

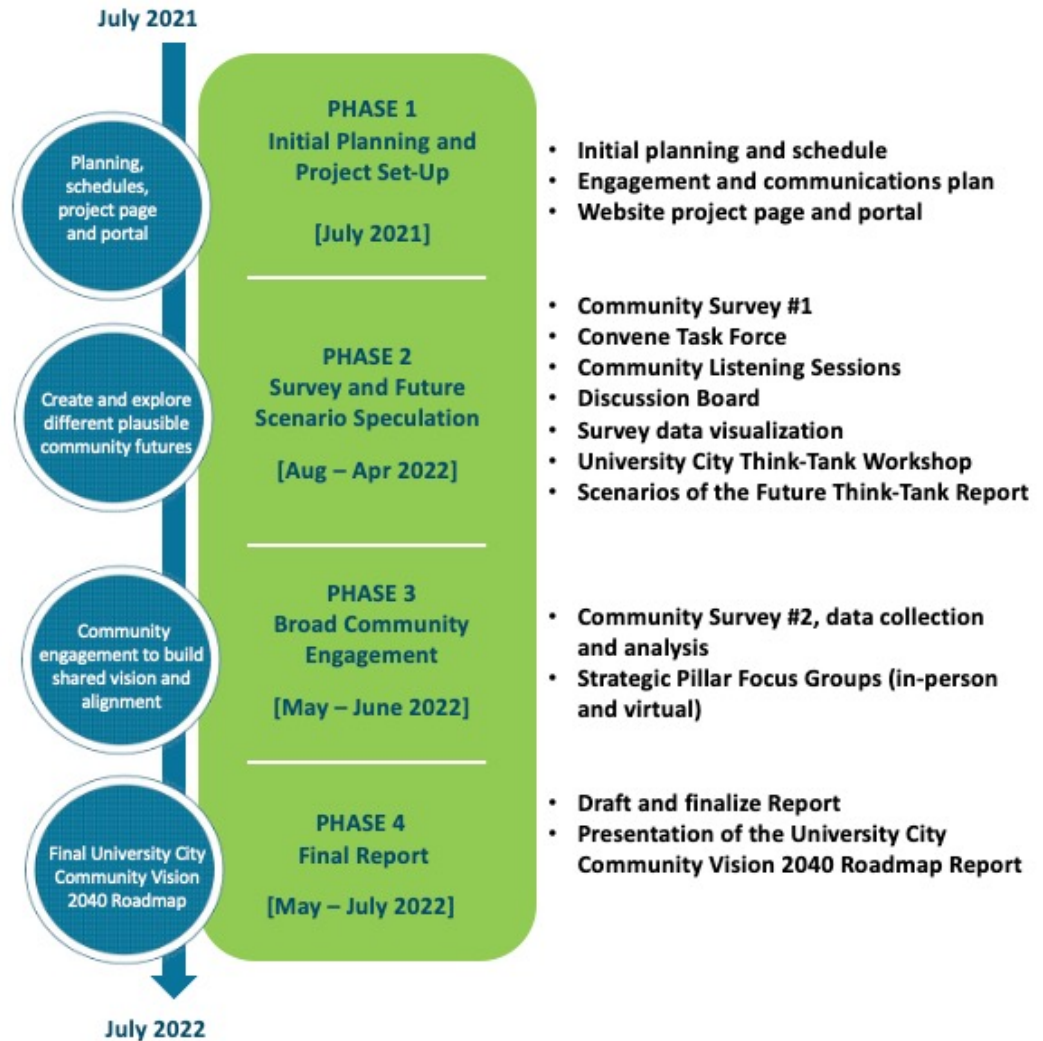
# WELCOME TO THE UNIVERSITY CITY COMMUNITY VISION 2040 PROJECT



**University City Community Vision 2040 Think-Tank  
10 & 12 March 2022**



# University City Community Vision 2040 Project Plan







# The Importance of Future Thinking



## Dealing with change

- The various factors that create change can be quite complex.
- The result is a higher degree of uncertainty and reduced predictability about the future.
- This uncertainty can leave people confused and wary about the future.
- Yet, we can still anticipate that certain things will change. Trends emerge, evolve and create new trajectories.



# The key to effective future thinking...

- Explore and anticipate a range of plausible futures.
- Consider both trajectory (direction of change) and velocity (speed of change).
- Explore the combined impacts of multiple potential trends.

The magic is how it alters our perceptions of how certain decisions might play out over time.



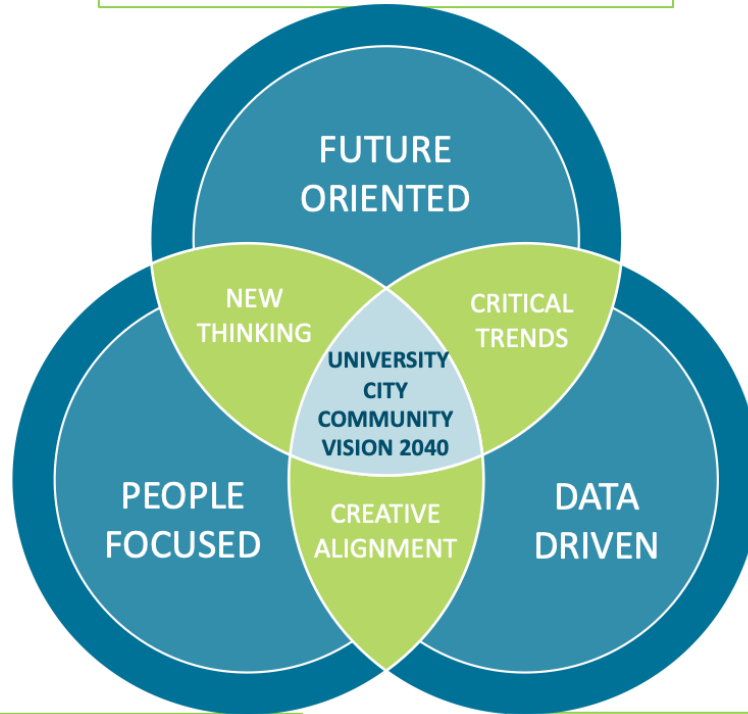
# The challenge for the Think-Tank

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

The outcome may be a new view of the future.

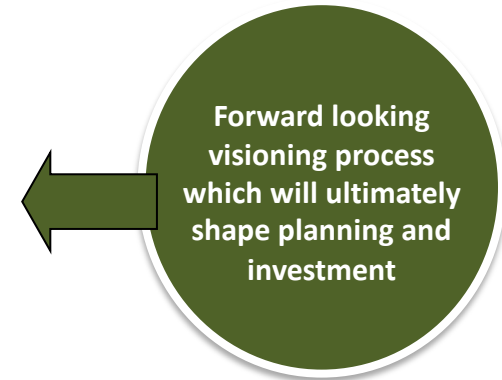


What is the future of University City?  
This project will examine critical emerging trends in cities, towns and regions to create an understanding of local implications and opportunities.



Structured people focused University City community input will build knowledge and strengthen the community ecosystem.

Data driven analysis of project engagement results will empower leadership to make research-based decisions.





# With the current pandemic, and in a time of uncertainty....

- Which trends are being amplified and accelerated?
- What changes might be more elastic?
- Where are the potential tipping points?



# Which trends are being amplified and accelerated?

- Reinvention of cities
- Application of automation and robotics
- Instant health data
- Personal recognition and tracking
- On-line commerce and retail





**Forces impacting the  
world (and regions)**

**What are the emerging  
macro drivers...**





future>IQ  
Create Future Intelligence

**THE FUTURE OF URBAN LIVING**  
Foresight Research paper produced from a Think-Tank consultation held at St George's House, Windsor Castle in December 2018.

future>IQ  
PARTNERS  
March 2019



**THE FUTURE OF FOOD**  
FEEDING THE WORLD - THE COMING FOOD REVOLUTION



**CITIES OF THE FUTURE**  
ANTICIPATING TRENDS AND POSSIBILITIES



**THE FUTURE OF MANUFACTURING**  
BUILDING THE FUTURE THROUGH AGILITY AND INNOVATION



AG INSTITUTE  
OF AUSTRALIA

**FUTURE OF AGRICULTURE IN WESTERN AUSTRALIA**  
THINK-TANK WORKSHOP REPORT



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PARTNERS



**FUTURE OF MIDWEST AGRICULTURE**  
Scenarios of the Future

June 15-16, 2017



**GLOBAL FOOD INDUSTRY**  
SCENARIOS OF THE FUTURE  
SCENARIO PLANNING REPORT

February 24-25, 2016



**THE NEXT INDUSTRIAL REVOLUTION**  
A NEW ERA - ROBOTICS, AUTOMATION AND LIFE SCIENCES

Prepared by Future IQ  
November 2017

future>IQ | Create Future Intelligence

# Macro Trends and Forces of Change Related to . . .

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







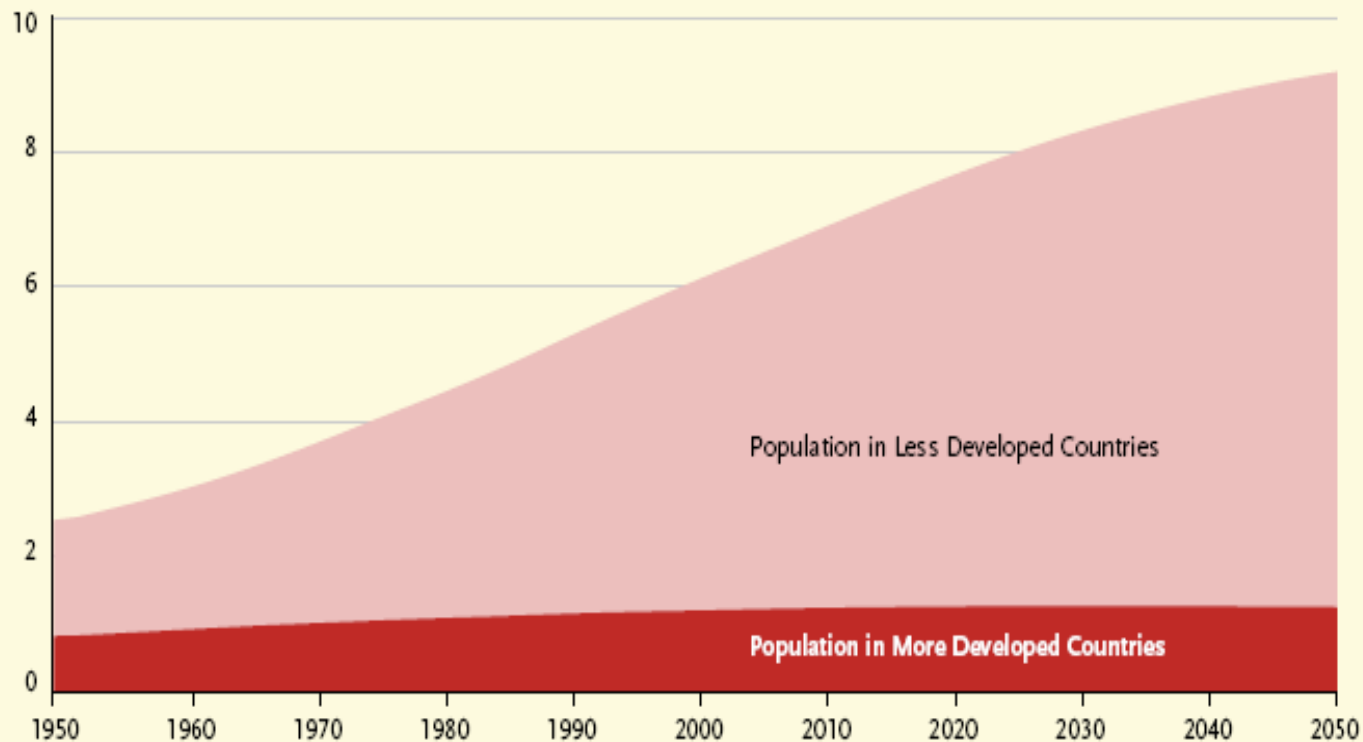
# Demographics, population and mass urbanization

future→iQ



## Global Population Growth Is Driven By Developing Countries.

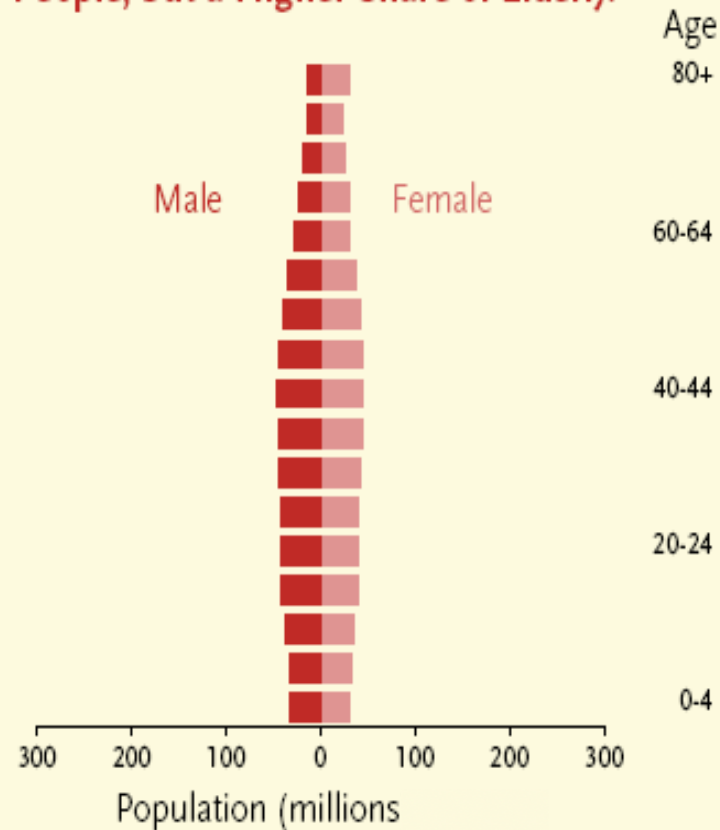
World population in billions, 1950-2050 (projected)



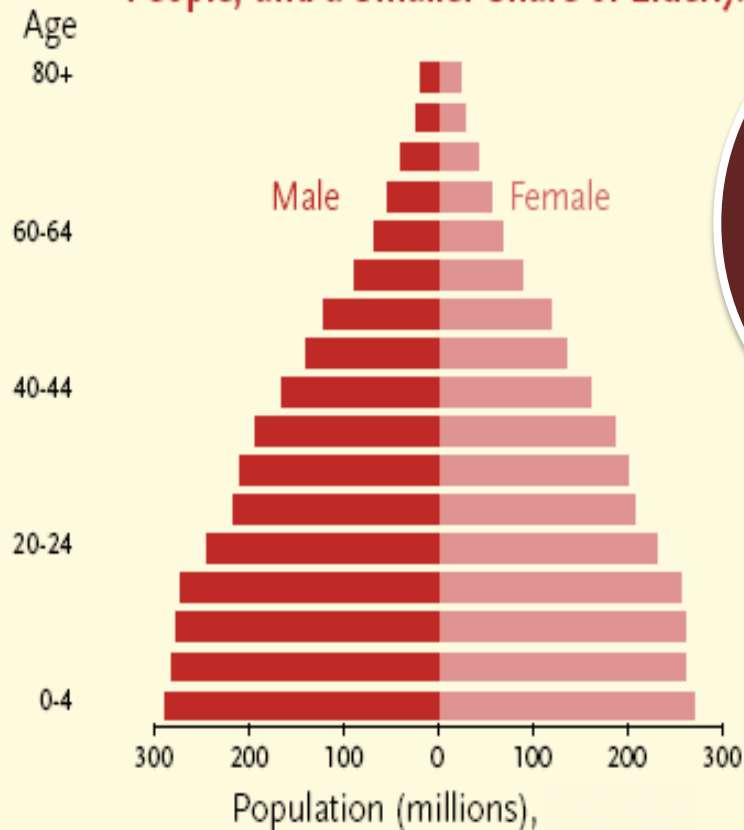
**Global  
population**

SOURCE: United Nations, *World Population Prospects*.

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

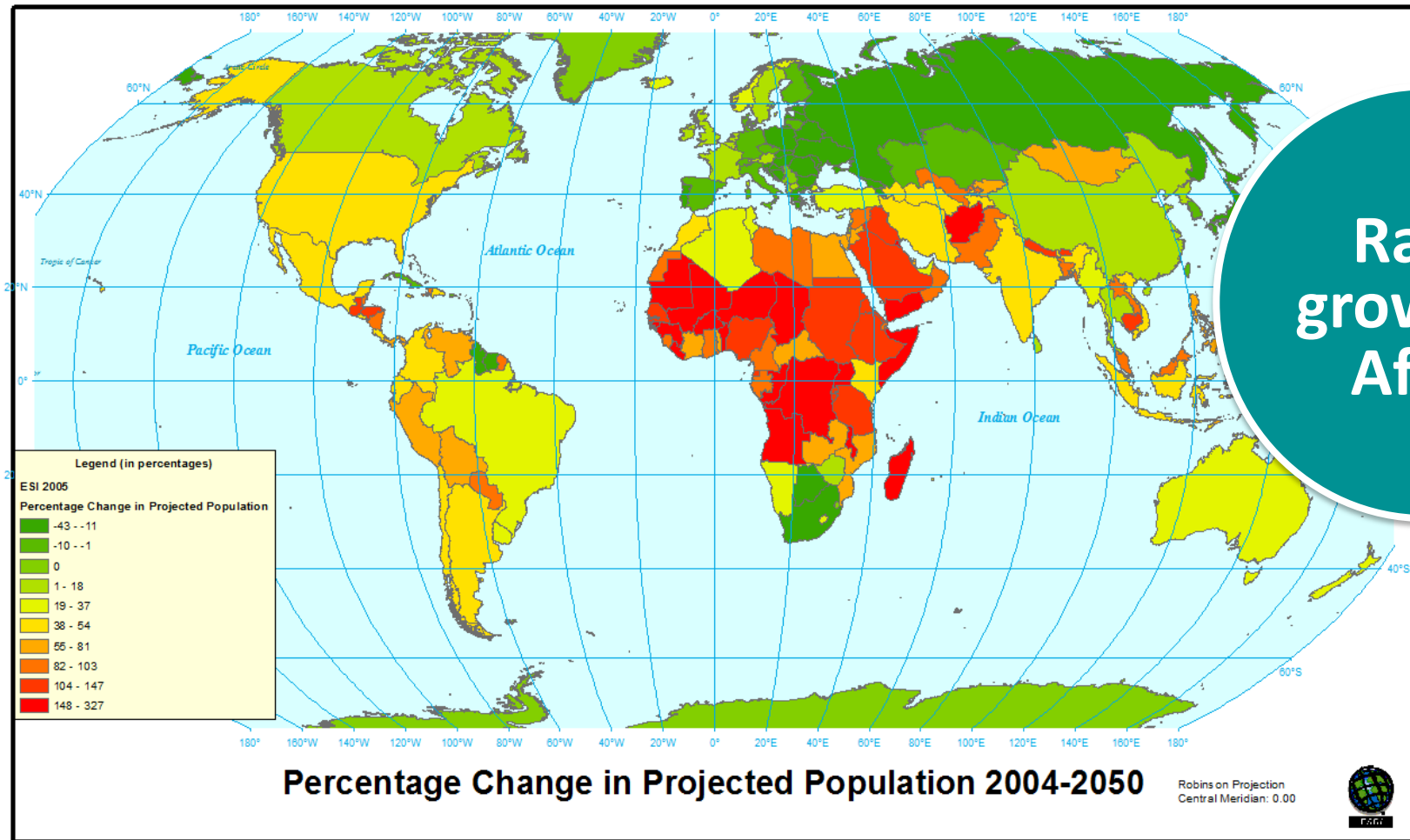


Developing Countries Have More Young People, and a Smaller Share of Elderly.



**Global  
population age  
profiles**

SOURCE: United Nations, *World Population Prospects*:

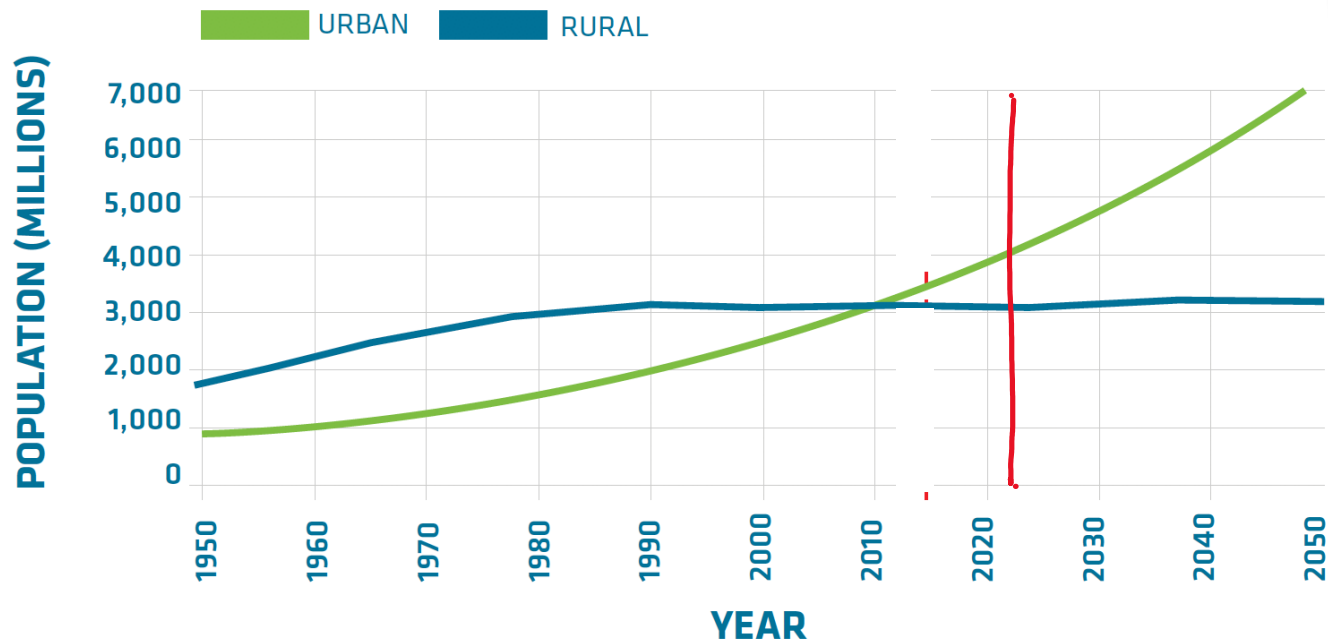




*“The urban population in 2014 accounted for 54% of the total global population, up from 34% in 1960, and continues to grow.”*

*World Health Organization (2015)*

### URBAN AND RURAL POPULATION OF THE WORLD, 1950-2050



**Becoming  
more urban**

# FUTURE OF URBAN LIVING

When we think of human evolution, we often picture homo sapiens wandering around the savannah. However, something remarkable is happening. Between 1950 and 2050 humanity is making a massive pivot from being a primarily agrarian rooted species to an urban dwelling species.

And this pivot is accelerating.

# 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

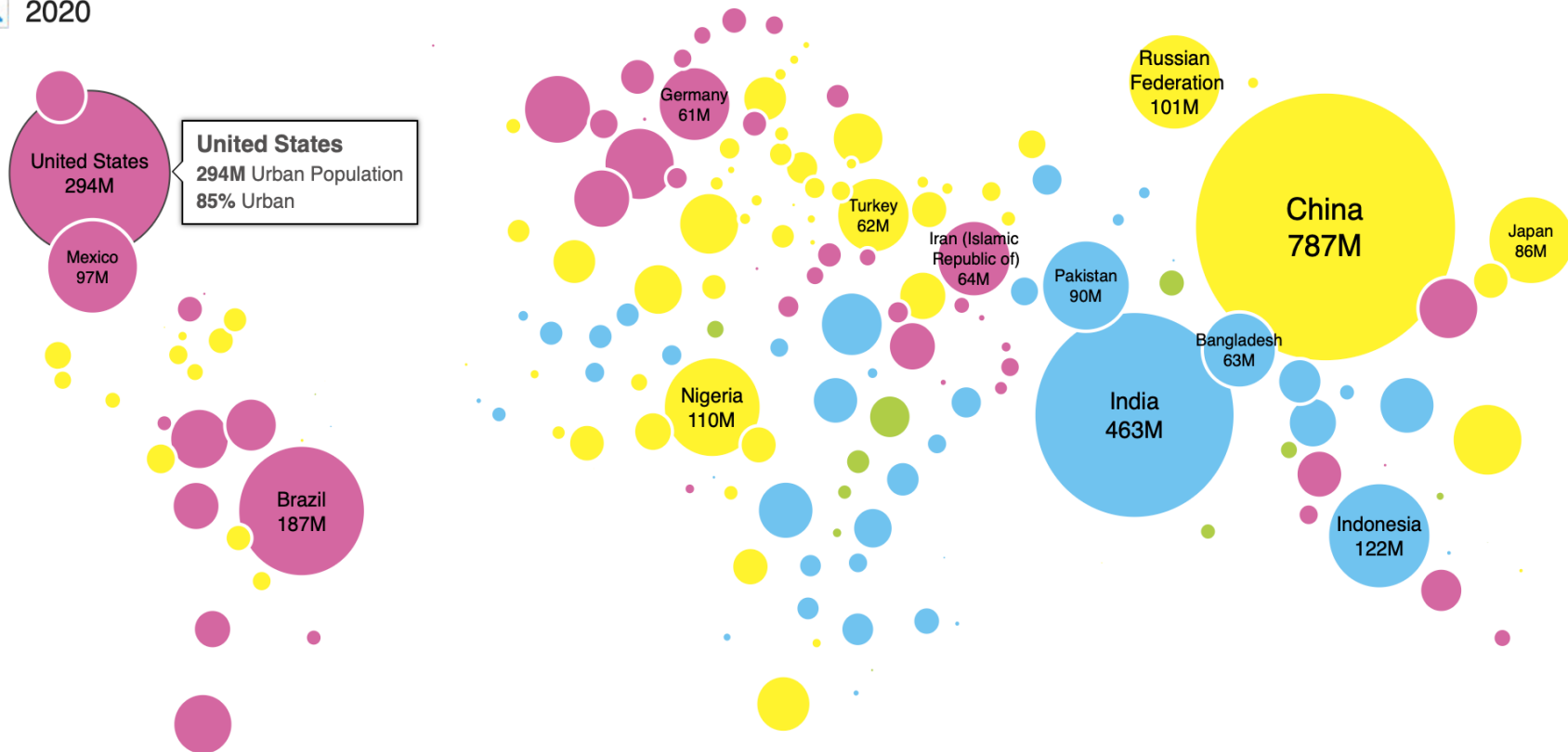
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- 25% - 50%
- Less than 25%



2020





# AN URBAN WORLD

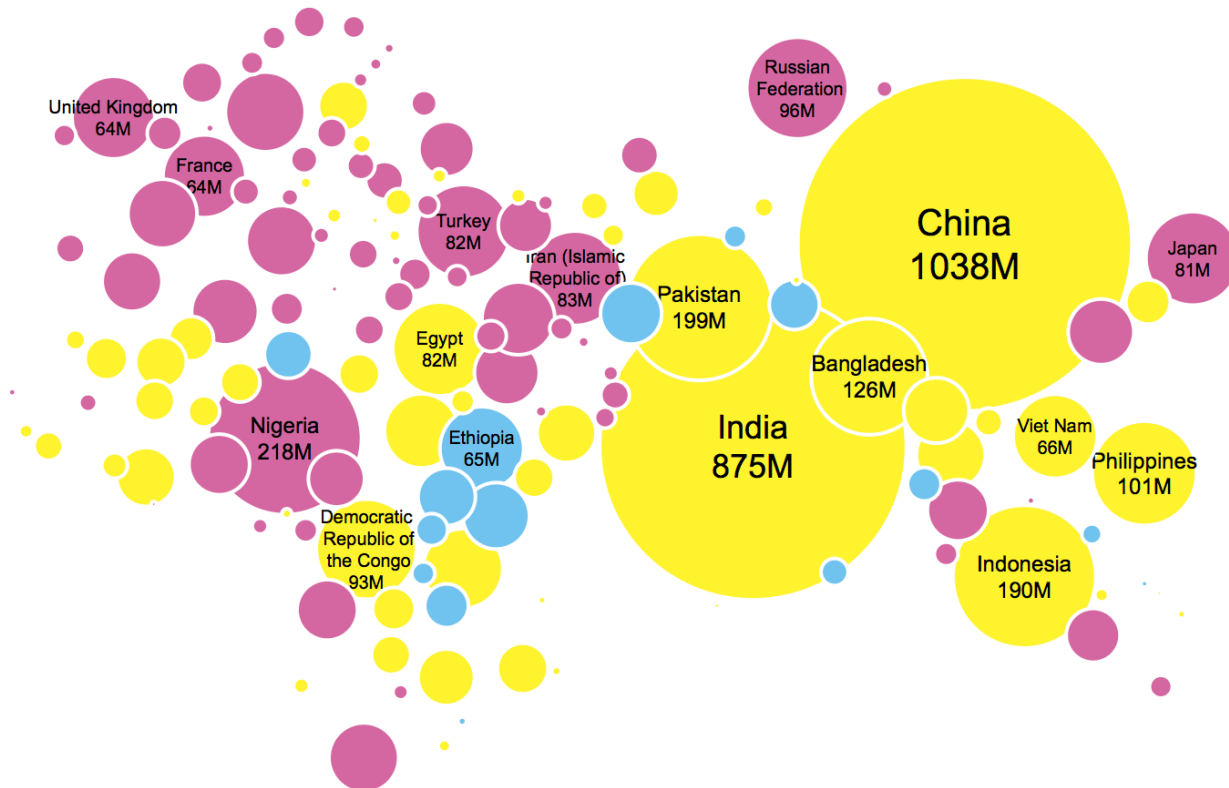
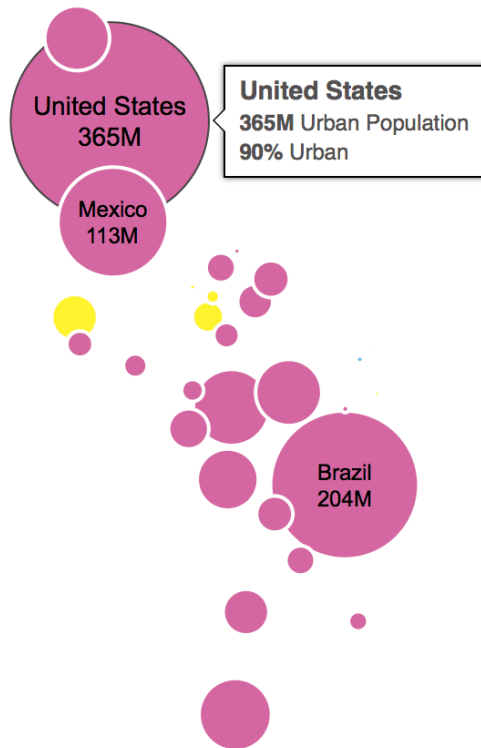
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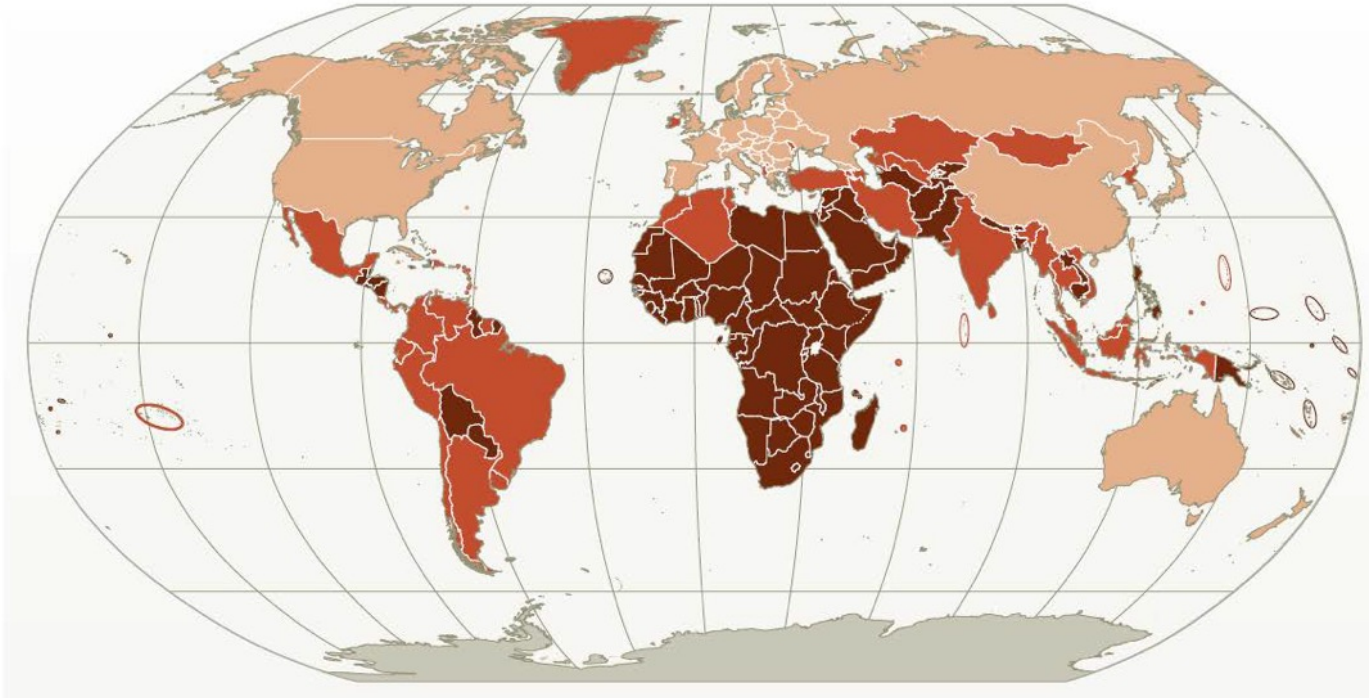


2050



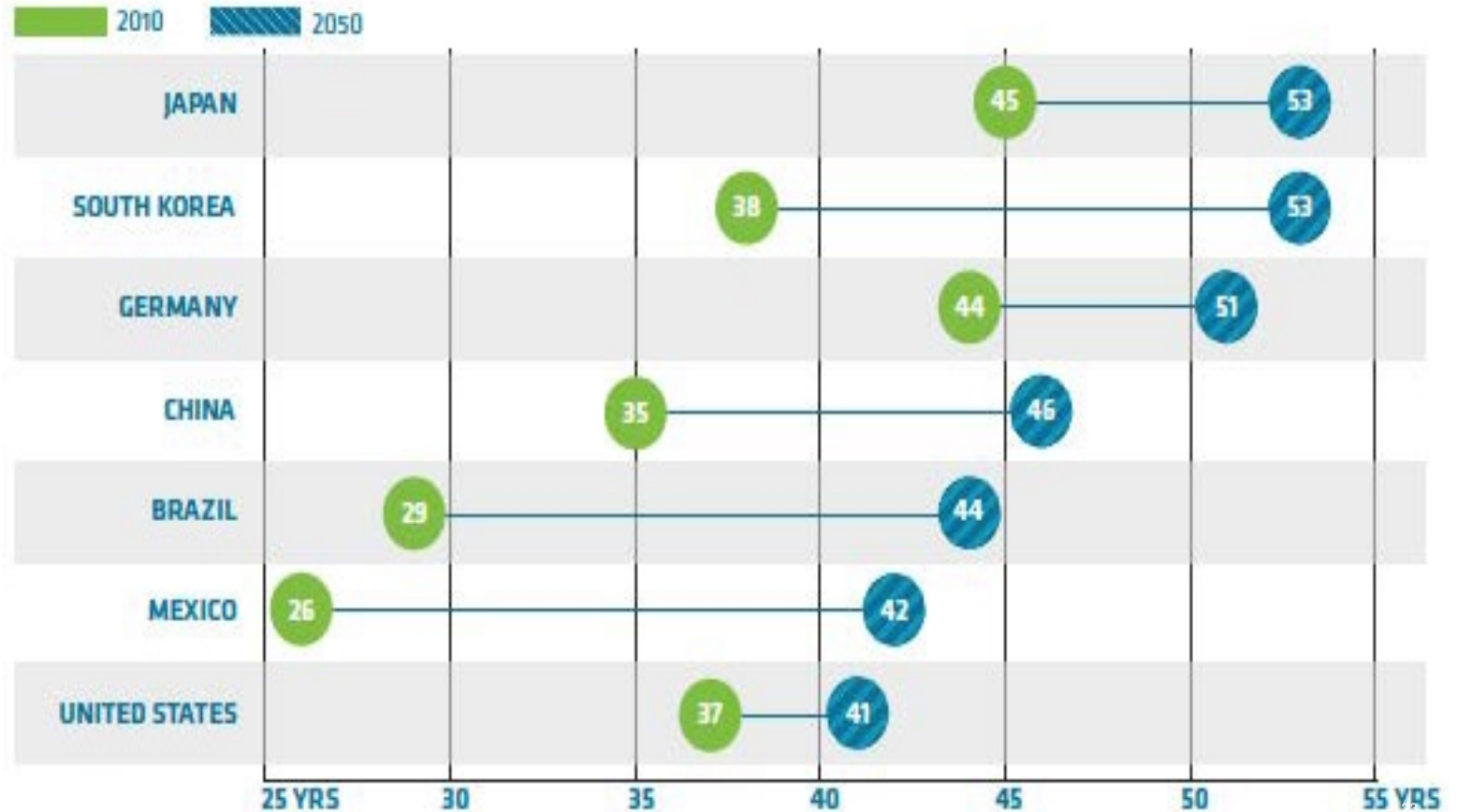
# Global Aging Population

- Youthful (25 or younger)
- Intermediate (over 25 to 35)
- Mature (over 35 to 45)
- Post-mature (over 45)



Source: Global Trends 2030: Alternative Worlds, National Intelligence Council

# Median age in selected countries





SURPRISE #3

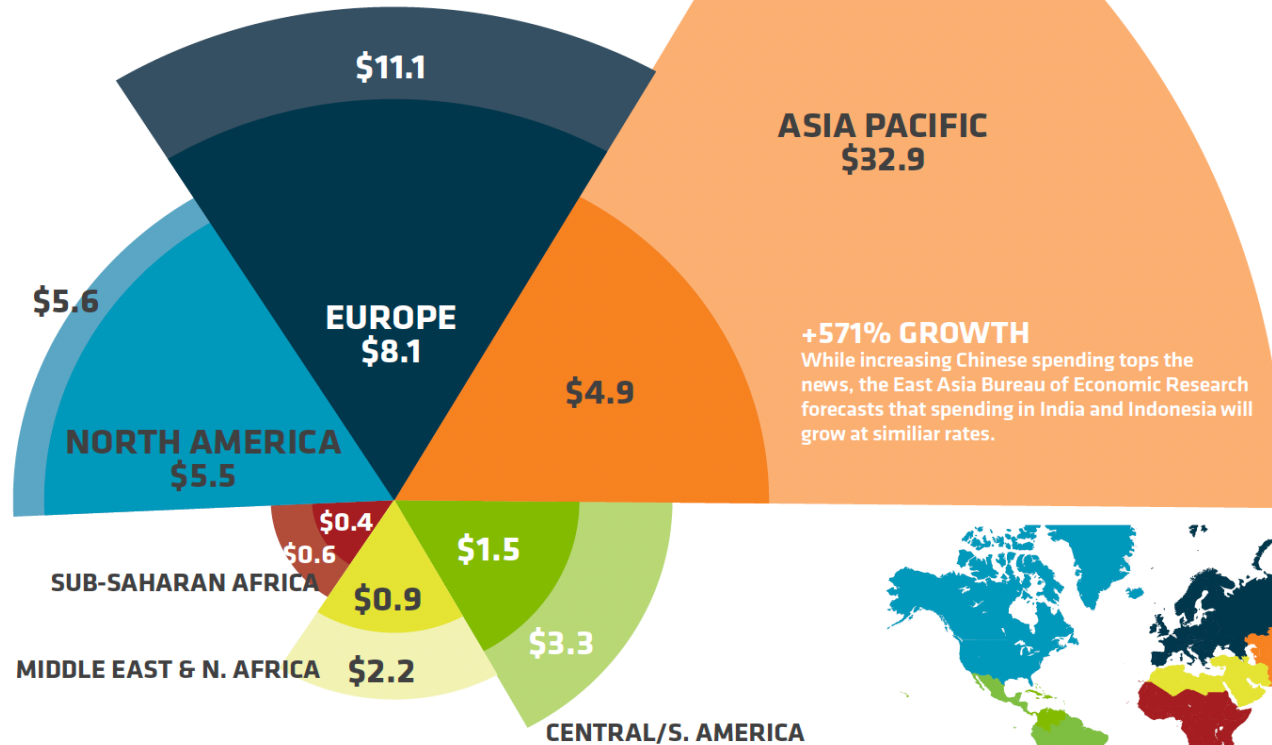
**We will build  
an entire New  
York City every  
month...**

... for 40 years! The world's building stock  
will double by 2060.

## MIDDLE CLASS CONSUMER SPENDING

OUTER RING: 2030 IN TRILLIONS, USD

INNER RING: 2009 IN TRILLIONS, USD



Source: Kou, L. 2013. The world's middle class will number 5 billion by 2030. Quartz.  
Figures based on OECD, 2012. An emerging middle class.



# Built Environment is a Direct Reflection of the Underlying Economy



## Agriculture Economy

- 1<sup>st</sup> version of the American Dream
- “40 Acres and a Mule”



## Industrial Economy

- 2<sup>nd</sup> version of the American Dream
- Drivable Sub-urban...”See the USA in Your Chevrolet”



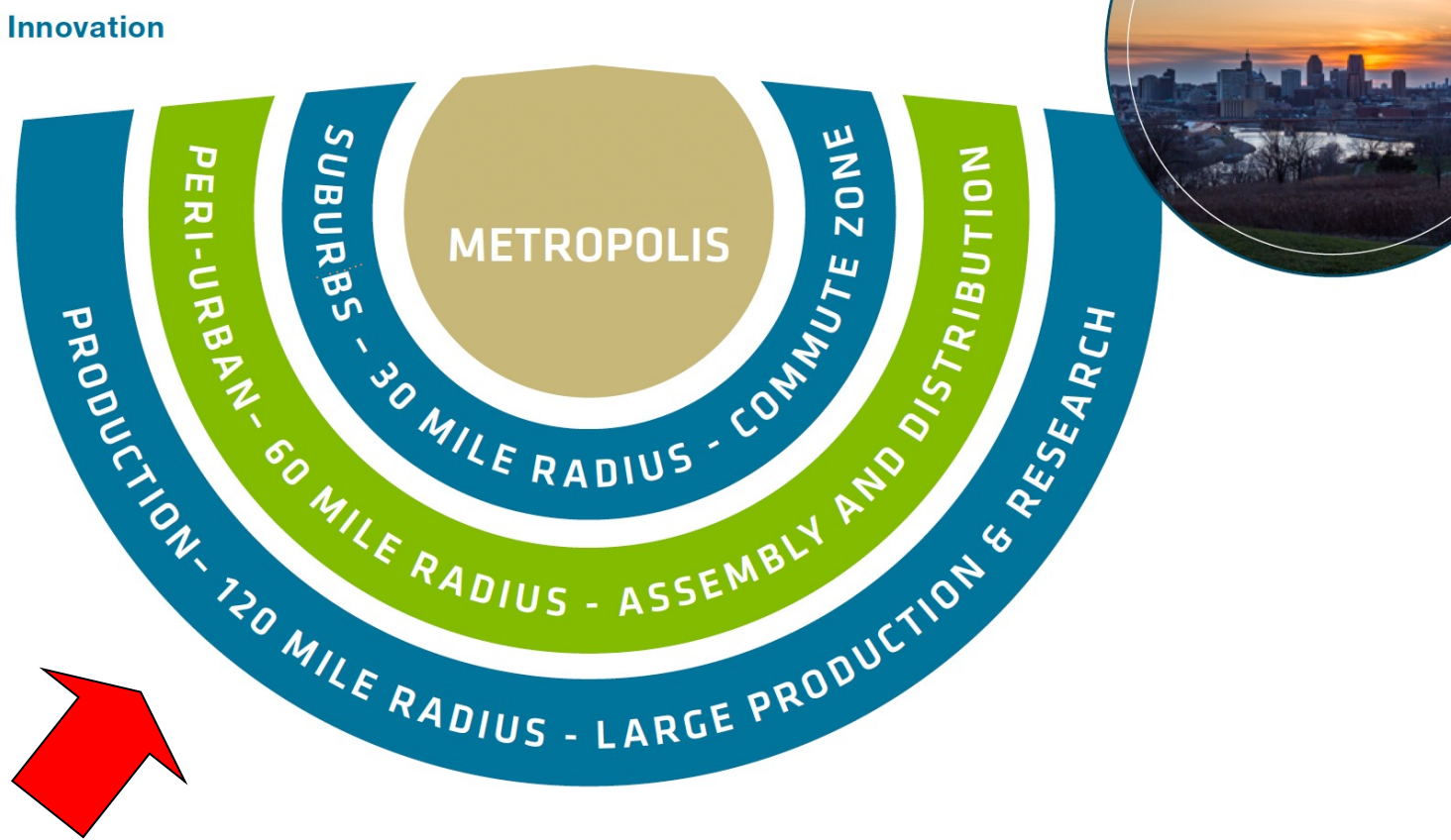
## Knowledge/Experience Economy

- Current/Future version of the American Dream
- **Option** of Walkable Urban and Drivable Sub-urban

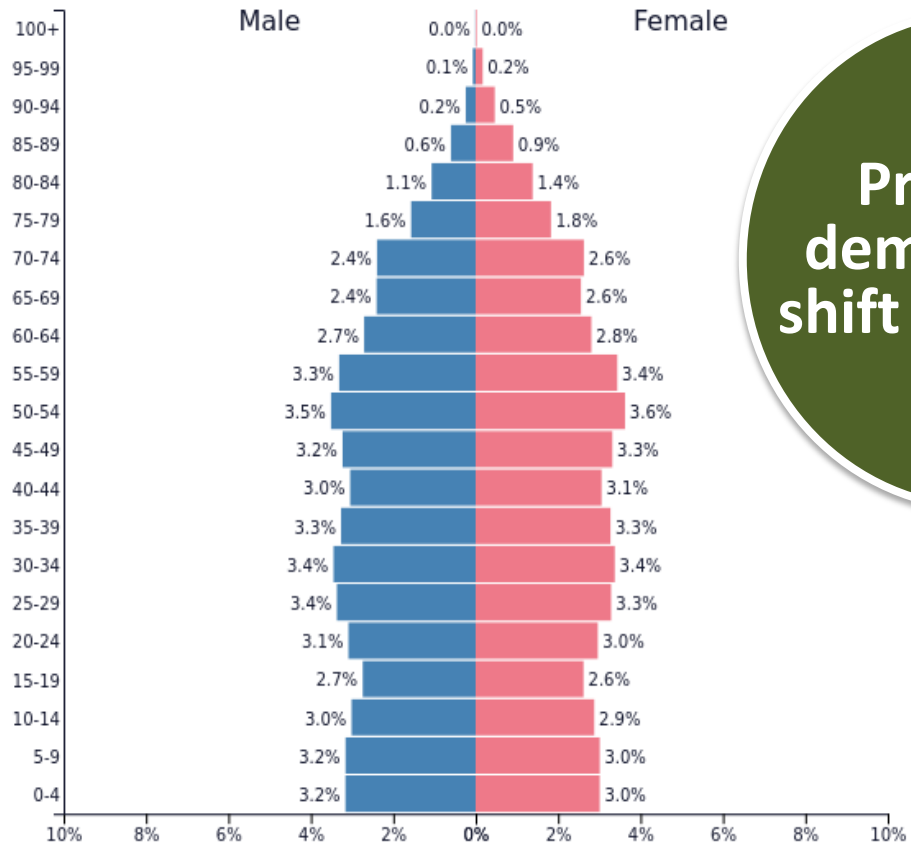
**Built  
environment  
reflects underlying  
economy**



Future-Splitting  
Questions™

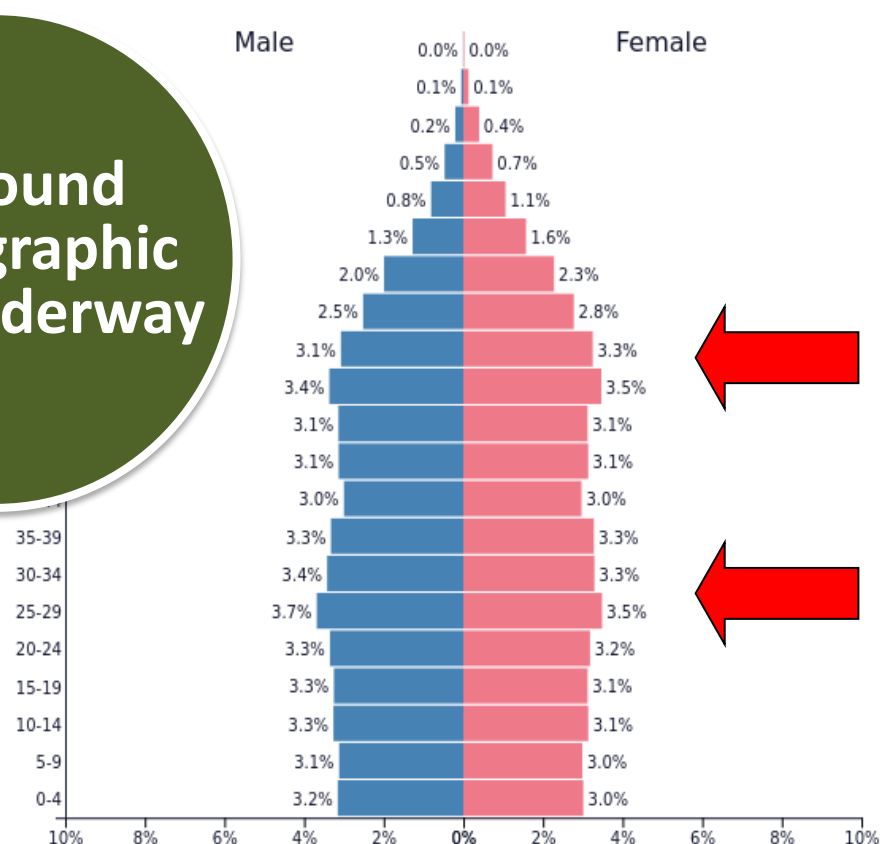


What does this mean for the future of  
cities like University City?



PopulationPyramid.net

**United Kingdom - 2019**  
Population: **66,310,254**



PopulationPyramid.net

**United States of America - 2019**  
Population: **331,195,364**



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!**

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.

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

Shifting  
societal  
values



# Predictions and observations

- Generational change is coming which will trigger widespread upheaval of norms.
- Supply chains will cluster around mega-cities, in specialized cities and regions.
- Innovation will occur in every arc, but with differing human component.





# Demographic + Population + Mass Urbanization

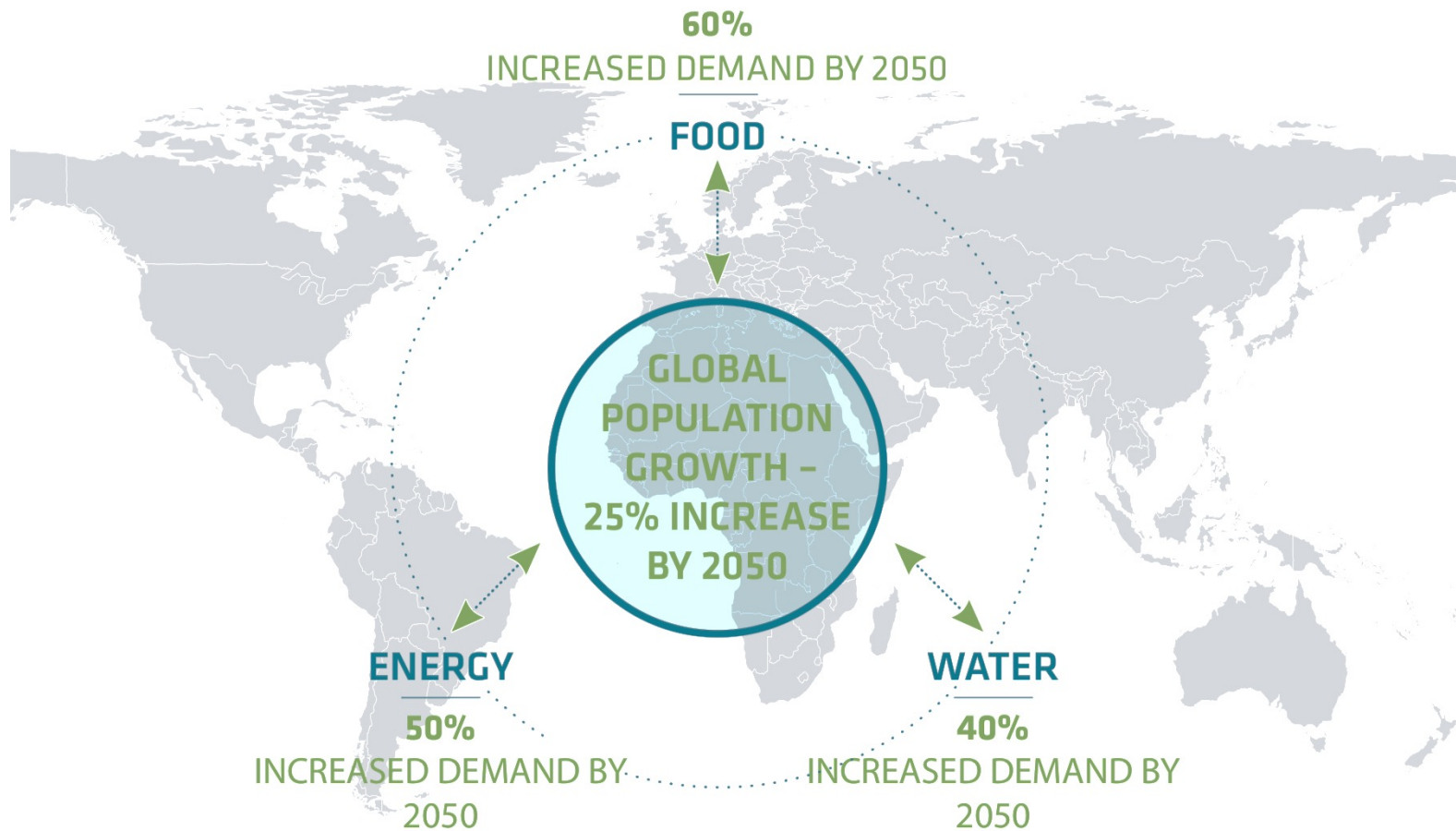


**What does this mean for  
University City?**

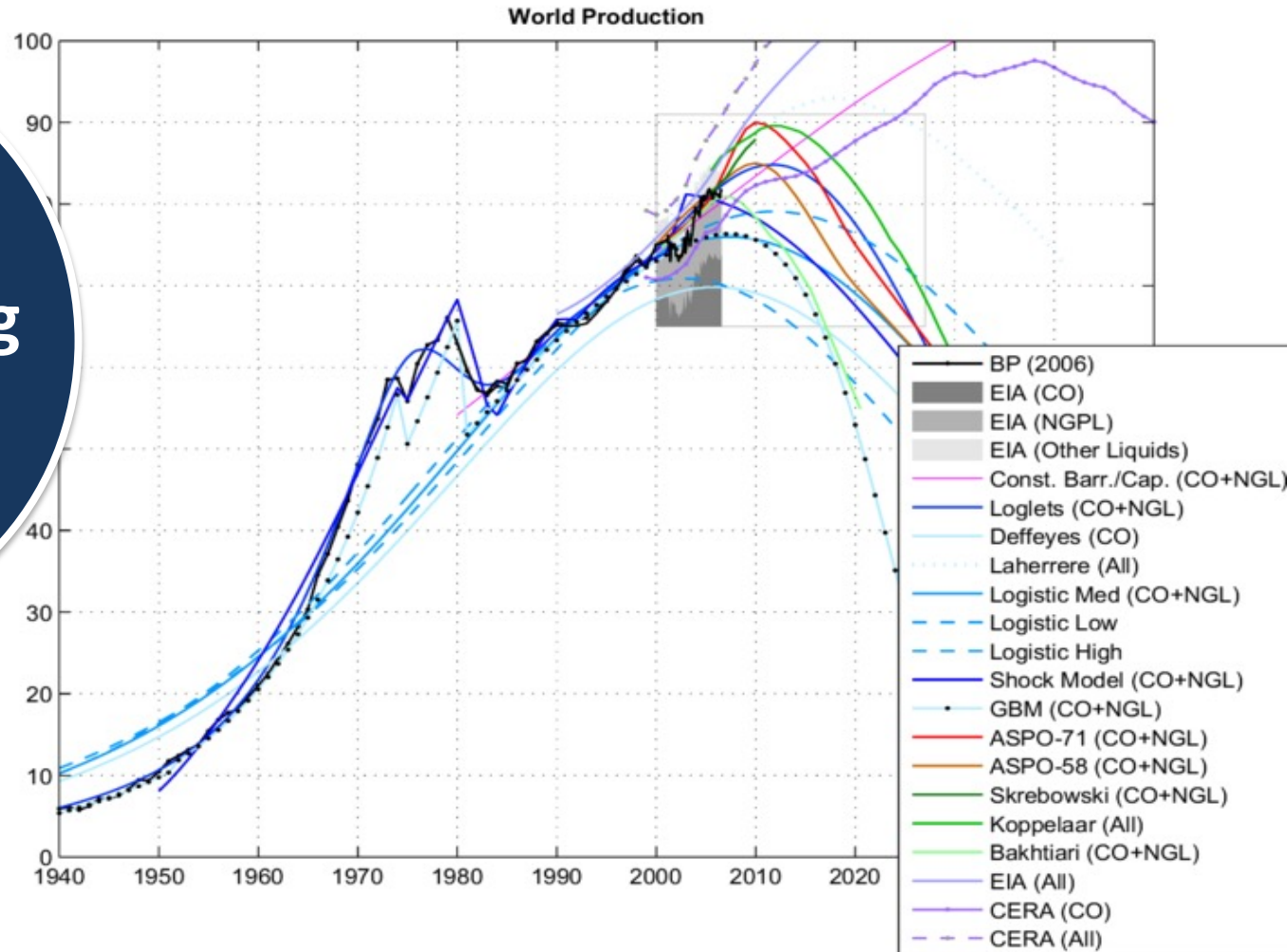
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Create Future Intelligence™

# Energy + Water + Food + Climate Change





Peak oil was  
the prevailing  
scenario;  
until....





**BLACK GOLD**  
**OIL SHALE**



**ROCKS THAT BURN**  
**FUEL OF THE FUTURE!**

CONTENTS: 384 CALORIES OF ENERGY

# Huge shale oil deposits



# Renewable Energy



Potential for  
unlimited  
cheap 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-Midwest USA  
has 20% of  
global freshwater  
resources**

An infographic featuring a light gray world map as a background. Large green curly braces are used to group statistics. On the left, a brace groups three statistics about undernutrition. On the right, a brace groups three statistics about overweight and obesity. The text is in green and blue colors.

**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**

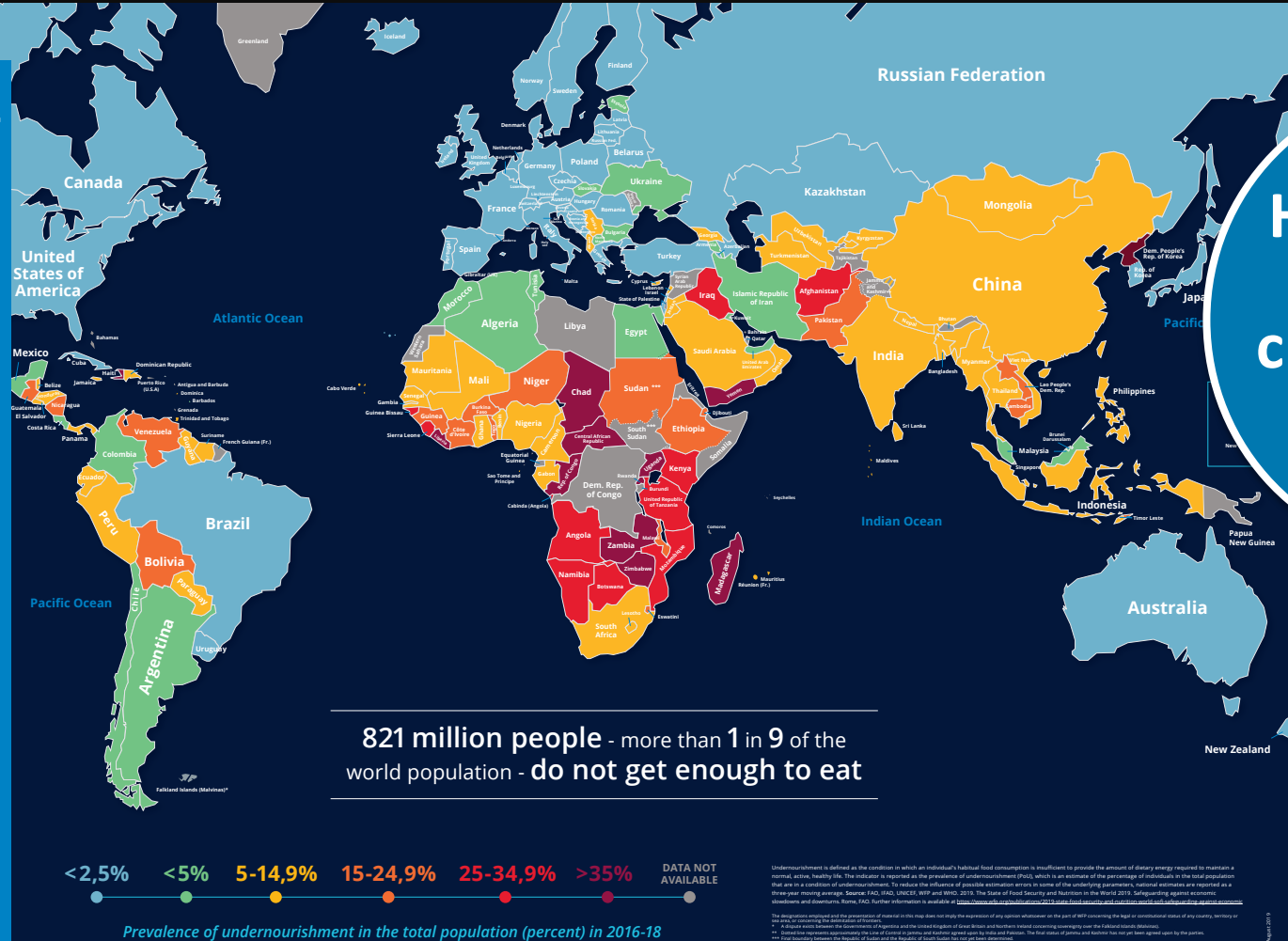
ADULTS ARE OVERWEIGHT OR OBESE

**1 in 12**

ADULTS HAVE DIABETES

**42 MILLION**

CHILDREN ARE OVERWEIGHT



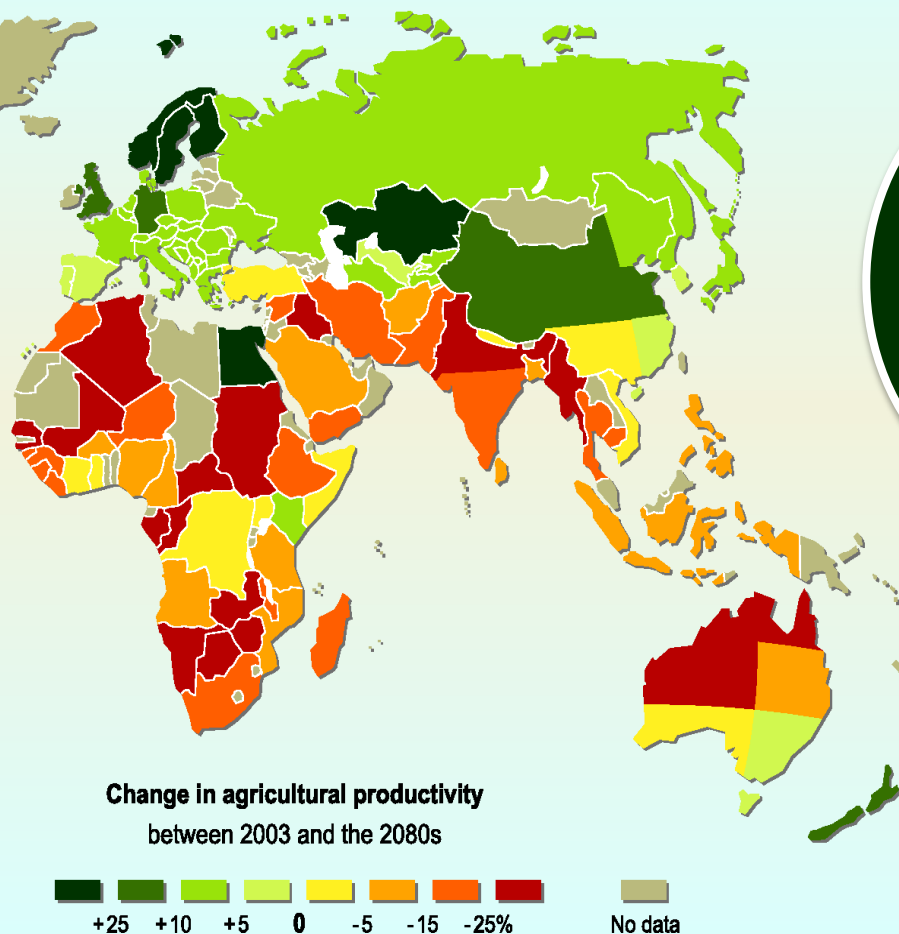
**Hunger is an emerging critical global issue**

# Projected impact of climate change on agricultural yields

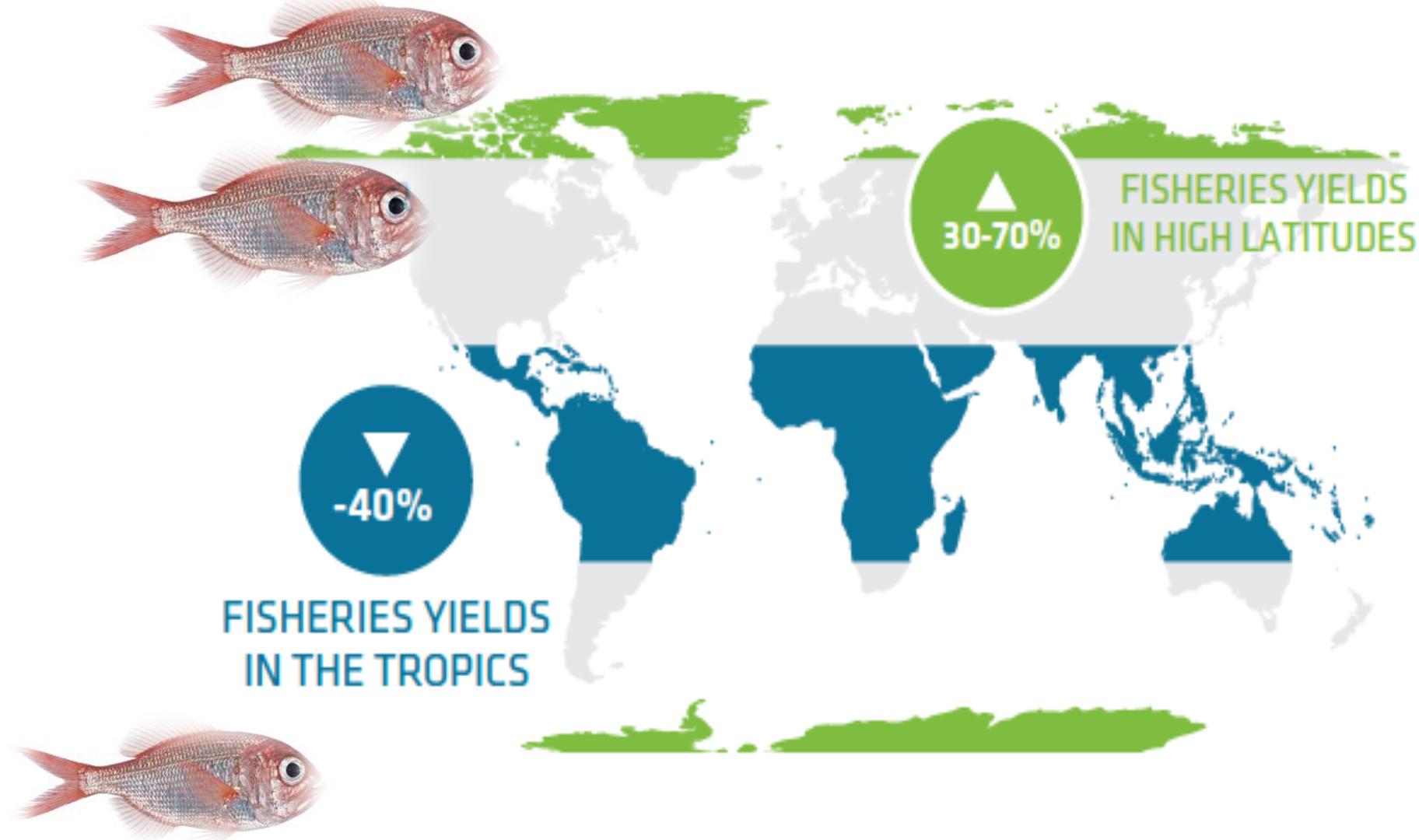
Increases and decreases

"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."

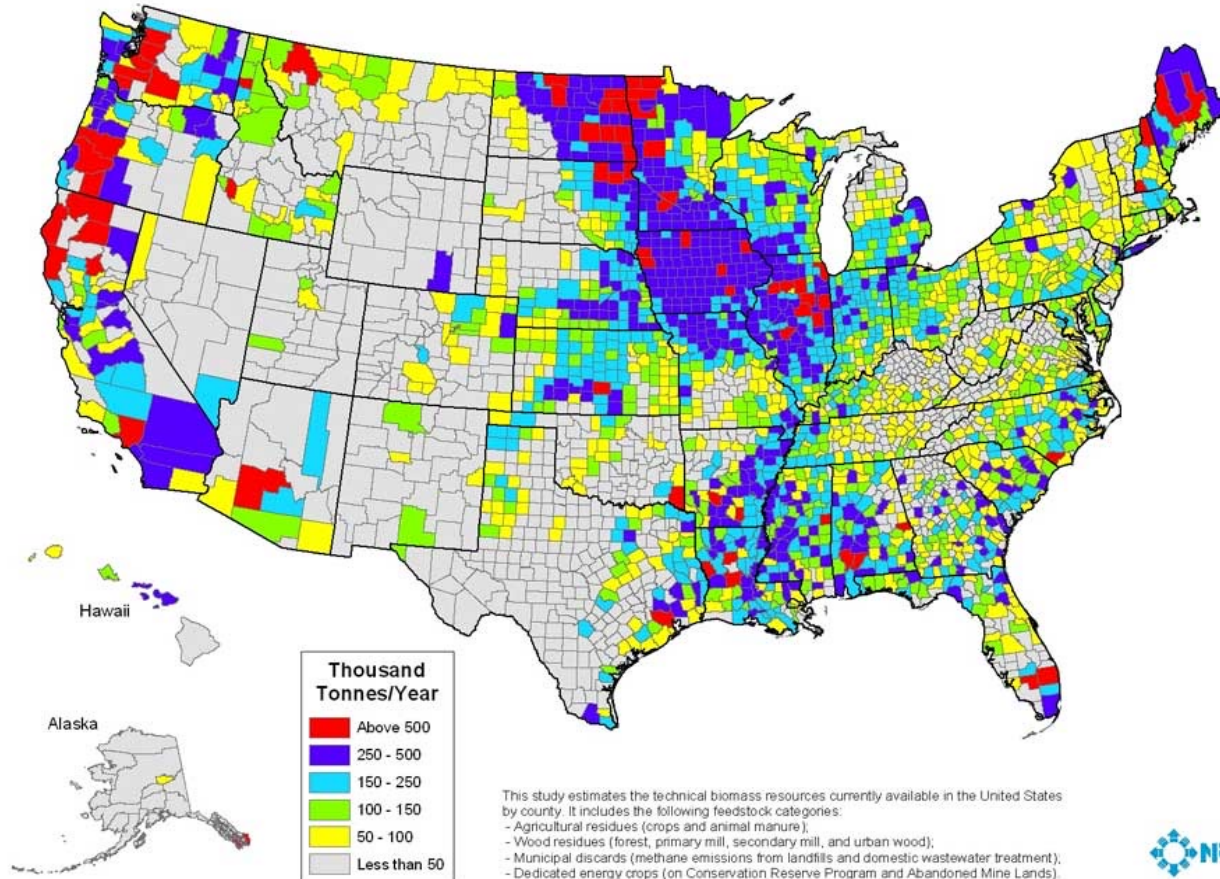
This map represents the case of beneficial carbon fertilisation processes.







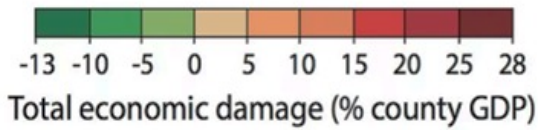
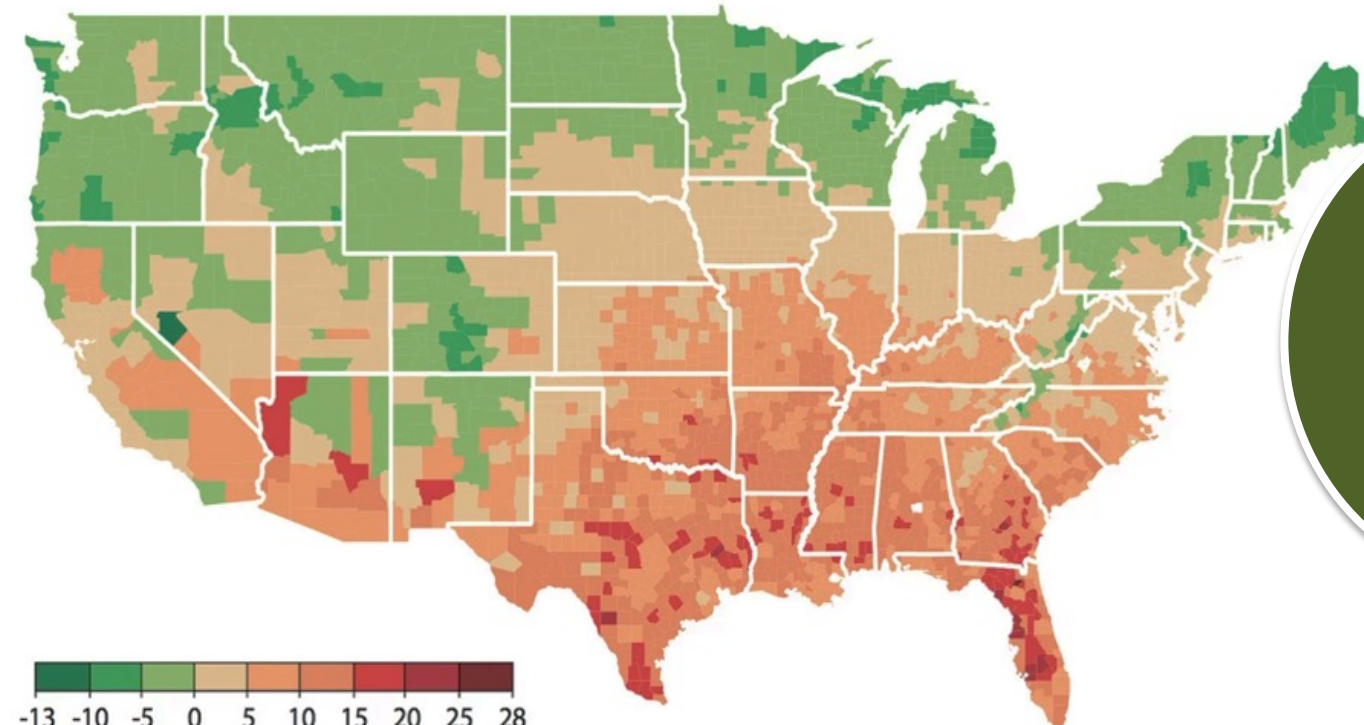
## Biomass Resources Available in the United States



**Unique  
biomass  
capability**



September 2005



Long term  
GDP impact  
positive in  
north

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 will be consumed, and where it can be grown.
- Changing consumer demands will drive healthy food; pivot to plant-based will accelerate.
- Midwest poised to capitalize on intersect of water, energy and biomass / food production capability.



# Energy + Food + Water + Climate Change



## What does this mean for University City?

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# Technology and the speed of change



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# What makes this industrial revolution different?

- Machine learning / Artificial Intelligence
- Converging technologies
- Exponential impacts



1.0

◆ **1780 – Mechanisation**  
Industrial production based on machines powered by water and steam

2.0

◆ **1870 – Electrification**  
Mass-production using assembly lines

3.0

◆ **1970 – Automation**  
Automation using electronics and computers

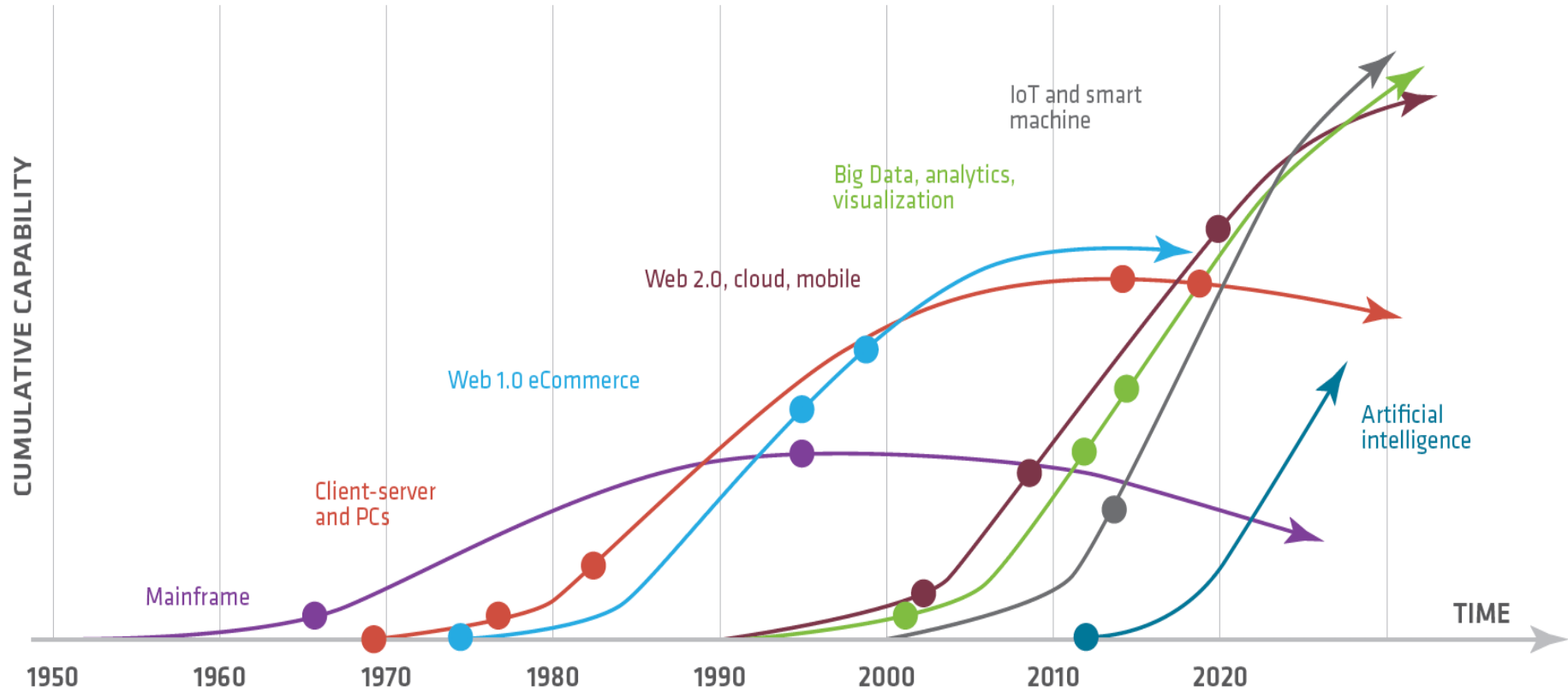
3.5

◆ **1980 – Globalisation**  
Offshoring of production to low-cost economies

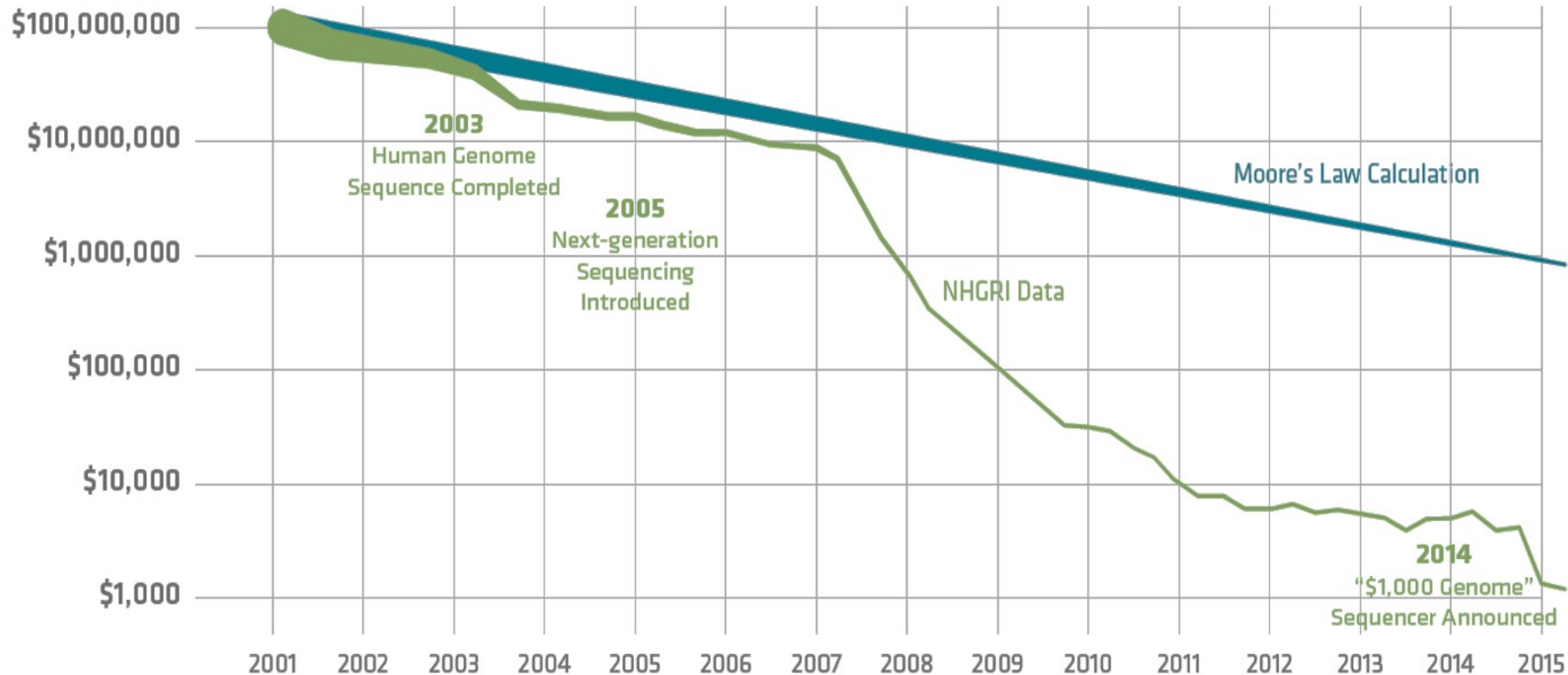
4.0

◆ **Today – Digitalisation**  
Introduction of connected devices, data analytics and artificial intelligence technologies to automate processes further

## THE INCREASING CAPABILITY OF DIGITAL TECHNOLOGIES



## DNA SEQUENCING COSTS OVER TIME

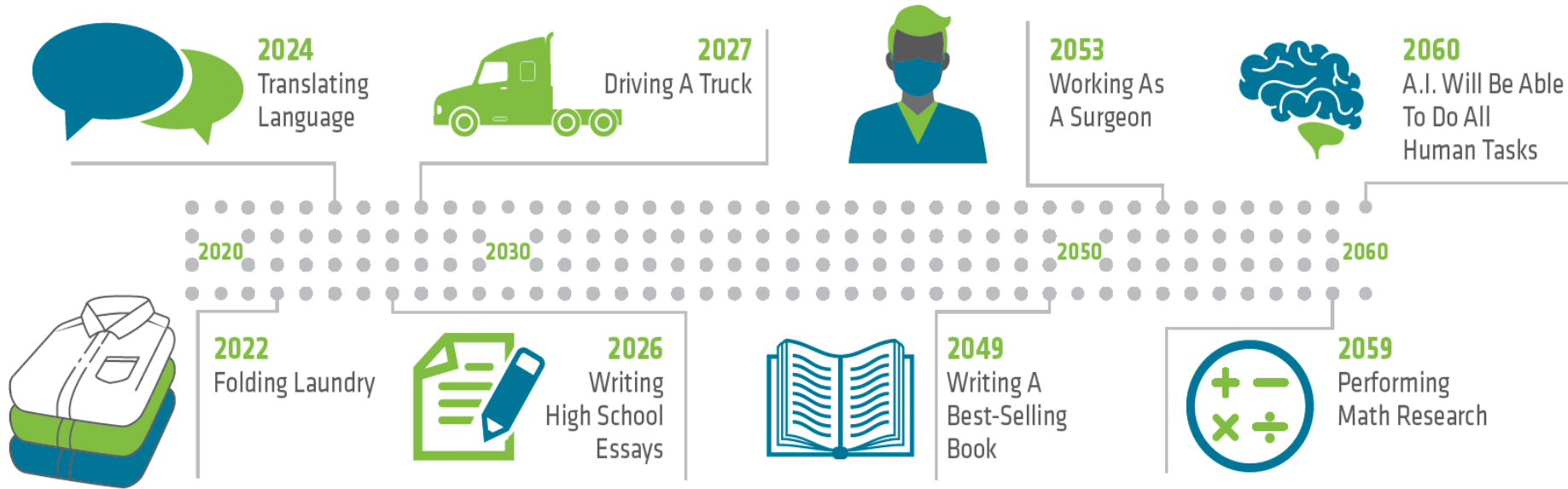


*Decline in real costs compared to expected declines based on Moore's Law. Trend line: Cost per human genome. Line width: Cost per megabase (Mb). (Data: NHGRI <https://www.genome.gov/27541954/dna-sequencing-costs-data/>)*



# When will AI outperform people?

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) <sup>12</sup>

*Reproduced from Next Industrial Revolution, Future iQ, 2018*



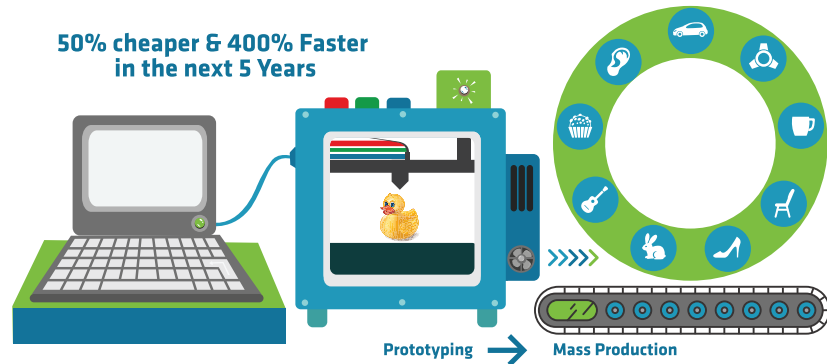
Source: New Yorker Oct 23, 2017, and Max Planck Research 2009

# How will things be made?



Future-Splitting  
Questions™

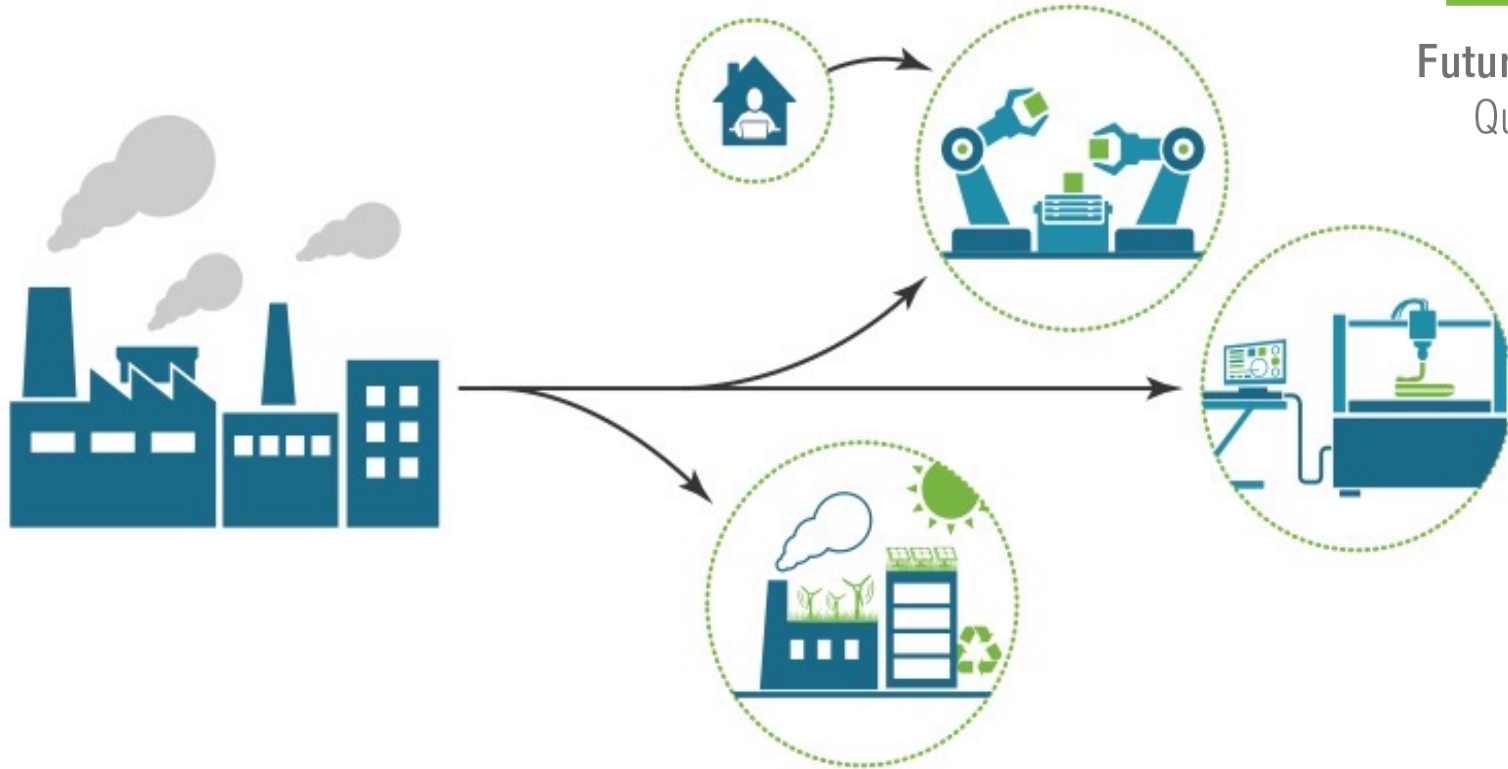
50% cheaper & 400% Faster  
in the next 5 Years



# Where will things be made?



Future-Splitting  
Questions™





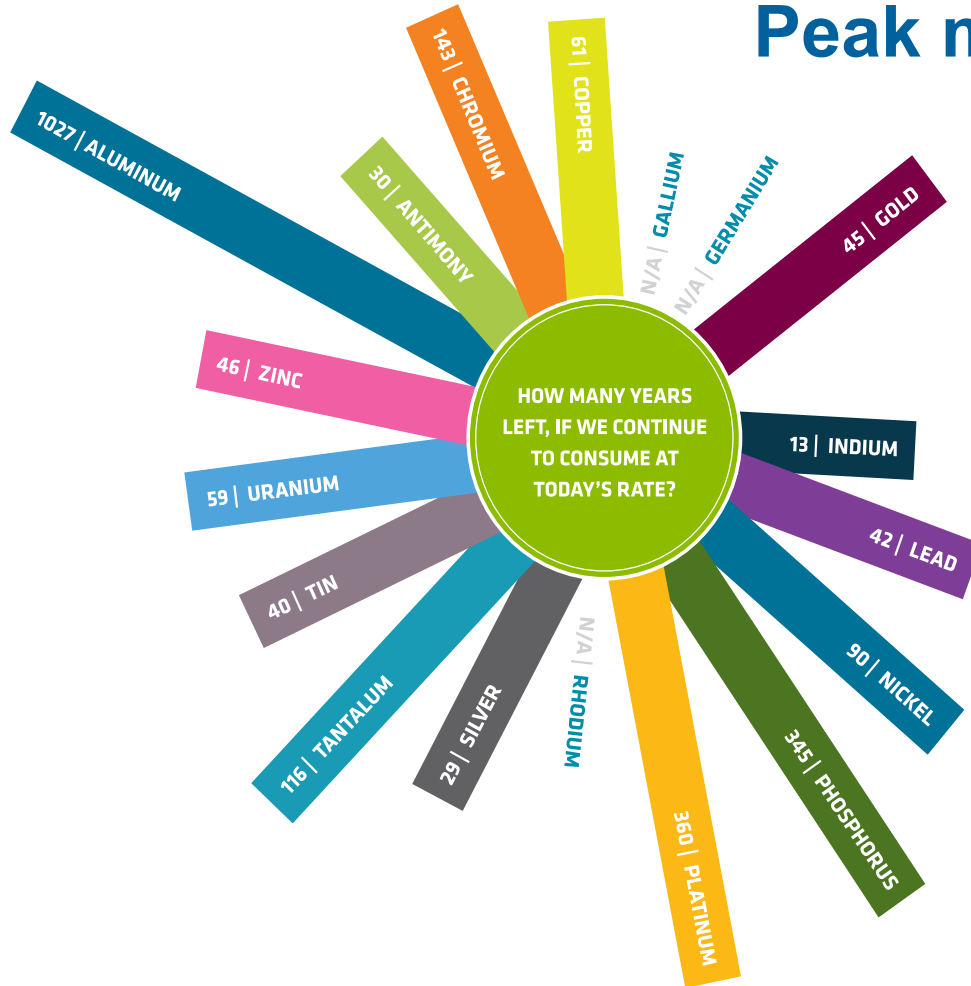
# What will things be made of?



Future-Splitting  
Questions™



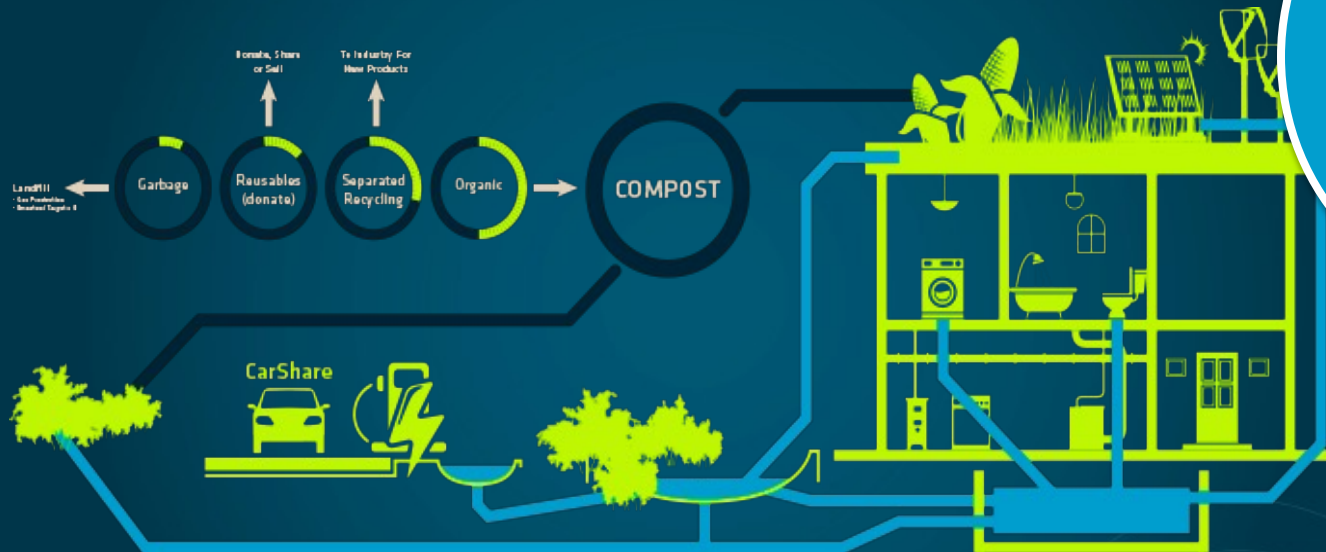
# Peak materials



## IF DEMAND GROWS...

Some key resources will be exhausted more quickly if predicted new technologies appear and the population grows.

# Closed loop and 'Cradle to cradle'

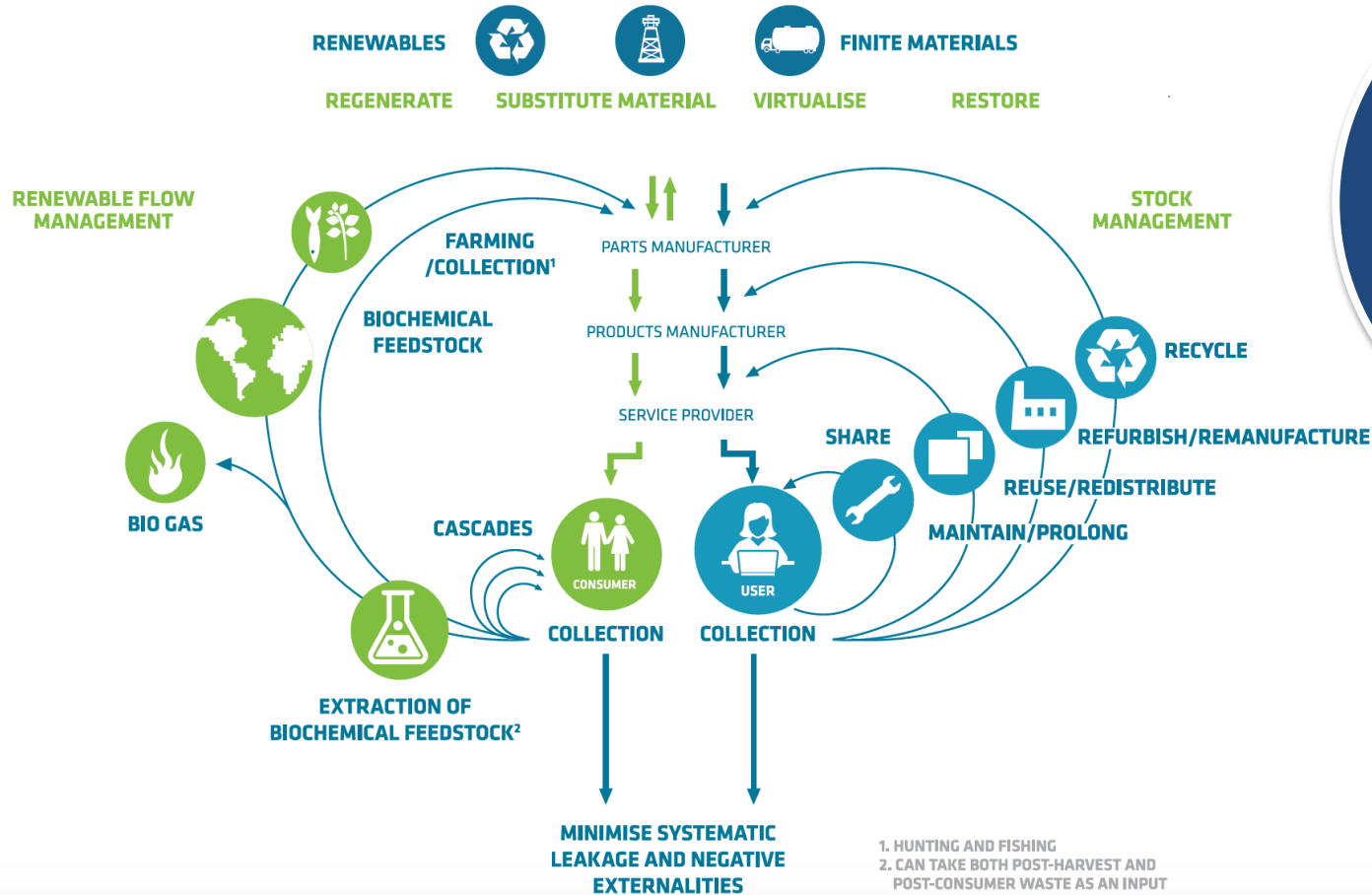


New local  
systems

**CITIES OF THE FUTURE**  
ANTICIPATING TRENDS AND POSSIBILITIES

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PARTNERS [www.future-iq.com](http://www.future-iq.com)

# Closed loop systems



New macro  
systems



# 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

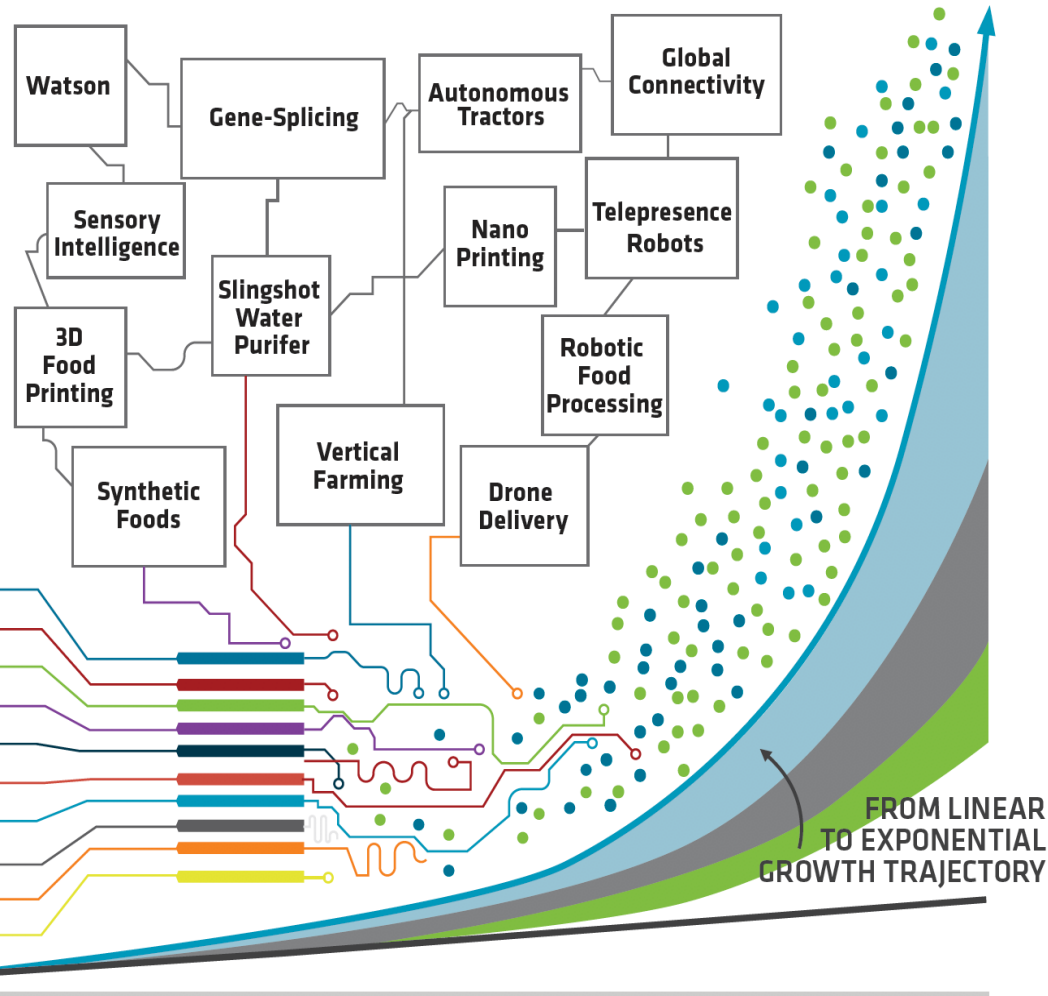
SPEED OF TECHNOLOGICAL CHANGE

EXPONENTIAL TECHNOLOGIES

**Technological Development**  
Moore's Law: The power of chips, bandwidth and computer doubles appr. every 18 months.

**The Human Factor**  
Technological dev. feeds and enables various trends in society: Democratisation, Social Connection, DIY, Decentralisation.

Biotech  
Neurotech  
Nanotech  
New Energy & Sustainability  
ICT & Mobile Technology  
Sensing  
3D Food Printing  
Artificial Intelligence  
Robotics  
Drones



# Technology and speed of change

- Waves of disruption and technology are reshaping industries and manufacturing
- Speed of change is exponential
- Digital manufacturing is delivering simultaneous productivity gains and cost reductions



## Technology + Change



**What does this mean for  
University City?**

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# Where are tipping points?

- Societal values
- Humans living in insular bubbles
- Environmental awareness
- Workplace and workforce disruption
- Transformation of global industrial systems



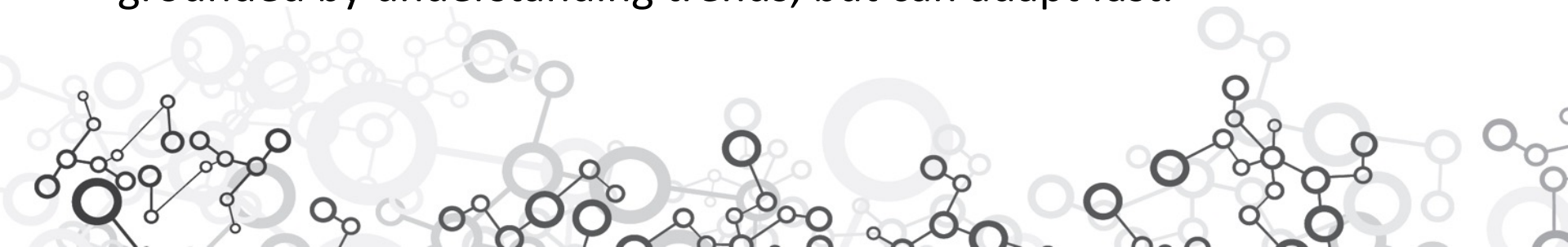
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# Conclusion

- The next decade will see waves of accelerating change – societal and technological.
- Humans are now an urban dwelling species - urbanization will accelerate – we are well past the critical tipping point.
- This future period will demand we ‘accelerate, change or lose’.
- Planning will require creating flexible, well-informed plans – which are grounded by understanding trends, but can adapt fast.



# Future-Readiness

**Attributes exercise –  
How future ready are we?**



## 1. Evidence of strong community pride and inclusive culture

STRONG

WEAK

Dots  
**Red** = Strong  
**Green** = Weak

### TOP TEN ATTRIBUTES OF SUCCESSFUL COMMUNITIES



- Evidence of strong community pride and inclusive culture**  
 Successful communities are often showplaces of care, attention, history and heritage. They celebrate their success and have a strong and positive local attitude and support a culture of risk taking and innovation. Diversity is celebrated and people are welcomed.
- Invest in the future – built to last**  
 People believe that something worth doing is worth doing right. In addition to the brick-and-mortar investments, all decisions are made with an outlook on the future. Expenditures are considered investments in the future, including investments in people.
- Participatory approach to community decision making**  
 Even the most powerful of opinion leaders seem to work toward building consensus. The stress is on working together toward a common goal and the focus is on positive results. People collaborate and share resources.
- Creatively build new economic opportunities**  
 Successful communities build on existing economic strengths in a realistic way; and explore new economic opportunities provided by the 'new economy'. They actively seek out new opportunities and ideas for new businesses.
- Support local businesses**  
 Local loyalty is emphasized, but thriving communities know who their competitors are and position themselves accordingly.
- Deliberate transition of power to new leaders**  
 People under 40 regularly hold key positions in civic and business affairs. Women (and people from 'minority groups') often hold positions as elected officials, plant managers, and entrepreneurial developers.
- Strong belief in and support for education**  
 Good schools are the norm and centers of community activity.
- Strong presence of traditional institutions that are integral to community life**  
 Churches, schools and service clubs are strong influences on community development and social activities.
- Willingness to seek help from the outside**  
 People seek outside help for community needs, and many compete for government grants and contracts for economic and social programs. They seek out the best ideas and new people to help build their community strengths.
- Communities are self-reliant**  
 There is a wide-held conviction that, in the long run, 'You Have to Do It Yourself'. Communities believe their destiny is in their own hands.



# **Key Drivers Identification:** What internal trends are happening (or are emerging) that could be game-changers for the future of University City?

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







**Next Steps:**  
**Think-Tank Session 2**  
**Saturday, March 12**  
**9:00am – 12:00pm**  
**Heman Park Community Center**



**Your opportunity and future role:  
Sign-up to stay involved**

<https://lab2.future-iq.com/university-citys-community-visioning-project/>



**Dawn Beasley**  
City of University City

[dbeasley@ucitymo.org](mailto:dbeasley@ucitymo.org)

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# Thank you!

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