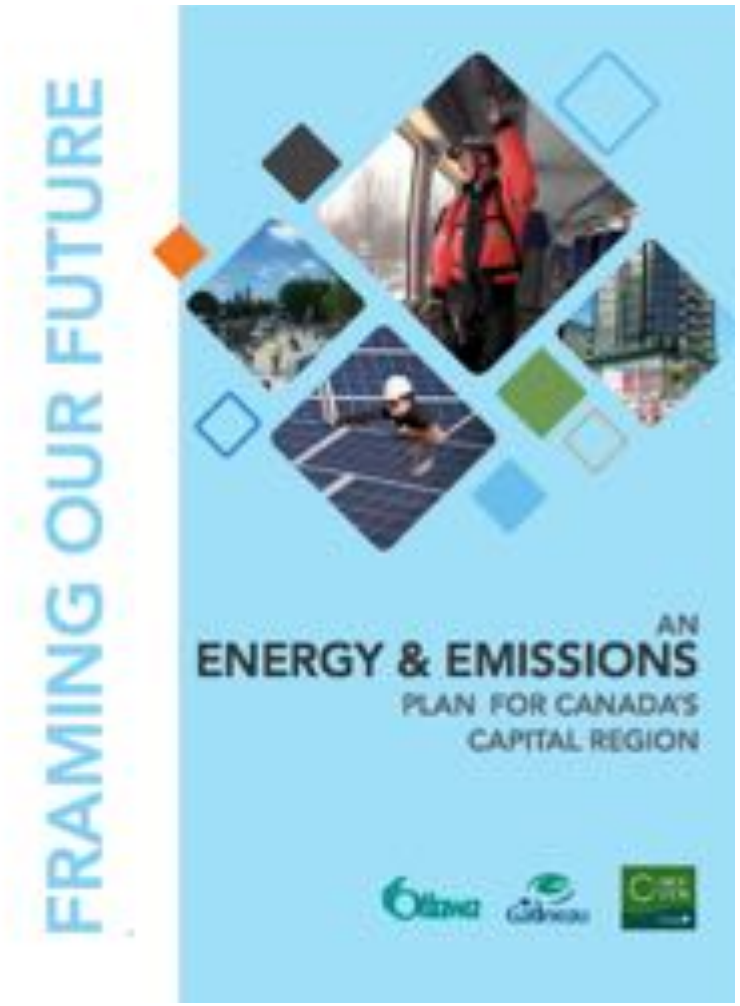
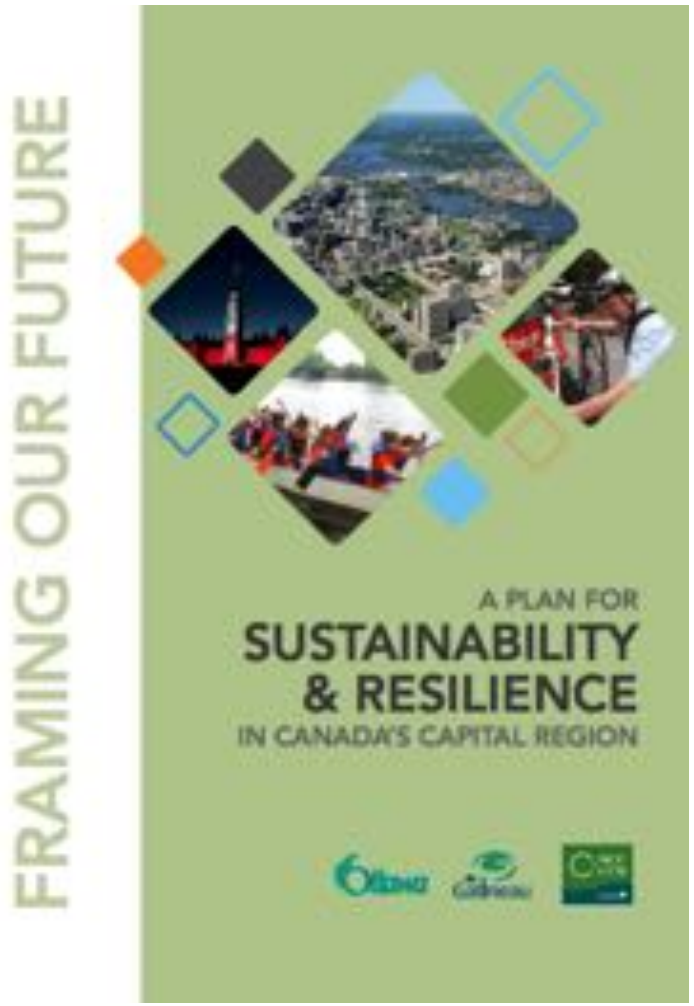
Recommendations & Conclusions



PROJECT CONTEXT

FRAMING OUR FUTURE





Project Charter

Project Name: Beyond 2036: Setting the Stage for Ottawa's Next Official Plan

Date: July 5, 2017

Author: Bruce Finlay

Version: 1.5

DEFINITIONS

1 Driver of Change

2 City Resilience

DRIVER OF CHANGE

*"Any **issue**, **challenge**, or **opportunity** which will affect Ottawa's **future growth** and **development**."*

- ✓ Environmental
- ✓ Demographic
- ✓ Technological
- ✓ Economic

CITY RESILIENCE

*"The **capacity** of individuals, communities, institutions, and businesses within a city to **survive**, **adapt**, and **grow** no matter what kinds of **shocks** and **stresses** they experience."*

TASKS

"Identify the drivers of change that could affect Ottawa's future growth."

"Summarize municipal best practices relating to building resilience to these drivers of change."

"Make recommendations on how Ottawa can best use scenario planning to build municipal resilience."

SUMMARY OF RESEARCH

KEY QUESTIONS

- ✓ What is scenario planning?
- ✓ How does one create and evaluate scenario plans?
- ✓ What are some relevant case studies?
- ✓ How does one classify scenario plans?

Classifying Scenario Plans

Arnab Chakraborty & Andrew McMillan (2015)

University of Illinois

Scenario Planning for Urban Planners

Toward a Practitioner's Guide

*"Scenario planning is a **strategic planning method** used by planners to conceive, develop, and evaluate **multiple plausible futures** for the growth and development of a city or region. This process allows planners to **identify a preferred course of action** and set priorities."*

KEY FINDINGS

- ✓ Value of using scenario planning
- ✓ Drivers of change should be incorporated into scenarios
- ✓ Create 3 – 5 scenarios in development process

PRECEDENT COLLECTION


Arctic Ocean
Arctic Ocean
NORTH AMERICA
EUROPE
ASIA
Atlantic Ocean
Pacific Ocean
Pacific Ocean
AFRICA
SOUTH AMERICA
Indian Ocean
AUSTRALIA
Pacific Ocean


Athens
Wellington
Mississauga
Tokyo
Chicago
Mexico City
San Francisco
Istanbul
Helsinki
Berkeley
Bangkok
Belgrade
Glasgow
New York City
Rotterdam
Paris
Victoria
Pittsburgh
Boston
Budapest
Berlin
Christchurch
Baltimore
The Hague
Canberra
Thessaloniki
Melbourne
Birmingham
Boulder
Edmonton
Stockholm
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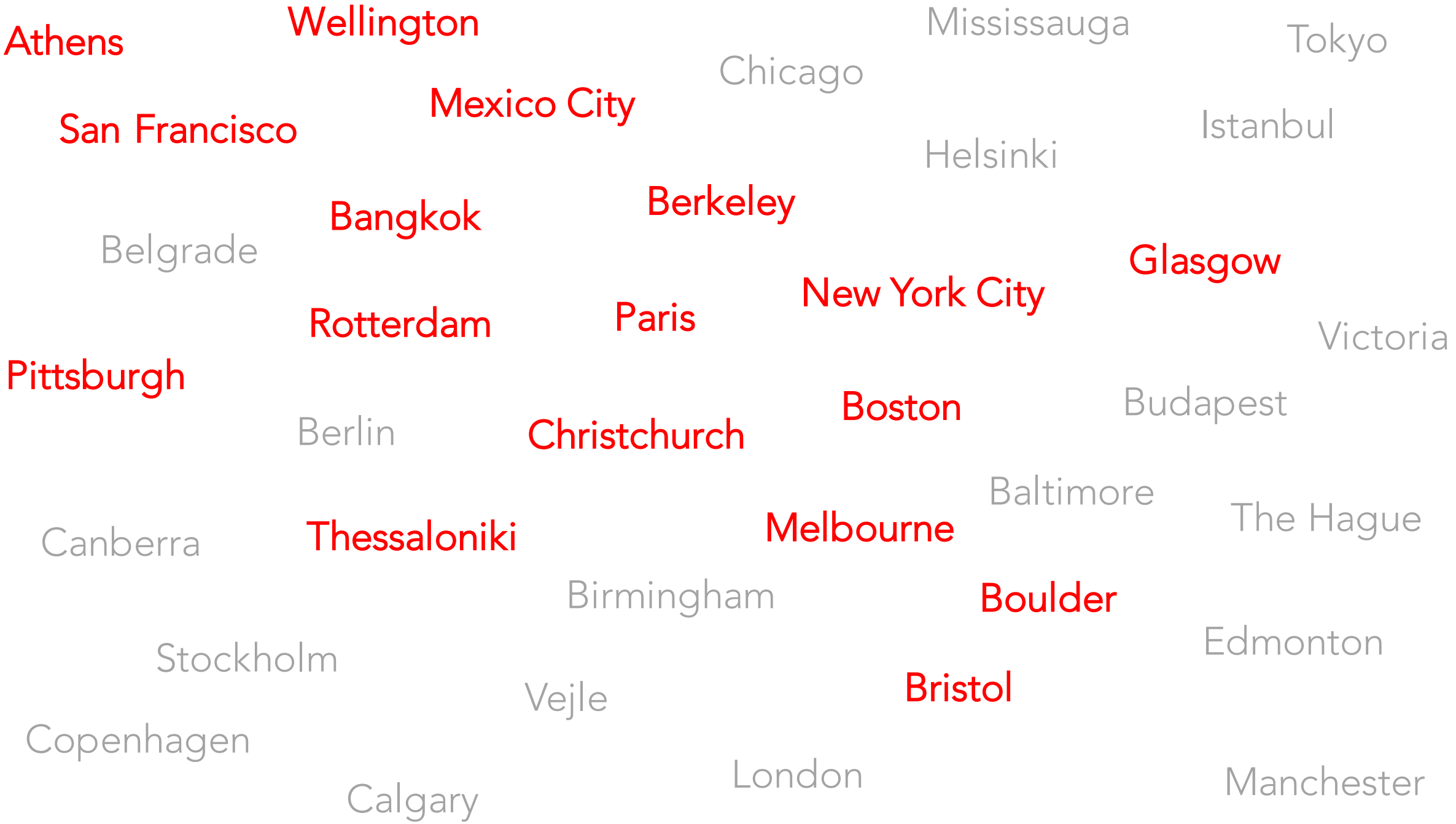
Vejle
Copenhagen
London
Manchester
Calgary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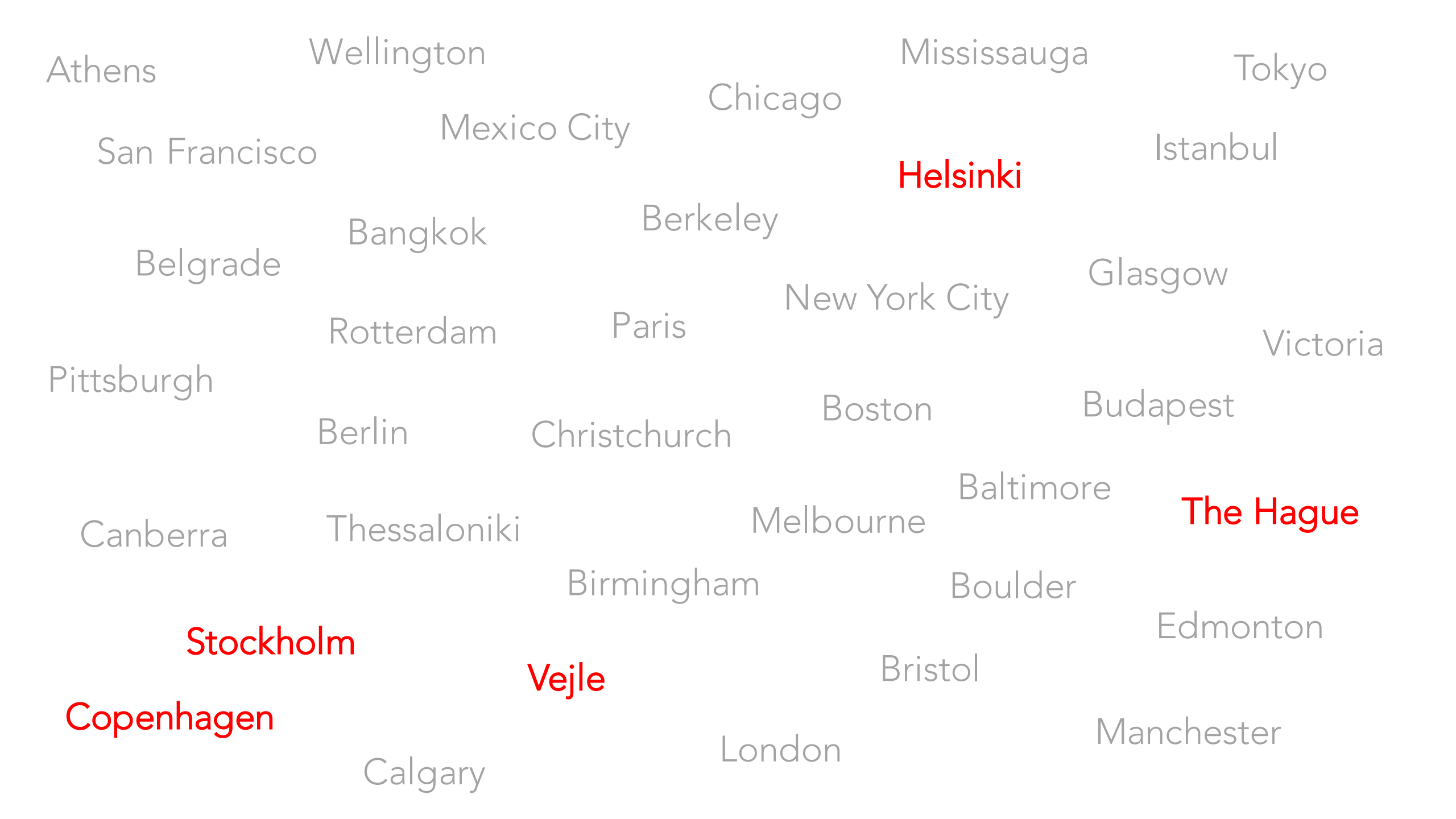
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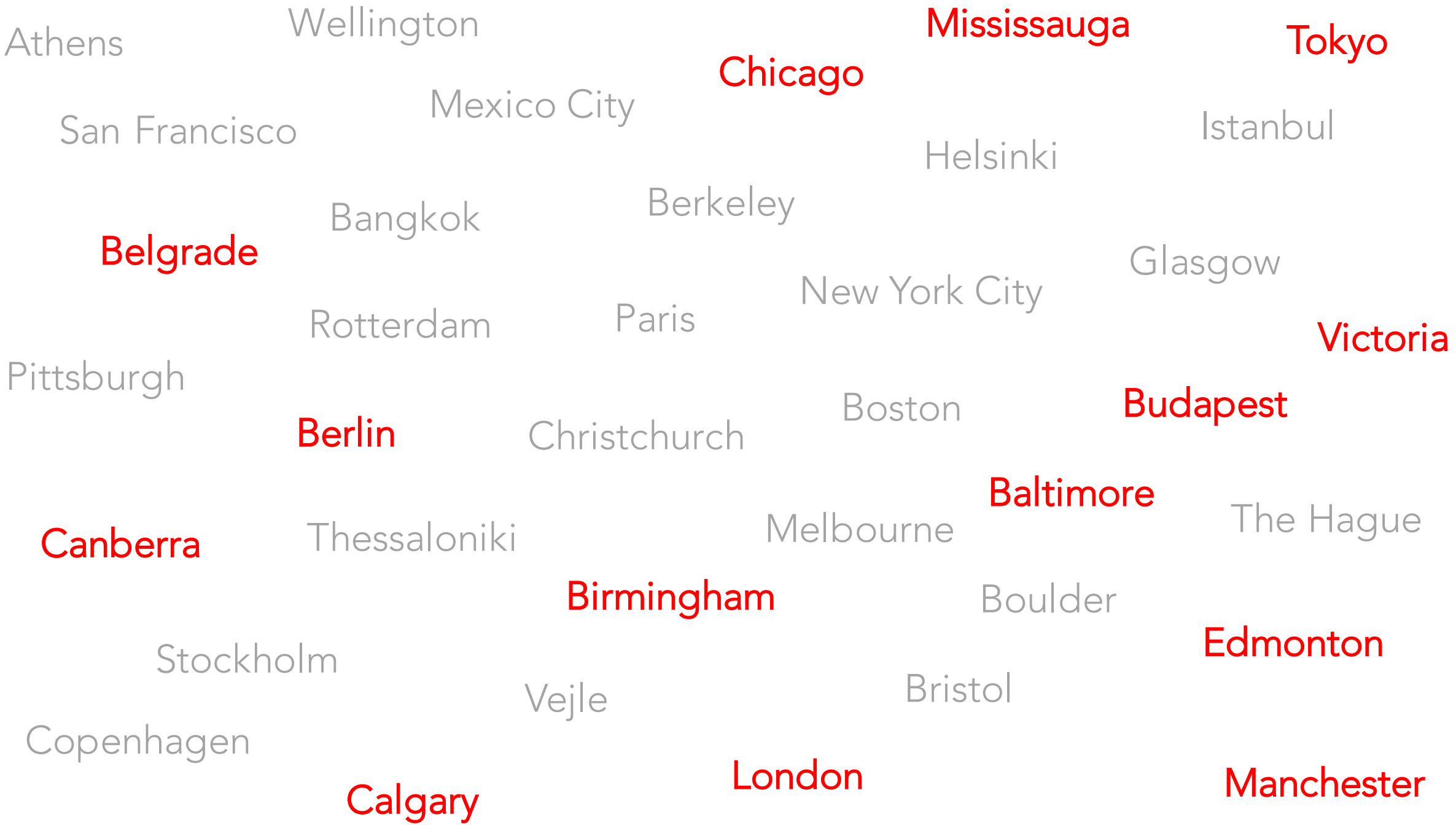
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Manchester
Calgary


WORKSHOP

RESULTS

- ✓ Break-out sessions, review drivers and 37 cities:
  - Environmental
  - Demographic
  - Technological
  - Economic
- ✓ Gather feedback, expert opinion activity
- ✓ Tally responses, group de-brief

NARROWING PRECEDENTS

VARIATION 1

Workshop

Environmental	Demographic	Technological	Economic
Edmonton Edmonton Metropolitan Growth Plan	Chicago Go to 2040: Comprehensive Regional Plan	Tokyo Creating the Future: Long Term Vision	Edmonton Edmonton Metropolitan Growth Plan
New York City One New York: A Strong and Just City	Edmonton Edmonton Metropolitan Growth Plan	Helsinki Helsinki City Plan Vision 2050	London City of London Local Plan
Mississauga Our Future Mississauga	Boston Resilient Boston	London City of London Local Plan	Stockholm Stockholm: A Sustainably Growing City
Helsinki Helsinki City Plan Vision 2050	Calgary Calgary Resilience Strategy	Birmingham Birmingham 2026: Our Future Vision	The Hague The Hague Agenda Setting Workshop
Boston Resilient Boston	Birmingham Birmingham 2026: Our Future Vision	San Francisco Resilient San Francisco	Calgary Calgary Resilience Strategy
Berlin Berlin Strategy: Urban Dev. 2030	Helsinki Helsinki City Plan Vision 2050	Manchester Local Development Framework: Core Strategy Dev. Plan	Canberra ACT Planning Strategy
Wellington Wellington Resilience Strategy	San Francisco Resilient San Francisco	Boulder City of Boulder Resilience Strategy	Boulder City of Boulder Resilience Strategy
Mexico City CDMX Resilience Strategy	Mississauga Our Future Mississauga	Mississauga Our Future Mississauga	Copenhagen The Coherent City: Municipal Strategy 2014
Christchurch Resilient Greater Christchurch	Vejle Vejle Resilience Strategy	Berkeley Berkeley Resilience Strategy	Pittsburgh OnePGH: Resilient Pittsburgh
Boulder City of Boulder Resilience Strategy	Manchester Local Development Framework: Core Strategy Dev. Plan	Baltimore City of Baltimore Master Plan	Paris Paris Adaptation Strategy

TOP 10 DRIVERS

Workshop

Environmental	Demographic	Technological	Economic
Floods	Immigration	Autonomous Vehicles	Employment Skills & Training
Renewable Energy	Population Growth	Ageing Infrastructure	Diversification
Supply of Developable Land	Ageing Population	Digital Infrastructure	Globalization
Extreme Storms	Housing	Transit Oriented Development	Economic Competition
Demand for Power	Shifts in Labour Market	Infrastructure Demand	Automation
Increase in Rainfall Intensity	Social Mobility	Inadequate Public Transit	Economic Change
Urban Heat Island	Placemaking	Regionalization	Regionalization
Wastewater Capacity	Unemployment	Cyber Security	Industry Mix Changes
Damage to Natural Areas	Retention	Renewable Energy	Inequality
Warmer Temperatures	Education	Infrastructure Failure	Economic Uncertainty

VARIATION 2

Number of Top 10 Ottawa Drivers Identified

Environmental
Floods
Renewable Energy
Supply of Developable Land
Extreme Storms
Demand for Power
Increase in Rainfall Intensity
Urban Heat Island
Wastewater Capacity
Damage to Natural Areas
Warmer Temperatures

Environmental
Istanbul 2014-2023 Istanbul Regional Plan
Paris Paris Adaptation Strategy
Athens Athens Resilience Strategy for 2030
London City of London Local Plan
Mexico City CDMX Resilience Strategy
New York City One New York: A Strong and Just City
Bangkok Resilient Bangkok
Berlin Berlin Strategy: Urban Dev. 2030
Boston Resilient Boston
Canberra ACT Planning Strategy

Demographic
Immigration
Population Growth
Ageing Population
Housing
Shifts in Labour Market
Social Mobility
Placemaking
Unemployment
Retention
Education

Demographic
Chicago Go to 2040: Comprehensive Regional Plan
New York City One New York: A Strong and Just City
Vejle Vejle Resilience Strategy
Thessaloniki Resilient Thessaloniki: Strategy for 2030
Birmingham Birmingham 2026: Our Future Vision
Boston Resilient Boston
Bristol Bristol Resilience Strategy
Calgary Calgary Resilience Strategy
Christchurch Resilient Greater Christchurch
Melbourne Resilient Melbourne

Technological
Autonomous Vehicles
Ageing Infrastructure
Digital Infrastructure
Transit Oriented Development
Infrastructure Demand
Inadequate Public Transit
Regionalization
Cyber Security
Renewable Energy
Infrastructure Failure

Technological
Berkeley Berkeley Resilience Strategy
Manchester Local Development Framework: Core Strategy Dev. Plan
Boston Resilient Boston
Helsinki Helsinki City Plan Vision 2050
Edmonton Edmonton Metropolitan Growth Plan
Victoria City of Victoria Official Community Plan
Baltimore City of Baltimore Master Plan
Tokyo Creating the Future: Long Term Vision
New York City One New York: A Strong and Just City
Stockholm Stockholm: A Sustainably Growing City

Economic
Employment Skills & Training
Diversification
Globalization
Economic Competition
Automation
Economic Change
Regionalization
Industry Mix Changes
Inequality
Economic Uncertainty

Economic
Edmonton Edmonton Metropolitan Growth Plan
Mexico City CDMX Resilience Strategy
Mississauga Our Future Mississauga
Calgary Calgary Resilience Strategy
Rotterdam Rotterdam Resilience Strategy
Melbourne Resilient Melbourne
Budapest Budapest 2030: Long-term Urban Dev.
Helsinki Helsinki City Plan Vision 2050
Birmingham Birmingham 2026: Our Future Vision
Berlin Berlin Strategy: Urban Dev. 2030

VARIATION 3

Plan Classification

Plan Classification
Chicago Go to 2040: Comprehensive Regional Plan
Vejle Vejle Resilience Strategy
New York City One New York: A Strong and Just City
Thessaloniki Resilient Thessaloniki: Strategy for 2030
Birmingham Birmingham 2026: Our Future Vision
Boston Resilient Boston
Bristol Bristol Resilience Strategy
Calgary Calgary Resilience Strategy
Christchurch Resilient Greater Christchurch
Melbourne Resilient Melbourne

VARIATION 4

Climate

Environment Only

KÖPPEN CLASSIFICATION

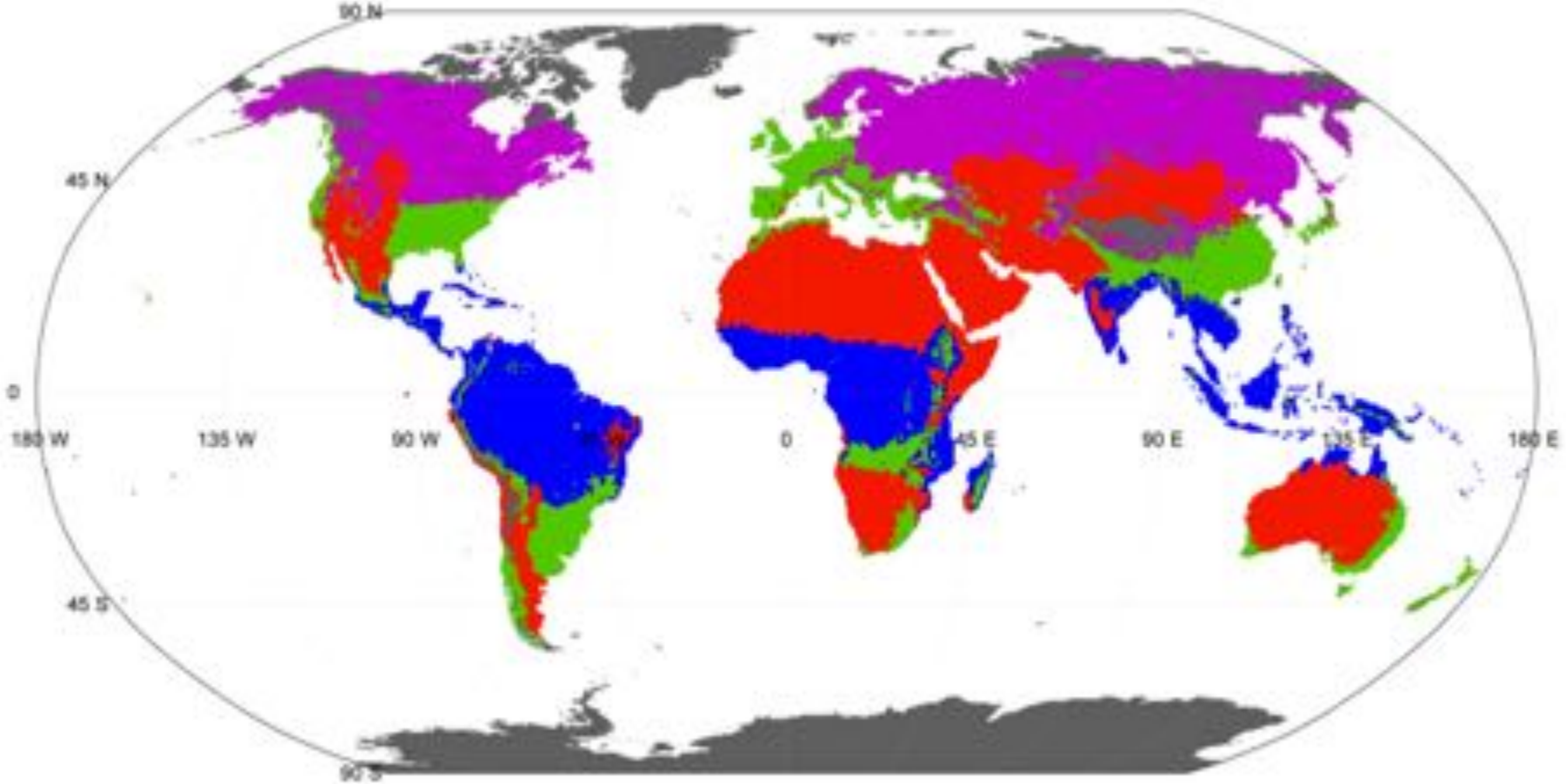
Tropical Climates

Dry Climates

Humid Mild Climates

Continental Climates

Cold Climates (Polar)



Köppen Classification
Calgary (Dfb)
Edmonton (Dfb)
Helsinki (Dfb)
Mississauga (Dfb)
Chicago (Dfa)
New York City (Dfa)

CONCLUSIONS & RECOMMENDATIONS

1

Scenario Planning is a Valuable Tool for Building City Resilience

1 Scenario Planning is a Valuable Tool for Building City Resilience

- ✓ Traditional planning forecasts a single likely future
- ✓ Envisioning multiple scenarios enhances collaboration, and creative solutions
- ✓ Scenarios do not have to be accurate to improve resilience

2

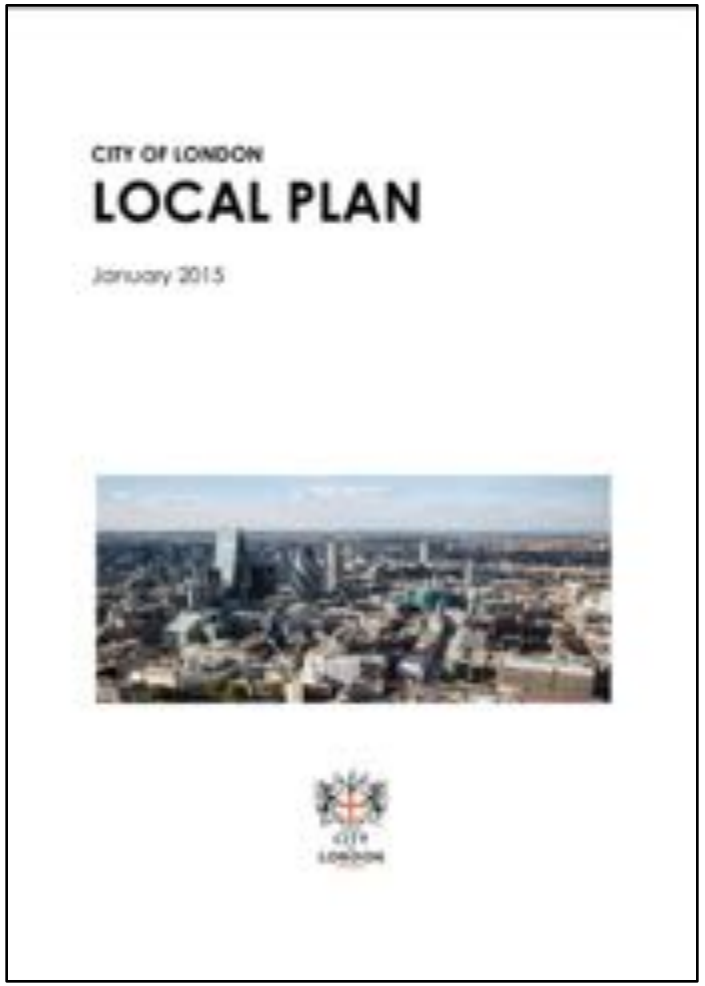
Consider the 41 Identified Drivers of Change as Inputs in Ottawa's Development of Scenarios

Environmental	Demographic	Technological	Economic
Floods	Immigration	Autonomous Vehicles	Employment Skills/Training
Renewable Energy	Population Growth	Ageing Infrastructure	Diversification
Developable Land Supply	Ageing Population	Digital Infrastructure	Globalization
Extreme Storms	Housing	Transit-Oriented Development	Competition
Demand for Power	Shifts in Labour Market	Infrastructure Demand	Automation
Rainfall Intensity/Increase	Social Mobility	Inadequate Public Transit	Economic Change
Urban Heat Islands	Place Making	Transit Regionalization	Regionalization
Wastewater Capacity	Unemployment	Cyber Security	Industry Mix Changes
Damage to Natural Areas	Retention	Renewable Energy	Inequality
Warmer Temperatures	Education	Infrastructure Failure	Economic Uncertainty
Decreased Air Quality			

- Opportunities

- Vulnerabilities

Environmental	Example
Floods	
Renewable Energy	
Developable Land Supply	
Extreme Storms	
Demand for Power	
Rainfall Intensity/Increase	
Urban Heat Island	
Waste Water Capacity	
Damage to Natural Areas	
Warmer Temperatures	
Decreased Air Quality	



- Opportunities

- Vulnerabilities

Demographic	Example
Immigration	
Population Growth	
Ageing Population	
Housing	
Shifts in Labour Market	
Social Mobility	
Place Making	
Unemployment	
Retention	
Education	

- Opportunities

- Vulnerabilities

Technological	Example
Autonomous Vehicles	
Ageing Infrastructure	
Digital Infrastructure	
Transit-Oriented Development	
Infrastructure Demand	
Inadequate Public Transit	
Transit Regionalization	
Cyber Security	
Renewable Energy	
Infrastructure Failure	

- Opportunities

- Vulnerabilities

Economic	Example
Employment Skills/Training	
Diversification	
Globalization	
Competition	
Automation	
Economic Change	
Regionalization	
Industry Mix Changes	
Inequality	
Economic Uncertainty	

- Opportunities

- Vulnerabilities

3

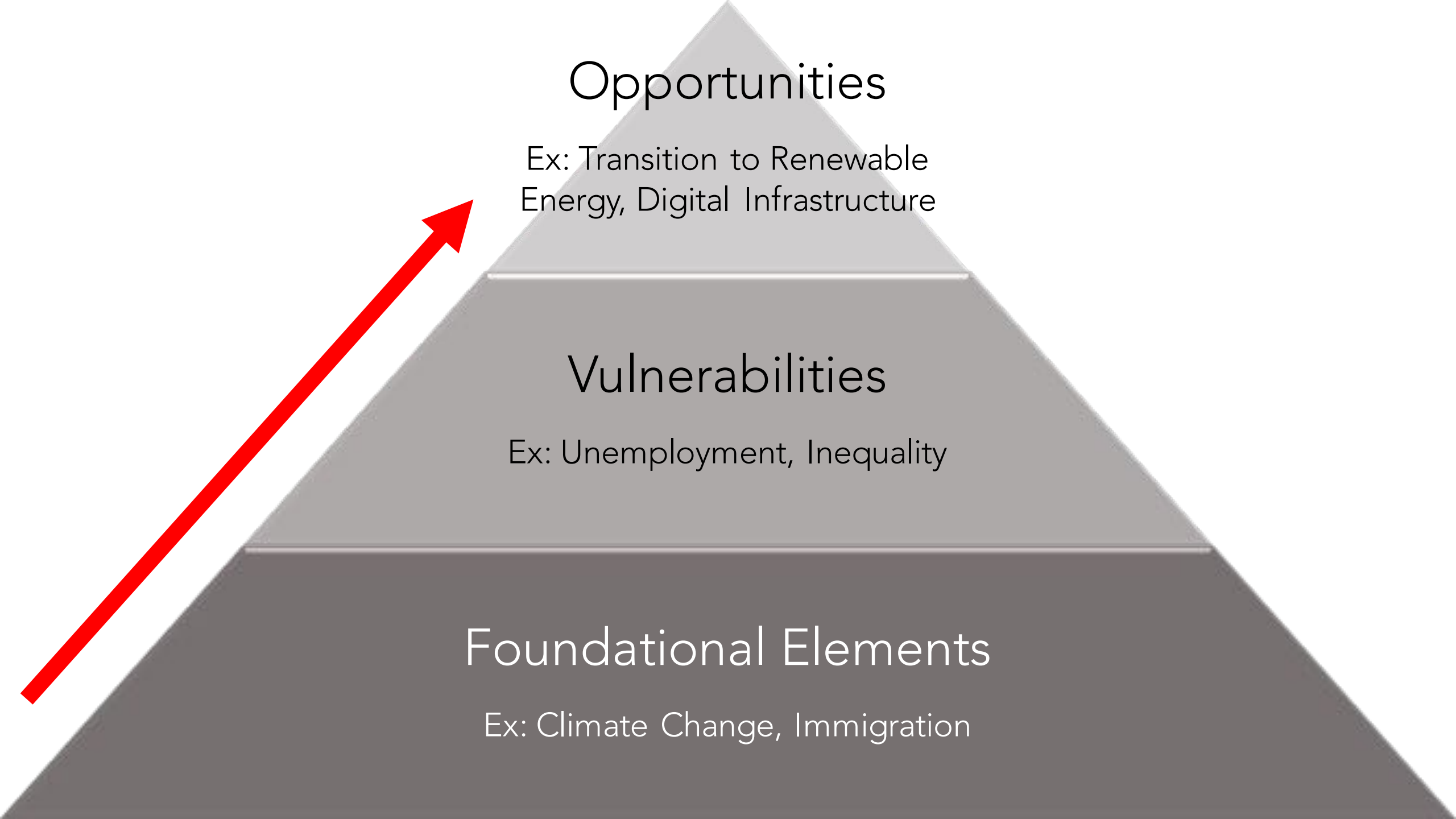
Consider the City's Varying Ability to Control Drivers in Scenario Development

4

Respect Relationships Between Drivers in Scenario Development

5

Take a Multi-Layered Approach to Build Scenarios


Opportunities
Ex: Transition to Renewable Energy, Digital Infrastructure
Vulnerabilities
Ex: Unemployment, Inequality
Foundational Elements
Ex: Climate Change, Immigration

6

Implement a Collaborative, Multi-Stakeholder Scenario Development Process

6 Implement a Collaborative, Multi-Stakeholder Scenario Development Process

1. Scoping
2. Stakeholder and Resident Value Analysis
3. Development of a ‘Business as Usual’ Scenario
4. Stakeholder and Public Education Campaigns
5. Workshops
6. Scenario Development
7. Scenario Evaluation

7

Mechanisms for Multi-Jurisdictional Cooperation on Future Drivers of Change Should be Developed

8

Identify Specific Strategies to Address Drivers of Change

GOAL 2.4.

Integrate a water sensitive approach to urban design through blue and green infrastructure

ACTION 2.4.1

Promote the restoration of bodies of water and watersheds.

Regenerating and restoring natural water bodies and watersheds can prevent flooding and encourage adaptation to droughts caused by climate change.

Responsible Parties: SEDEMA
Partners: TNC, Lancis-UNAM, Dutch Embassy, Deltares
Period: 2016 - 2025

Resilience Value:
Environmental cleanup of watersheds and rivers and the production and management of green infrastructure have a number of environmental, economic, and social benefits that contribute to meeting the basic needs of the population; to enriching natural assets, and to strengthening adaptive capacities in the event of a decrease in the water supply.

ACTIVITY 2.4.1.1 **Implement the comprehensive rescue program of the Magdalena and Eslava rivers.**

This program will clean up part of the Magdalena and Eslava river basins, restore their flows and running, and conserve and increase the nearby forest. Thereby contributing to the area's green infrastructure. Through a participatory approach, this program will also help to create environmental awareness and culture in residents. It will ensure and encourage the creation of public spaces within the river's urban area.

Participants: SACMEX, SEDEMA
Partners: Conagua, Semar
Period: 2016 - 2025

9

Future Resilience Strategies Should Embrace a Range of Uncertainty

9 Future Resilience Strategies Should Embrace a Range of Uncertainty

- ✓ New drivers of change will arise
- ✓ Relative importance of drivers of change will shift
- ✓ Current trends will change
- ✓ Plans must be regularly reviewed and updated
  - Ensures relevancy and allows for adaptive management

9

2007

2011

2015

FINAL THOUGHTS

THANK YOU
MERCI

Questions?