

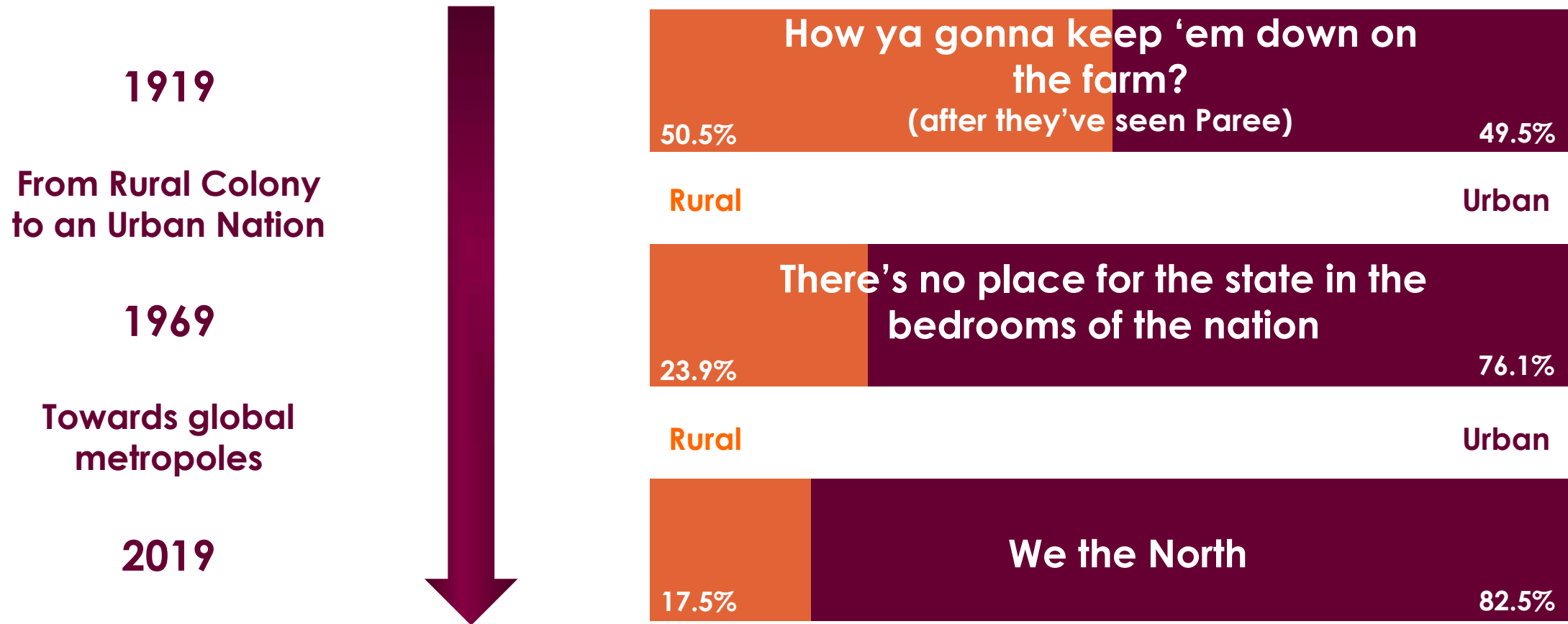
Metropolitan Canada in 2119

Generation 2019 – July 5th, 2019

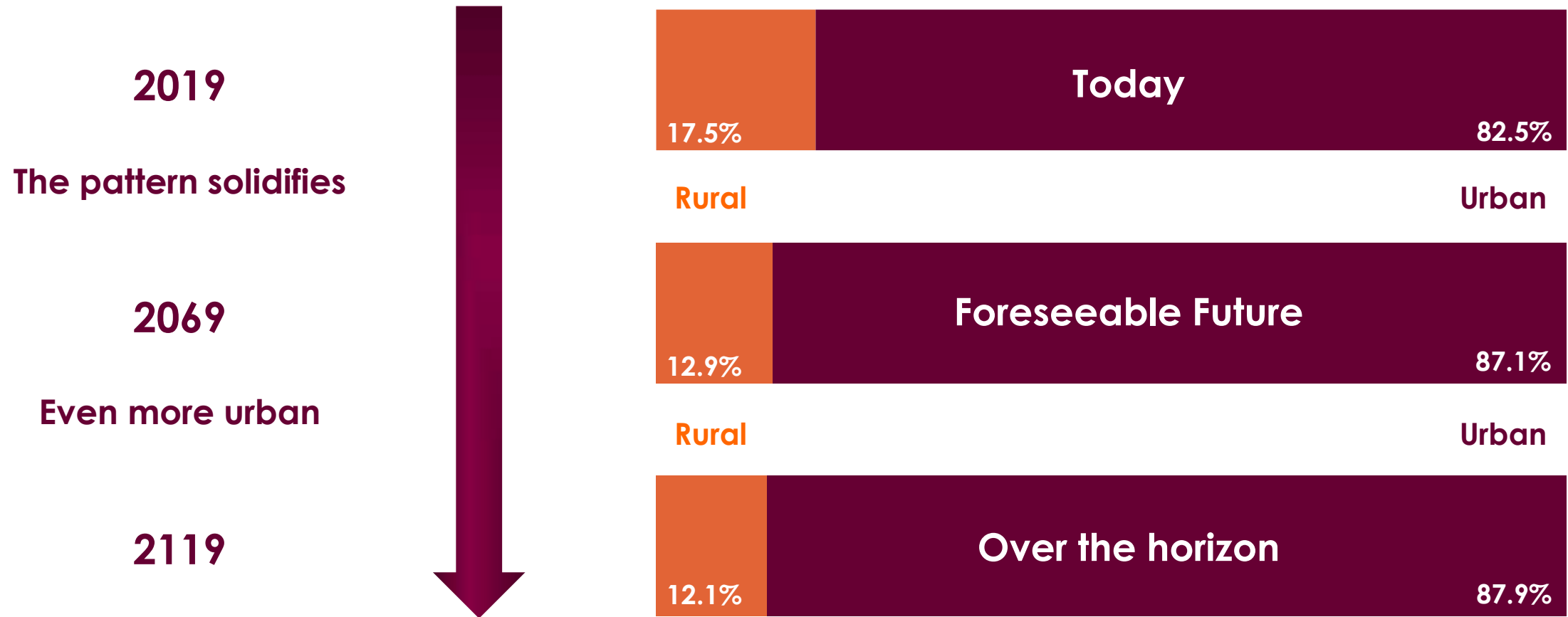
Russell Mathew, Partner
HEMSON Consulting Ltd.



100 Years of CIP Has Witnessed a Nation Transformed



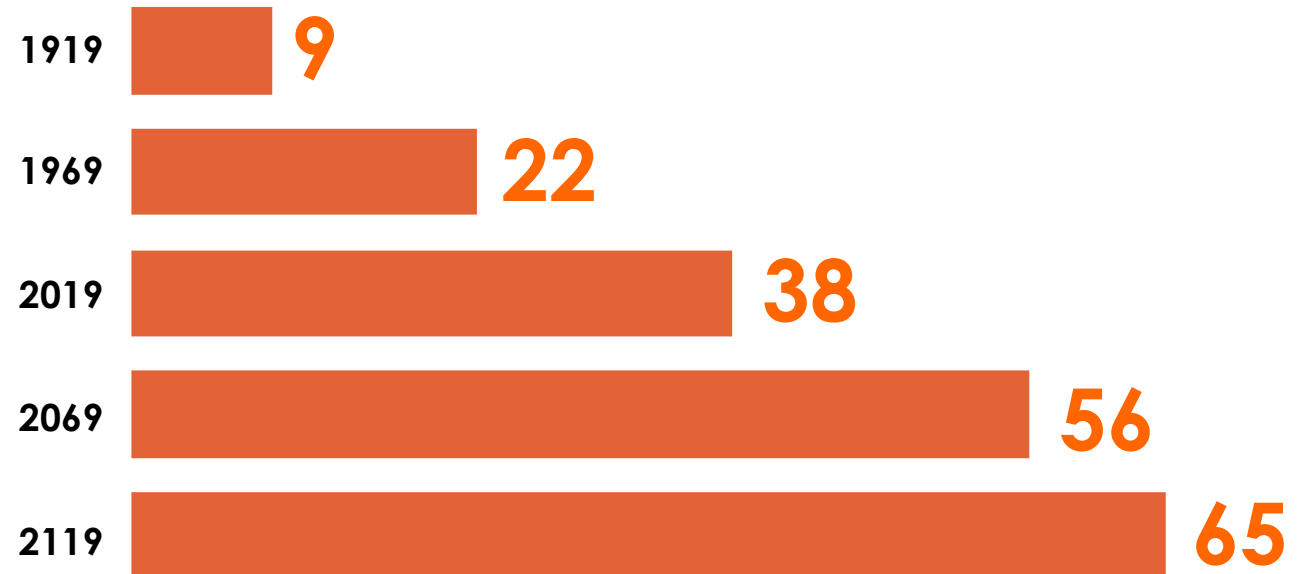
Where Does Canada Go in the Next 100?



“Big” Canada Emerges

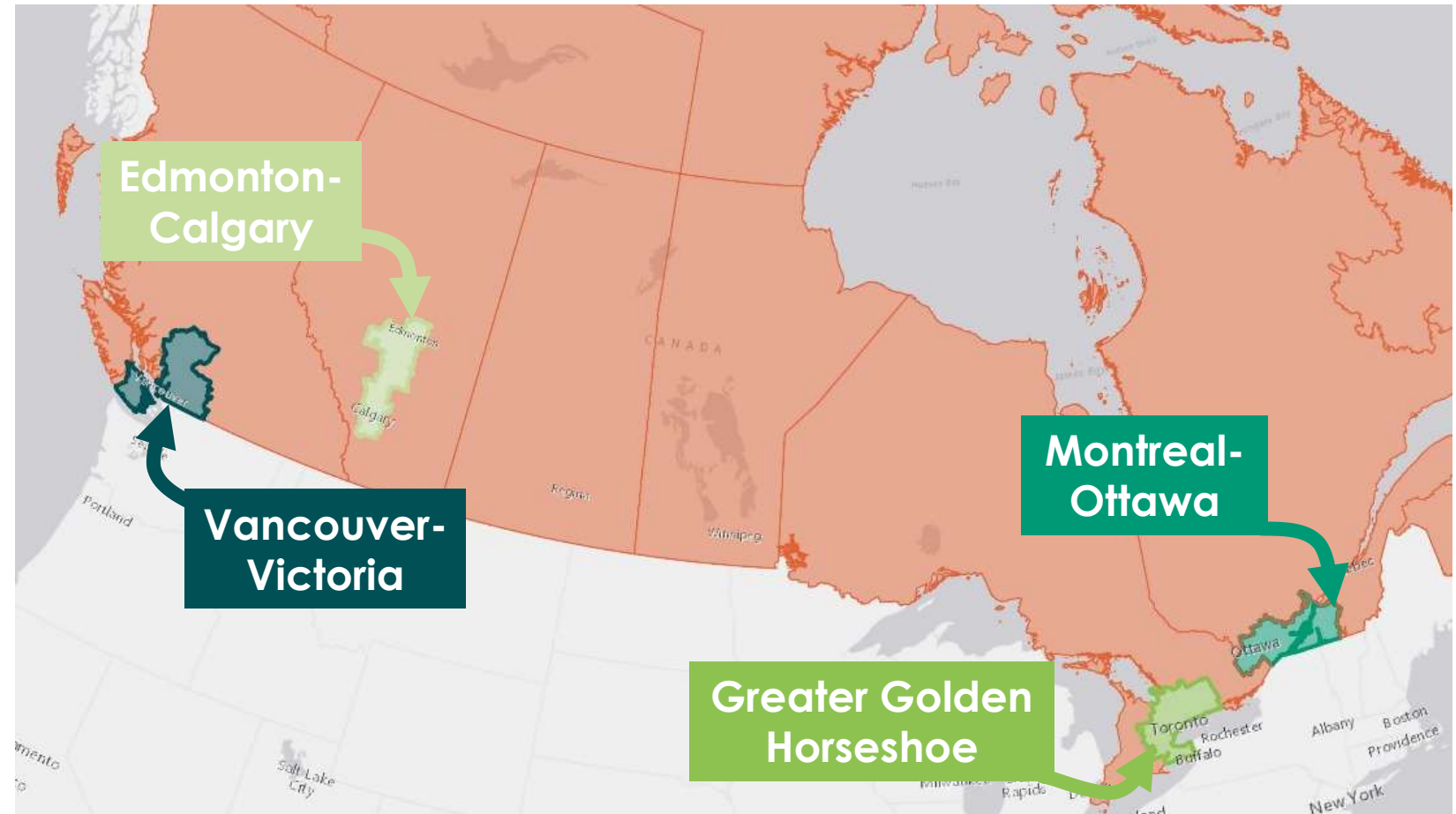


- Not the heft of a *Maximum Canada* 100 million
- In range of UK, France or Italy today

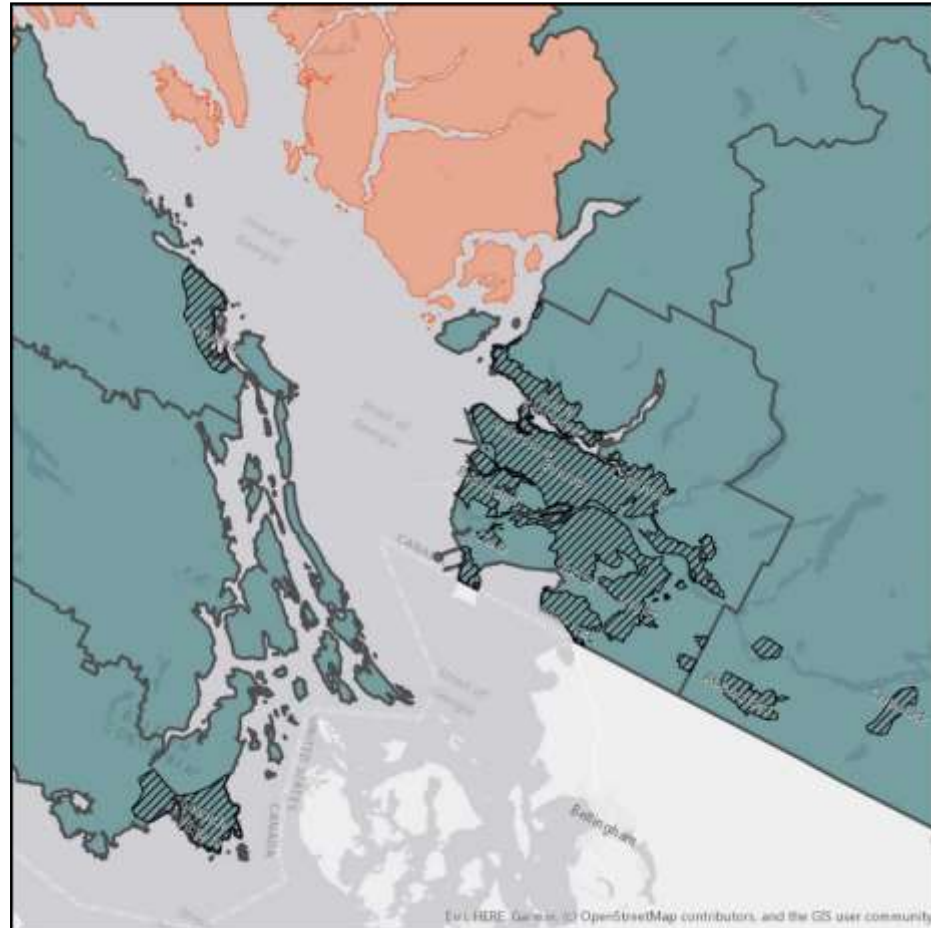


Most of the Urban Story Is in Four Metropolitan Regions

- Four “super” metros dominate
- Integrated economic regions with multiple central cities, close linkages and exurbia
- Areas for “big” infrastructure planning



End of Steel: Vancouver–Victoria

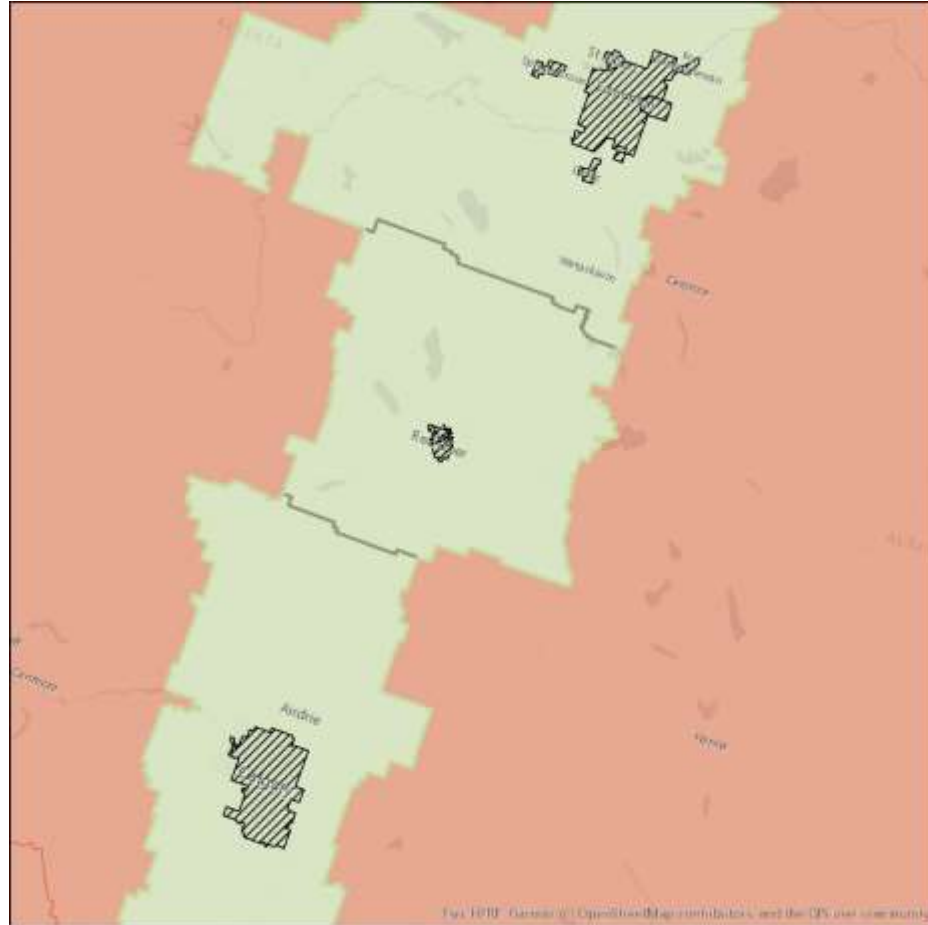


Yes, but where do we put them?



Historic and Forecast Population (millions)

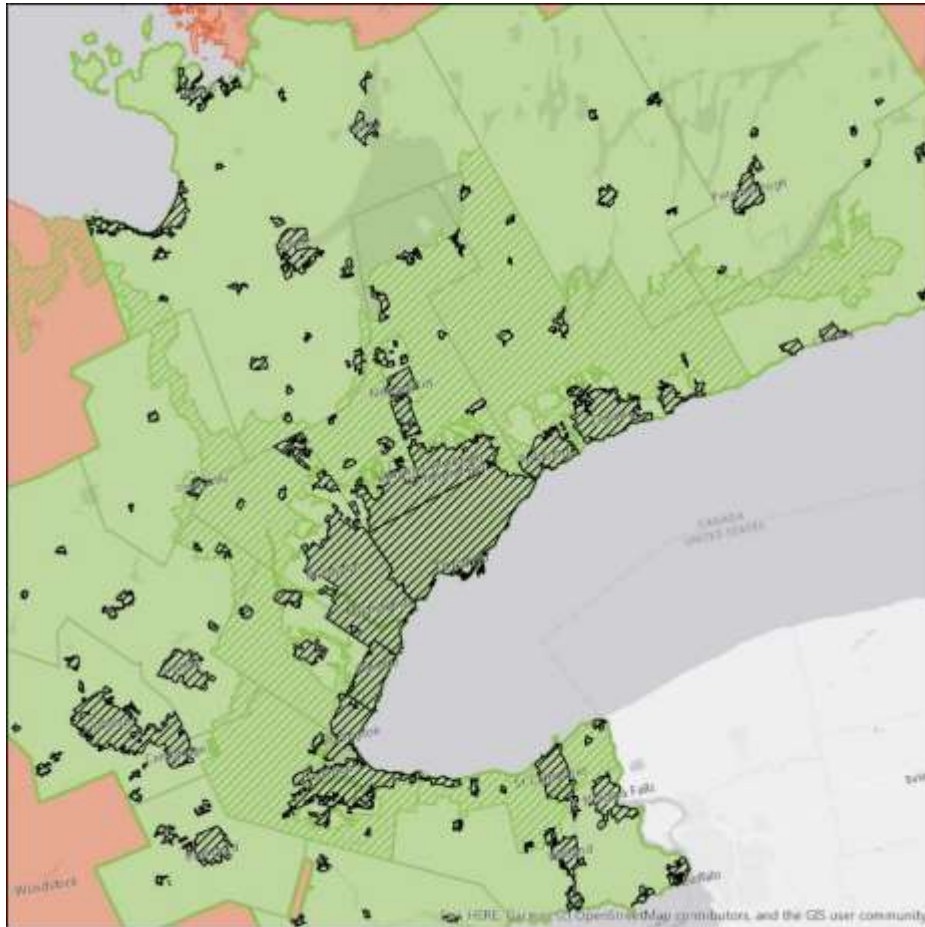
Life before and after Oil: Edmonton–Calgary



A serious economic region, beyond oil



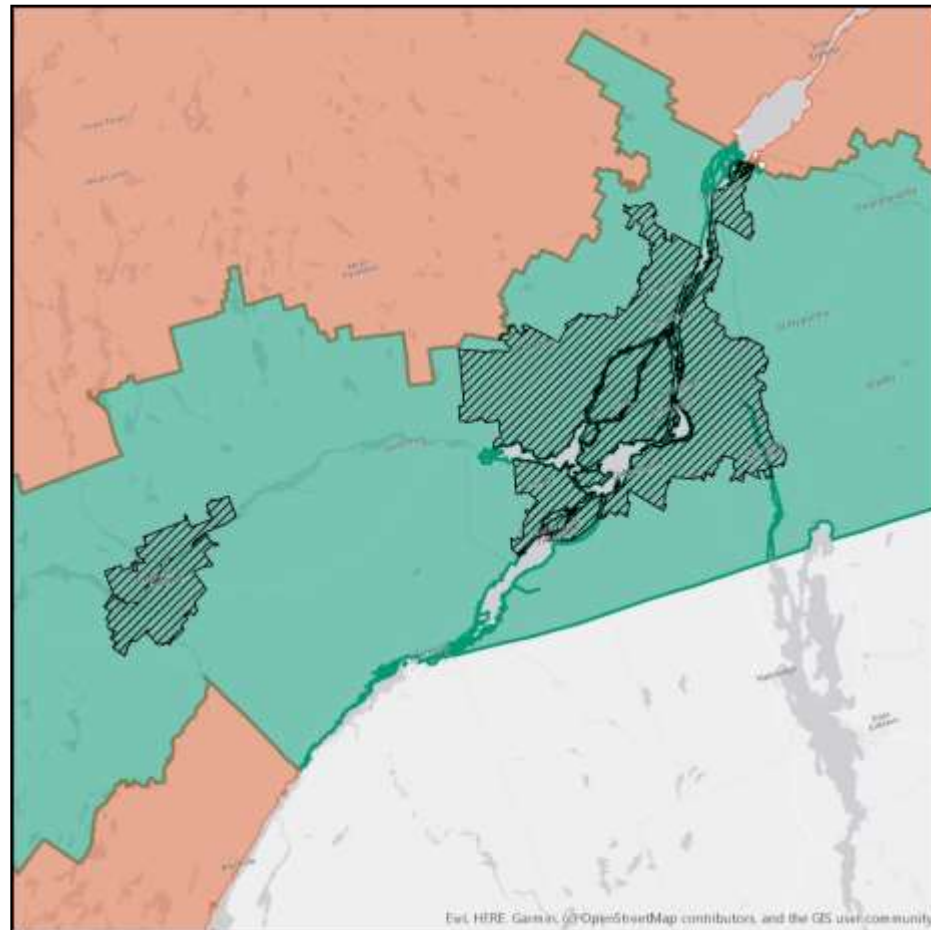
“Vancouver is a beauty, but Toronto ... Toronto is a city”: Greater Golden Horseshoe



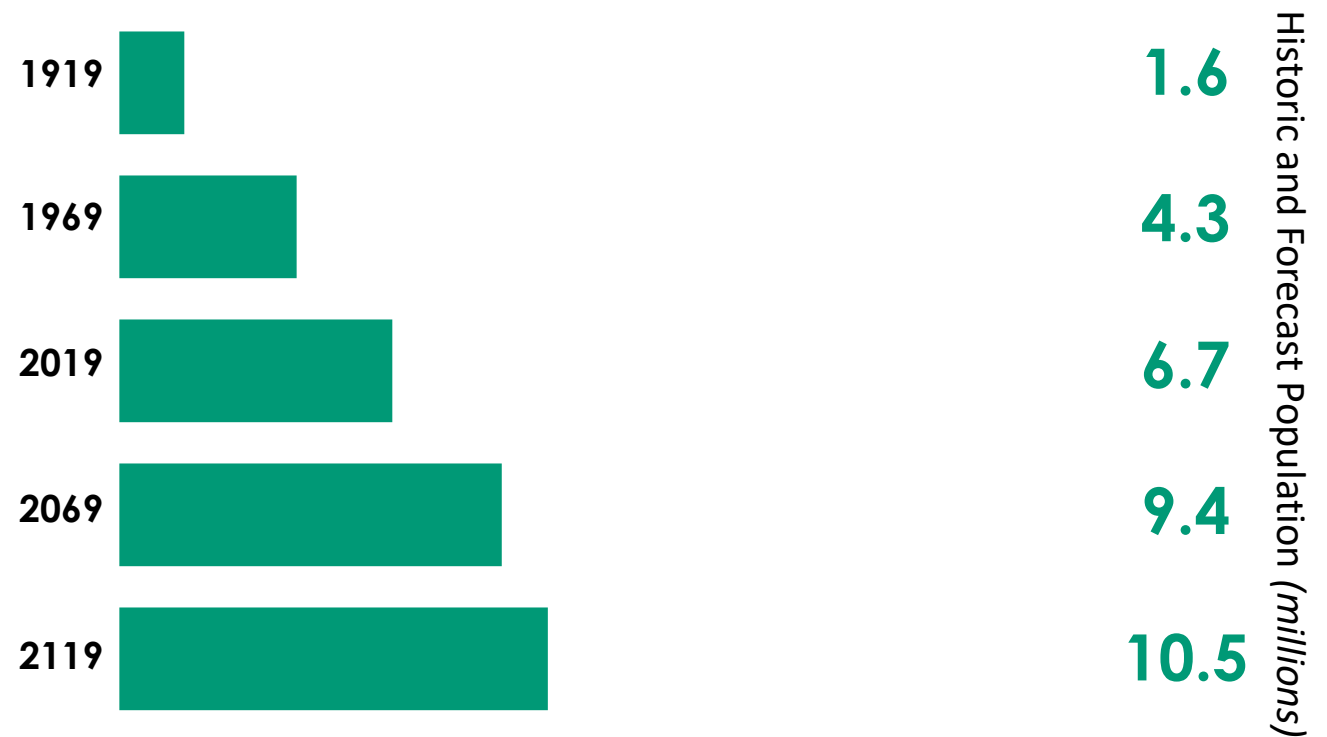
Will the GGH hit “peak city”?



La métropole original du Canada + cette ville forestière = Montréal–Ottawa



Not everyone is going west...

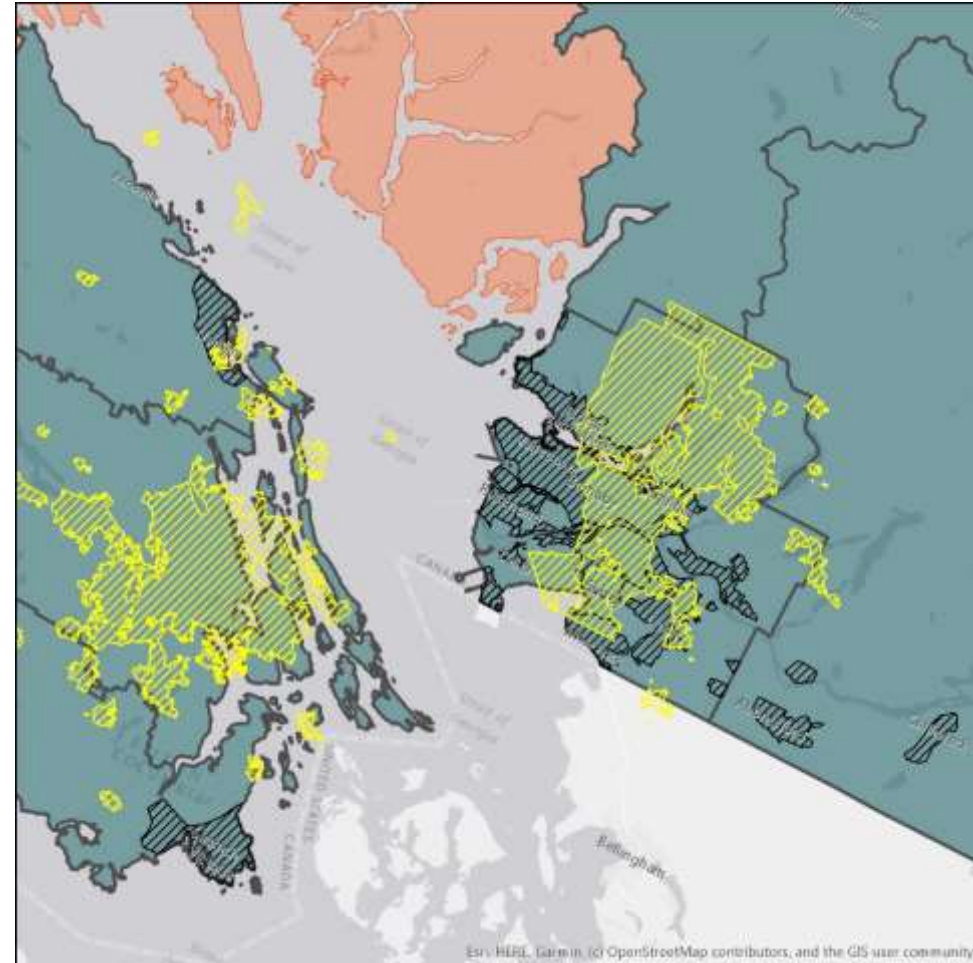


At 65 million, there is still a lot of space



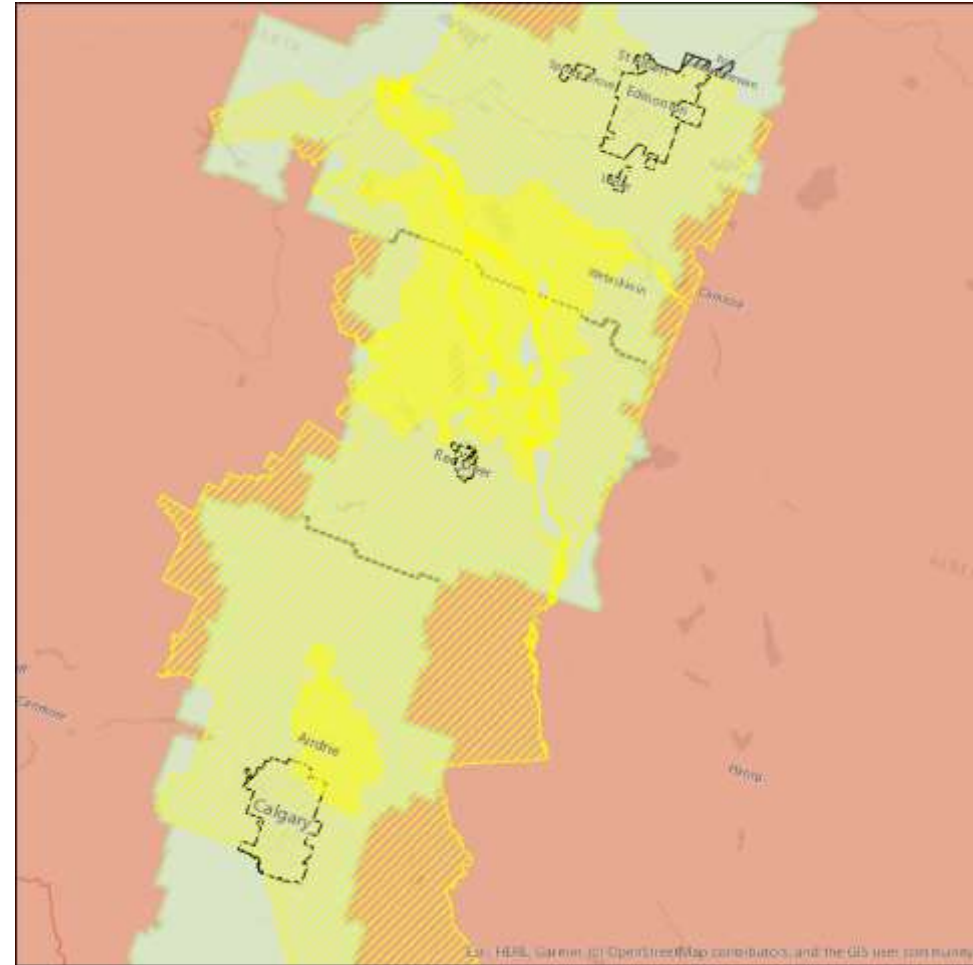
Yes, *that many* techies and hipsters

**Vancouver–Victoria at
7 million is about the
size of Seattle–Portland
today**



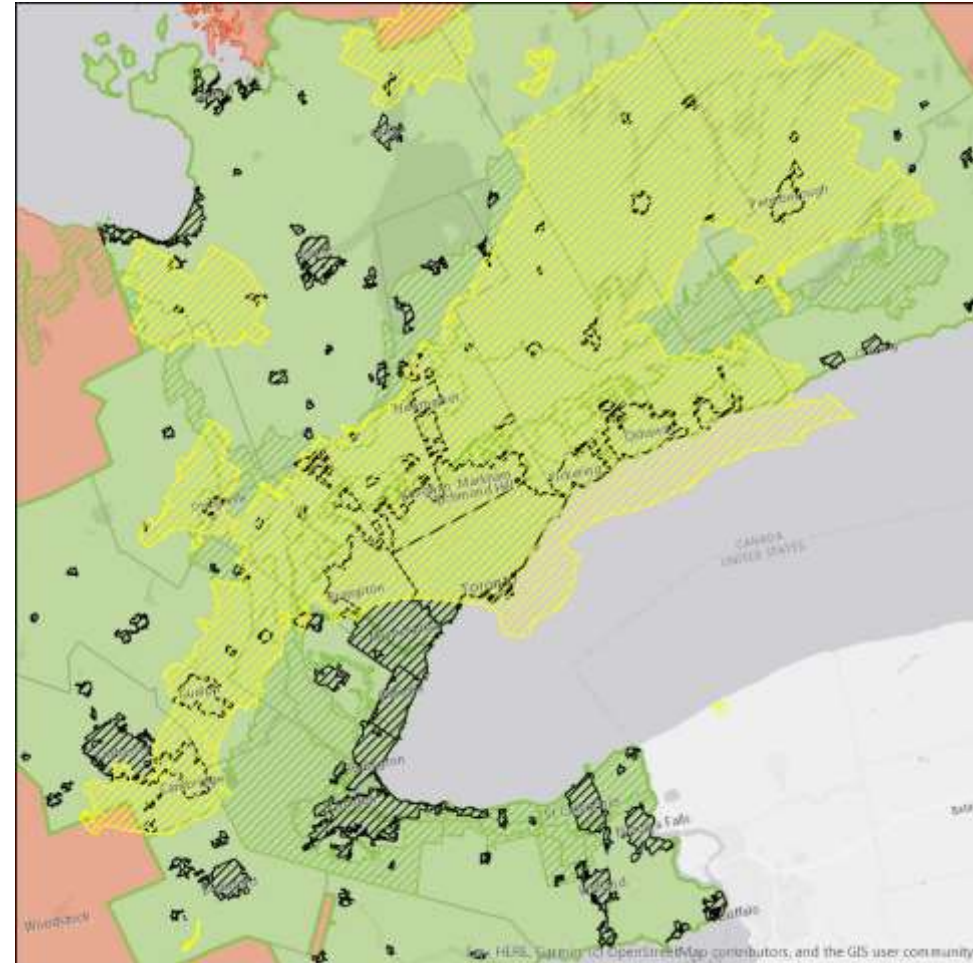
But will they vote that way?

**Edmonton–Calgary
2119 is really just
today's Montreal–
Ottawa (6 ½ million)**



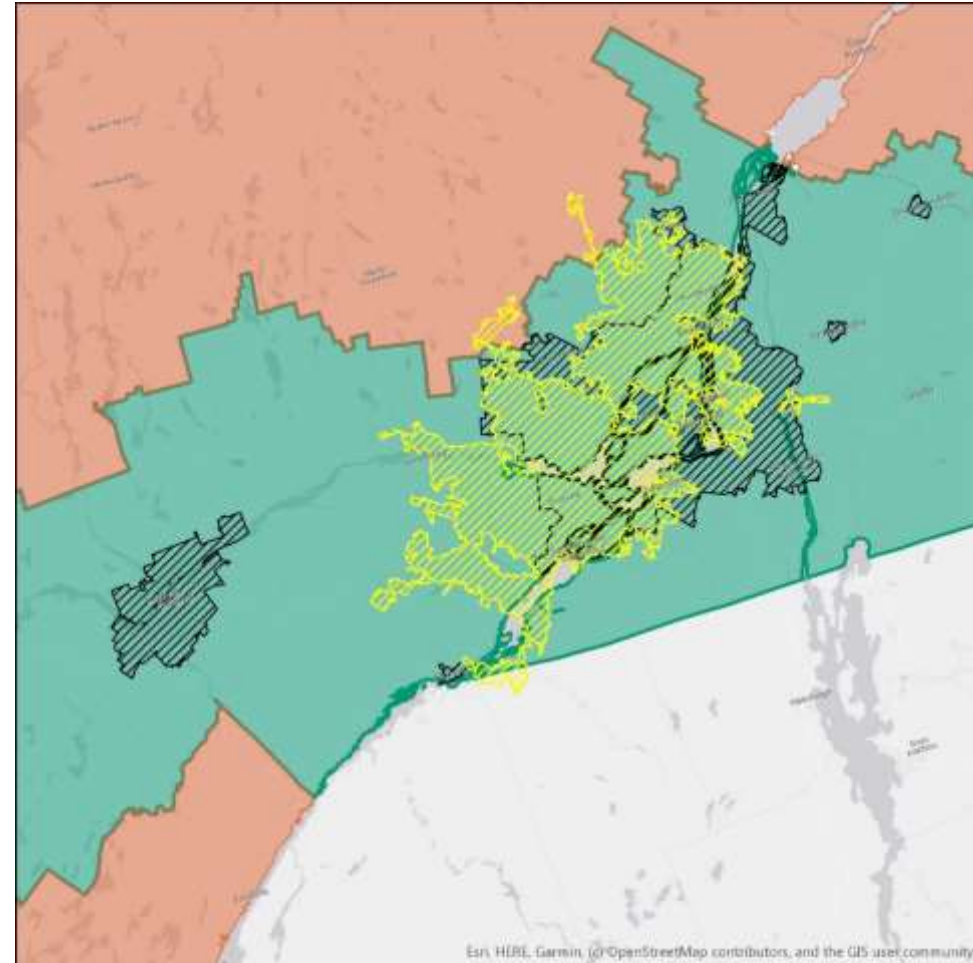
La La Land

GGH in 2119 could be the Los Angeles region of the 2020s at just over 20 million



But no Pentagon

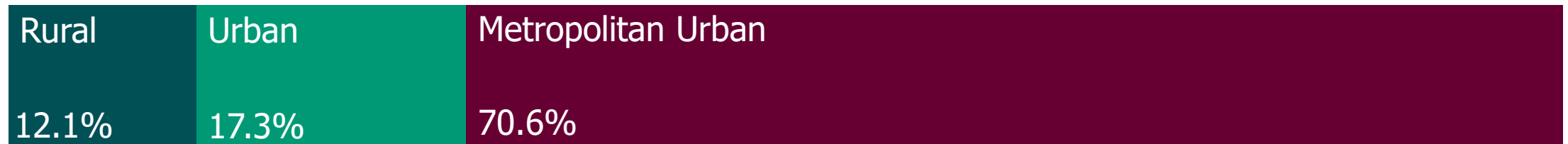
Today's Washington–
Baltimore at about 10
million similar to
Montreal–Ottawa



What if ...

... “hyper-loops” allow us to live anywhere?

Will 2119 look like this ...



... or this?



Or What if ...

**... significant climate change makes Canada
the “breadbasket of the world”**

Will 2119 look like this ...



... or this?



What this means for planners

- Need more super-regional planning
- Urban footprints will be larger
- Put linear corridors wherever you can



What this means for planners





Metropolitan Canada in 2119

THE METRO VANCOUVER PERSPECTIVE

James Stiver, MCIP, RPP

MANAGER, GROWTH MANAGEMENT AND TRANSPORTATION

Generation 2019 – July 5, 2019



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SERVICES AND SOLUTIONS FOR A LIVABLE REGION

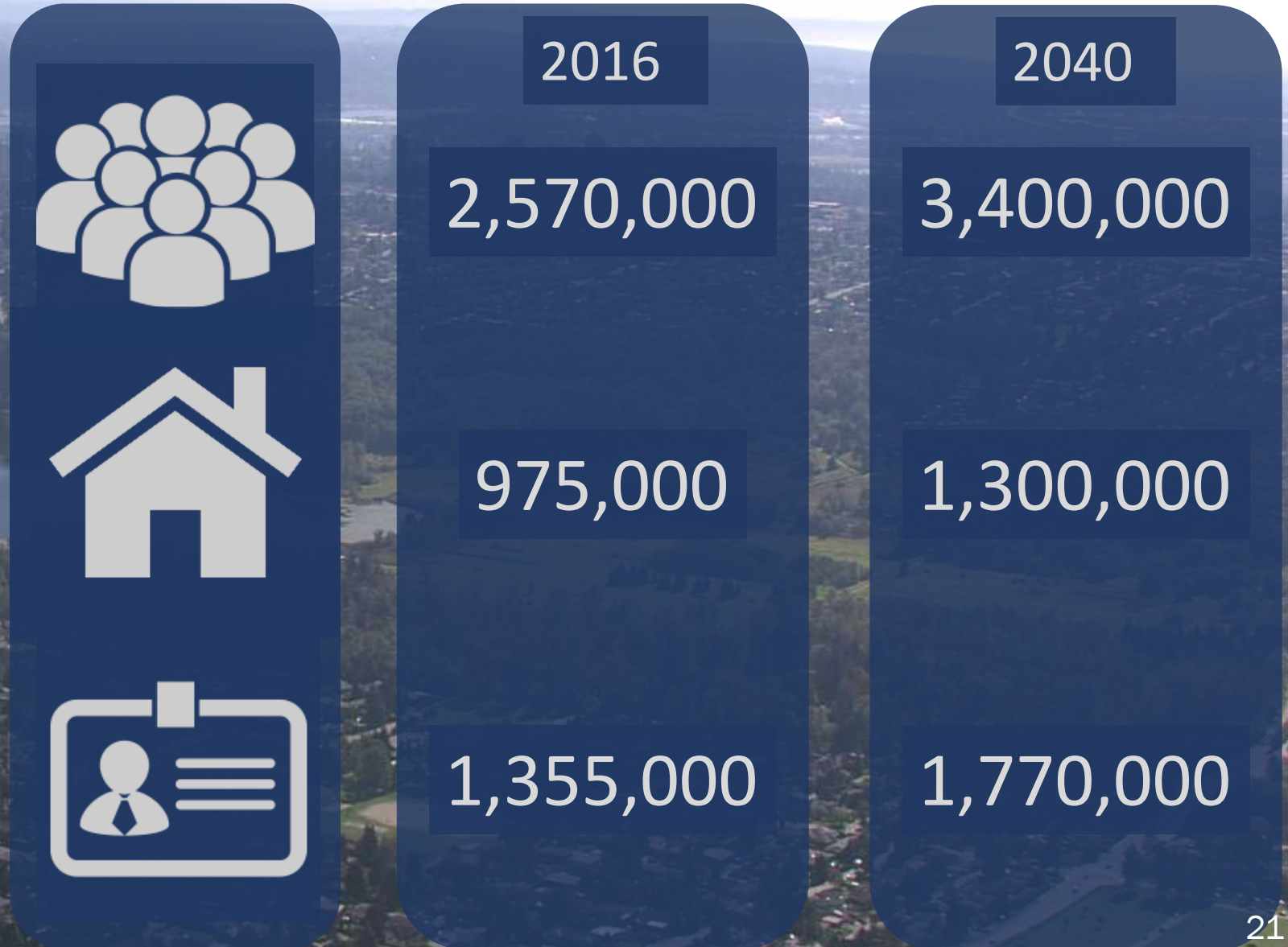
Presentation Outline

- Metro Vancouver's history of long range regional planning
- The Metro Vancouver Region
- *Metro 2040*, the regional growth strategy
- Population, housing and employment projections
- Long Range Scenarios project
- Next steps: *Metro 2050* and *Transport 2050*

Setting the Context



Metro Vancouver: A Growing Region



Metro Vancouver: A Growing Region

2011-2016

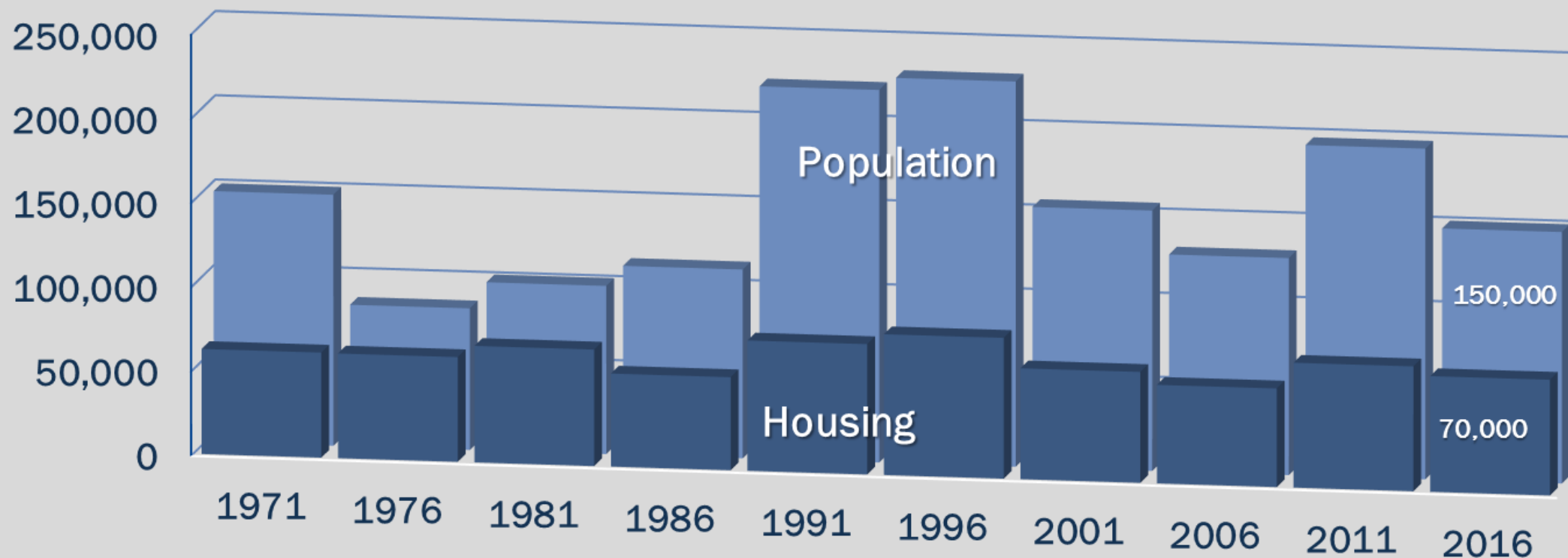
Population +180,000 (36,000/year)

Dwellings +70,000 (14,000/year)

Average past 30 years

Population 36,000 per year

Dwellings 14,300 per year



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Purpose of a Regional Growth Strategy

An aerial photograph of a suburban residential area. The foreground shows a dense cluster of houses with various roof colors and styles, interspersed with green trees. In the middle ground, there's a large, open area that appears to be a park or playground, with a prominent green structure that looks like a climbing frame or a play tower. The background shows more houses and trees, extending towards a hazy horizon. The overall scene is a typical suburban neighborhood.

A strategic plan that shapes long-term planning for regional districts and municipal OCPs

Designed to promote human settlement that is:

- socially, economically & environmentally sustainable
- makes efficient use of utilities, land & other resources
- supports and enhances regional sustainability & resilience

Regional Growth Strategy – Metro 2040



Goal 1 Create a Compact Urban Area



Goal 2 Support a Sustainable Economy



Goal 3 Protect the Environment and Respond to Climate Change



Goal 4 Develop Complete Communities



Goal 5 Support Sustainable Transportation Choices



Regional Planning Principles

An aerial photograph of a city, likely Vancouver, showing a dense urban core with several high-rise buildings. The city is surrounded by lush green trees in the foreground and middle ground. In the background, there are large, forested mountains under a blue sky with some light clouds. The overall scene is bright and clear.

- Put growth in the right places
- Support the development of complete, connected and resilient communities
- Protect important lands
- Support better mobility choices, a prosperous economy, and the efficient provision of urban infrastructure

Urban Containment Boundary



Google Earth

Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image © 2013 IMTCAN

Extension of Regional Sewerage Services



Google Earth

Orta SID, NOAA, U.S. Navy, NOAA, GEBCO
Image © 2018 IMTCAM

Structuring Growth – Urban Centres

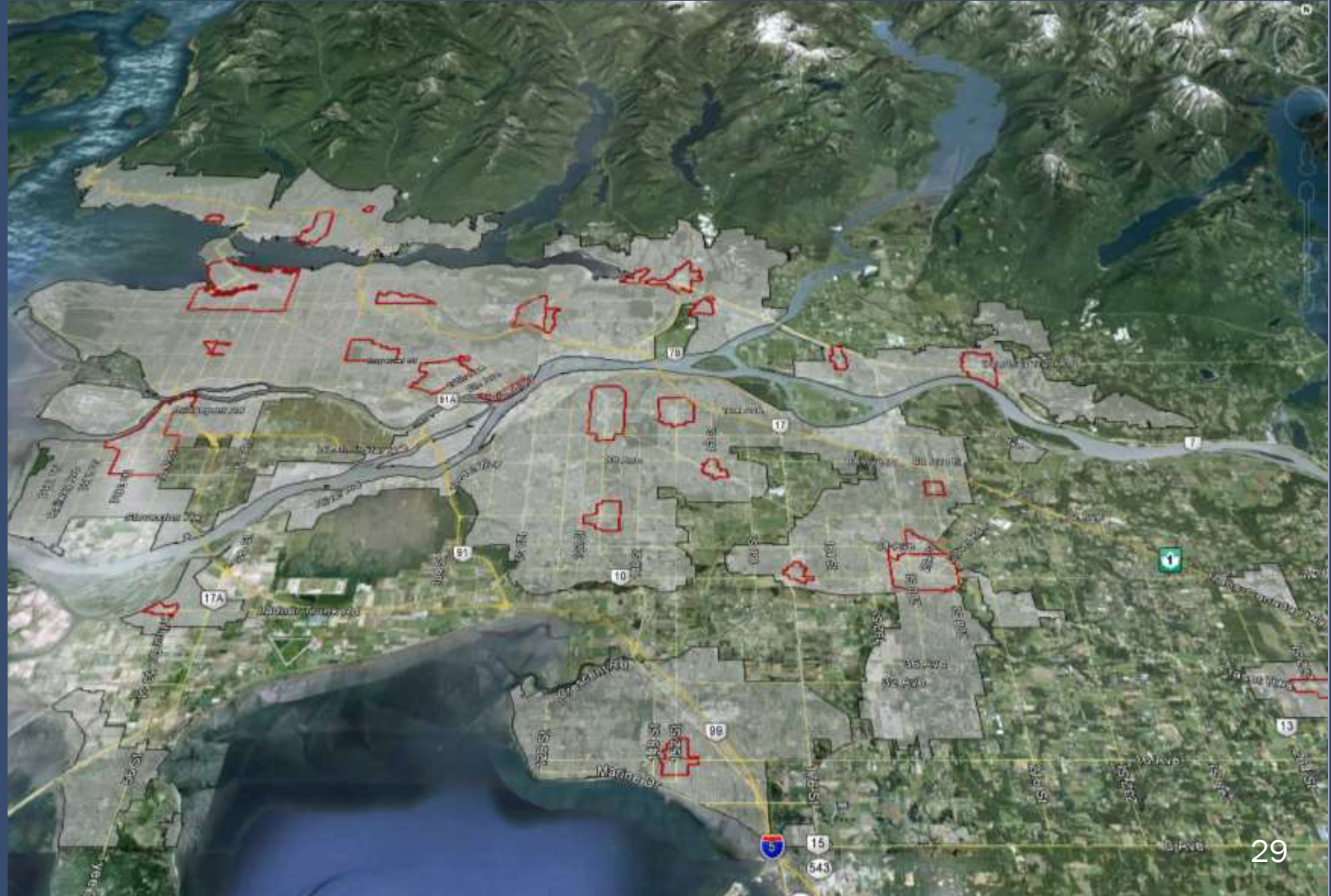
Target to 2040

40%

of housing and 50% of
employment growth to
Urban Centres

Performance 2011-
2016

39%



Structuring Growth – FTDA's / FTN

Target to 2041

28%

of housing growth along
the Frequent Transit
Network

Performance 2011-2016

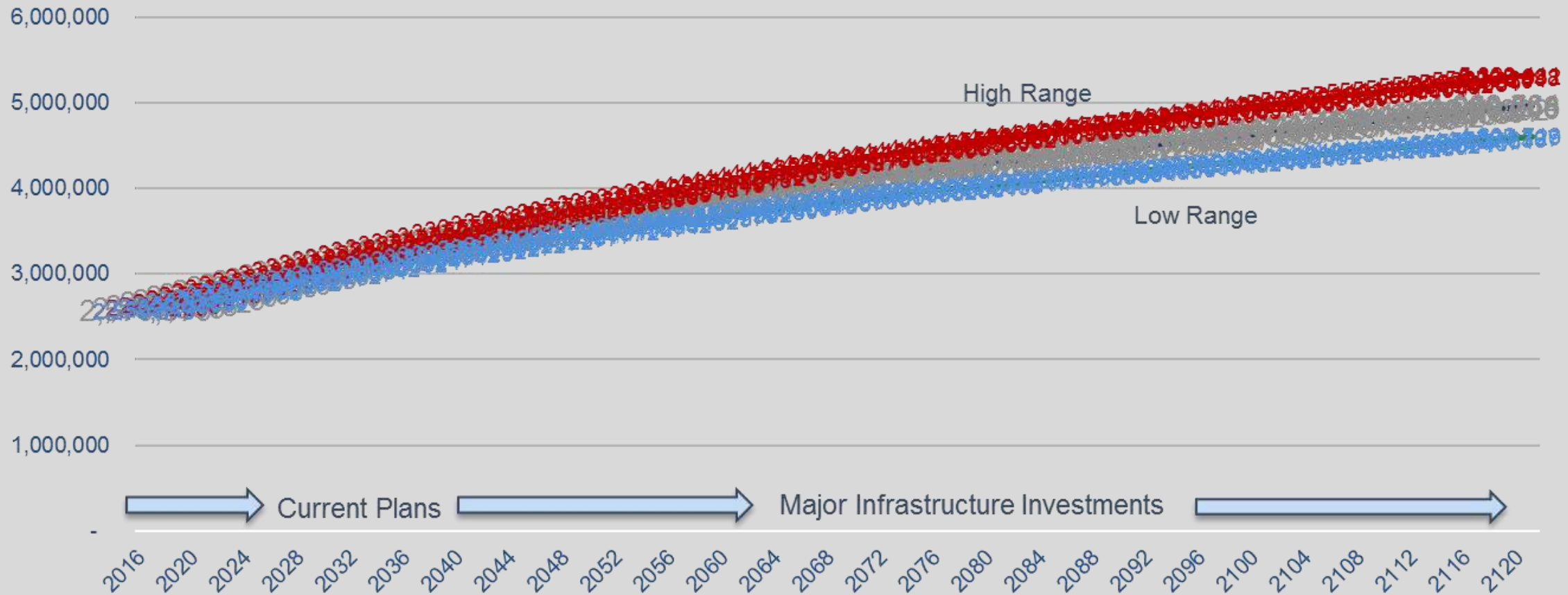
25%

Based on current FTN

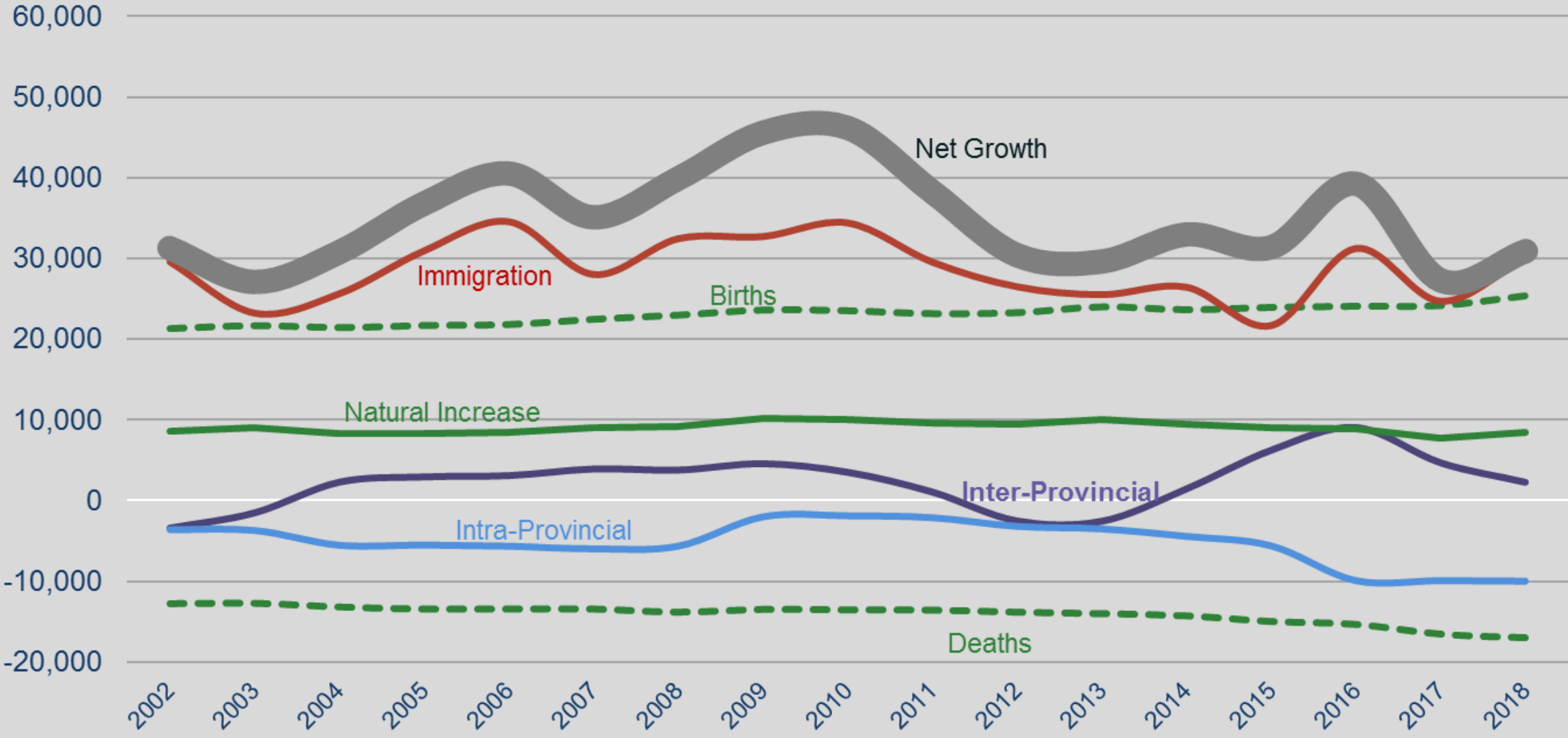


Population Projection - Baseline Scenario

	2016	2050	2121
Population	2,570,000	3,600,000	5,000,000

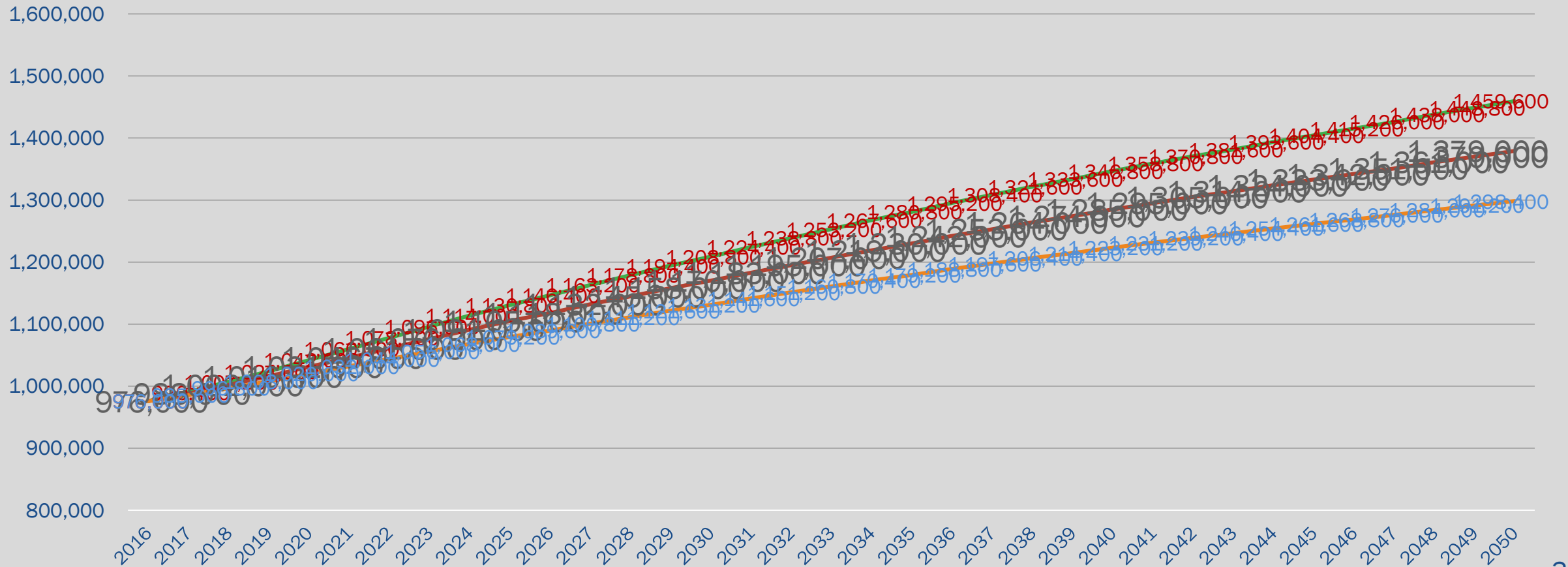


Components of Population Growth

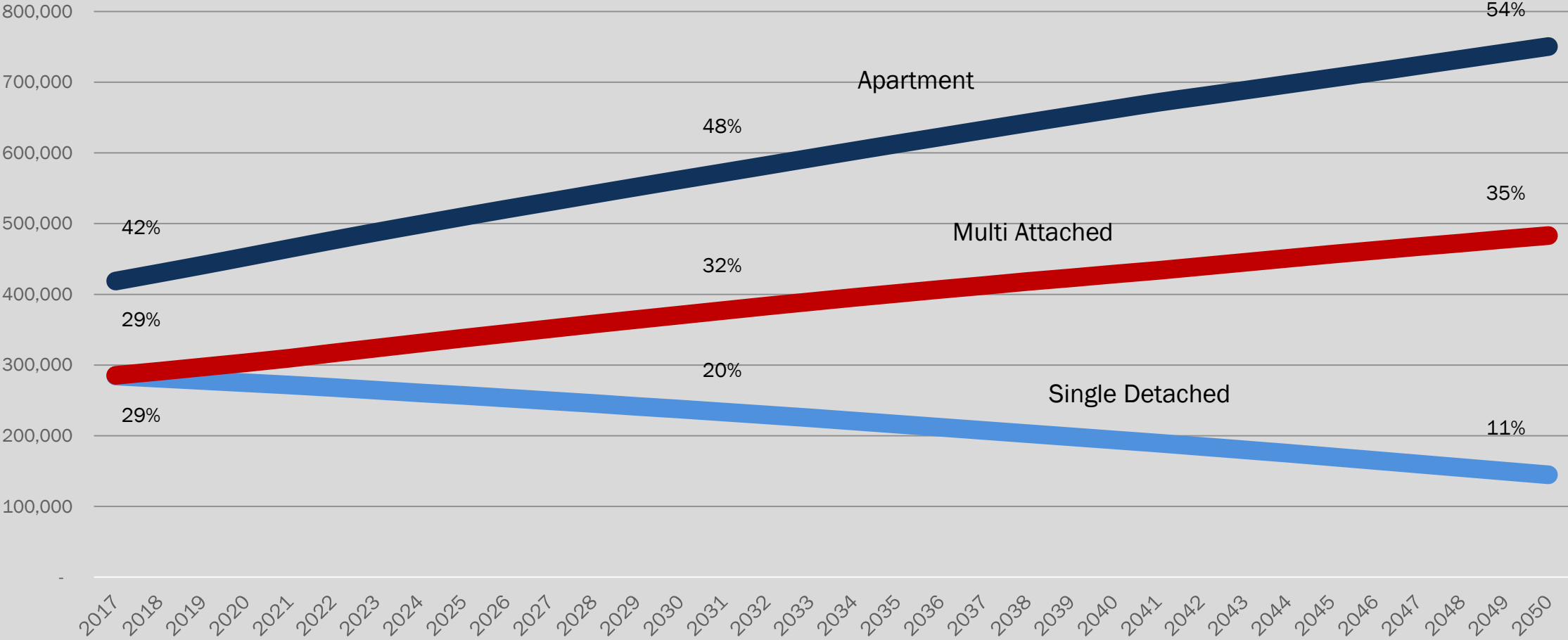


Baseline Dwelling Unit Projection

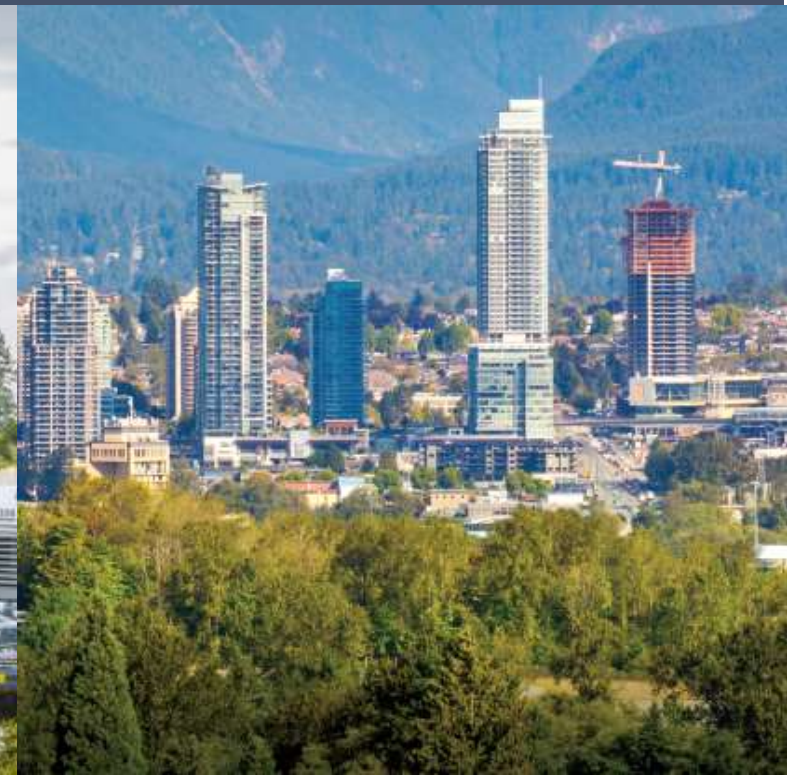
	2016	2031	2050
Dwellings	975,000	1,200,000	1,400,000



Projected Housing Stock Components

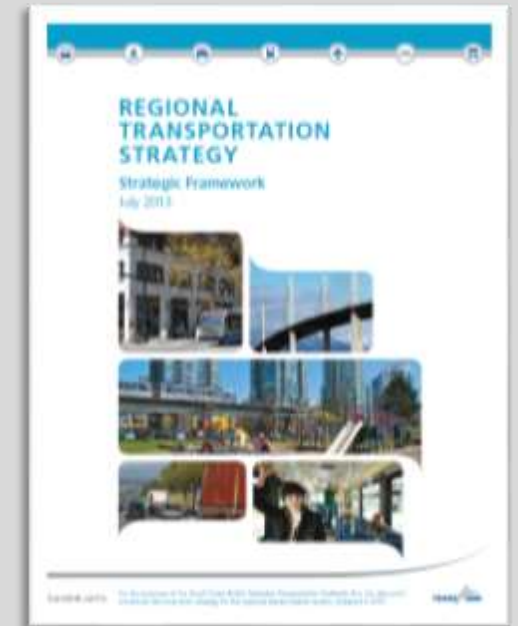


Long Range Growth Scenarios



Project Objectives

1. Understand future global trends and disruptors and potential for impacts on our region.
2. Develop plausible scenarios to test the resiliency of current plans.
3. Support future updates to population, jobs and housing projections.



Why Scenario Planning?

- Tools to discuss what the future might hold
- Determine possible strategies for resiliency.
- Challenge us to think differently and acknowledge uncertainty.

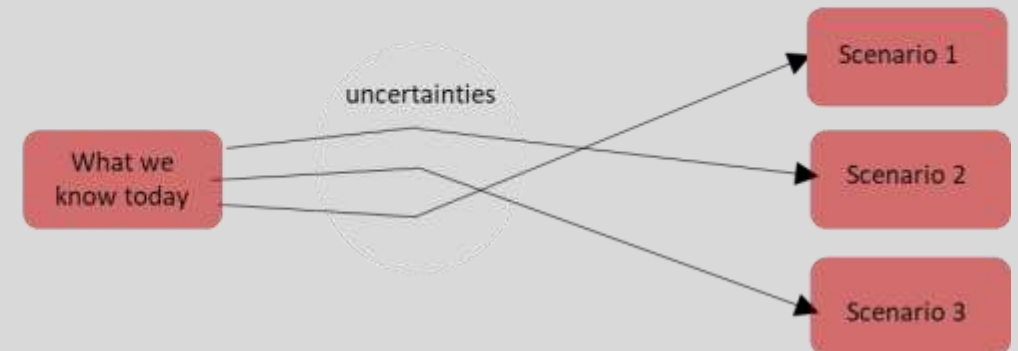
Point Forecast
Planning for a single future by extrapolating from the recent past.



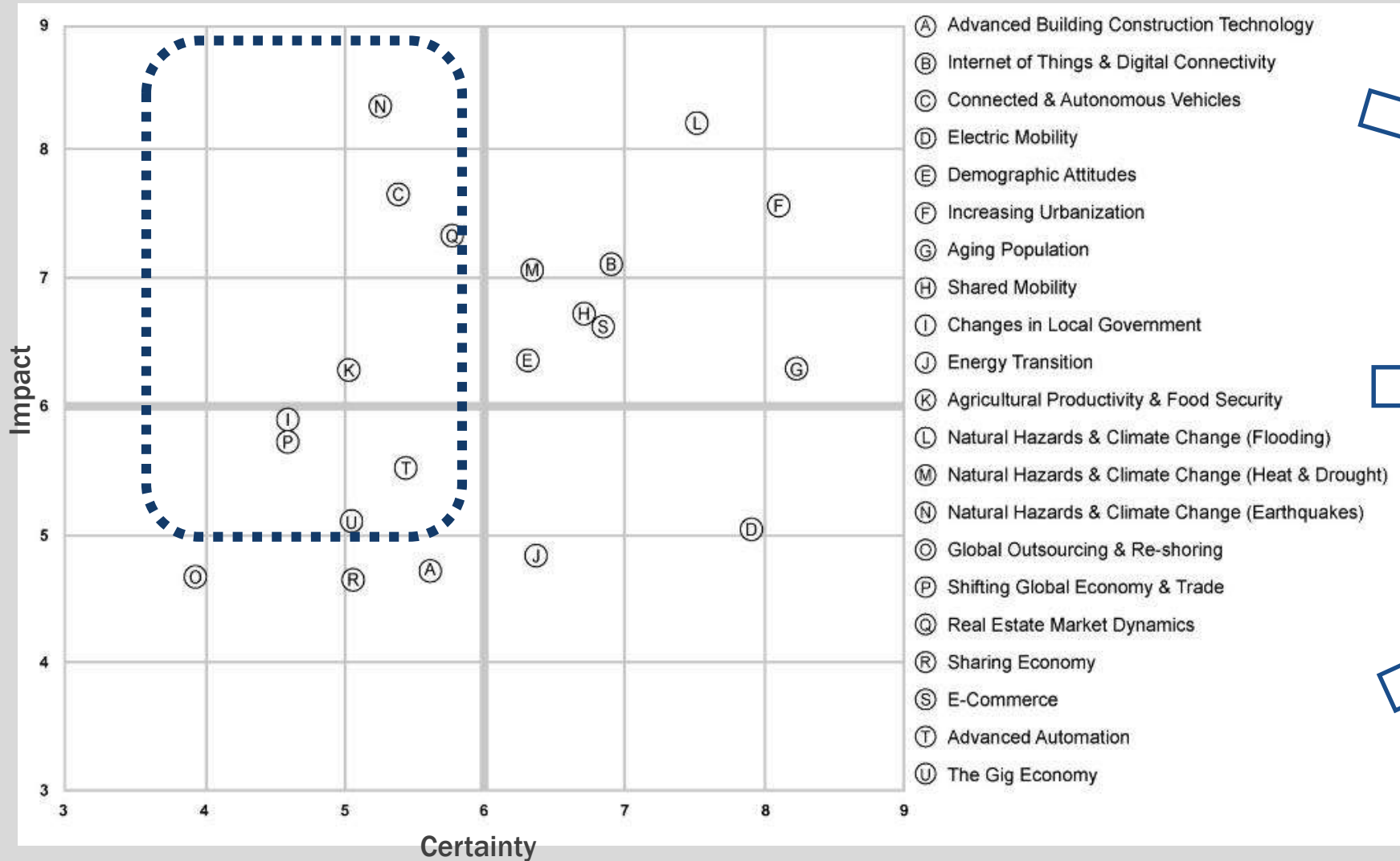
Risk Management
Planning for a single future with contingency planning to account for modest variations.



Scenario Planning
Planning for multiple plausible futures that may be quite different from the present.



External Forces Workshop



Advanced Technology

Climate Change

Economy & Trade

Opportunities and Challenges

- How could emerging technology shift location choices?
- How would we respond to climate change in a more capital-constrained environment?
- What can we do to better consider equity in our plans and strategies?
- Can we build infrastructure fast enough to service more rapid population and job growth?

A

Trend Forward

B

Automation-driven decline

C

Self-sufficiency

D

Automation-driven boom

What's Next?

- Metro 2050
- Transport 2050





Thank you



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Transport 2050: Planning for the Future

CIP National Conference July 5, 2019

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2050

Shape the future of
how we move. And live.

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Regional Transportation Strategies Matter

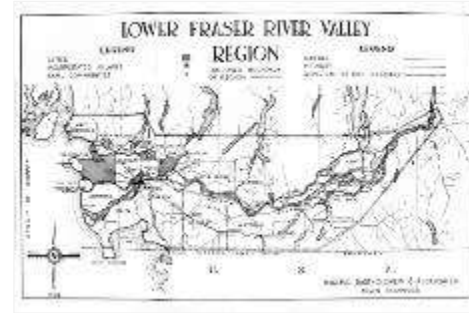
- A **shared strategy** for transportation in Metro Vancouver
- Provides the blueprint for **projects, policies, and programs**
- Previous plans have **shaped the region, and options for getting around, today**

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Past growth and transportation plans have shaped our region and options for getting around, today



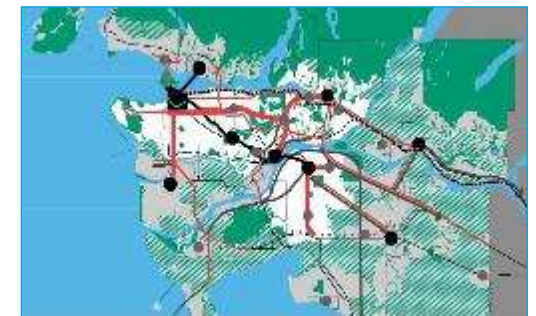
1946



1963



1975



1996



2011



2014

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Next Stop: Transport 2050

- With **Mayors' Council's 10-year Vision**, most of **Transport 2021** has been **delivered**
- What comes **next**?
- **Transport 2050** will help us **navigate** the **next 30 years** of transportation

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Solving the problems of today with an
eye to the future

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Where Is the Region Today?

- **Metro Vancouver** is a special place to live and a **livable region**
- Our **economy is booming**, every year we welcome **35,000 new residents**
- **Important challenges:**
 - transit investment **not keeping up with demand**
 - **traffic congestion**
 - **affordability**

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Transportation is our largest source of GHGs

- We have **ambitious targets**, but we are **not on track** to meet them
- New **Climate 2050 strategy** will guide policy and action

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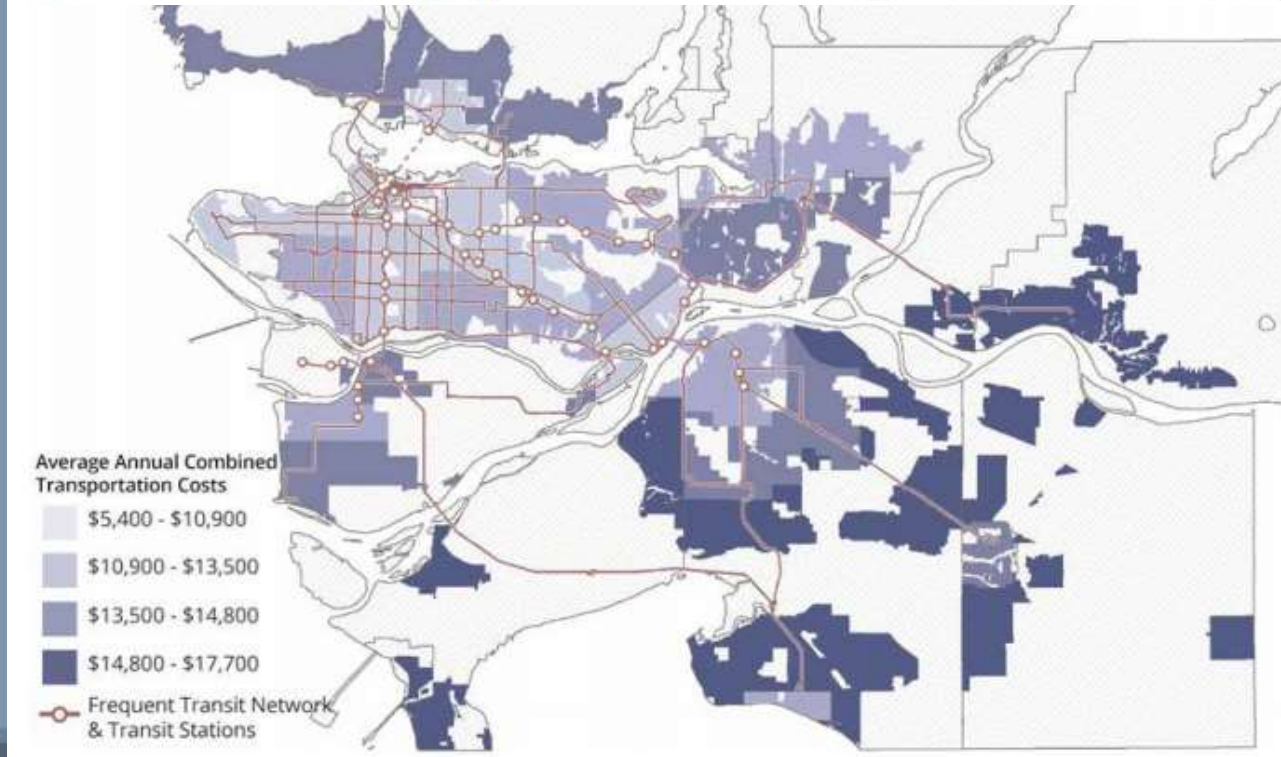
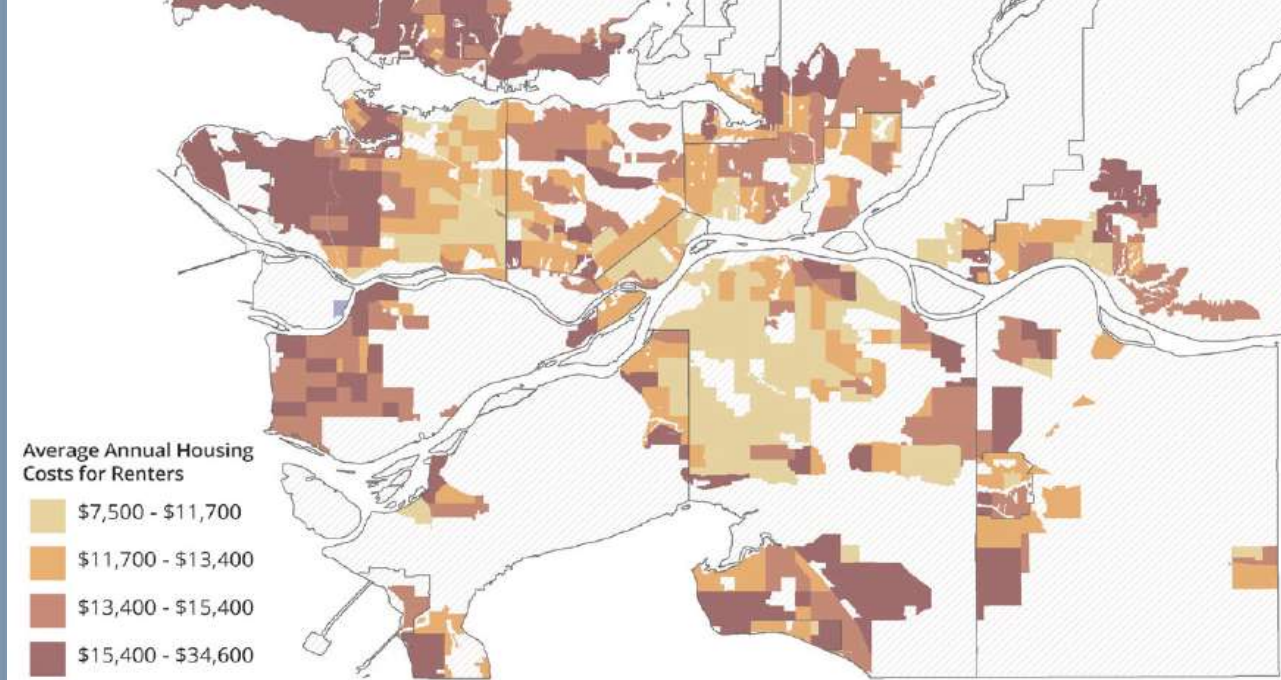


The region is becoming more **unaffordable**

- Affordability includes both **housing and transportation**
- While expenditures on transportation are lower for households around rapid transit, the cost of housing often increases around **new rapid transit** developments
- Demand for **affordable rental housing** near transit is greater than supply

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Imagine 2050

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Climate change impacts are already here

- By 2050: **more smoke, extreme weather and sea level rise**
- Climate change **impacts how we move**
- We need to reduce emissions and **adapt to climate change**

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how we move. And live.



How might **economic shifts** impact the region?

- Canada is heavily **trade dependent** and Metro **Vancouver** is a major **trade hub** today
- **Goods movement** takes place on our roads, railways, and seaways
- Competition is growing for industrial space in a **constrained land base**



Rapidly-evolving Technology will impact the future—but how?

- **Disruption:** Artificial intelligence, robotics, computing, and sensors
- Major impacts on **economy, jobs, and transportation**

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What Could the Future of Transportation Look Like?

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how we move. And live.

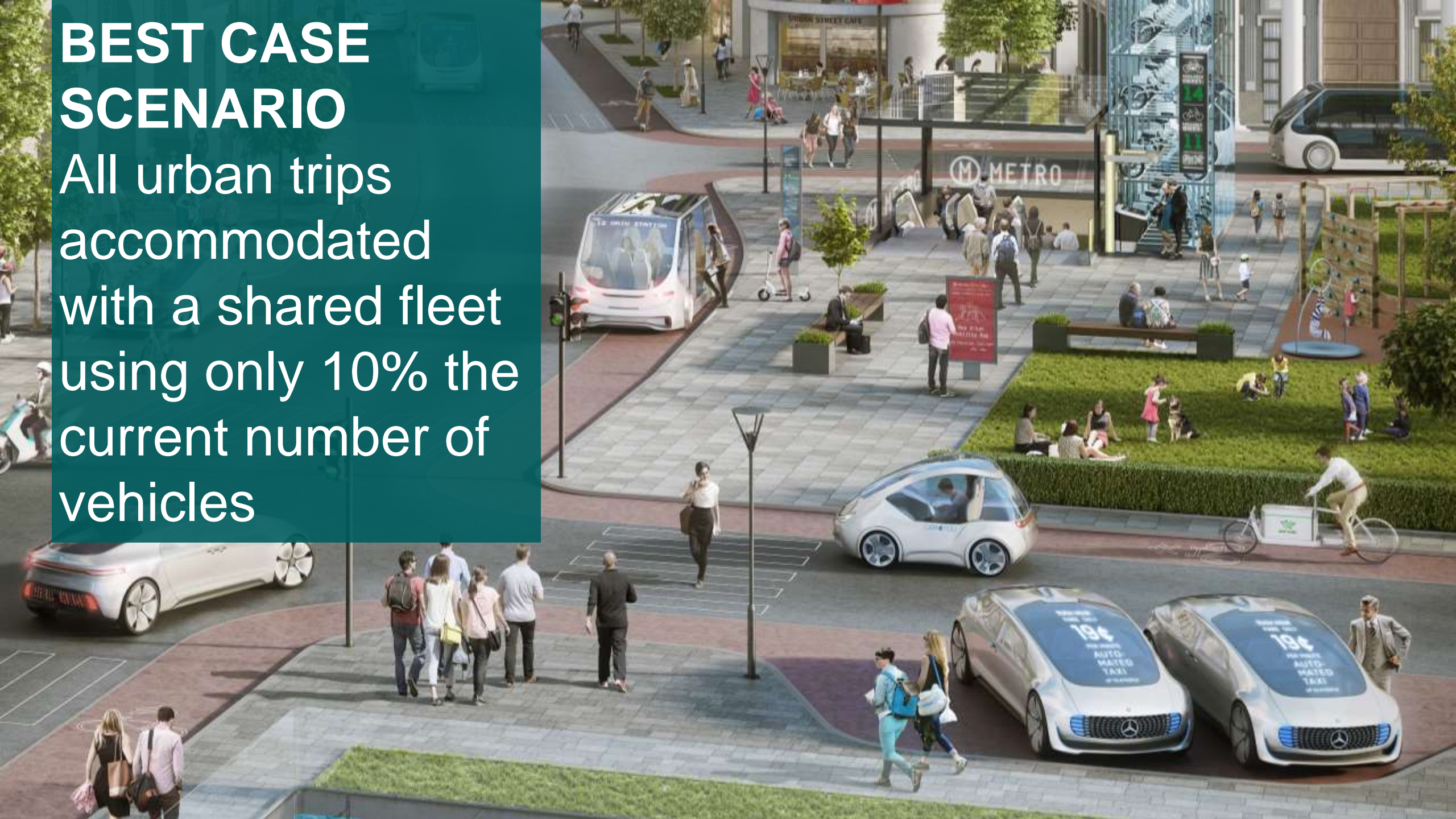
Four Trends Reshaping Transportation

- **Automation:** AI & sensors are putting robots in the driver's seat
- **Connectivity:** Soon, vehicles will be able to communicate with each other and with roadside sensors
- **Electrification:** Electric vehicles of all types are going mainstream
- **Sharing:** People are increasingly opting to pay for rides on shared bikes, scooters, cars, and transit instead of ownership



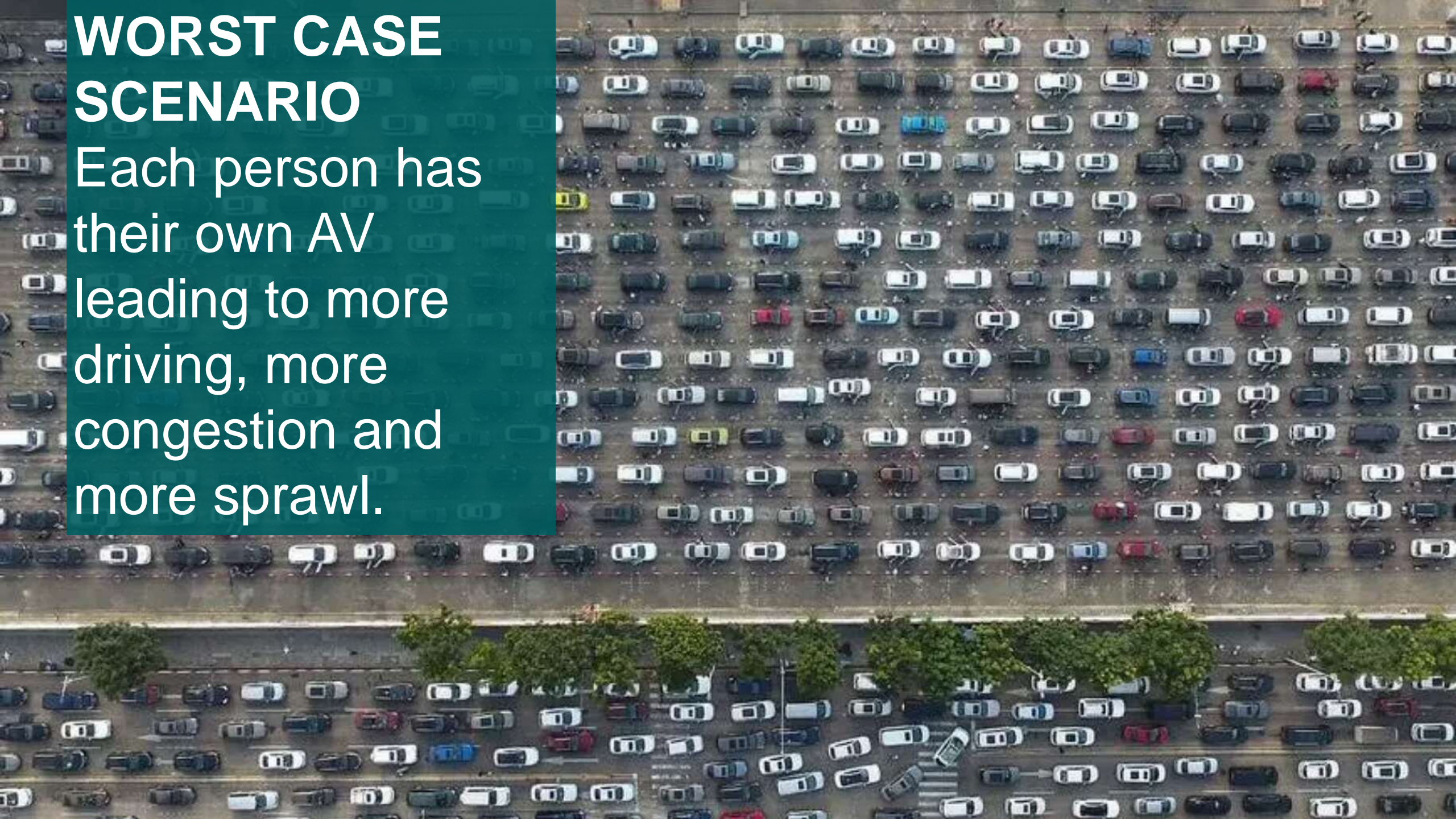
BEST CASE SCENARIO

All urban trips accommodated with a shared fleet using only 10% the current number of vehicles



WORST CASE SCENARIO

Each person has
their own AV
leading to more
driving, more
congestion and
more sprawl.



What Do We Want the Future to Look Like?

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Transport 2050: Vision and Values Engagement

What do you like about living in Metro Vancouver and your neighbourhood?

Biggest concerns for the future and priorities for the region

Most important trip characteristics and transportation system priorities

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Will we...

- **Sprawl outwards, relying on being able to sleep or work in AVs?**
- **Will we invest in dykes and maintain our land base or retreat from rising sea levels and increase density in the remaining land?**
- **Will we build more infrastructure-heavy SkyTrains or use cheaper, more flexible rapid buses?**

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**Shape the future of
how we move. And live.**