



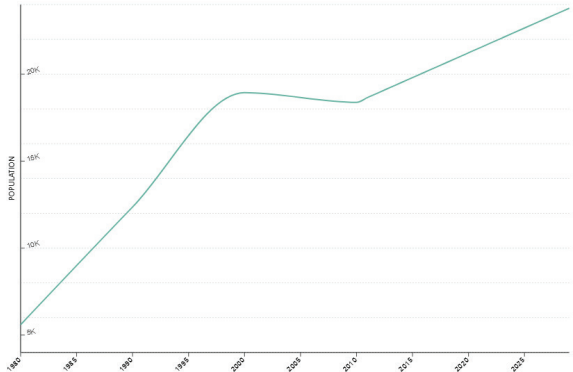
City Council

April 18, 2023
Packet Addendum



1. Louisville is Growing

Louisville has grown 1.4% yearly since 2010. Louisville will grow at a rate of ~300 residents per year at the current growth rate, reaching 28,600 residents by 2045. However, a slowing economy could dampen growth.





2. Slowly Increasing Diversity

Between 2010 and 2020, Louisville's white population fell an average of 0.5% annually, while the Asian and Hispanic populations have seen 0.3% and 0.6% growth rates, respectively.

Source: World Population Review, Accessed March 28, 2023.



3.

Declining K-12 and College Enrollment

The Denver Metro birth rate has fallen since 2012, and now elementary and secondary schools are consolidating to account for the decline in student enrollment. Enrollment in Louisville's K-12 schools is also declining. Regionally, four-year universities will struggle to maintain student populations by 2030 due to increased competition from trade schools and community colleges. For example, CU Boulder and CSU saw declining enrollment from 2019 to 2023. At the current rate of decline, Colorado schools will continue to consolidate, may be forced to increase tuition to offset costs, or take other measures to attract more student enrollment.

Source: https://www.colorado.edu/business/sites/default/files/attached-files/2023_beof_book_final_122122_lr_rev.pdf



4.

Aging Population

By 2035, the number of seniors in Colorado will surpass the number of children. This impact will be most heavily concentrated in the Boulder area. Statewide, Colorado's population growth is driven by individuals in the 65+ demographic. By 2030, 18.4% of the population will be Medicare-eligible, up from 15.5% in 2021. In addition, Colorado's population of children between 0 and 17 is expected to drop to 19.4%, down from 21.4% in 2020.

Source: https://www.colorado.edu/business/sites/default/files/attached-files/2023_beof_book_final_122122_lr_rev.pdf



5.

Increasing Tourism

After a brief slump at the start of the pandemic, tourism in the Denver area has quickly normalized and is expected to increase in the near future. The Boulder metropolitan area has seen a 14.5% increase in visitors from 2020 to 2021, with notable increases in domestic business travelers and international tourists from Western countries. International visits are projected to have grown by 228%, and international spending grew 345% in 2022 versus 2021. The Denver area's tourism market is projected to normalize by 2024. Tourism Economics forecasts a nearly 500% growth in Denver visitor volume by 2026. Assuming the pandemic stabilizes, Colorado could remain a top destination site for international and domestic tourists through 2045.

Source: https://www.colorado.edu/business/sites/default/files/attached-files/2023_beof_book_final_122122_lr_rev.pdf

6.



Declining Natural Gas and Increase in Induction Technology

In the aftermath of the Marshall Fire in 2021, the Colorado state government has been rolling out rebuilding efforts to assist those whose property was destroyed. One line of action involves economic incentives for replacing homeowners' natural gas stoves with induction technology, which uses electromagnetic fields for cooking. The Pacific Northwest National Laboratory estimates that adopting induction cooktops over natural gas will reduce the state's energy costs by 19.9% by 2030. Under proposed building codes, most homes and commercial buildings in Louisville could have induction stoves by 2045.

Source: <https://bouldercounty.gov/marshall-fire-recovery-milestones/>
<https://www.paintsquare.com/news/view/?24777>

7.



Increasing Tech Sector Jobs

The Boulder area is expected to experience a 10% increase in college-educated residents over the next 25 years. In addition, an increase in large artificial intelligence and machine learning companies in the Boulder and Denver area allowing remote work will see higher-than-average growth for jobs in computer systems design at 2.4 times the national average. The sector has averaged 5.5% growth in the Boulder area but has recently increased by 8.9% in 2021 year-over-year, and average employment through September 2022 is 12.5% higher than the same period in 2021.

Source: https://www.colorado.edu/business/sites/default/files/attached-files/2023_beof_book_final_122122_lr_rev.pdf



8.

A Push Toward Renewable Energy

The Denver Metro area seeks to reduce greenhouse gas emissions by 80% from 2005 to 2030. By 2050, Colorado's energy production is projected to be 100% renewable, with notable solar and wind energy increases. Residentially owned and operated rooftop photovoltaic systems are estimated to have produced 16.2 GW in 2022. In addition, installation prices for personal solar panels have decreased by over 50% over the last ten years, further incentivizing future solar adoption.

Source: https://www.colorado.edu/business/sites/default/files/attached-files/2023_beof_book_final_122122_lr_rev.pdf



9.

Expanding Fiber Internet Services

As of 2022, 8% of Louisville is covered by high-speed fiber internet. A recent fiber internet expansion project promises to increase high-speed internet access from 40.8% of Colorado residents to more than twice the number by the end of the decade and expand customer support in Louisville. This is projected to close the digital divide caused by Colorado's broadband infrastructure and make remote work and online learning more accessible and convenient for Boulder area residents by the decade's end.

Source: https://www.colorado.edu/business/sites/default/files/attached-files/2023_beof_book_final_122122_lr_rev.pdf

10.



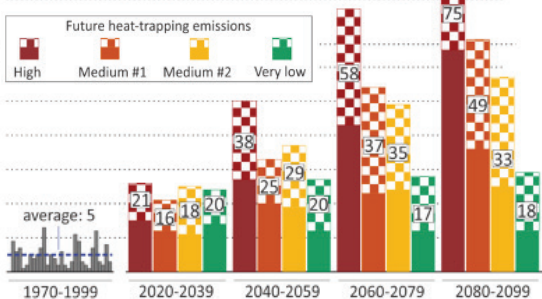
Increasing Wildfire Risk

“Colorado is a beautiful place, and it’s also a flammable place,” says Jennifer Balch, a fire scientist at UC Boulder. Boulder County is particularly vulnerable to climate change due to its mountain location and semi-arid climate. By 2050, more than half the summer will be at 95-degree temperatures or hotter. There will also be warmer winters, a thinner snowpack, and earlier spring runoff. Precipitation will be more rain than snow.

Sources: “Climate Change in Boulder County,” Boulder County, accessed March 28, 2023.
Figure: Future Climate Extremes in Boulder County, Rocky Mountain Climate Institute.
“Climate change means growing wildfire risk for more populated Front Range communities,” January 11, 2022, NPR for Northern Colorado.

Future Climate Extremes in Boulder County

Boulder and vicinity
95°-plus days per year





11.

Declining Air Quality

The Boulder area's air quality has declined recently due to increased urbanization and pollution from neighboring cities. Poor air quality stems from three major factors:

1. Weather: Boulder County experiences high atmospheric ozone levels during warm-weather months due to sunlight and reactive hydrocarbons in the atmosphere.
2. Industrial emissions including automobiles exhaust, factory emissions, and emissions from oil and gas production.
3. Population increase: Since 2000, Boulder County's population growth spurred an increase in vehicle miles traveled (VMT).

Source: "Boulder County Says Urgent Action Needed to Improve Air Quality and Public Health," 9News, July 21, 2022

12.



More Fragmented Land Use

Land use in Boulder County and Louisville is becoming more fragmented and discontinuous. This has policy implications, e.g.,

- Transportation routes connecting 'islands of single-use' must consider future needs like electric vehicles
- Developers need a highly transparent 20-year plan so they can make long-term investment decisions
- Public input should balance citizen desires with commercial and public interests to circumvent 'not in my backyard' typical reactions.

Sources: Boulder Valley Comprehensive Plan and "Controlling Sprawl in Boulder County," Lincoln Institute.





13.

Increasing Solid Waste and Costs to Manage



The solid waste produced in Boulder County is expected to increase by 2% annually over the next five years. This is based on population growth and the current rate of solid waste production. Costs are rising even faster at 3.5% annually. The county currently has a variety of programs to handle waste management: composting, recycling, and a Household Hazardous Waste Collection Program, but they will need to be inadequate for future needs.

Sources: Boulder County Solid Waste Management Plan





14.

Increasing Tax Revenues

Due to increased online sales tax collections and rising property values, sales, income, and property tax revenues are expected to grow.

Source: City Budget; email communication with Planning and Economic Vitality staff.



15.

Increasing Opportunity for Tech Growth

Several factors make Louisville an attractive choice for long-term growth in tech sectors:

- The Colorado Tech Campus offers large lot sizes, flexible configuration of parcels, and access to similar uses. As a result, Redtail Ridge presents additional opportunities to support this sector.
- Louisville's proximity to CU, Boulder, and Denver
- Significant presence from firms like Sierra Nevada Corporation, JumpCloud, and Medtronic, and
- The Denver Metro EDC's focus on industry growth in Aerospace, Aviation, Bioscience, and Food & Beverage Production

Sources: Email communication with Economic Vitality staff, Planning staff, and MetroDenverEDC reports.

16.



Increasing Impact of the Healthcare & Wellness Industry

Four of Louisville's top ten employers are in the healthcare and wellness industries, representing 8.4% of jobs. As Boomers continue to age and require more medical care, and as Americans claw back their mental health post-Covid, these companies will likely continue to grow, making them even more critical for Louisville's economic growth and vitality.

Sources: City Budget, Email communication with Economic Vitality and Planning staff

17.



Increasing Median Household Income

From 2020 to 2025, the median household income for Louisville residents is expected to increase by almost 10%, from \$109,797 to \$120,499.

Source: Email communication with Economic Vitality staff



18.

Steady Challenges to Employer Relocations & Hiring

When businesses relocate or decrease the number of employees working in Louisville, it's likely due to the cost of doing business in Louisville, expansion needs that exceed Louisville's capacity, increasing costs of resources, and workforce trends.

Source: Email communication with Economic Vitality staff

19.



Increasing Support for Progressive Policies

In 2016, more than two-thirds of voters in Boulder County supported Bernie Sanders in the Democratic presidential primary, representing a significant shift from the Republican leanings of the past. This trend continued in the 2018 midterms, and 2022 elections and Boulder County voted overwhelmingly for progressive candidates. This trend likely continues, with progressive candidates and policies gaining support from Boulder County voters.

Sources: 2016 Boulder County Voter Study, University of Colorado Boulder, 2016,



By The Bold Staff | Boulder Community | Featured | News | October 24, 2022

20.



Worsening Shortage of Affordable Housing

The affordable housing shortage in Boulder County is expected to worsen; i.e. in 2018, housing costs were expected to rise 26% over the next five years, while the availability of affordable housing units for households earning below or near median incomes is likely to decrease by 11%. The actual increase was 44% between 2018 and 2023 for single-family homes. Louisville, Superior, Lafayette, and Erie are suggested to build 3,600 affordable homes through 2035, but without aggressive policy change, it's unlikely that Louisville will build many in the next decade.

Sources: City of Boulder and Boulder County. (2018). Boulder County Comprehensive Housing Strategy and Boulder County Regional Housing Partnership (2017).

21.



Increasing Financial Accountability at Local Levels

“Even before Congress provided unprecedented financial aid to help offset the impact of the COVID-19 pandemic, it was doling out more than \$1 trillion each year to states and localities to support their role in our federal system.

Over the last three years, the federal government has added about \$1 trillion more in direct aid, grants, and tax credits.

It could be a coincidence that a long-stagnated proposal to require consistent data reporting from state and local governments suddenly gained momentum and passed Congress late last year, or perhaps that increase in federal investment finally made it happen. Either way, the feds call in their chips and require a new brand of financial accountability from states and localities.”

According to public records, Boulder County’s financial disclosure document was last updated in 2016.

Sources: “Why Government Shouldn’t Fear New Era Financial Accountability,” Funkhouser & Associates and Boulder County.

22.



Increasing Citizen Interest in Resiliency

The Marshall Fire heightened citizen awareness of the necessity for resiliency in public policies and actions. Residents may expect more:

- Building codes that incorporate resilience principles. e.g., flood-proofing and wind-resistant construction, fire-resistant materials, and wind-rated windows
- Land use and zoning policies that incentivize or require development in areas that are less vulnerable to extreme weather or wildfires
- Hazard mitigation plans that identify, prioritize, and finance projects that reduce community vulnerability to disasters.
- Emergency preparedness plans that prioritize vulnerable populations (e.g., elderly, disabled, low-income)
- Local planning policies that prioritize green infrastructure and nature-based solutions for stormwater management, e.g., rain gardens, green roofs, permeable pavement

Sources: Babcock, M., Schubert, S., & Schubert, S. (2018). Land use planning for natural hazard mitigation: Strategies, tools, and policies for reducing the impacts of natural disasters. Routledge, <https://www.coloradohometownweekly.com/2023/03/14/louisville-city-council-approves-placing-community-resilience-sculpture-on-main-street/>

The Big Sort

A Table Top Card Game to Determine:
Which trends will have the most impact on our future?

REBECCA  RYAN

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THIS IS YOUR BRAIN ON BIAS

“Cognitive biases are widely known to skew judgment, and some have particularly pernicious effects on forecasting. They lead people to follow the crowd, to look for information that confirms their views, and to strive to prove just how right they are.”

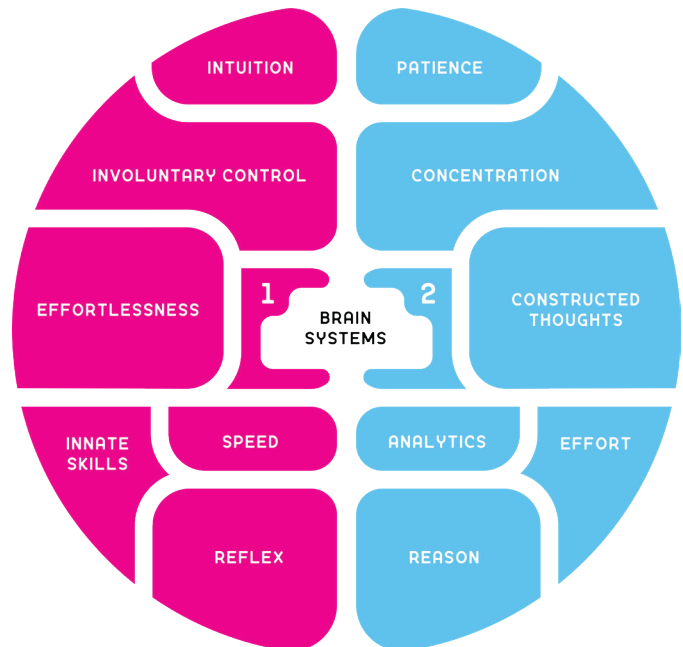
- Paul J. H. Shoemaker and Philip E. Fetlock, Harvard Business Review, May 2016

Thinking Fast and Slow

Humans have two ways of thinking: fast and slow. In his book *Thinking, Fast and Slow*, Daniel Kahneman refers to them as System 1 and System 2.

We tend to rely on “fast thinking” to navigate our world. Fast thinking is on and operating whenever we’re awake. It is a nearly automatic thought process based upon intuition and pattern recognition. Fast thinking enables us to determine where sounds are coming from, helps detect hostility in someone’s voice, allows us to read billboards and do simple math, understand simple sentences, and drive a car on an open road.

Fast thinking, which Kahneman calls System 1 thinking, is our highly efficient standard mental operating system. By contrast, System 2 thinking is slow and deliberate. It demands focused attention and a lot of calories. The focused, deliberate thinking of System 2 takes time and energy, which is why it’s reserved for big projects and ignored during simple processing tasks. After a day of slow thinking — like doing strategic planning or driving on the other side of the road in a foreign city — you feel brain dead. Because you are. System 2 thinking is hard work.



16 Key cognitive biases that impact creativity and the innovation process.



Confirmation bias.

We believe what we want to believe by favouring information that confirms pre-existing beliefs or preconceptions. This results in looking for creative solutions that confirm our beliefs rather than challenge them. Tread carefully when you "disagree with" or discard evidence brought forward by the team!



Projection bias.

From behavioural economics, over-predicting future tastes or preferences will match current tastes or preferences. This bias has particular influence as new innovations are conceived in the now and are projected into the future when they enter markets resulting in over value-appreciation of consumer preferences.



Authority bias.

Favouring authority figure opinions ideas within innovation teams. This means that innovative ideas coming from senior team members trump or better all others, even if other concepts, ideas and inputs could be more creative and relevant to problem solving. Take this into account, especially when you yourself speak up. Whatever you as a sponsor, say will carry a lot more weight than any other opinion.



Loss aversion bias.

Once a decision has been made, sticking to it rather than taking risks due to the fear of losing what you gained in starting something and wishing to see it finished. We also attach more value to something once we have made an emotional investment in it. As a consequence of effort, time and energy put into creative thinking, team members can become emotionally attached to their outcomes. To remedy this, the 11th commandment: "thou shalt not fall in love with thy solutions".



False causality.

Citing sequential events as evidence the first caused the second. This can occur within the Design Thinking empathise phase where you are intentionally seeking confirmation of causality between what people say vs. what they do, leading to taking the wrong problems or needs forward to solve. Question yourself: can you really prove causality? Or only the correlation. Or only sequence?



Action bias.

When faced with ambiguity favouring doing something or anything without any prior analysis even if it is counterproductive. Team members can feel that they need to take action regardless of whether it is a good idea or not. This can be an issue when under time pressure in strict design sprint workshops for example. When a team walks into this, question whether their actions have clear reasoning (why?) behind them and are based on evidence of their chosen direction. On the other opposite end of the spectrum avoid "analysis paralysis" by encouraging pragmatic decision making based on partial evidence.



Self serving bias.

Favouring decisions that enhance self-esteem. This results in attributing positive events to oneself and conversely negative events to others. Within innovation workshops this can mean that decisions made can be loaded with personal agenda's rather than customer and business logic for the company. Encourage team members (or yourself) to look at the idea from different points of view (other departments, stakeholders, clients, etc.) to truly gauge its merit objectively.



Framing bias.

Being influenced by the way in which information is presented rather than the information itself. We see this one all the time particularly when developing prototypes for pitching as well as in presenting polished slides. People will avoid risk if presented well and seek risk if presented poorly meaning that decision making logic can easily be skewed. When judging a team's pitch: are you judging the content? Or the delivery?



Conformity bias.

Choices of mass populations influence how we think, even if against independent personal judgements. This can result in poor decision making and lead to groupthink which is particularly detrimental to creativity as outside opinions can become suppressed leading to self-censorship and loss of independent thought. When you spot group think within a team, try to gain everyone's personal perspective separately first (either through a silent, written brainstorm or through one on one conversations) before discussing the topic in a team setting.



Strategic misrepresentation.

Knowingly understating the costs and overstating the benefits. When developing innovation concepts, ballpark figures and business model prototypes, teams are prone to understating the true costs and overstating the likely benefits in order to get a project approved (which happens all the time in large governmental contracting). Over-optimism is then spotted and challenged by managers assessing how truly innovative team outcomes are. Challenge your teams: are they showing the full image of costs? What about FTE's and other time investments?



Bandwagon bias.

Favouring ideas already adopted by others. This is especially influential when linked to authority bias. Bandwagon effect is a common occurrence we see in workshops. The rate and speed at which ideas are adopted by others (through discussion, ...) can significantly influence the likelihood of those ideas and concepts being selected by the group and taken forward. Do you like a teams idea just because you've seen it done before? Are you favouring ideas just because other banks do them too?



Ambiguity bias.

Favouring options where the outcome is more knowable over those which it is not. This bias has dire impacts innovation outcomes because the process is fundamentally risky and unknown process. If team members subconsciously favour known known's, you will most likely follow known knowns and previously trodden paths. When disliking an idea or way of working: think for a second. Is it based on merit or just because it's new and unknown?



Pro-innovation bias.

New innovations should be adopted by all members society (regardless of the wider needs) and are pushed-out and accepted regardless. Novelty and 'newness' are seen as inherently good, regardless of potential negative impacts (inequality, elitism, environmental damage etc.) resulting in new ideas and concepts generated being judged through somewhat rose tinted spectacles. Question the idea: are we judging it too much on its level of novelty or "sexyness"? Without falling into status quo bias, are we taking all possible (also negative) impacts into account?



Anchoring bias.

Being influenced by information that is already known or that is first shown. This causes pre-loaded and determined tunnel vision and influences final decision making. We deliberately manipulate team members' minds by 'pre-loading' them one of our warm-up exercises to demonstrate this bias at play. The impact is highly-significant on creative thinking and outcomes.



Status-quo bias.

Favouring the current situation or status quo and maintaining it due to loss aversion (or fear of losing it) and do nothing as a result. This is a subtle bias on an emotional level that makes us reduce risk and prefer what is familiar or "the way we do things round here" as it is known. It has severe consequences when seeking out new ways to creatively solve needs and problems. When you dislike an idea, ask yourself: "Is this just me sticking to what I know?"



Feature positive effect.

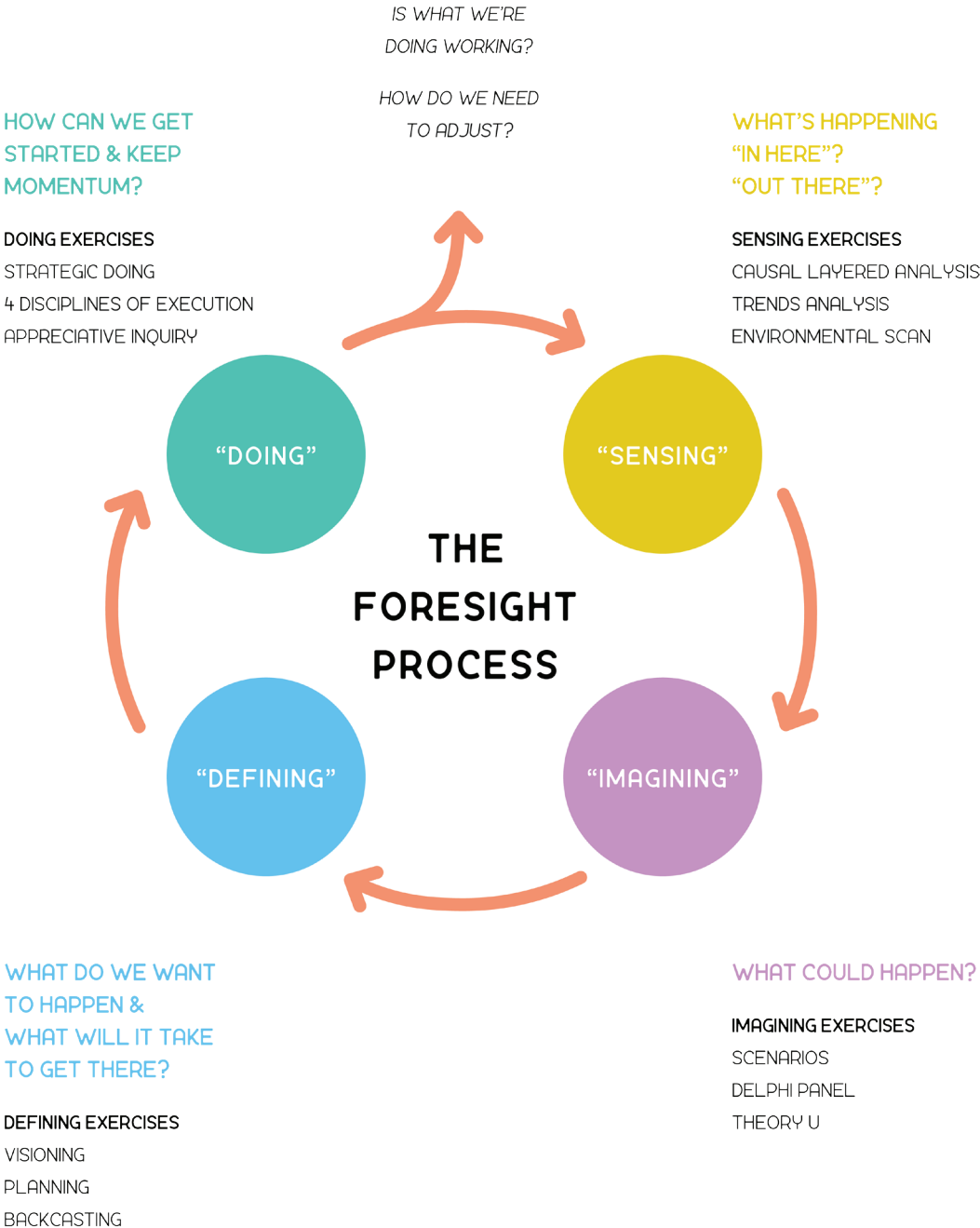
(close links with optimism bias): due to limited time or resources, people tend to focus on the 'good' benefits whilst ignoring negative effects even when the negative effects are significant. This is influential when deep-diving into specific new feature sets for new concepts (especially when coupled with loss aversion bias), because it means that teams will overlook missing information especially when it is outside expertise resulting in taking ideas forward with critical flaws.

COGNITIVE BIAS WORKSHEET

Name of Bias			
Simple Definition			
Example of Bias			
Technique to Overcome Bias			

OVERVIEW OF STRATEGIC FORESIGHT

Strategic foresight is a proven process used by the oil and gas industry, NATO, the world bank, the US military, Disney, and other Fortune 500 and global NGOs to identify risk, plan for uncertainty, mitigate disruption, unlock creativity, drive innovation, and shape the future. Strategic Foresight is a competitive advantage; less than 3% of senior leaders' time is spent thinking strategically about the future.¹ Rebecca Ryan, APF has refined her firm's strategic foresight process as illustrated below.



BIG SORT INSTRUCTIONS

In this game we'll discuss, sort, and prioritize forces and trends that impact our domain.

Our domain is the future of _____ by _____.

Directions

1. Get set-up

- Set up your tabletop in a four-square like the diagram below.
- Choose a leader, the person who'll keep the game moving.
- Deal the cards face-down, Vegas-style. Deal all the cards. It's okay if some players have more cards than others.

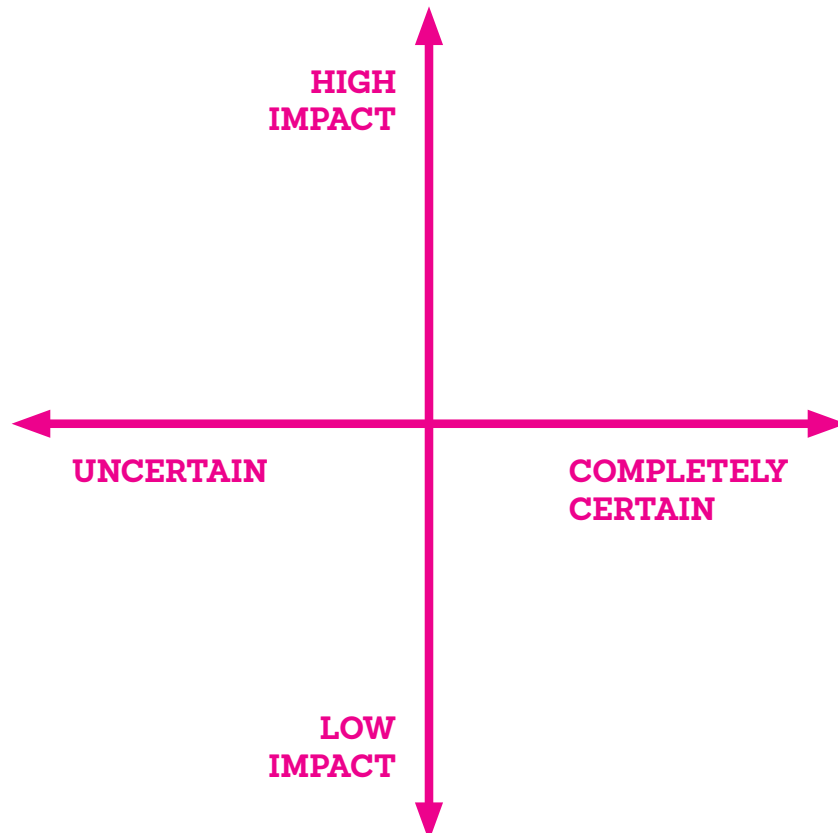
2. Play the Game

One by one, take turns: each person chooses a card and reads it to the group.

Together, decide the group's answer to these two questions:

1. How certain are we that this trend will occur by the date in our domain (horizontal X-axis)?
2. How much impact will this trend have on the future of our domain (vertical Y-axis)?

Each player is responsible for putting their trend cards in the appropriate quadrant on the game board.



3. Wild cards

When all the cards have been played, note that some players may have a blank card. These are wild cards for your team to record additional trends that you believe will have a major impact on your domain. Please use this format:

TITLE: **Use the word “increasing” or “decreasing” or “changing”**
DESCRIPTION: **Include data and projections**
SOURCE: **Cite trusted, credible source(s) for the trend.**

Looking up credible sources is encouraged!

4. The Twist

At a designated time, your facilitator will convene the group leaders and introduce a twist. After the twist, your group will have a limited amount of time to complete the game and score your results.

5. The Big Sort

When all teams have completed the game, we will have a grand visual that shows all teams' results.

TEAM DEBRIEF

Looking at all of our teams' trends together:

- What does the Big Sort tell us?
- What surprised you, or what new insight did you gain?
- So what? Why does a card game like this matter?
- What near-term opportunities or concerns does this raise for our domain?

MEET THE TEAM

The Big Sort was invented and facilitated by NEXT Generation Consulting. Visit us at rebeccaryan.com and please put your hands together for..



Rebecca Ryan, APF is a futurist, economist, consultant, and author. She has been helping cities and companies become better since 1998. She's won a bunch of accolades, but the thing that matters most to her is leaving the world better for future generations. And teaching people to use foresight is one of the most efficient ways she can activate that mission. Keep in touch at rr@rebeccaryan.com



Yasemin (Yas) Arıkan is a futurist. She uses foresight and social science methods to help clients understand how the future could be different from today and then use these insights to inform strategy and vision. Her work includes exploring alternative futures for local communities, environmental engineering, and public health. She is fluent in German and Turkish, and earned her degrees in psychology and sociology from the University of Rochester and the University of Chicago. Nerd out at ya@rebeccaryan.com



Lisa Loniello is our "logician" - a magician with logistics. Some people see a 1,000 piece puzzle and get overwhelmed. They close the box, and have a glass of wine instead. Not Lisa; she dives in! Elsewhere, she's earned the nickname "Champagne Bubbles" because of her endless positivity and supportiveness. Being around Lisa just makes you feel good! You can share good vibes with her: ll@rebeccaryan.com

