EXPLORATORY SCENARIO PLANNING

How to Navigate an Uncertain Future

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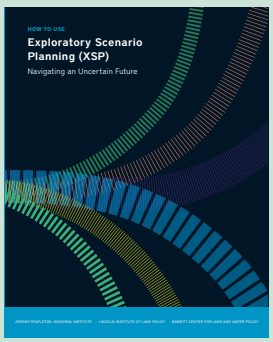
As uncertainty about the future grows, communities face new challenges and disruptions—including rapid urban development, mass migration, pandemics, technological advancement, and climate change—at an unprecedented pace and scale. Such unpredictable impacts make effective urban planning more complex and community collaboration more critical than ever before. As a result, urban planners and government officials must create actionable plans for sustainable, resilient adaptation to social, technological, economic, environmental, and political forces beyond their control.

Originally developed in the mid-twentieth century for military and corporate strategizing, the practice of scenario planning has evolved to help urban planners identify and prepare for a range of futures despite changing and disruptive uncertainties. Exploratory scenario planning (XSP) in particular has emerged as a way for cities and regions to consider critical uncertainties head-on and unpack complex and intersecting issues. The process can result in robust plans that contend with broad external forces and address issues as diverse as water and land use, transportation management, regional growth, systemic racial injustice, and climate resilience.

Exploratory scenario planning empowers communities to plan for an uncertain future by exploring multiple possibilities of what might happen.

For more on this topic, check out the manual on which this brief is based, available at lincolninst.edu.



Babbitt Center for Land and Water Policy Junior Fellow Erin Rugland facilitates a Sonoran Institute workshop.
Credit: Diego Trejo.

Essentially, exploratory scenario planning empowers communities to plan for an uncertain future by exploring multiple possibilities of what might happen.[1] It can be applied in many forms, from low-tech approaches to processes that involve intricate modeling software, and it may inform new plans or test the strategies in existing plans against plausible futures.

XSP participants identify forces that will shape the future, sketch potential outcomes or "scenarios," explore the causes and conditions of each, and consider how to prepare accordingly. Once they have explored how possible futures, desirable or undesirable, may come about, planners can ensure that resulting strategies effectively respond to deeper issues, rather than just reacting to symptoms.

Stakeholders can use XSP to identify robust strategies that apply to all potential futures and contingencies for more nimble adaptation to changing conditions. Planners can also specify indicators to know when to apply which strategies and how best to leverage crucial actors and resources in the long run. Ultimately, whether integrated into a traditional planning process or conducted as a stand-alone effort, XSP encourages consideration, collaboration, and consensus in preparation for whatever lies ahead.

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The XSP Process

A typical XSP process requires a core project team—which should include the sponsoring institution, planners from key agency departments and partner organizations, and an experienced facilitator—to manage the process and its participants.[2]

PREPARATION

The core project team identifies the planning horizon, focal question, stakeholders, schedules, and logistics for the proceedings. A strong focal question frames the XSP project's purpose within a realistic scope and scale so participants can effectively plan for the range of relevant potential futures ahead.

WORKSHOP 1

Stakeholders discuss and define the certain and uncertain factors shaping the future that will frame the range of scenarios to be considered. Together, they identify driving forces of change and their root causes, define critical certainties and uncertainties about the future, and narrow down which axes of uncertainty to consider (figure 1a) and how they might interact in a matrix (figure 1b).

SCENARIO NARRATIVES

In between workshops, the core project team considers the designated drivers and creates several scenario narratives to describe various plausible futures. Scenario narratives should present credible, compelling, challenging, and diverging versions of the future, and they may take many forms—from infographics to well-crafted paragraphs. The team may also use this time to design an agenda for the second workshop, line up expert presenters, and conduct additional research.

WORKSHOP 2

After reading and reflecting on the implications of each scenario, participants identify strategies to address each—whether to avoid or bring about a particular aspect, react to changes, or move beyond them. Strategies that apply to all the scenarios are called "robust strategies," which offer no-regret or low-regret, high-impact solutions. More distinct "contingent strategies," which allow a community to change course and adapt, are also documented for deployment if and when a particular future becomes more imminent.

NEXT STEPS

To translate the XSP process into action and ensure that the efforts and capital invested in the process pay off, project leaders should consider a wrap-up process after the second workshop. Incorporating XSP results into a larger process, such as a comprehensive plan, can further allow the project team to refine workshop results into formal, actionable steps in pursuit of the group's vision.

Figure 1a.

DEFINING THE UNCERTAINTY AXES
FROM THE COLORADO WATER AND GROWTH DIALOGUE

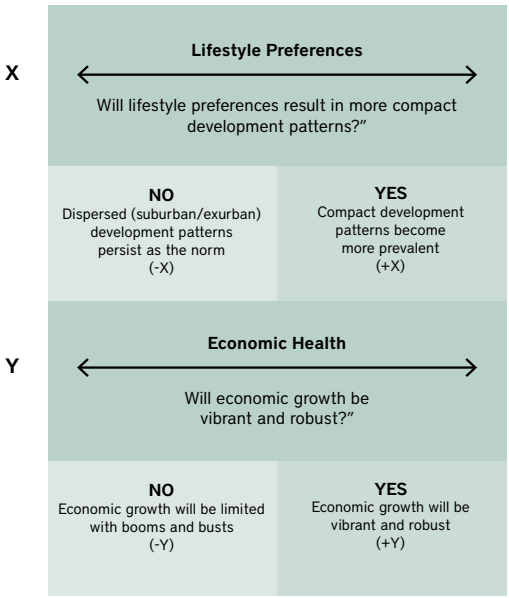
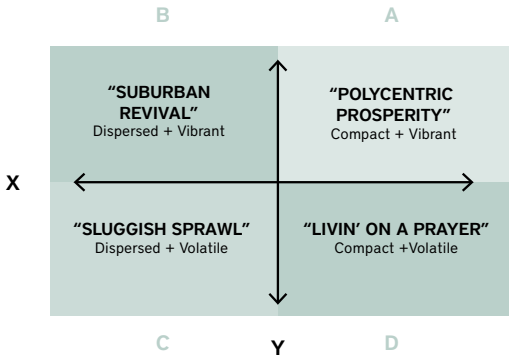


Figure 1b.

THE SCENARIO MATRIX



X-axis Lifestyle Preferences
Y-axis Economic Health

Figure 1: Examples of how to consider axes of uncertainties that encompass a spectrum of possible futures (a). Two or more critical uncertainty axes are then combined to create the scenarios (b).

Source: City and County of Denver 2019

XSP in Practice

Because XSP relies on plausible "what if" questions rather than long-held assumptions, it offers planners a way to prepare for disruptions to their long-term vision for the future. Applications of XSP can vary, and recent noteworthy projects have operated on the regional, county, and city levels to address questions of climate change, economic growth, water use, and transportation infrastructure, suggesting a promising future for this uniquely agile tool.

KEYSTONE POLICY CENTER'S COLORADO WATER AND GROWTH DIALOGUE

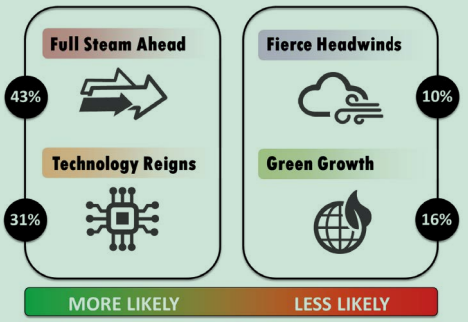
Historic water usage trends combined with more recent urban development and climate change have impacts on the entire Colorado River watershed.[3] In this 2017 project, the nonprofit Keystone Policy Center collaborated with the Colorado Department of Local Affairs, the Colorado Water Conservation Board, and other agencies and stakeholders from across the state to respond to the focal question: "How can changes in urban form and landscaping practices for new growth and redevelopment assist in meeting future urban water demand along the Colorado Front Range?"

Through low-tech XSP workshops that used PowerPoint, flipcharts, and whiteboards, facilitators and participants selected "life-style preferences" and "economic health" as the most critical uncertainties and considered scenarios that depicted varying conditions of centralized development, suburban sprawl, prosperity, and stability. The project provided strategic policy recommendations to state legislators and established community relationships that helped mobilize resources and capacity to integrate water and land use planning.[4]

CONSORTIUM FOR SCENARIO PLANNING

The Consortium for Scenario Planning is a community of practice that helps to foster growth in the practice of scenario planning in urban and regional contexts at all scales. Through research, peer-to-peer learning, networking, training, and technical assistance, the Consortium helps communities develop better plans to guide a range of actions, from climate change adaptation to transportation investment. In addition to planners, it also convenes researchers and software providers to develop more effective tools and reduce barriers to entry. For more information, visit www.scenarioplanning.io.

Sharpening Our Focus participants' aggregated expectations of which future scenarios were most likely to occur.



Source: Atlanta Regional Commission 2016

CITY AND COUNTY OF DENVER'S DENVERIGHT

In 2017, the city and county of Denver used an XSP process to inform an update of its comprehensive plan. Composed of staff from several government departments, consultants, and chairs of a citizen taskforce, the Denveright XSP project asked, "As Denver continues to change and evolve over the next 25 years, how can the city provide greater access to opportunities, services, and amenities for its current and future residents?"

Because participants brought interdisciplinary capacity and wanted to explore many driving forces, they selected the four most plausible scenarios from multiple uncertainty matrices. The resulting scenarios explored demographic shifts, housing affordability, demand for various transportation modes, and pollution, resulting in a series of robust strategies to pursue equity and access in all plans over the next 20 years. The XSP process also helped dissolve departmental silos, and its results were incorporated into Denver's Comprehensive Plan 2040, adopted in April 2019.[5]

ATLANTA REGIONAL COMMISSION'S SHARPENING OUR FOCUS

The state of Georgia's Atlanta Regional Commission (ARC) has a two-decade history of projecting future transportation and land use conditions for the region's metropolitan planning organization. To refine and update its 2016 strategic plan, ARC used XSP to consider, "How can we test the resilience of our planning strategies to hone regional transportation and land use goals?"[6]

ARC employed numerous stakeholder groups and technologies in their process, including tools for modeling and sketch planning, to introduce a range of futures that drew on population and demographic changes, development trends, transportation and freight patterns, global economics, and environmental sustainability. The project's scenarios were also used to develop a unique series of community engagement activities to inform the plan, including an online game, podcasts, civic dinners to discuss scenarios, and even a local improvisational comedy show.[7]

Recommendations

XSP can play an important role in community and regional planning, particularly now, as public health crises, climate change, economic instability, and political challenges disrupt natural and social environments, threatening the quality of life in many communities. It provides community leaders and planners with an adaptable, customizable process for effective planning in assorted settings and with a variety of goals and outcomes. Successful XSP processes tend to incorporate several common best practices.

COMMIT TO DIVERSITY, INCLUSION, AND COLLABORATION

Diverse participation makes planning processes more fair, transparent, and effective, and produces decisions that are easier to implement. Participants should represent all relevant political jurisdictions, stakeholder groups, industries, and professional roles, and they should reflect the diversity of the population in terms of race, national origin, religion, age, gender, and sexual orientation. Everyone deserves to have a say in their future, and a "big tent" process is more likely to draw on a wide range of opinions, ideas, and experiences—ingredients of well-informed scenarios and plans. Finally, collaboration that begins during scenario planning can endure after the process is complete, which leads to more lasting buy-in and follow-through.

ADAPT PROCESSES TO A RAPIDLY CHANGING WORLD

Though predicting the future 30-plus years from now is exceedingly difficult, long-range scenarios prompt critical thought, which is essential for effective planning. Well-crafted scenarios can also be updated in real time to help decision makers proactively adapt in the shorter term (5 to 10 years) as the future unfolds.

DETERMINE THE APPROPRIATE LEVEL OF TECHNOLOGY

Many XSP processes benefit from modeling software and other technologies, while others need little more than cohesive note-taking procedures that capture main points on whiteboards and flip charts. Communities can save time, money, and energy by taking stock of available staff capacity and resources in advance of choosing an approach. Planners addressing specific spatial considerations or organizational resilience may consider adding the GIS or computer modeling to their process for greater accuracy and refinement of recommendations.

BUILD CONSENSUS ON SCENARIO CREDIBILITY

There is no perfect or standard method for crafting XSP narratives. Critical certainties are often used to develop a narrative that describes events likely to occur in all futures. Reaching consensus on such a "common-to-all-scenario" establishes a shared set of assumptions—a foundation and launching point that all stakeholders find realistic and possible before they begin reviewing and strategizing to address the uncertain future.

MEASURE METRICS THAT MATTER

Establish how to measure progress, performance, and key thresholds in ways that signal when to adapt strategies. These metrics and indicators should effectively frame discussions and decisions going forward and be people-centered, reflecting quality of life as well as quantifiable results. Track specific metrics consistently and in comparison with the scenarios to evaluate situational shifts, progress, and performance over many years; as conditions, understanding, and capacity change, so should the metrics used to observe them.

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