



City of Essex Junction Vision and Strategic Action Plan Future Think-Tank PART 1





PROJECT OBJECTIVES

Now that the City is independent, the City Council wants to provide an opportunity for the community to discuss the priorities and vision for the City of Essex Junction's future and five-year Strategic Action plan.

- Create a comprehensive and sustainable 5-year Community Vision and Strategic Action Plan for the City of Essex Junction.
- Provide deep and wide engagement with the community





Project stages and opportunities to engage

Importance of Future Thinking

- Project Portal
- Listening Sessions
- Community Survey #1

Aug – Sept 2023

Exploring Future Trends and Scenarios

- Think Tank
- Community Survey #2
- Charette

Oct – Dec 2023

Preferred Future and Roadmap

- Focus groups
- City of Essex Vision and Strategic Action Plan

Jan – Feb 2024

Building understanding and insights into the future

City of Essex Junction– Future Think-Tank

Part 1 – Explore Future Trends

- Macro trends shaping the future
- Key drivers shaping the future
- Rating future impact of drivers

Part 2 – Build regional scenarios

- Develop plausible scenarios of the future
- Identify expected and preferred futures
- Build strategic pillars

November 2



November 4





future→iQ

Create Future Intelligence™

www.future-iq.com

Key emerging trends shaping the future of the City of Essex Junction





WELCOME TO THE
CITY OF ESSEX JUNCTION
VISION & STRATEGIC ACTION PLAN

The Importance of Future Thinking

The key to effective future thinking...

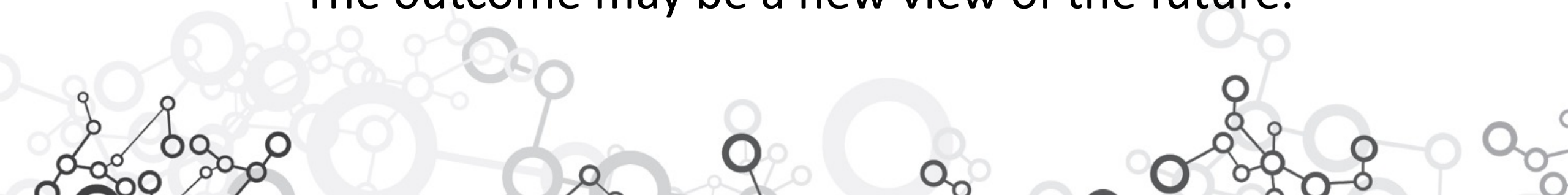
Consider both **trajectory** (direction of change)
and **velocity** (speed of change).



The challenge for the Think-Tank

- Explore the future -
- Ask the hard questions -
- Think creatively -

The outcome may be a new view of the future.





Forces impacting the world, regions and people

What are the emerging macro drivers...

Macro Trends and Forces of Change Related to . . .

- Demographics, population and mass urbanization
- Energy, food, water & climate change
- Technology driving change



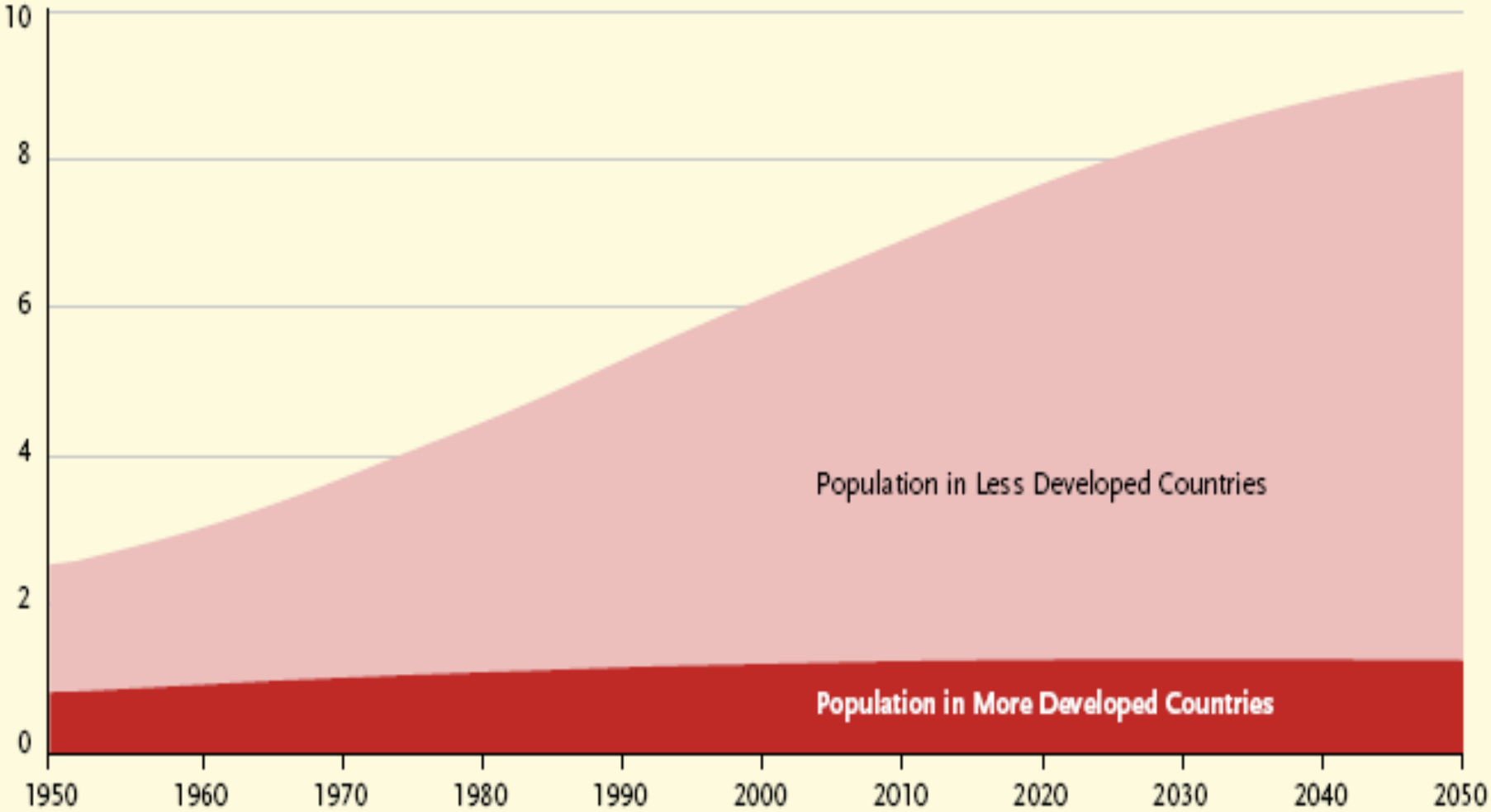


Demographics, population and mass urbanization

future→iQ

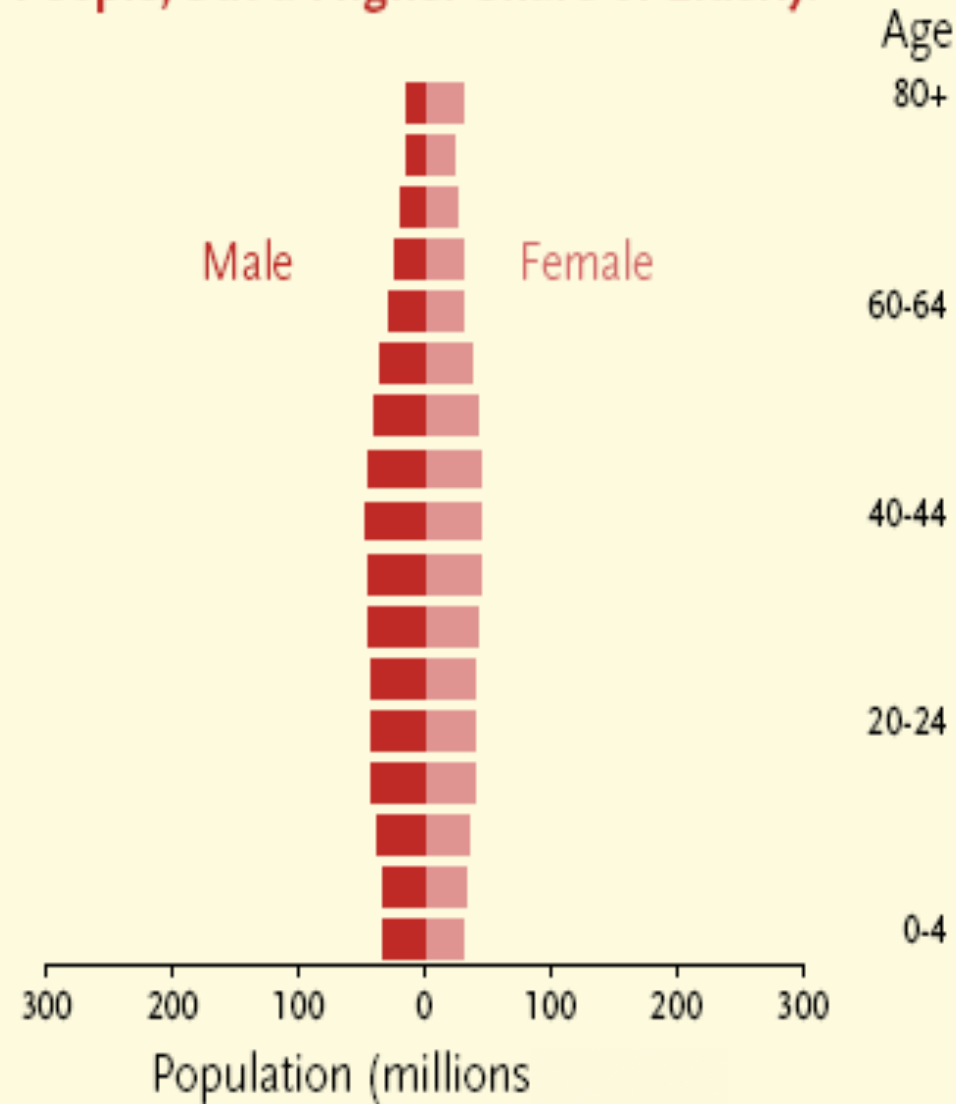
Global Population Growth Is Driven By Developing Countries.

World population in billions, 1950-2050 (projected)

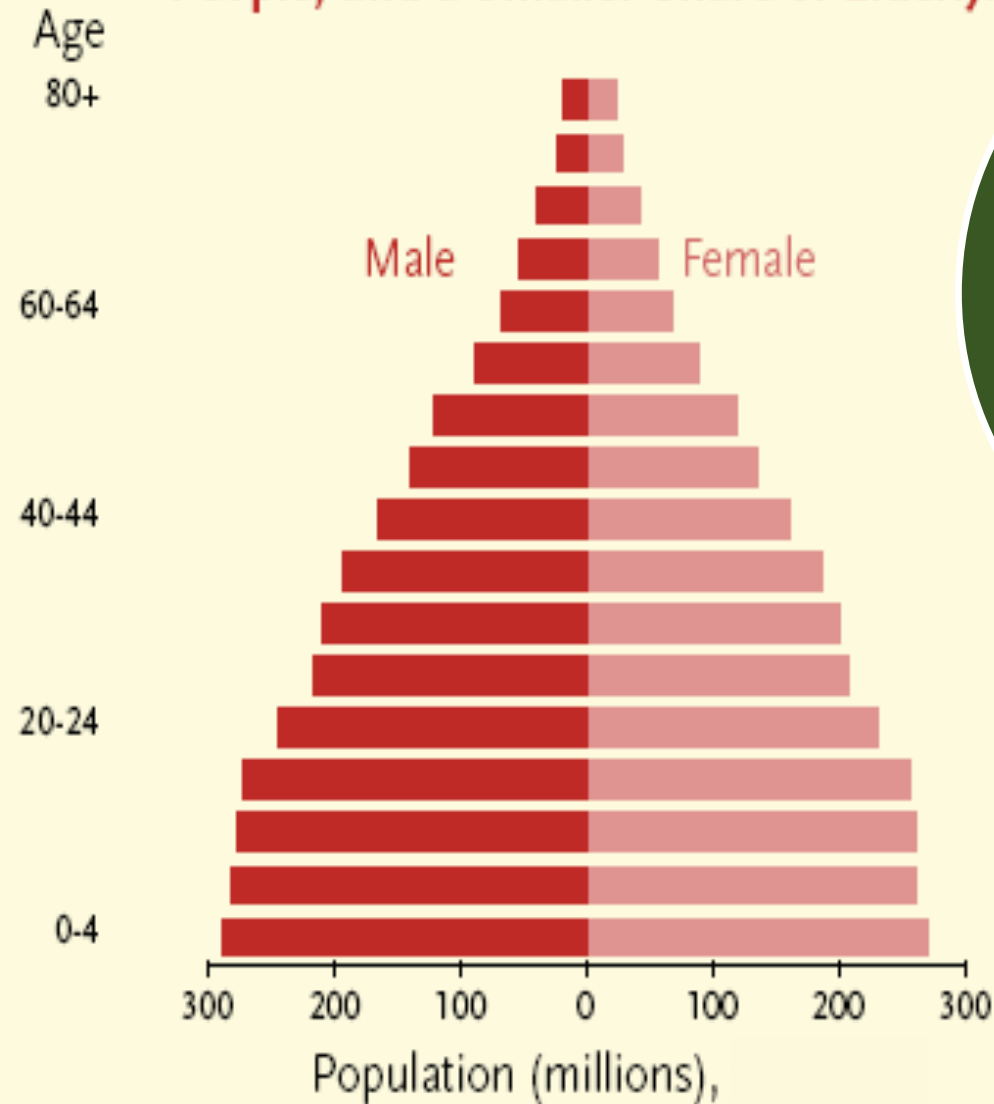


SOURCE: United Nations, *World Population Prospects*.

Developed Countries Have Fewer Young People, but a Higher Share of Elderly.

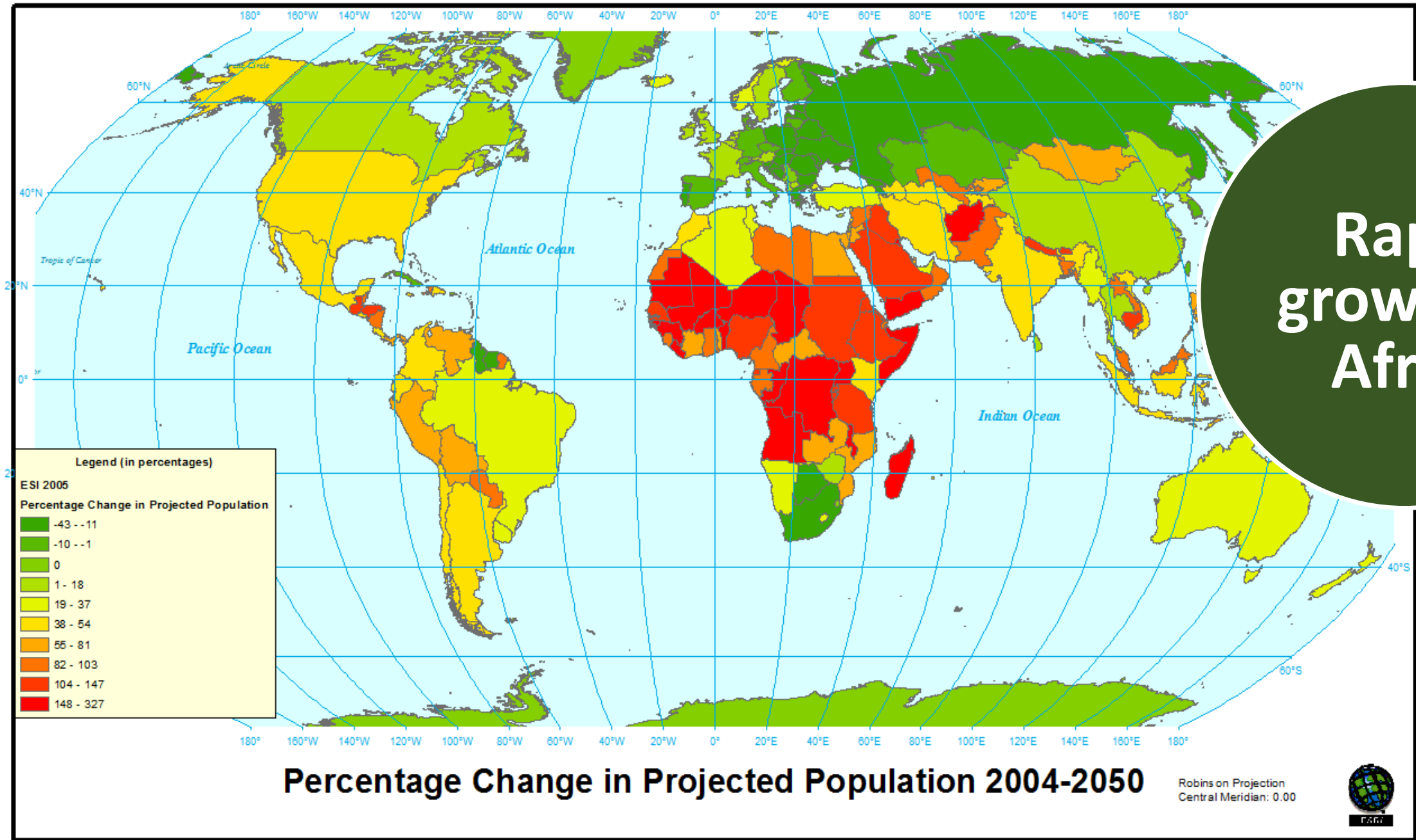


Developing Countries Have More Young People, and a Smaller Share of Elderly.



**Global
population age
profiles**

SOURCE: United Nations, *World Population Prospects*:



Rapid growth in Africa

AN URBAN WORLD

This graphic depicts countries and territories with 2050 urban populations exceeding 100,000. Circles are scaled in proportion to urban population size. Hover over a country to see how urban it is (percentage of people living in cities and towns) and the size of its urban population (in millions).

Urban Population

- Greater than 75%
- 50% - 75%
- 25% - 50%
- Less than 25%

1950



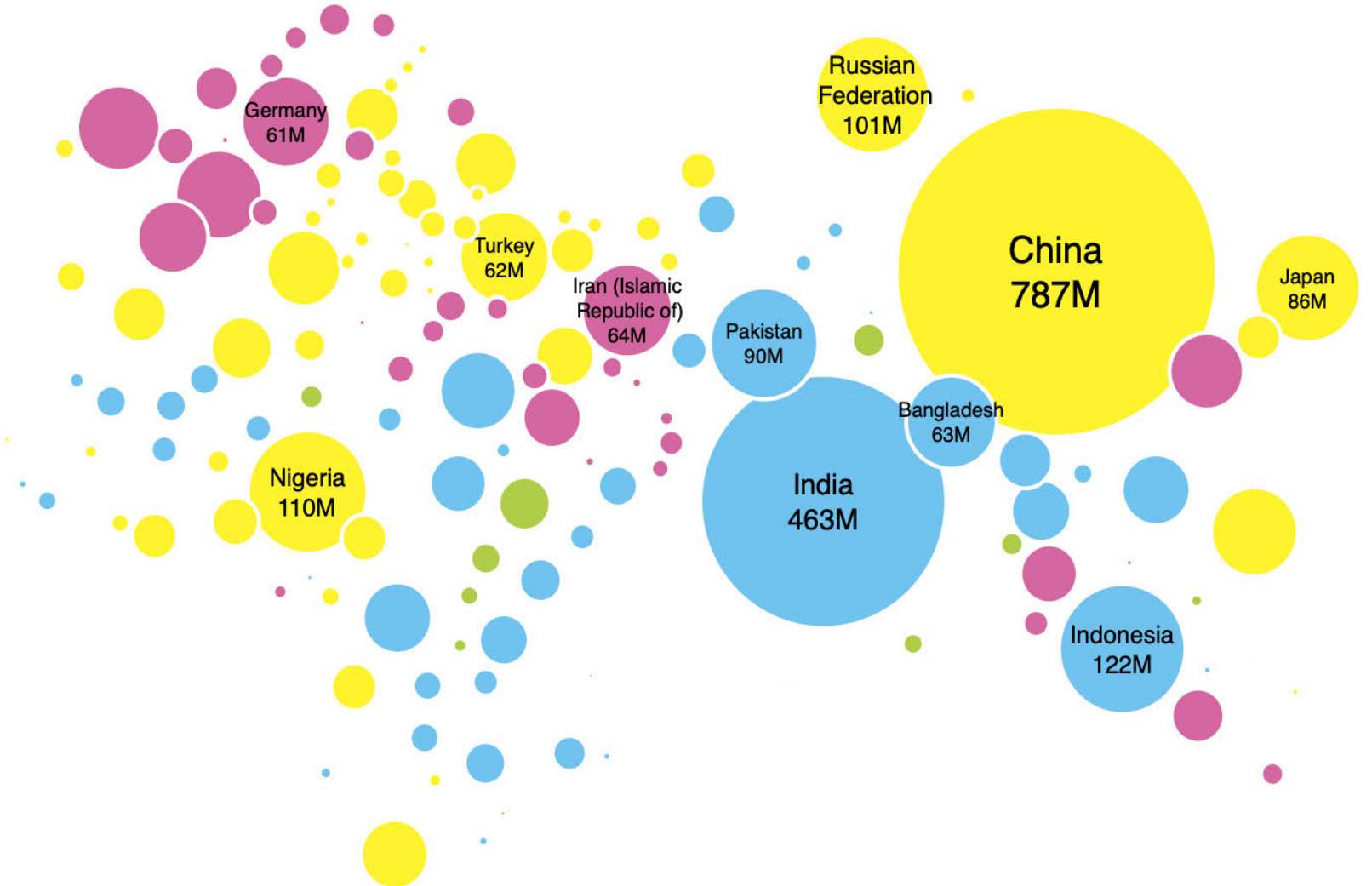
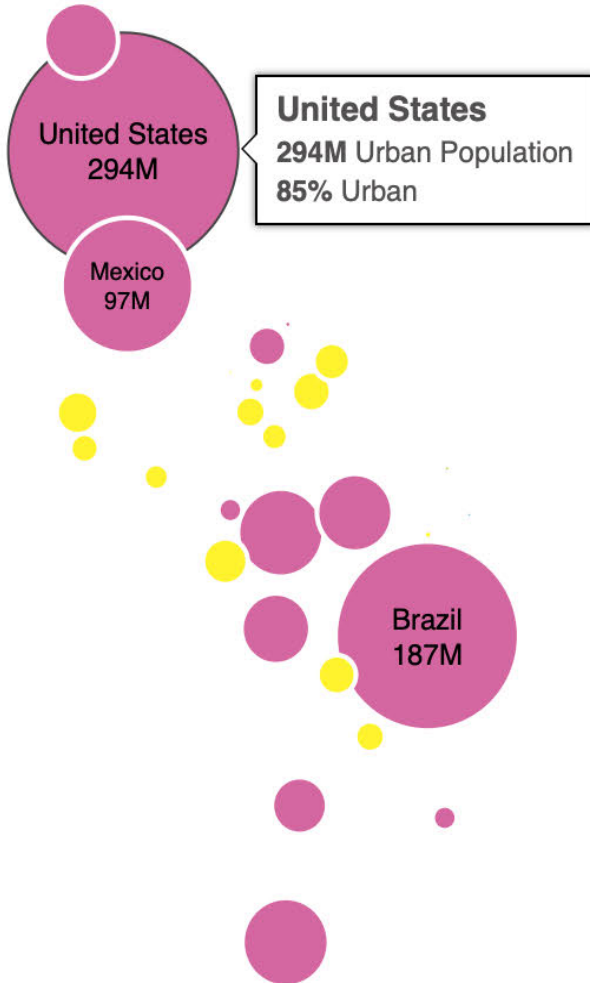
AN URBAN WORLD

This graphic depicts countries and territories with 2050 urban populations exceeding 100,000. Circles are scaled in proportion to urban population size. Hover over a country to see how urban it is (percentage of people living in cities and towns) and the size of its urban population (in millions).

Urban Population

- Greater than 75%
- 50% - 75%
- 25% - 50%
- Less than 25%

2020



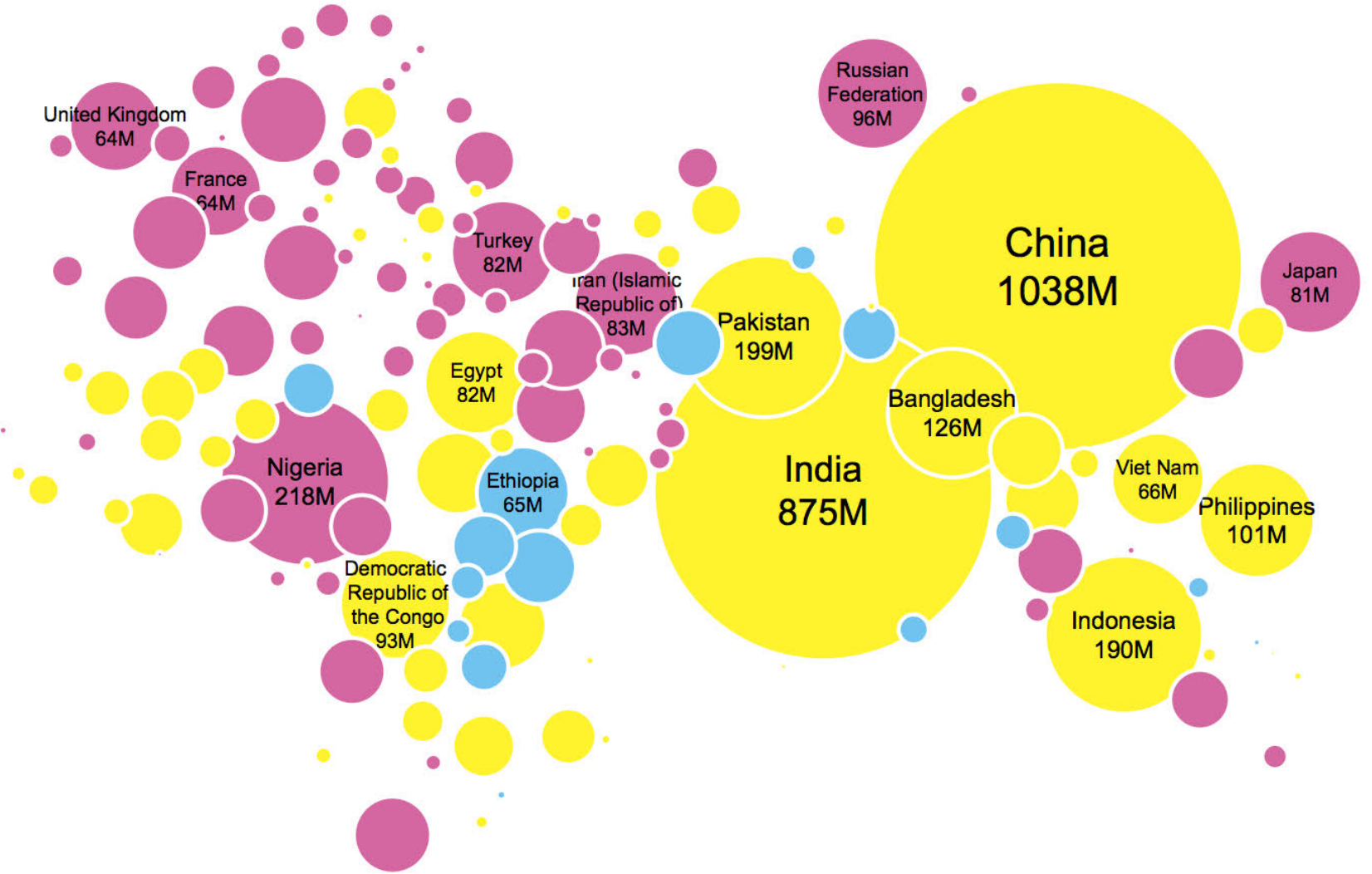
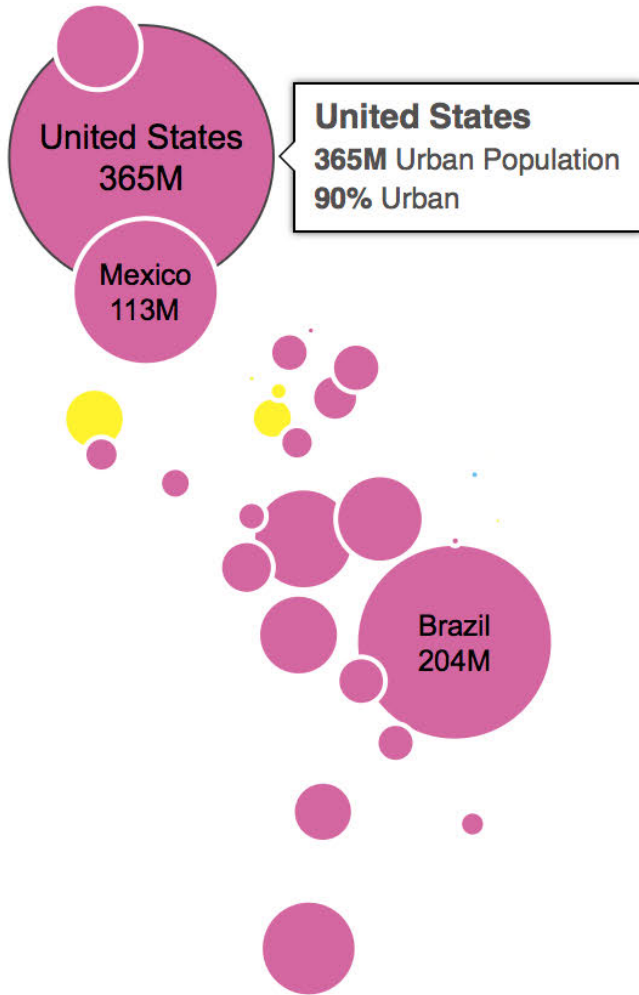
AN URBAN WORLD

This graphic depicts countries and territories with 2050 urban populations exceeding 100,000. Circles are scaled in proportion to urban population size. Hover over a country to see how urban it is (percentage of people living in cities and towns) and the size of its urban population (in millions).

Urban Population

- Greater than 75%
- 50% - 75%
- 25% - 50%
- Less than 25%

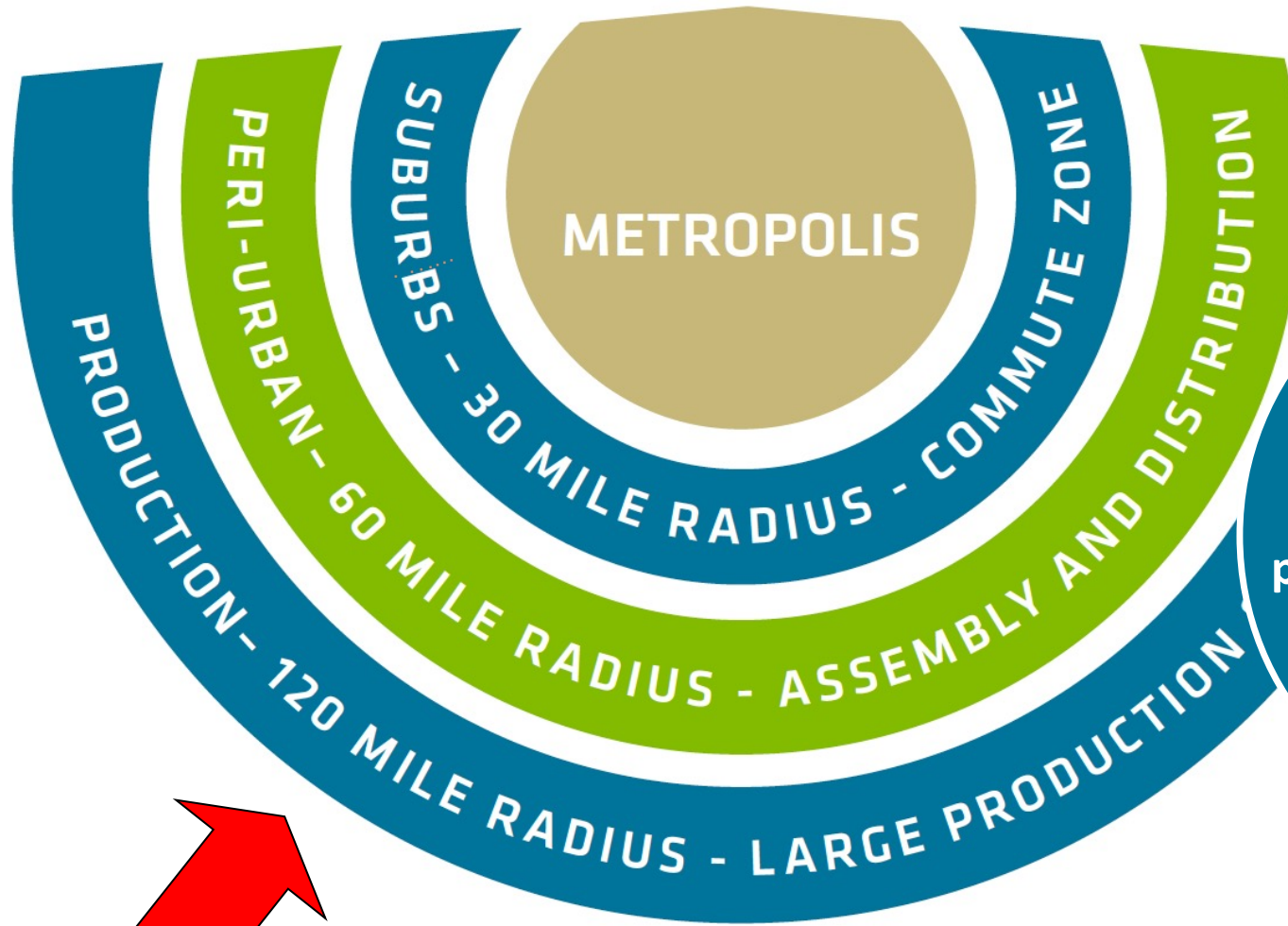
2050



Arc of Innovation



Future-Splitting
Questions™



Does this strengthen
the strategic
proposition for the City
of Essex Junction?

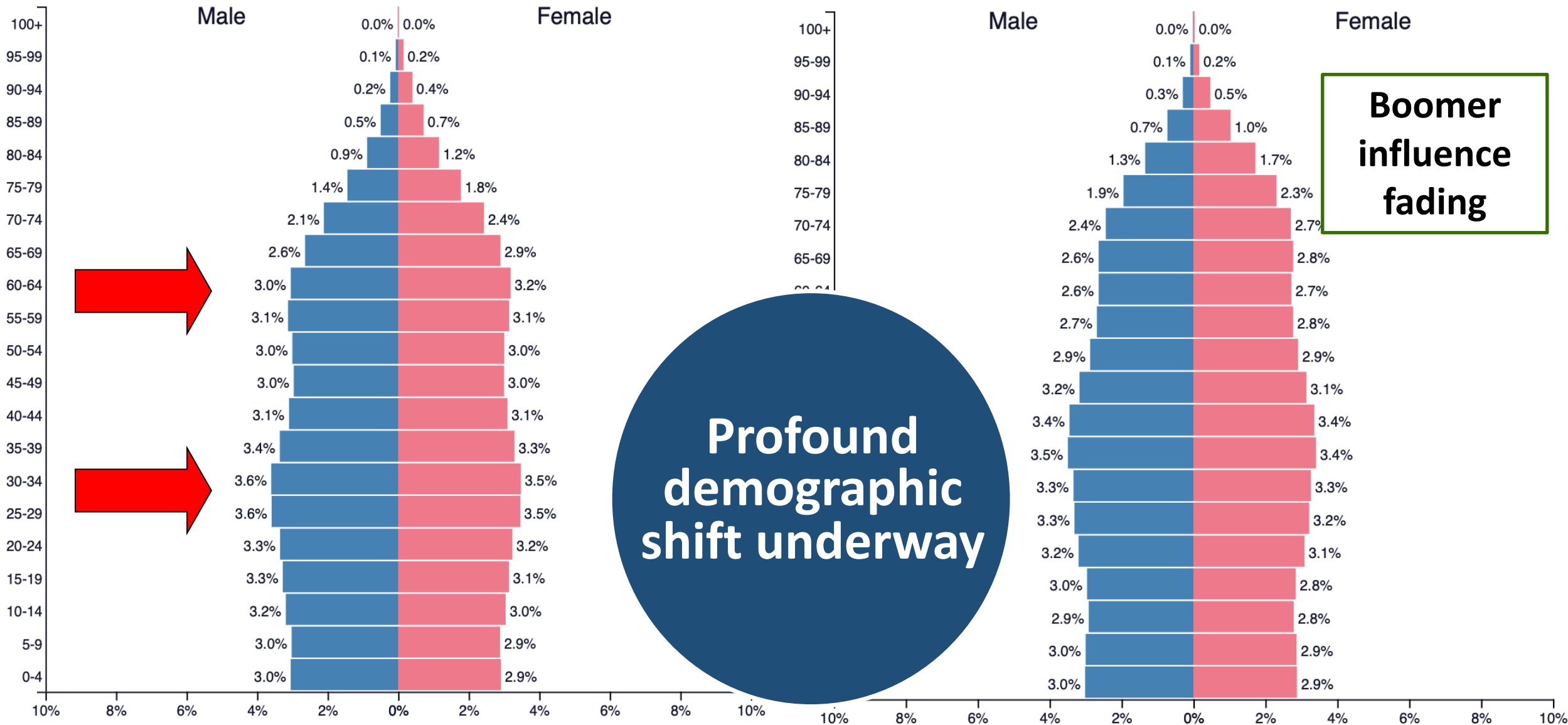
**Society is re-distributing into and
around mega-cities**

United States of America ▼ 2022

Population: 334,805,268

United States of America ▼ 2032

Population: 353,335,452

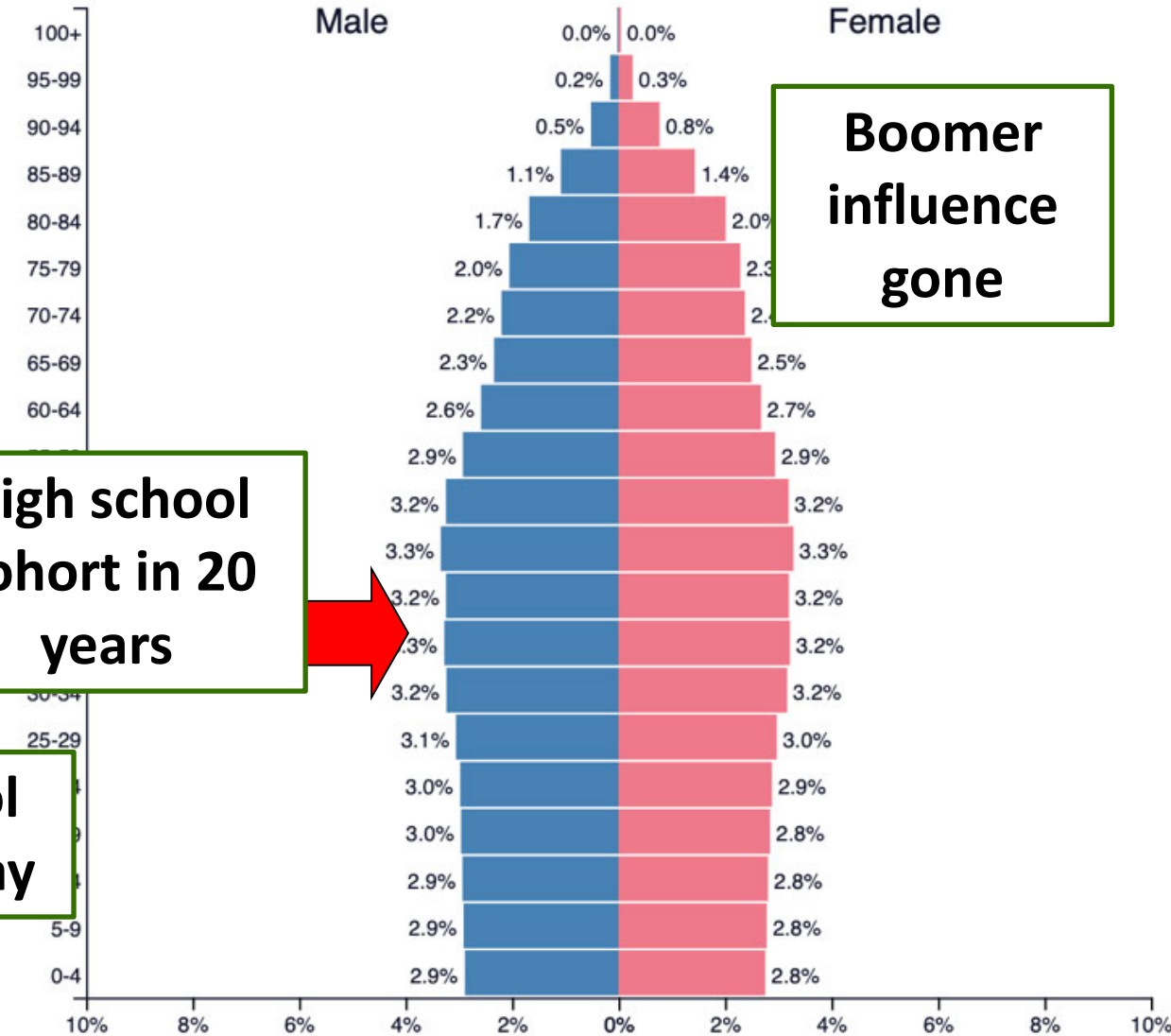
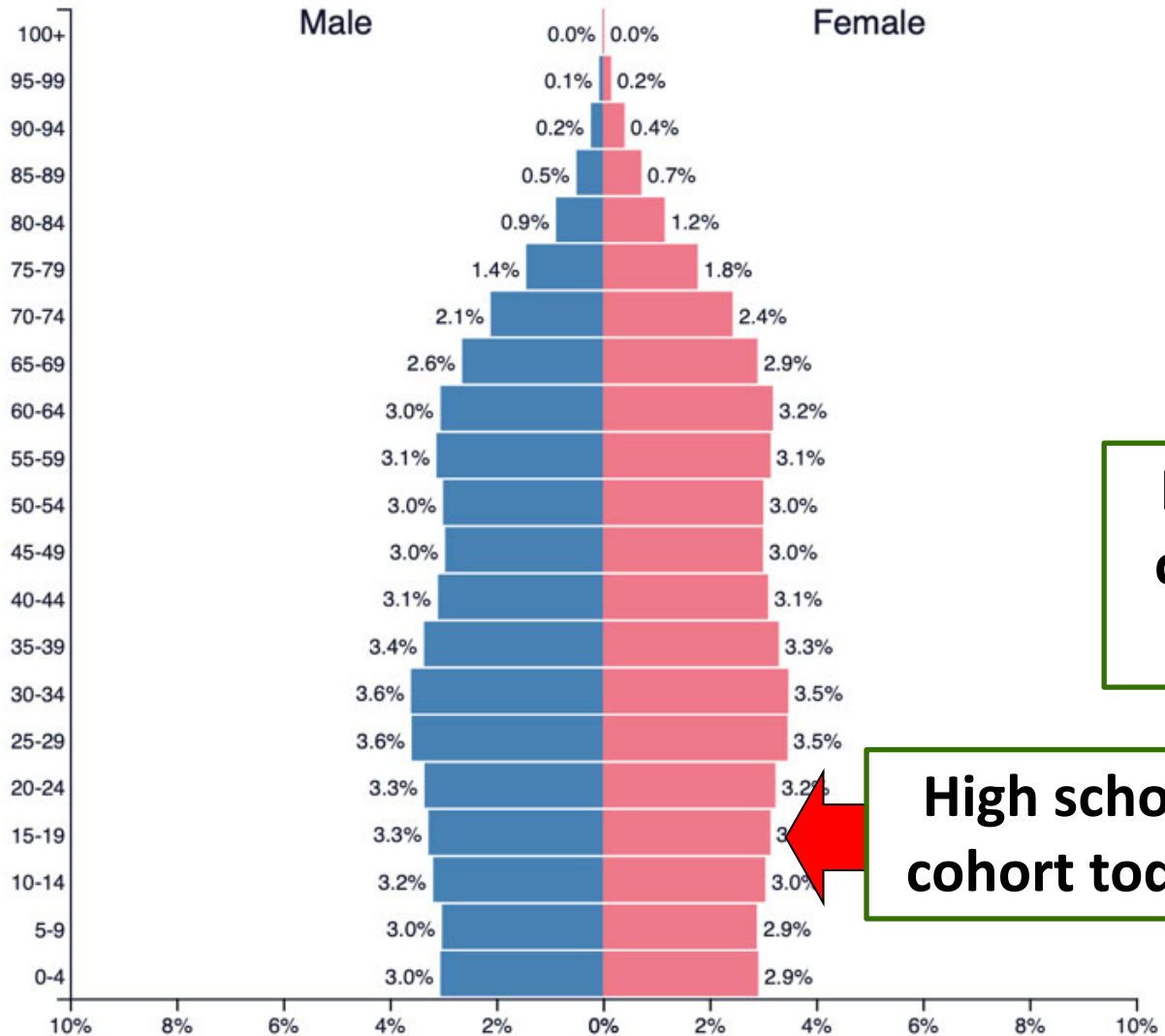


United States of America ▼ 2022

Population: 334,805,268

United States of America ▼ 2042

Population: 369,396,554



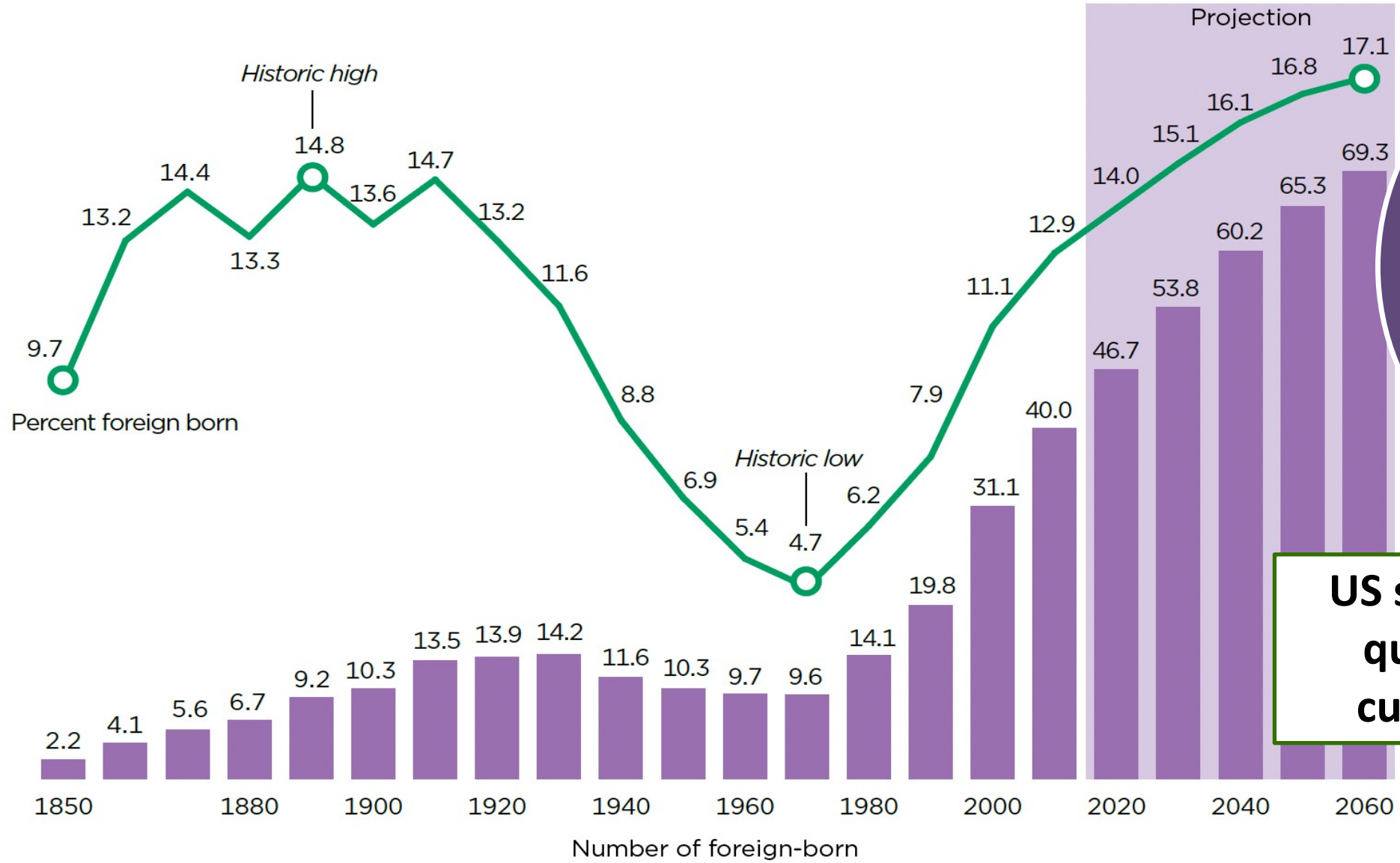
High school cohort in 20 years

High school cohort today

Boomer influence gone

Foreign-Born People Living in the United States: 1850 to 2010, Projected 202 to 2060

By 2028, the foreign-born share of the U.S. population is projected to be higher than at any time since 1850.



Foreign born % increasing

US society is changing quickly, with more cultures and voices

Source: U.S. Census Bureau, 1850-2000 Decennial Censuses, American Community Survey 2010, 2017 National Population Projections for 2020-2060.



Blow in her face and she'll follow you anywhere

Hit her with tangy Tipalet Cherry. Or rich, grape-y Tipalet Burgundy. Or luscious Tipalet Blueberry. It's Wild! Tipalet. It's new. Different. Delicious in taste and in aroma. A puff in her direction and she'll follow you, anywhere. Oh yes.... you get smoking satisfaction without inhaling smoke.

Smokers of America do yourself a flavor. Make your next cigarette a **Tipalet**.

New from Muriel. About 5 for 25¢.



For a better start in life
start **COLA** earlier!

- Promotes Active Lifestyle!
- Boosts Personality!
- Gives body essential sugars!

How soon is too soon?

Not soon enough. Laboratory tests over the last few years have proven that babies who start drinking soda during that early formative period have a much higher chance of gaining acceptance and "fitting in" during those awkward pre-teen and teen years. So, do yourself a favor. Do your child a favor. Start them on a strict regimen of sodas and other sugary carbonated beverages right now, for a lifetime of guaranteed happiness.

The Soda Pop Board of America
1515 W. Hart Ave. - Chicago, ILL.



Shifting societal values

Predictions and observations

- Generational change is coming which will trigger widespread upheaval of norms.
- People and industries will continue to cluster around mega-cities, in specialized cities and regional centers.



Demographic + Population + Mass Urbanization

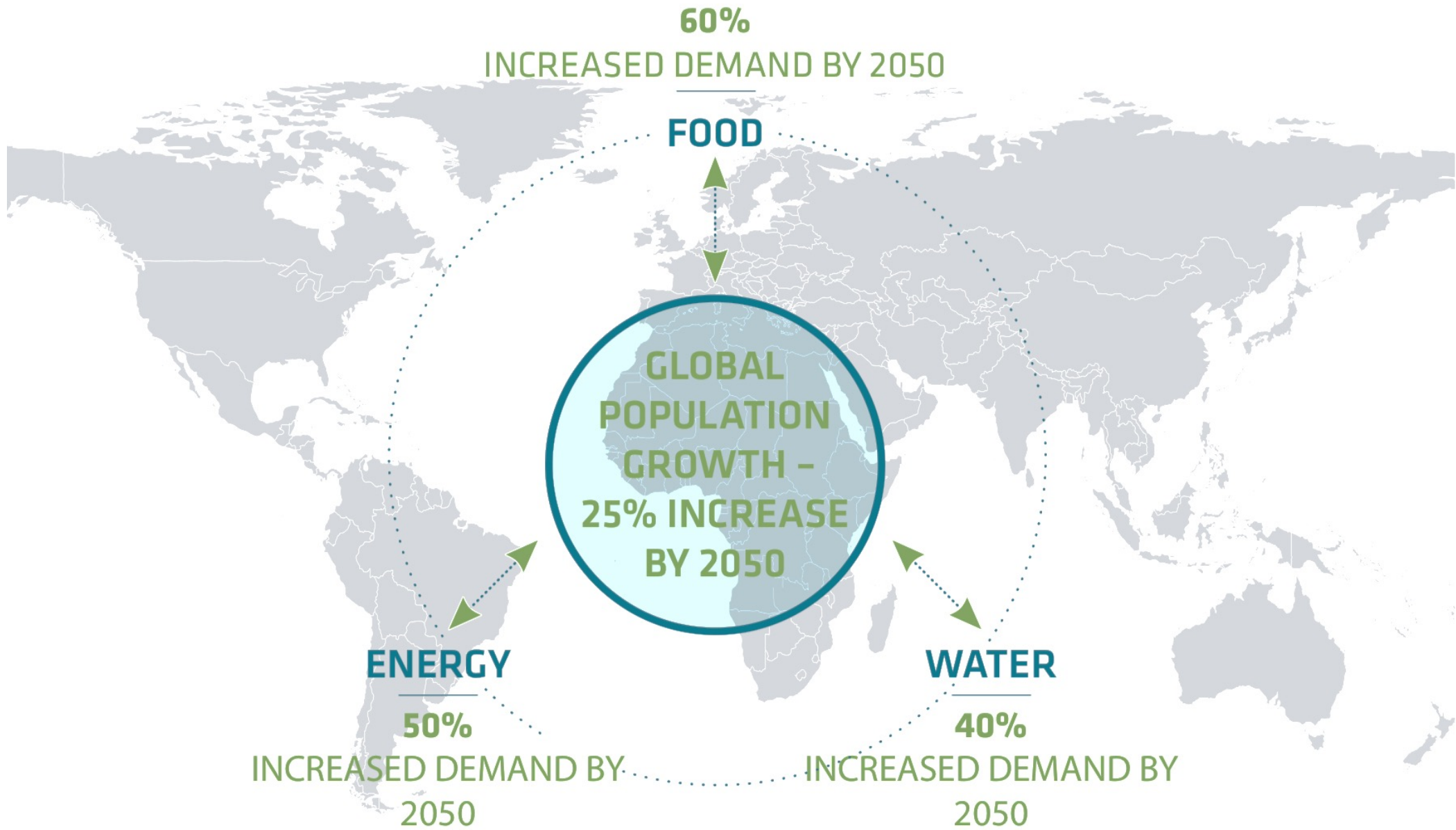
What does this mean for the
the future of the City of Essex Junction?





Energy + Water + Food + Climate Change





Adapted from work by Prof. Nicholas Jordan, University of Minnesota (2015)

Renewable Energy

Potential for
unlimited
cheap energy

Electrification of the
world is accelerating,
driven by renewable
energy

FRESH WATER

- Nearly 450 million people in 29 countries now face severe water shortages
- As much as 2/3 of the world population could be water-stressed by 2025
- Half the world's rivers and lakes are seriously polluted

- Irrigation uses 70% of the world's fresh water
- Water scarcity will be the chief constraint to increased food production
- The threat to water resources stands as one of the major crises facing the planet



Upper-middle and northeast USA has 20% of global surface freshwater resources



2 BILLION

PEOPLE DON'T GET ENOUGH VITAMINS AND MINERALS

795 MILLION

PEOPLE DON'T GET ENOUGH CALORIES

161 MILLION

CHILDREN ARE CHRONICALLY UNDERNOURISHED

WE HAVE A BIG PROBLEM WITH
UNDERNUTRITION

WE HAVE A BIG PROBLEM WITH
OVERWEIGHT & OBESITY

1.9 BILLION

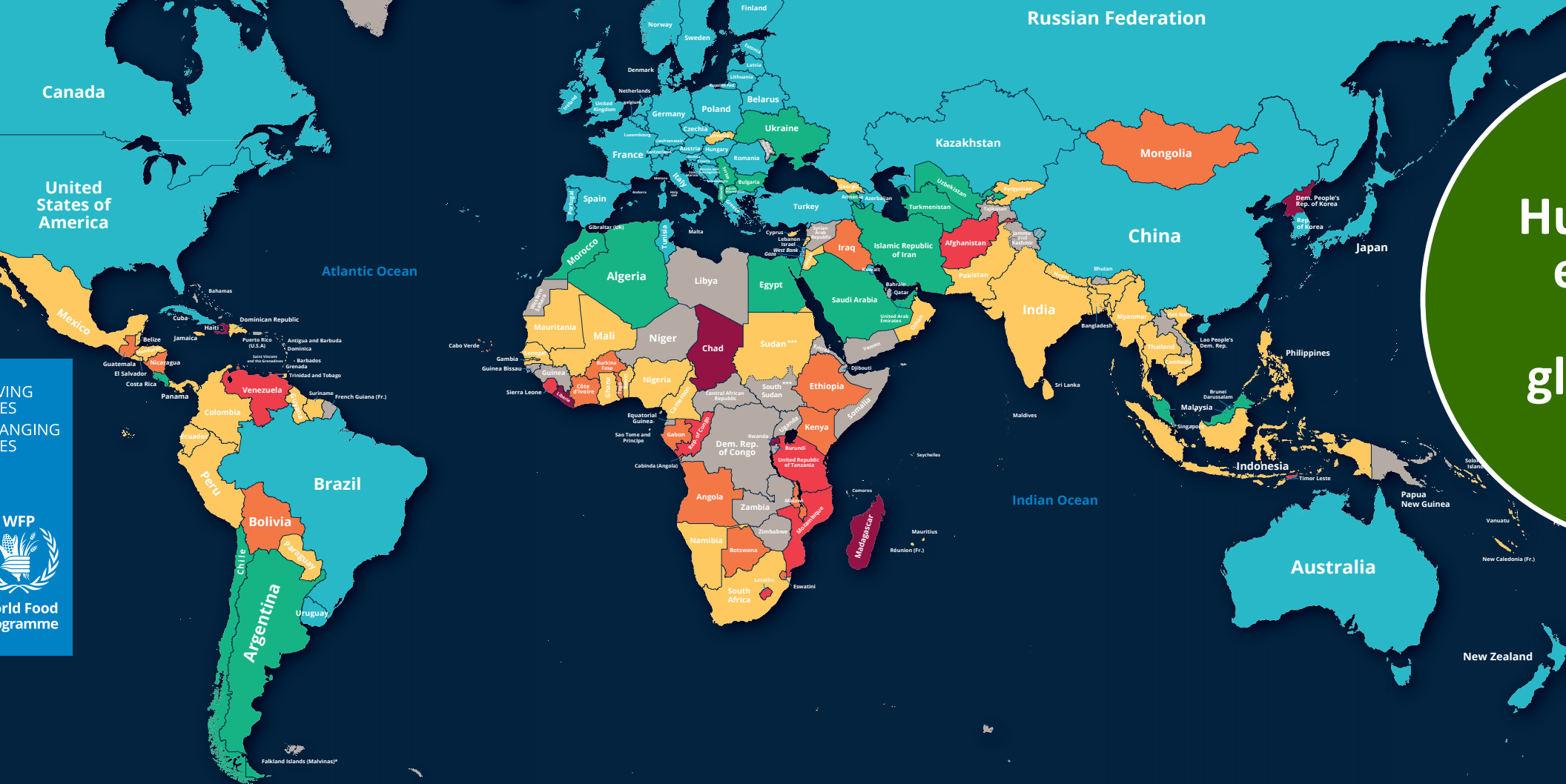
ADULTS ARE OVERWEIGHT OR OBESE

1 in 12

ADULTS HAVE DIABETES

42 MILLION

CHILDREN ARE OVERWEIGHT



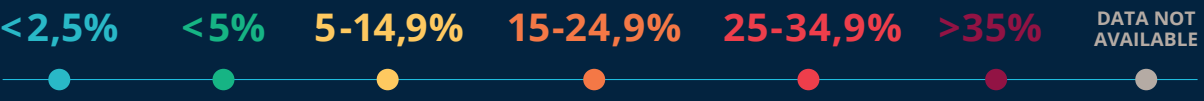
Hunger is an emerging critical global issue



Hunger Map 2020

CHRONIC HUNGER

If current trends continue, the number of hungry people will reach 840 million by 2030



Prevalence of undernourishment in the total population (percent) in 2017-19

Undernourishment is defined as the condition in which an individual's habitual food consumption is insufficient to provide the amount of dietary energy required to maintain a normal, active, healthy life. The indicator is reported as the prevalence of undernourishment (POU), which is an estimate of the percentage of individuals in the total population that are in a condition of undernourishment. To reduce the influence of possible estimation errors in some of the underlying parameters, national estimates are reported as a three-year moving average. Source: FAO, IFAD, UNICEF, WFP and WHO, 2020. The State of Food Security and Nutrition in the World 2020. Transforming food systems for affordable healthy diets. Rome, FAO. Further information is available at <https://www.wfp.org/publications/state-food-security-and-nutrition-world-sofi-report-2020>

© World Food Programme 2020

The designations employed and the presentation of material in this map do not imply the expression of any opinion whatsoever on the part of WFP concerning the legal or constitutional status of any country, territory or sea area, or concerning the delimitation of frontiers.

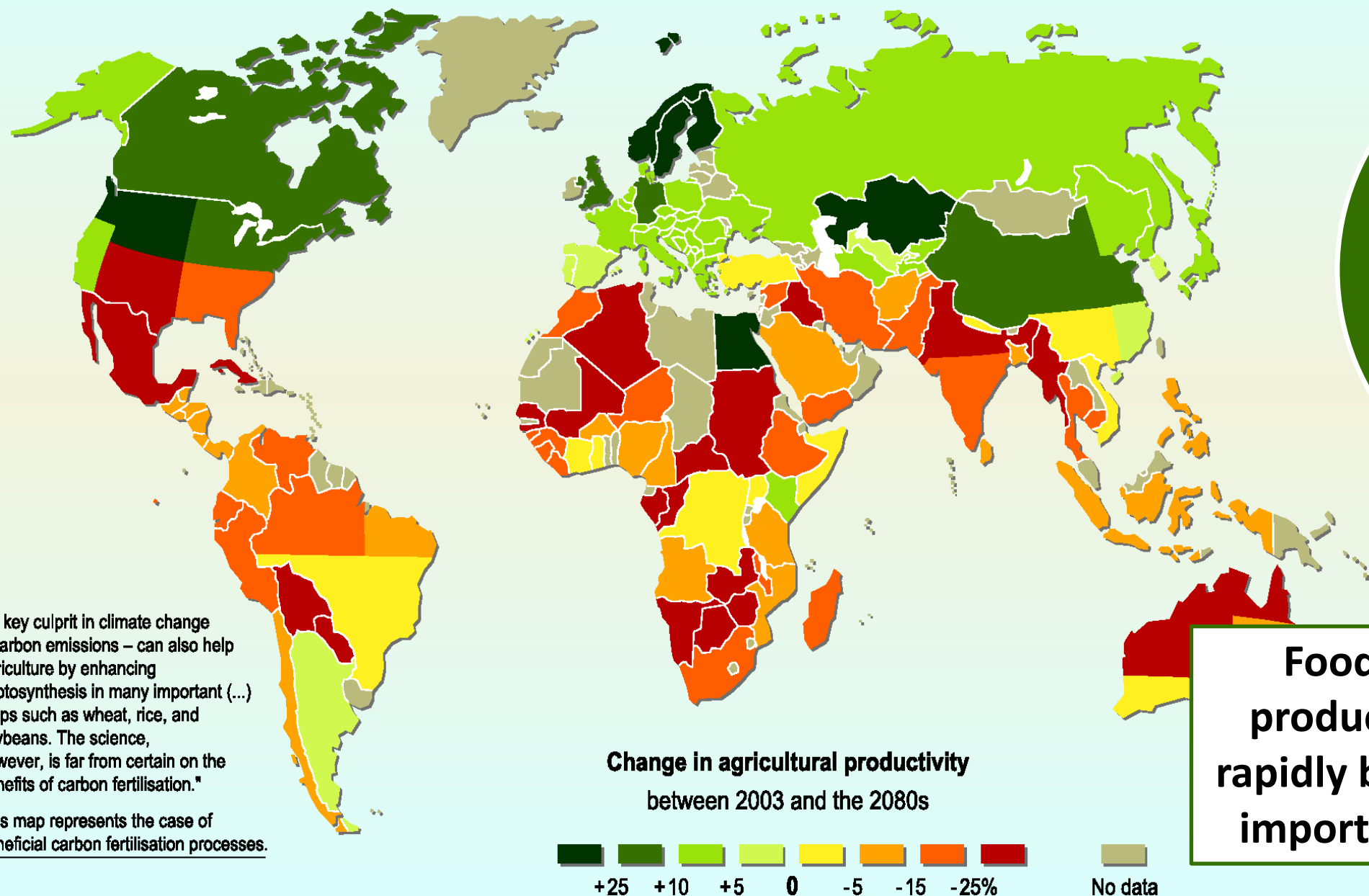
* A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Malvinas).

** Dotted line represents approximately the line of control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties.

*** Final boundary between the Republic of Sudan and the Republic of South Sudan has not yet been determined.

— International Boundary - - - - - Armistice or International Administrative Line ——— Other Line of Separation ····· Special boundary line

Projected impact of climate change on agricultural yields



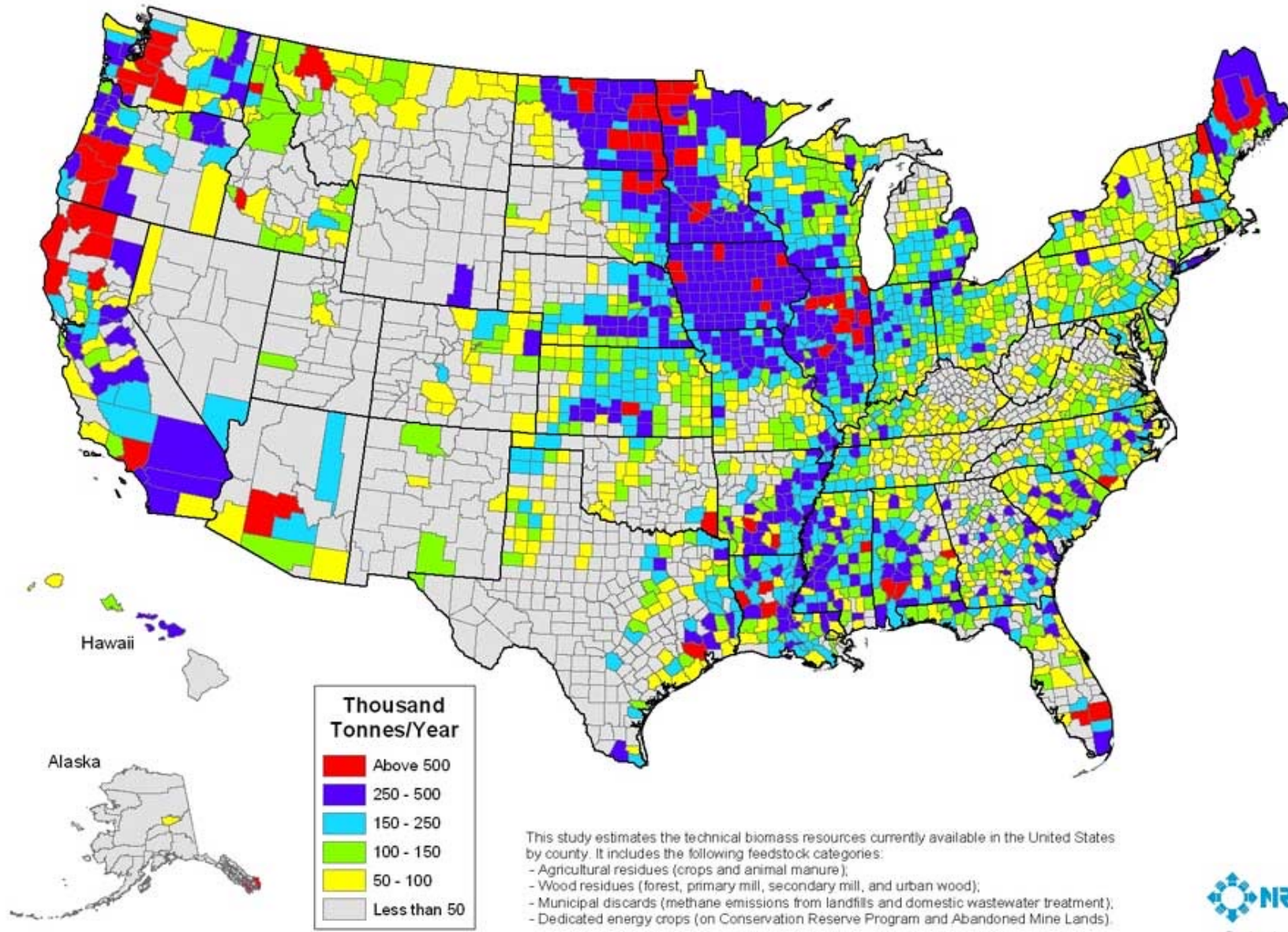
Increases and decreases

Food security and production capability rapidly becoming a more important global issue

" A key culprit in climate change – carbon emissions – can also help agriculture by enhancing photosynthesis in many important (...) crops such as wheat, rice, and soybeans. The science, however, is far from certain on the benefits of carbon fertilisation."
This map represents the case of beneficial carbon fertilisation processes.

Source: Cline W., 2007, *Global Warming and Agriculture*.

Biomass Resources Available in the United States



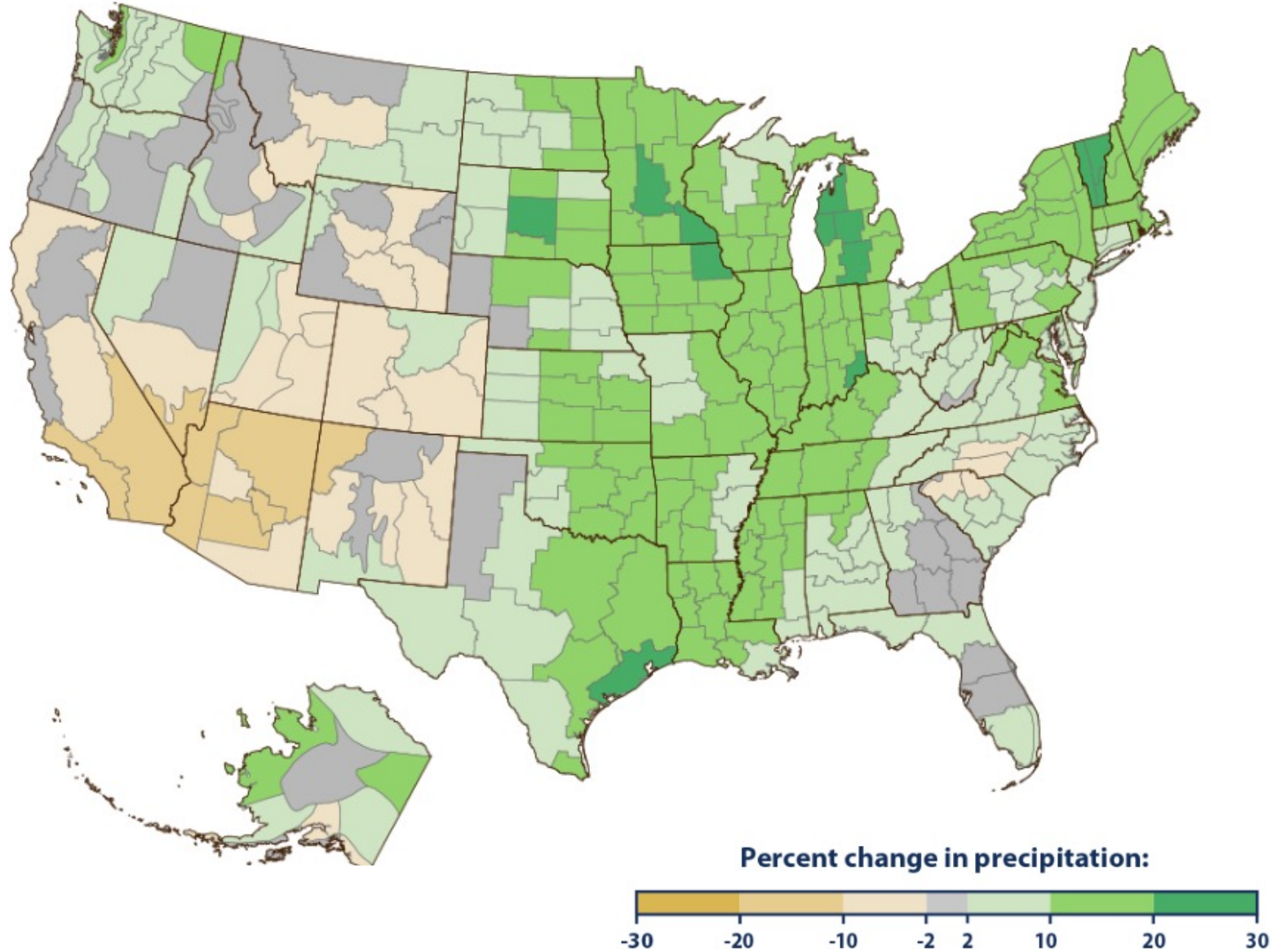
**Unique
biomass
capability**

**Upper Midwest
bioeconomy likely to be
more globally significant
over coming decades**



September 2005

Change in Precipitation in the United States, 1901–2021



Alaska data start in 1925.

Data source: NOAA (National Oceanic and Atmospheric Administration). 2022. Climate at a glance. Accessed March 2022. www.ncdc.noaa.gov/cag.

For more information, visit U.S. EPA's "Climate Change Indicators in the United States" at www.epa.gov/climate-indicators.



Extreme Heat and Humidity: 2040-2060

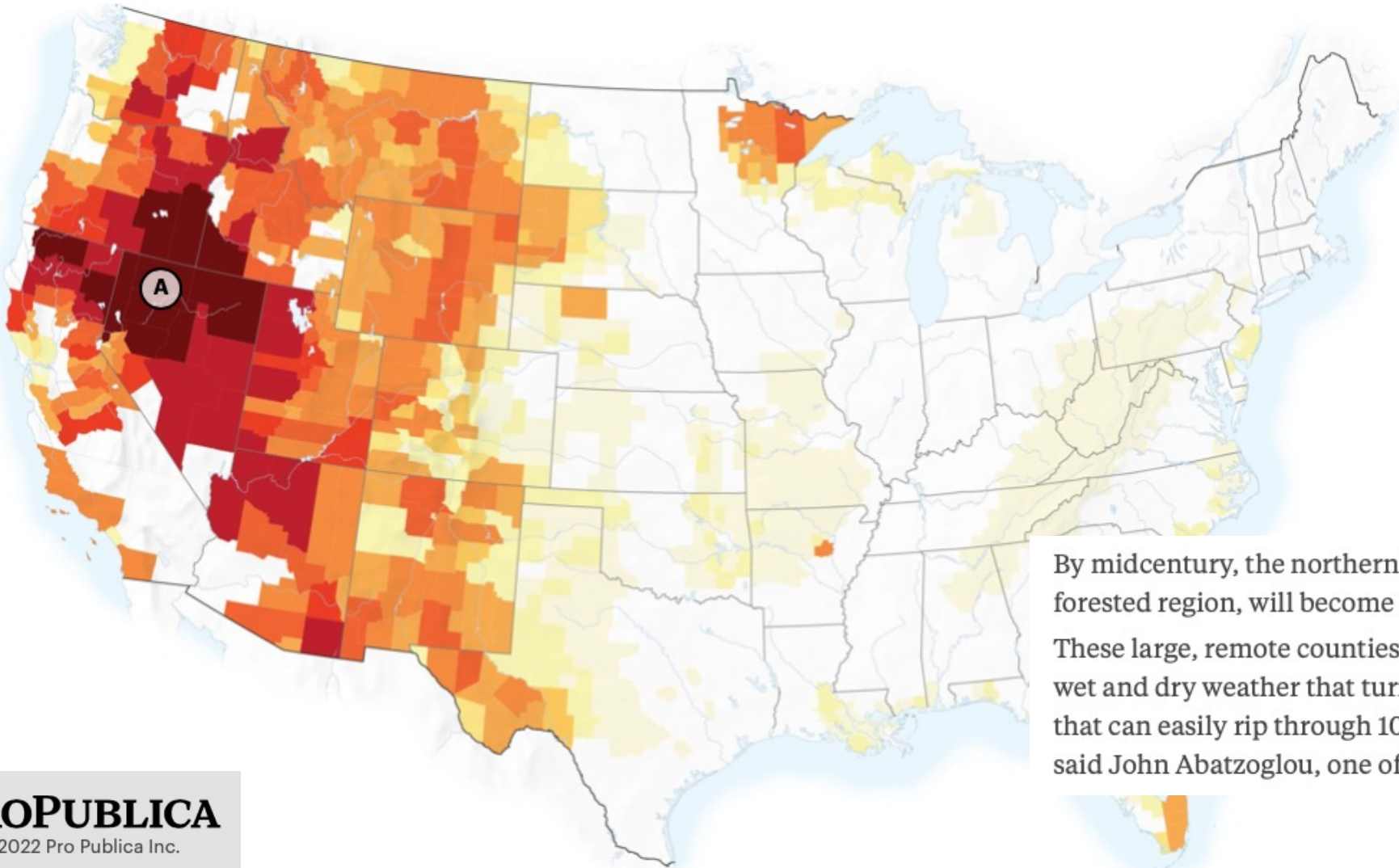
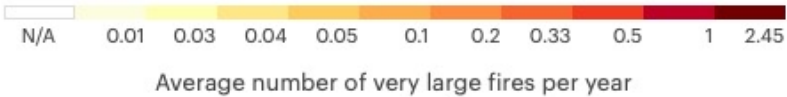
Heat is one of the largest drivers changing the niche of human habitability. Rhodium Group researchers estimate that under the RCP 8.5 scenario, between 2040 and 2060 extreme temperatures will become commonplace in the South and Southwest, with some counties in Arizona experiencing temperatures above 95 degrees for half the year.



High Emissions



Large Wildfires: 2040-2071



By midcentury, the northern Great Basin, though not a densely forested region, will become the epicenter of large wildfires (A). These large, remote counties in Nevada and Oregon see cycles of wet and dry weather that turn the grassland into the fuel for fires that can easily rip through 10,000 acres a day with strong winds, said John Abatzoglou, one of the authors of the study.

High Emissions

Moderate Emissions



Sea Level Rise: 2040-2060



Percentage of property below high tide



Some 50 million Americans live in eight of the largest U.S. metro areas — Miami (A), New York (B) and Boston (C) among them — which all lie in some of the most affected counties in the U.S.

New Climate Maps Show a Transformed United States

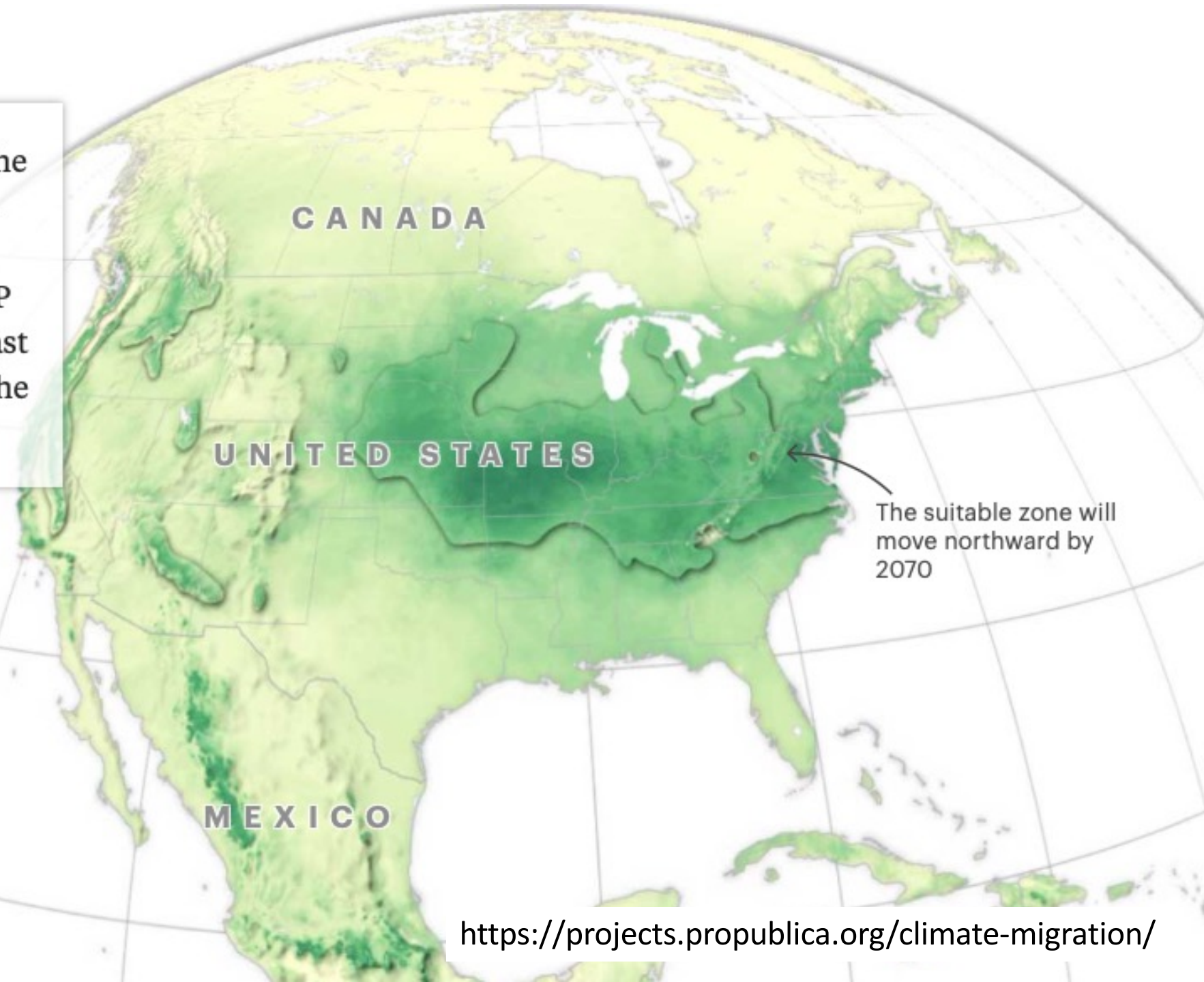
by Al Shaw, Abrahm Lustgarten, ProPublica, and Jeremy W. Goldsmith,
Special to ProPublica, September 15, 2020.

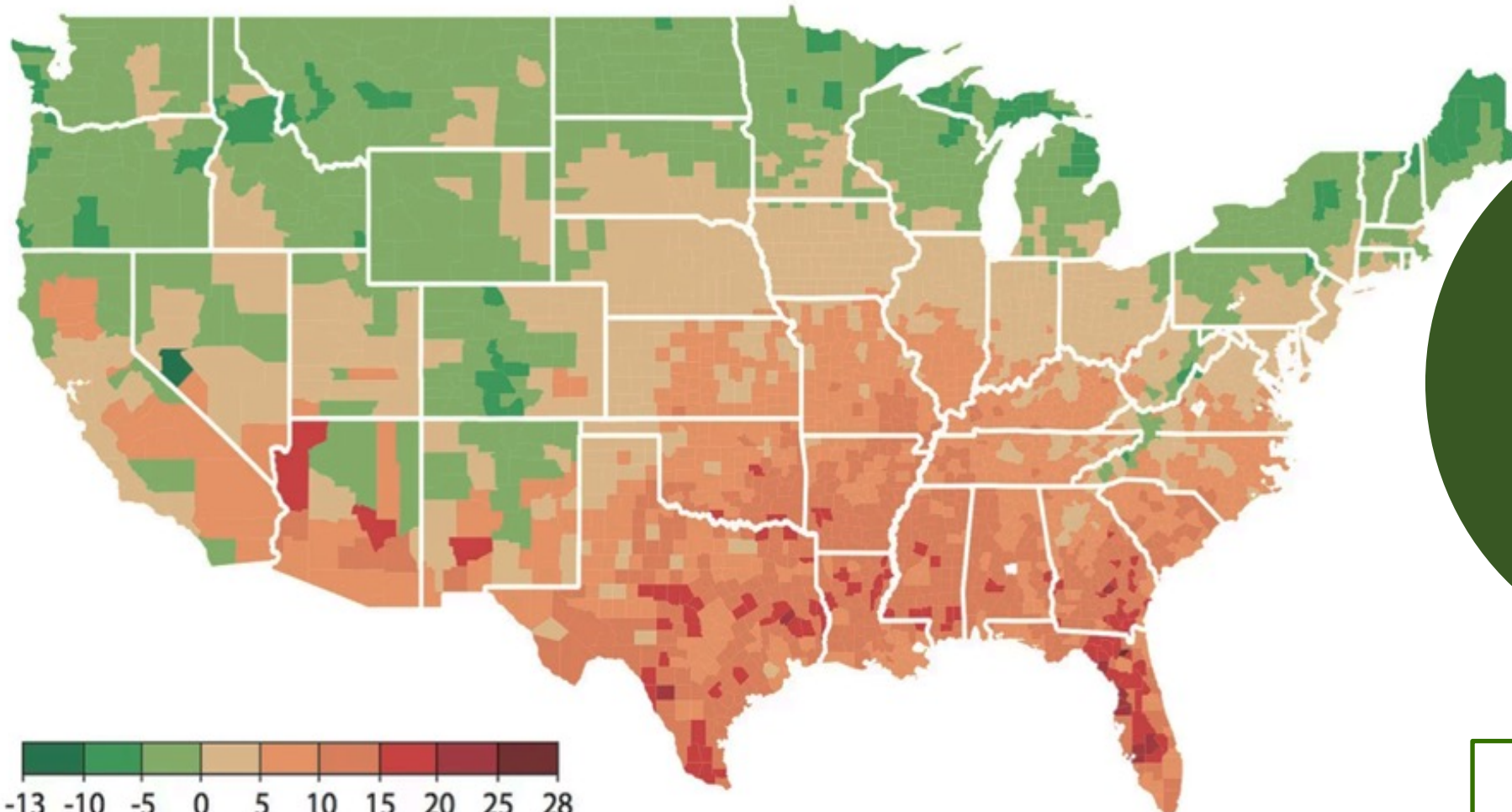
In the United States, that niche today blankets the heart of the country, from the Atlantic seaboard through northern Texas and Nebraska, and the California coast.

According to new data from the Rhodium Group analyzed by ProPublica and The New York Times Magazine, warming temperatures and changing rainfall will drive agriculture and temperate climates northward, while sea level rise will consume coastlines and dangerous levels of humidity will swamp the Mississippi River valley.



But as the climate warms, the niche could shift drastically northward. Under even a moderate carbon emissions scenario (known as RCP 4.5), by 2070 much of the Southeast becomes less suitable and the niche shifts toward the Midwest.





-13 -10 -5 0 5 10 15 20 25 28
Total economic damage (% county GDP)

**Long term
GDP impact
positive in
north**

**Climate change may
drive migration patterns
within US may move to
'north', and from 'west
to center'**

Potential economic damages are shown at the county level in a scenario in which emissions of greenhouse gases continue at current rates. Green indicates areas that could see economic benefits. To see an interactive version of this map, click [here](#).

Hsiang, Kopp, Jina, Rising, et al./Science

Source: [Christopher Joyce, MPR News, June 29, 2017](#)

Predictions and observations

- Growing disconnect between where food / fiber will be consumed, and where it can be grown.
- ‘Northern slice’ poised to capitalize on intersect of water, energy and biomass / food production capability.
- New migration patterns are emerging



Food, Energy, Water and Climate Change

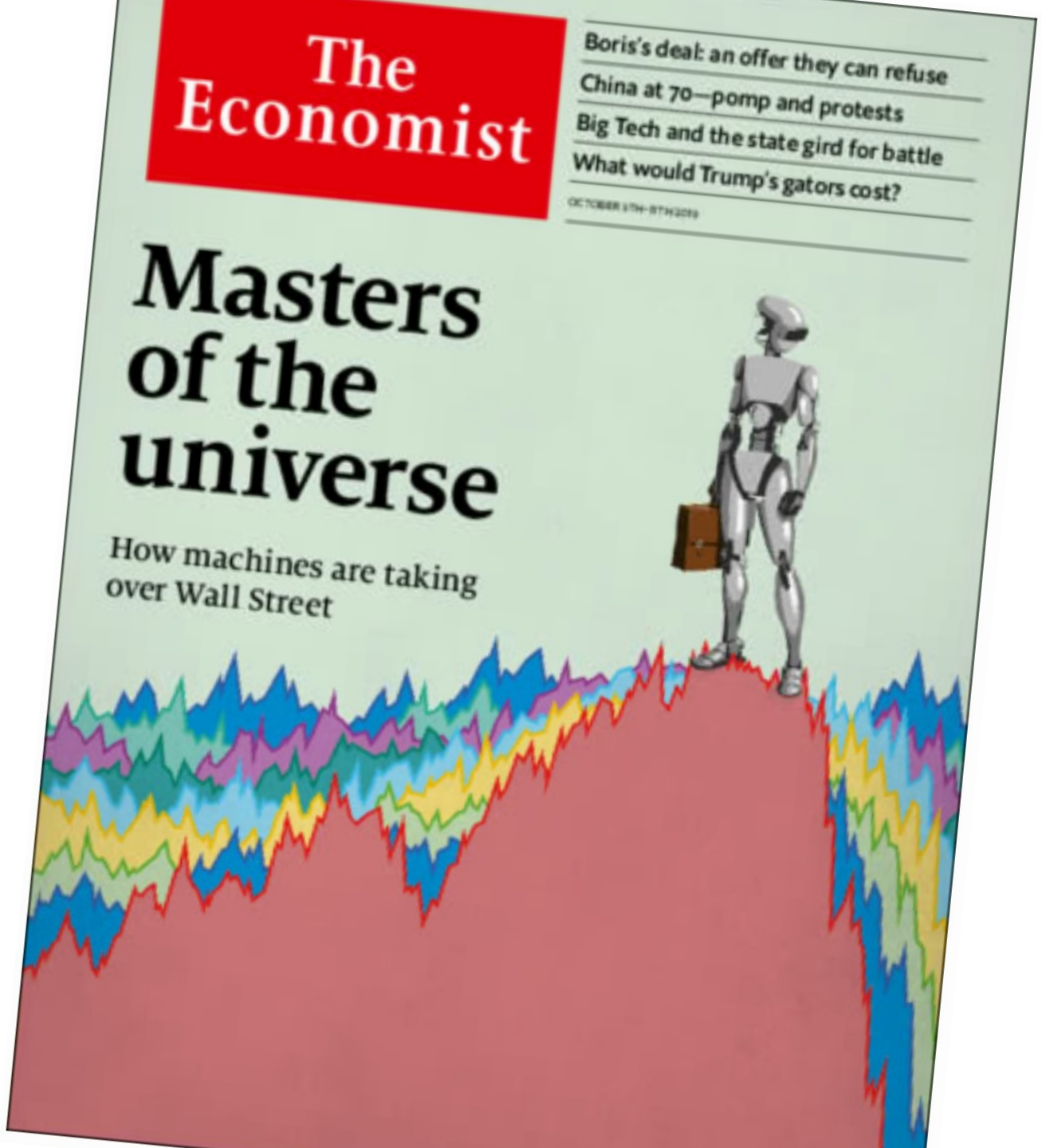
What do these trends mean for the
the future of the City of Essex Junction?



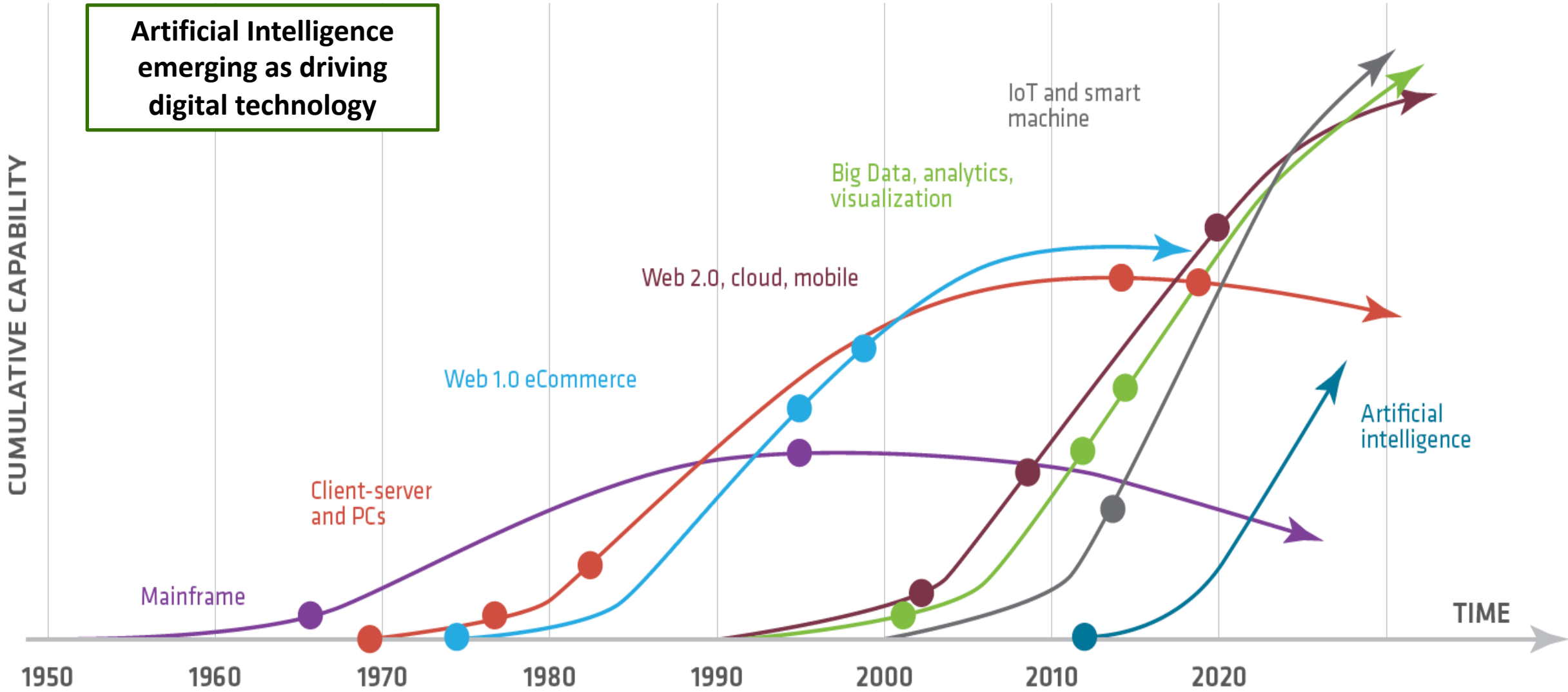


Technology and the speed of change

future→iQ
Create Future Intelligence™



THE INCREASING CAPABILITY OF DIGITAL TECHNOLOGIES

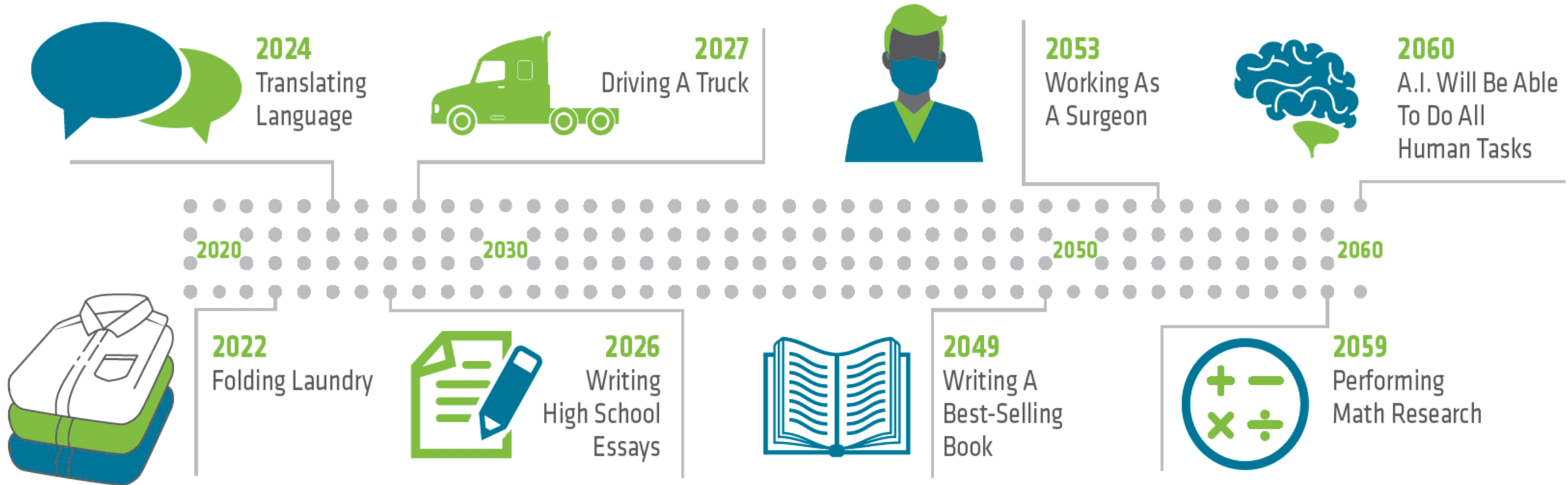


Digital Transformation Initiative Mining and Metals Industry, White Paper, World Economic Forum / Accenture analysis, January 2017

When will AI outperform people?

**AI is reshaping our lives
and industries – right
now**

AI WILL LIKELY OUTPERFORM HUMANS AT...



Source: 'You Will Lose Your Job to a Robot—and Sooner Than You Think'. Kevin Drum, Mother Jones, November / December Issue, 2017. (adapted from 'When will AI exceed human performance? Evidence from AI Experts', Oxford and Yale University 2017) ¹²

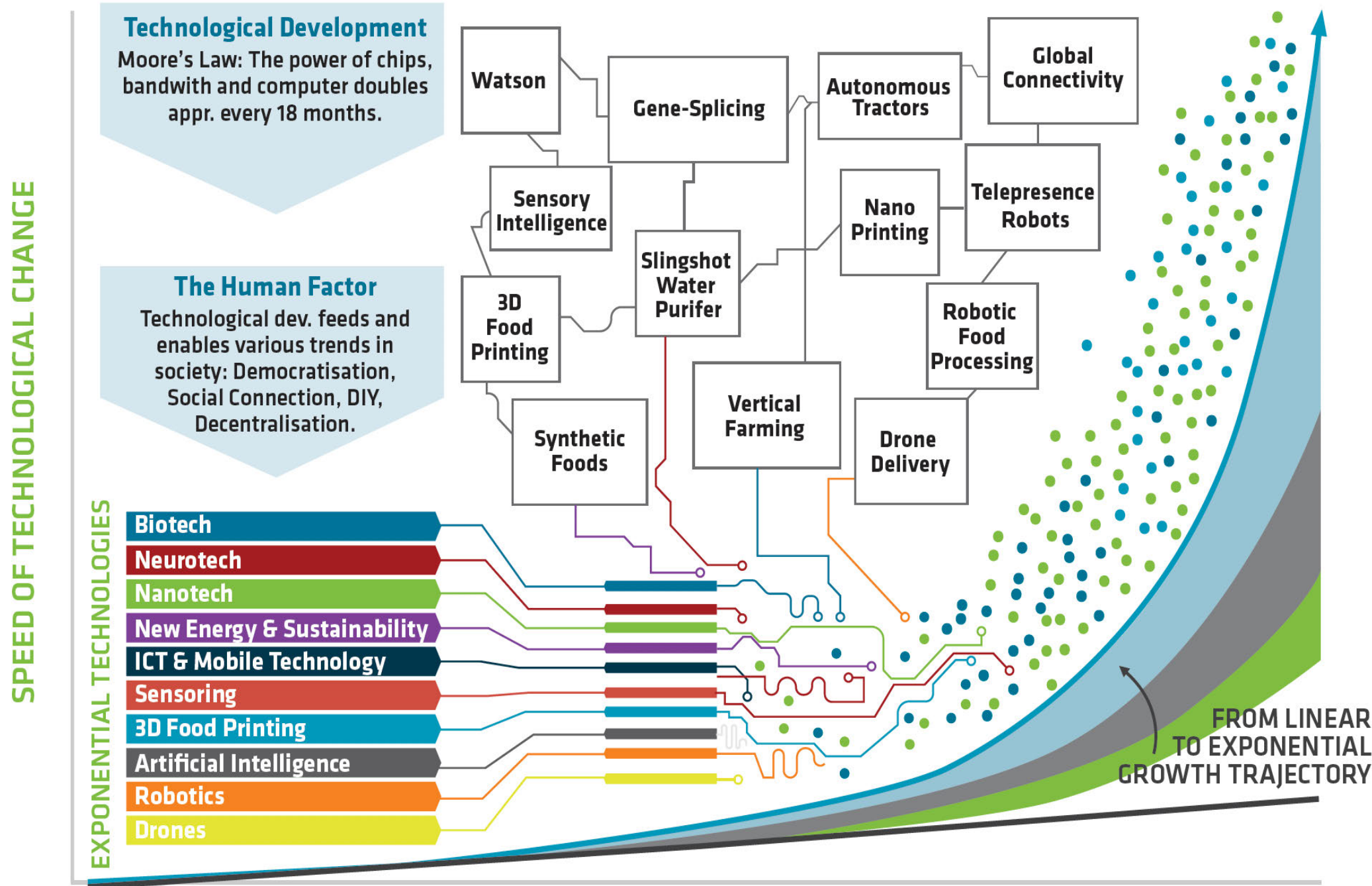
Reproduced from Next Industrial Revolution, Future iQ, 2018



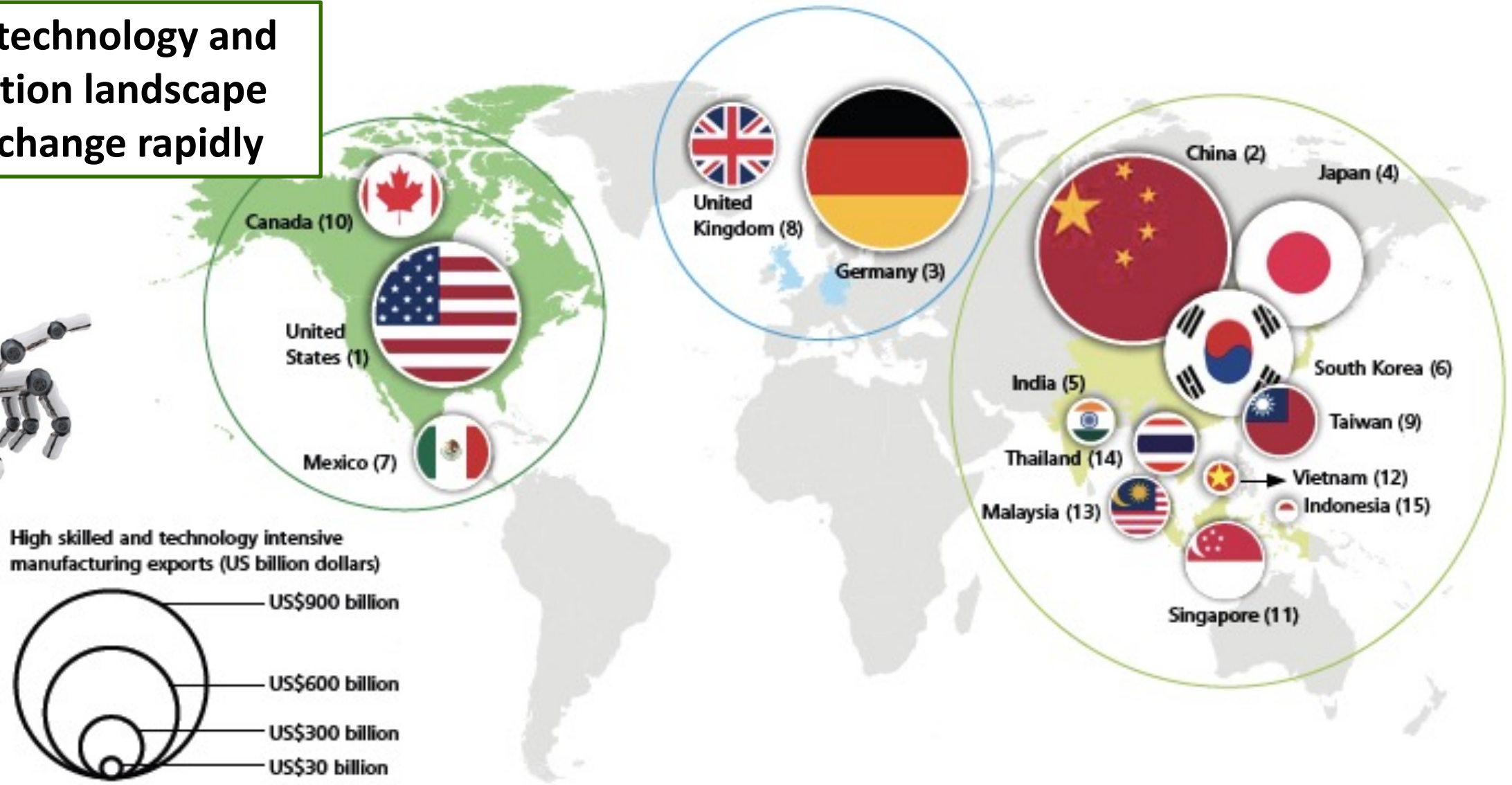
Source: New Yorker Oct 23, 2017, and Max Planck Research 2009

Rapid systemic change and technology integration

Adapted from: Source: Deloitte. 2014. Industry 4.0 Challenges and solutions for the digital transformation and use of exponential technologies



Global technology and innovation landscape might change rapidly



Note: Figure in parenthesis represent the projected 2020 GMCI rank by CEOs

Source: Deloitte Touche Tohmatsu Limited and US Council on Competitiveness, 2016 Global Manufacturing Competitiveness Index, Deloitte analysis based on UNCTAD data¹⁰

Technology and speed of change

- Waves of disruption and technology are reshaping education, industries and manufacturing
- Speed of change is exponential



Demographics + Resources + Technology

What do these trends mean for the future of the City of Essex Junction?





City of Essex Junction Vision and Strategic Action Plan

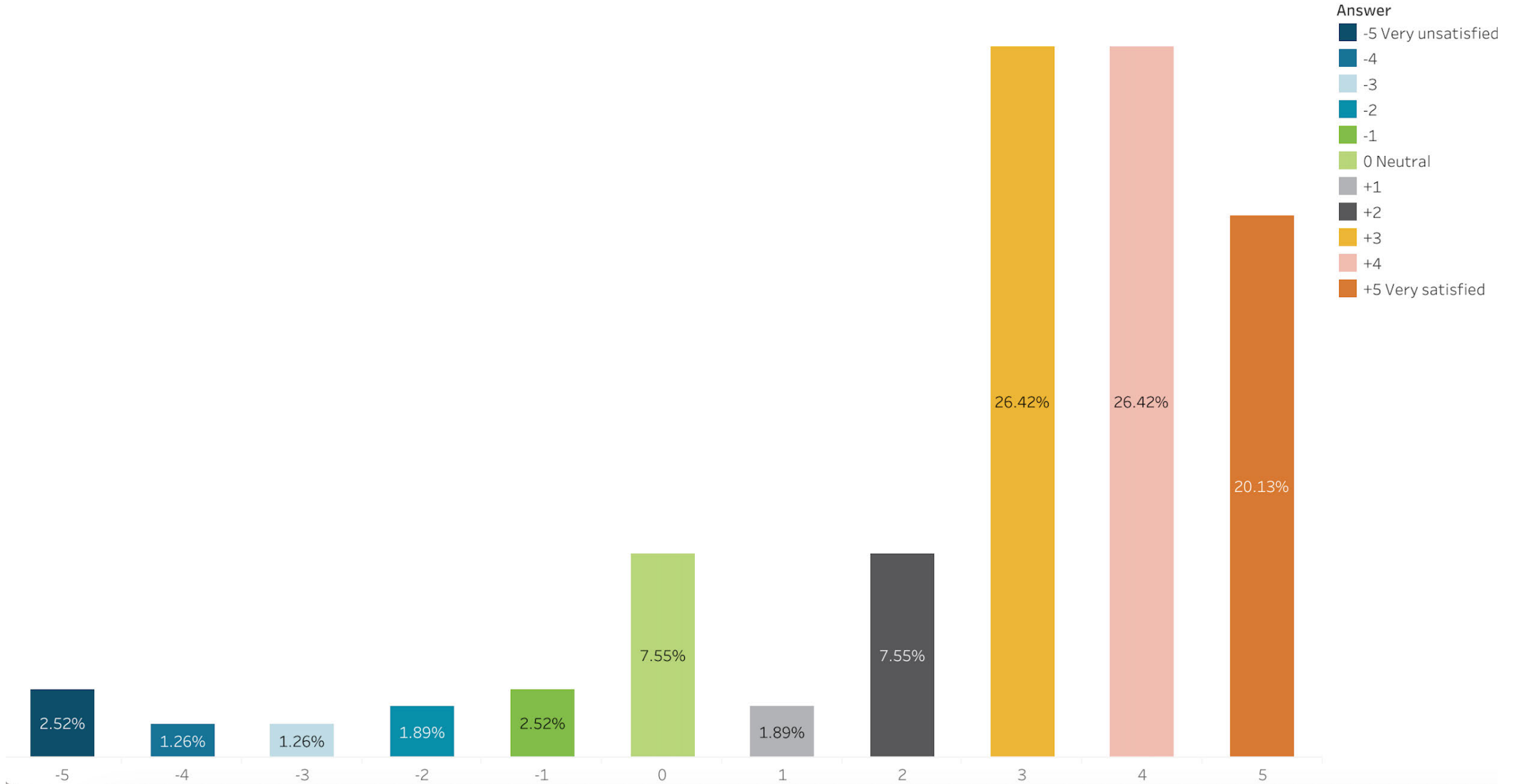
Think-Tank
Part 1

Stakeholder Survey #1



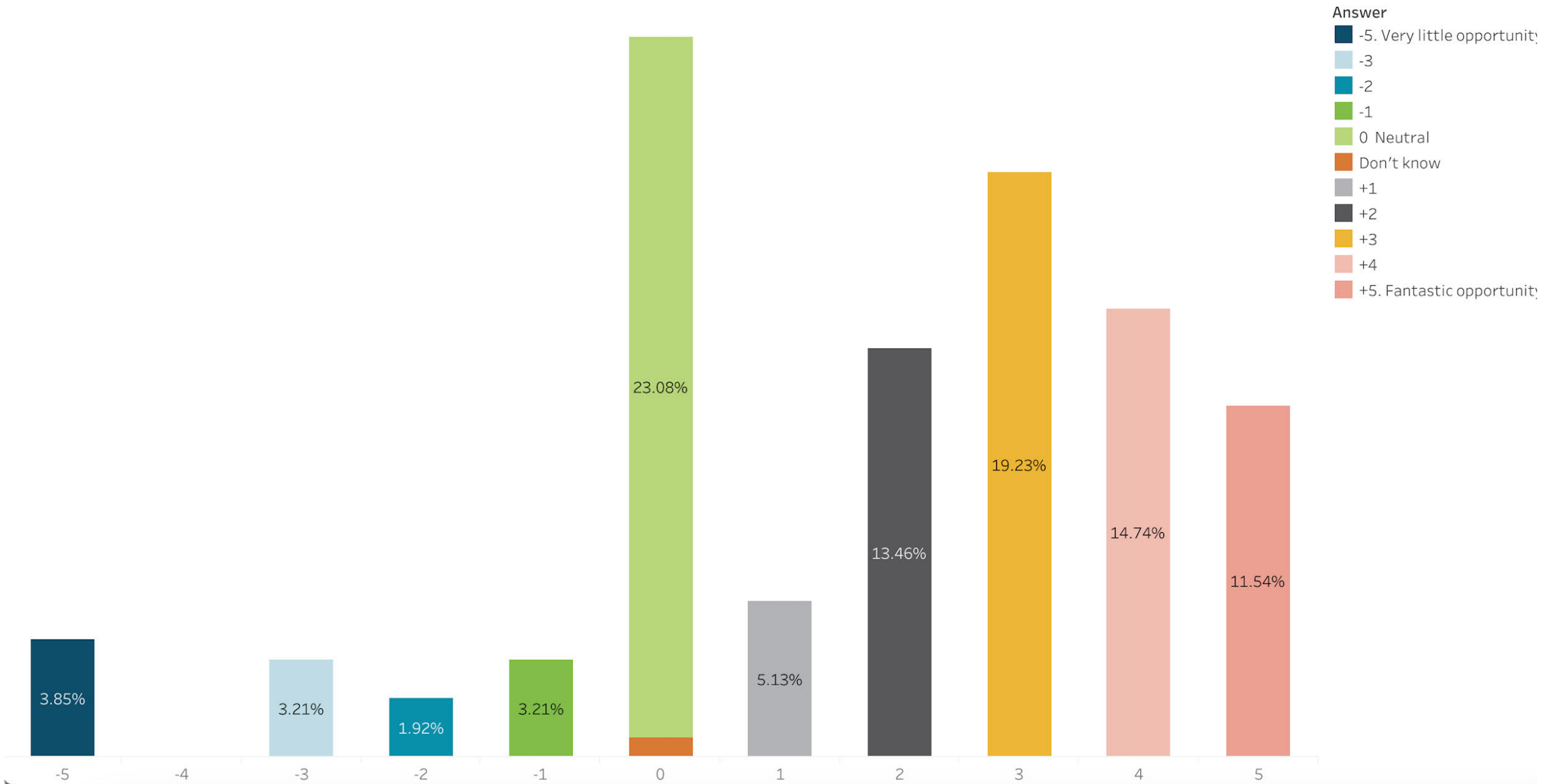
How satisfied are you about living and/or working in the City of Essex Junction?

SCALE: -5 = Very unsatisfied; 0 = Neutral; +5 = Very satisfied



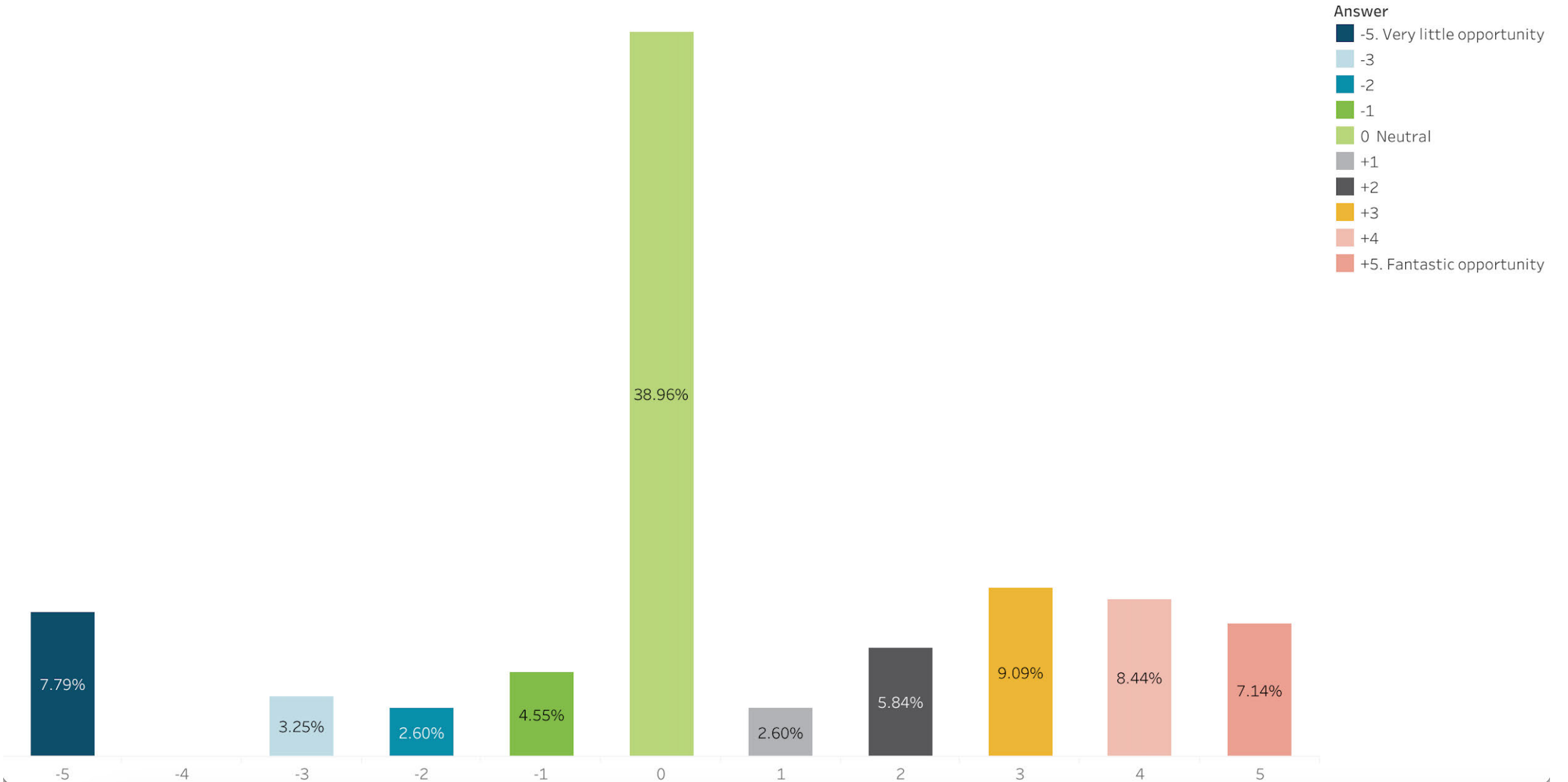
Do you think the City of Essex Junction offers you future opportunities to grow and thrive in your life and interests?

SCALE: -5 = Very little future opportunity; 0 = Neutral; +5 = Fantastic future opportunity



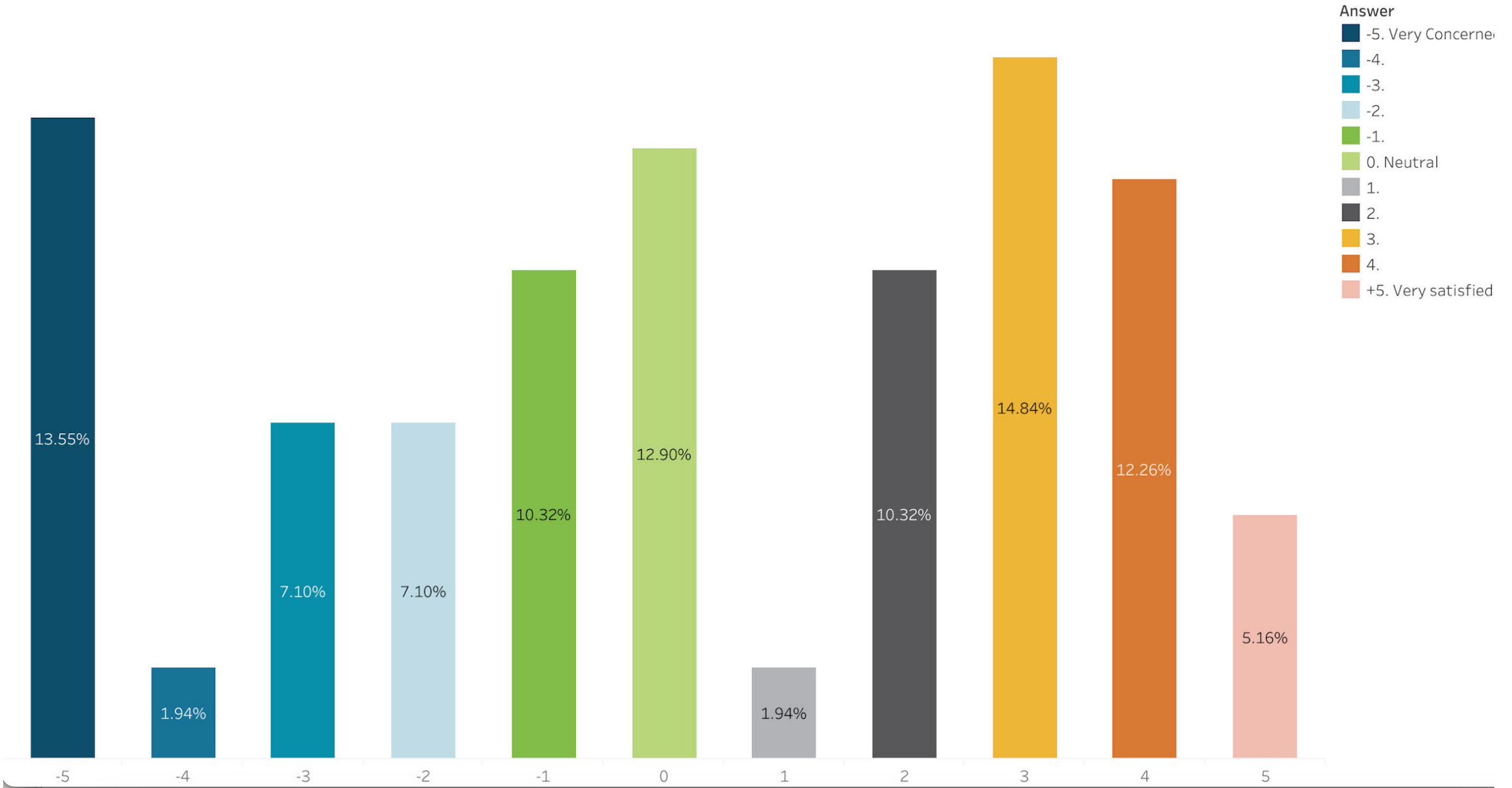
Do you think the City of Essex Junction offers you future opportunities to grow and thrive in your career and/or business?

SCALE: -5 = Very little future opportunity; 0 = Neutral; +5 = Fantastic future opportunity



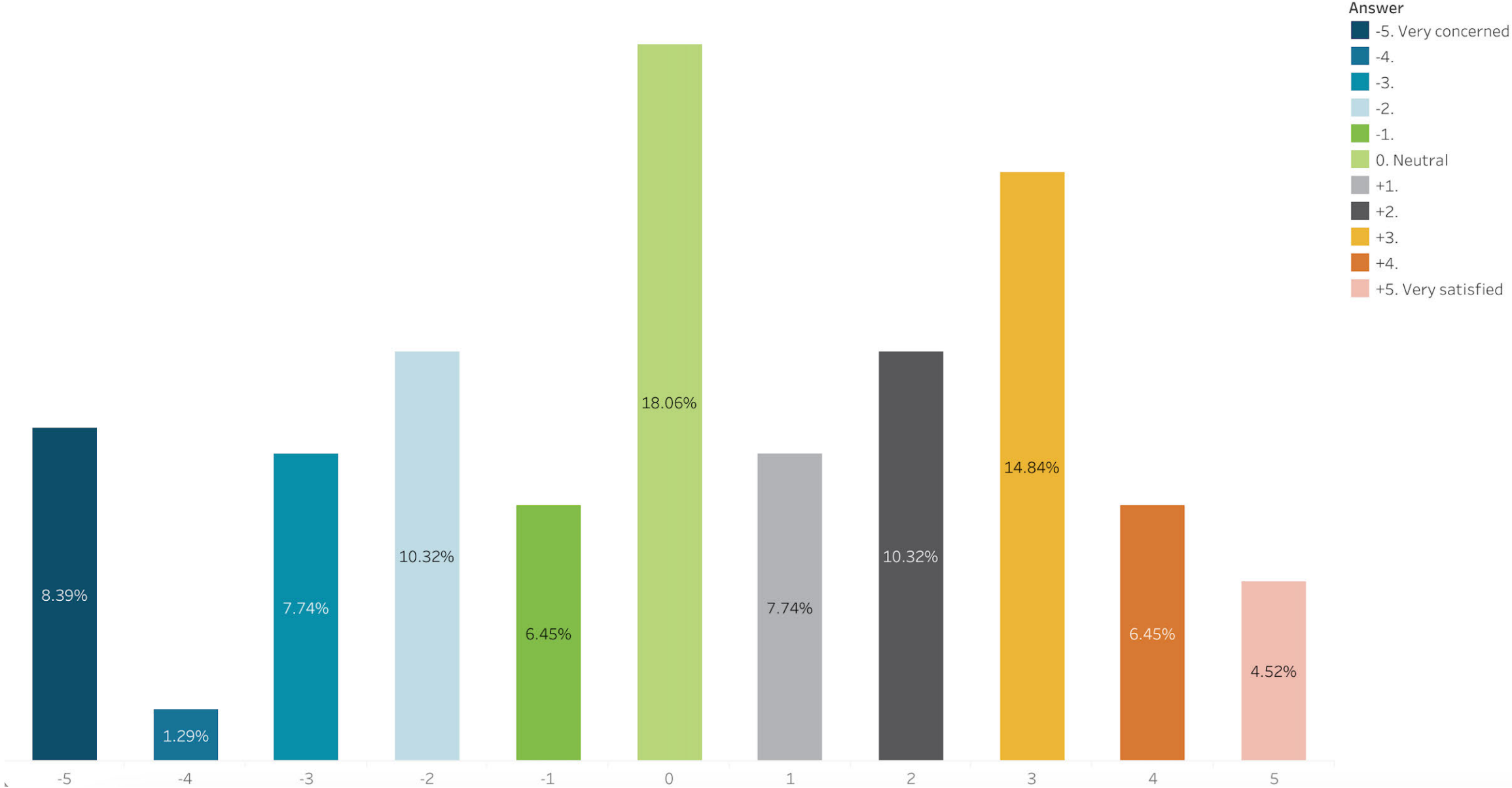
CURRENT DIRECTION - How satisfied or concerned are you about the way the City of Essex Junction is changing and the overall current direction of the City of Essex Junction?

SCALE: -5= Very concerned; 0=Neutral; +5 = Very satisfied



CURRENT ABILITY TO ADAPT – How satisfied or concerned are you about the ability of the City of Essex Junction to adapt to changes?

SCALE: - 5 = Very concerned ; 0 = Neutral; +5 Very satisfied





City of Essex Junction Vision and Strategic Action Plan

IDENTIFYING KEY DRIVERS



Key Drivers:

What key drivers do you think are most important for the future of the City of Essex Junction?

(Key drivers are events, trends, developments, catalysts or forces that actively influence or cause change.)

Table brainstorm



City of Essex Junction Vision & Strategic Action Plan

KEY DRIVERS HANDOUT

Think-Tank Workshop Day 1

November 2, 2023

What are the most important KEY DRIVERS shaping the future of the City of Essex Junction?

(Key drivers are events, trends, developments, catalysts, or forces that actively influence or cause change.)

1.

2.

3.

**Table brainstorm
key drivers**

Key Drivers

1. xx

11. xx



City of Essex Junction Vision & Strategic Action Plan

KEY DRIVERS HANDOUT

Think-Tank Workshop Day 1

November 2, 2023

DRIVER NAME: _____

Key emergent high-level trends associated with this driver:

1.

2.

**Building an
understanding
of each
driver**

What is the big “FUTURE-SPLITTING QUESTION” for this driver?

Future predictions - how impacts may “play out” for this driver over the next decade:

1.

2.

**Building an
understanding
of each
driver**



City of Essex Junction Vision and Strategic Action Plan

RANKING KEY DRIVERS





City of Essex Junction Vision & Strategic Action Plan KEY DRIVERS HANDOUT

Think-Tank Workshop Day 1

November 2, 2023

Rate each driver in terms of likely future impacts on the following dimensions for Essex Junction.

IMPACT SCALE: 1 = Low relative future impact; 10 = Very high relative future impact

	Dimensions			
Driver	Overall economic size and relative performance	Adaptability and resilience of the economy	Social fabric and cohesion	Quality of life and opportunity
1				
2				
3				
4				
5				
6				
7				
8				

**Scoring future impact
of each driver –
individual scoring**



City of Essex Junction Vision and Strategic Action Plan

THINK TANK PART 2



Essex Junction Think-Tank Part 1

November 2, 5:00pm – 8:00pm

Location: Blue Ribbon Pavilion, Champlain
Valley Exposition
105 Pearl Street, Essex Junction, Vermont
05452

Essex Junction Think-Tank Part 2

November 4, 9:00am – 12:00pm

Location: Blue Ribbon Pavilion, Champlain
Valley Exposition
105 Pearl Street, Essex Junction, Vermont
05452



THINK-TANK WORKSHOPS