FUTURE CITIES CANADA

EVERGREEN

NATIONAL HOUSING STRATEGY

Canada

HOUSING SUPPLY CHALLENGE

Design Thinking Module 1

Understand

Develop a system understanding of your housing supply challenge

At this point, your team has a challenge statement, which describes the problem, the barriers and the impact on developing housing that is affordable. Too often we assume that our potential solution will fix the 'problem' without really understanding the intricacies of the system. This module will help you understand how the issues you are exploring fit into the housing system (see Figure 1). In this module, you and your team are developing a shared understanding of the scope and scale of your chosen challenge and gathering the evidence you need to engage stakeholders and make decisions later in the process.

WHY THIS STEP?

Getting a baseline understanding of issues and where they sit within the housing system by gathering some context, history and data will help you ask the right stakeholders the right questions during **Module 2 – Empathize and Analyze**, and will feed into how you build your housing supply challenge problem statement in **Module 3 – Define**.

WHAT TO EXPECT

In this stage you're going to look at the bigger picture, and that big picture might seem insurmountable. Affordable housing supply challenges are complex, and you might not be able to solve all the issues that surround it. However, it is important to develop a baseline understanding of the complexity of the issues at play in your challenge statement so you can create implementable, local solutions that improve the development of housing that is affordable.

WHY USE SYSTEMS THINKING?

Systems thinking expands the range of choices available for solving a problem by broadening our thinking and helping us articulate problems in new and different ways. At the same time, the principles of systems thinking make us aware that there are no perfect solutions; the choices we make will have an impact on other parts of the system. By anticipating the impact of each trade-off, we can minimize its severity or even use it to our own advantage. Systems thinking therefore allows us to make informed choices.

Systems thinking is also valuable for telling compelling stories that describe how a system works. For example, the practice of drawing causal loop diagrams forces a team to develop shared pictures, or stories, of a situation. The tools are effective vehicles for identifying, describing, and communicating your understanding of systems, particularly in groups. (Kuhn, 1962)

KEY CONSIDERATIONS

You should approach your housing solution by adopting a **Systems Thinking Mindset** to research, refine and summarise your understanding of the housing system. During this process, be open to others' ideas and perspectives and situate your solution idea in the broader context.

Systems thinking is an awareness that nothing can be thought of in isolation – everything is connected to a complex web of other things (Kuhn, 1962). When you start to think of things within their larger systems, you:

- Think of the whole and the parts at the same time (e.g., the person or family who needs affordable housing and the support services that are available in a community).
- View issues from multiple perspectives (e.g., the housing provider as the person in housing need).
- See how things are interconnected (e.g., government subsidies and availability of housing shelters for youth at risk).
- Question deeply held assumptions (e.g., the role of the affordable housing provider vs the role of the builder).
- Think critically about causation and correlation (e.g., the impact of policy and regulations on low-income families in housing need).
- See yourself as part of the housing system (e.g., contributing to more affordable housing).
- Consider the long- and short-term consequences of actions (e.g., building more housing now vs securing sustainable funding to maintain affordable housing into the long term).
- Understand that small actions on one part of a system can produce big results on the system as a whole (e.g., promoting and supporting a land use policy that prevents deforestation) Adapted from: (Kuhn, 1962).

Figure 1: Housing system map

THE HOUSING SYSTEM

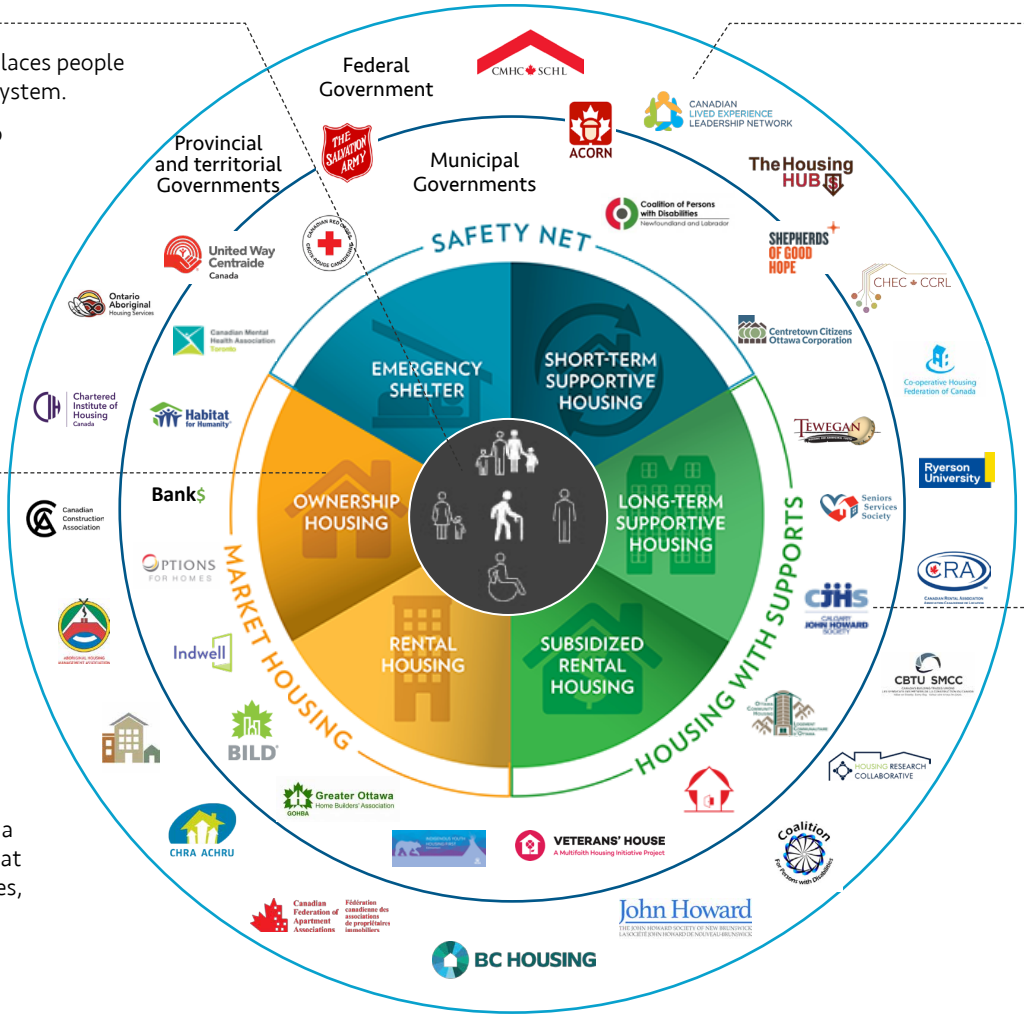
Numerous organizations are part of the housing ecosystem locally, provincially and nationally. They each play a role in the system and it is important to involve as many organizations as possible in helping you think through your housing supply challenge.

People in housing need [1]

- A human centered design approach places people in housing need at the center of the system.
- This may include and is not limited to individuals, single parents, families, new immigrants, women fleeing violence, seniors etc.
- Changes to the housing system, weather it's a policy, new support program, integrated services or improvement must consider how the change will impact people in need.

Housing forms types and tenures

- The housing system includes a wide variety of housing forms, types and tenures.
- The circular "Wheelhouse" model created by the City of Kelowna, recognizes that residents move between different types of housing and housing need at different stages of their lives.[2] (CMHC, 2020)
- There are numerous organizations at a local, provincial and national scale that build housing, provide support services, deliver program, set standards, and provide funding.



Provincial and National organizations [3]

- Government departments and organizations that set policy, rules regulations and provide funding for affordable housing at a federal and provincial scale. (e.g., Stats Canada, CMHC, NRCan, etc.)
- Non-profit organizations that deliver housing related programs and services (e.g., The Salvation Army).
- Research institutes who conduct housing related research.
- Associations who represent different sectors Organizations who provide financing and investment for housing.
- Some organizations operate at a national and local scale (those on the line).

Local housing organizations [3]

- There are numerous organizations that operate at a municipal and regional scale that deliver a wide range of programs and services to those in housing need.
- They range from municipal governments and non profit housing providers, and include organizations that provide specialized support services (e.g., health and social services) for different age groups and needs (youth, seniors, new immigrants, addiction, abuse, Aboriginal, Metis and Innu, LGBTQ+, veterans, and others).
- This group also includes associations, advocacy groups, developers, home builders, trades people, and financial institutions.

1. The list of actors represented in the Housing system map are not exhaustive but representative.
2. Wheelhouse model, City of Kelowna, from: *https://www.cmhc-schl.gc.ca/en/housing-observer-online/2019-housing-observer/wheelhouse-new-way-looking-housing-needs*
3. The logos represent a small sample of organizations from across the country. Image created by John Purkis

STEPS

The following steps will help you determine if you have already collected sufficient information about your housing supply challenge from a systems perspective. Each step includes a short description and introduction to different tools or techniques that you could use to review and make improvements to your project. Links to toolkits with details instructions are also provided in association with each step.

1 **Adopt a systems thinking mindset**

2 **Conduct research about the housing system**

3 **Create different systems maps to better understand the issue**

1 Adopt a systems thinking mindset

There are many excellent resources that will help your team develop and apply a systems thinking mindset and a short list is provide at the end of Step 1, which you are encouraged to read.

To get you started we have identified two activities that will help you look at your challenge from a systems perspective: **Actor Mapping** and **The Iceberg Model**.

Actor Mapping

To help get your team started create a preliminary **actor map** of the key organizations and groups of people that are implicated in your housing supply challenge.

An actor map is a visual depiction of the key organizations and individuals that influence a topic, allowing insight into the players within a system. (FGS, 2017). The actor map will also help you identify people to engage in Module 2. The following simple steps are described in more detail in *FGS Guide to Actor Mapping*.

1. Identify the topics and set clear boundaries for the area of focus for your housing supply challenge topic.
    - What is scale of your housing supply challenge and solution; local, regional, provincial, national?
    - What form of housing does your solution relate to?
    - Who is affected by this issue and potential solution (organizations, people, governments, service providers, etc.)?

2. Frame the system by identifying the core beneficiaries, primary stakeholders and placing them on a map (see Figure 2).

- Who are the people in housing need?
- Who benefits from your solution?
- Identify the related sub-systems that influence the people in housing need (policy setters, NGO's, municipal government, housing providers, health services, aboriginal services, builders, etc.).
- What type of housing does you solution seek to address?
- Who are the stakeholders at a local, provincial, and national scale?

Groups of people in housing need:

- Low and moderate income households
- Survivors fleeing domestic violence
- Seniors
- People with developmental disabilities
- People with mental health & addiction issues
- People with physical disabilities
- Racialized persons or communities
- Newcomers (including refugees)
- LGBTQ2+
- Veterans
- Indigenous peoples
- Young adults

The list is not exhaustive but representative and might differ depending on the context.

3. Identify an initial set of key actors and role in the housing system.

- Add organizations and groups of people to the map that you are familiar with and ask your colleagues to think of others.
- Filter the list for the most influential actors based on how you perceive their role.

Figure 2: Sample categories for you housing supply challenge actors map

Your Housing Supply Challenge System

numerous organizations are part of the housing ecosystem locally, provincially and nationally. They each play a role in the system and it is important to involve as many organizations as possible in helping you think through your housing supply challenge.

People in housing need

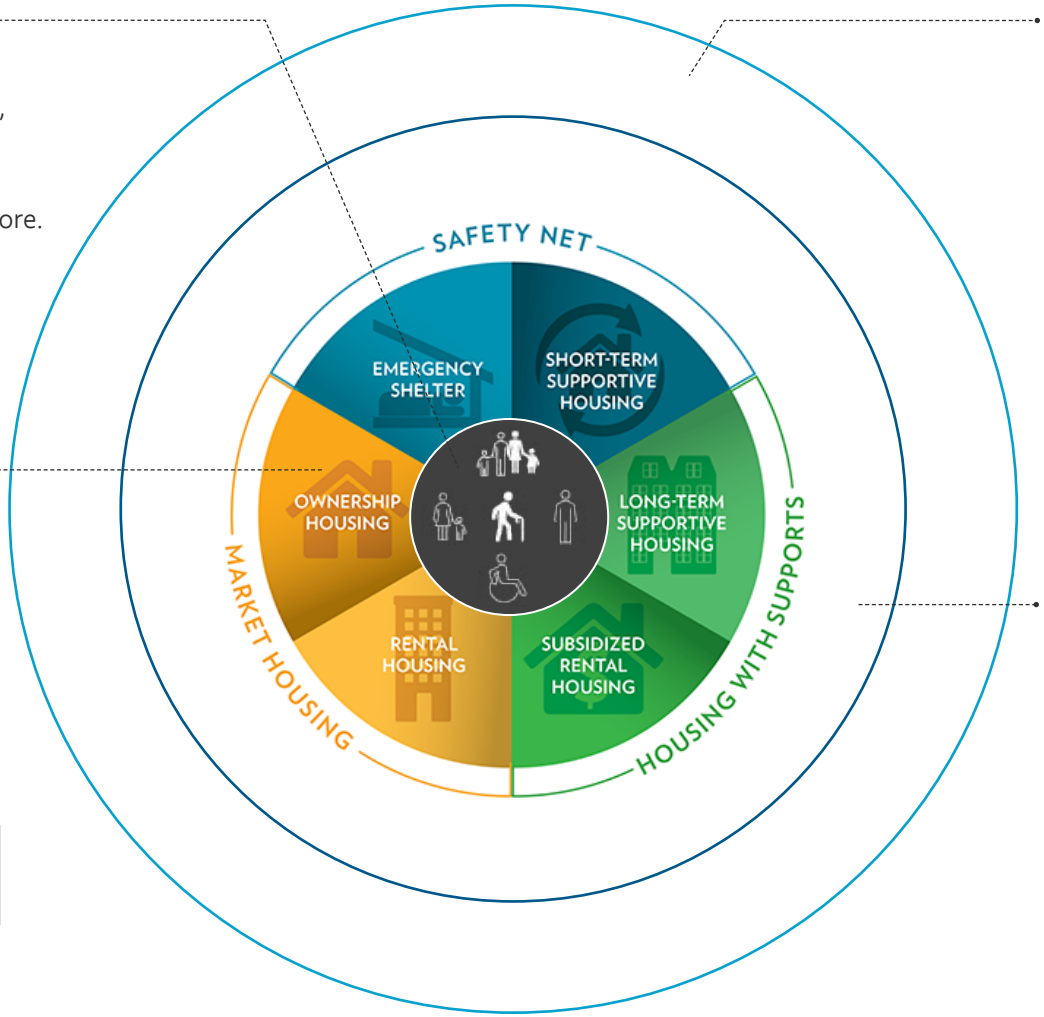
- Many different people are in housing need from individuals, single parents, families, new immigrants, women fleeing violence, seniors, and many more.

- Who is affected by your housing solutions?

Housing forms types and tenures

- The housing system includes a wide variety of housing forms, types and tenures from emergency shelters to subsidized housing and home ownership.[4]

- What type of housing does your solution relate to?



Provincial and National organizations

- There are numerous organization that work on housing issues within the system from federal an provincial and territorial governments to specialized non profit organizations so research experts.

- Which organizations at implicated in your housing supply solution?

Local housing organizations

- There are numerous organizations that operate at a municipal and regional scale that deliver a wide range of programs and services to those in housing need. This also includes organizations who build, and maintain and finance housing.

- Which organizations are implicated in your housing supply solution?

4. Wheelhouse model, City of Kelowna, from: https://www.cmhc-schl.gc.ca/en/housing-observer-online/2019-housing-observer/wheelhouse-new-way-looking-housing-needs

The Iceberg Model – A Tool for Guiding Systemic Thinking

The iceberg model shown in Figure 3, is a useful way to help synthesise information your gathered during the research phase. It can help your team deepen the collective understanding of the problem you are trying to address.

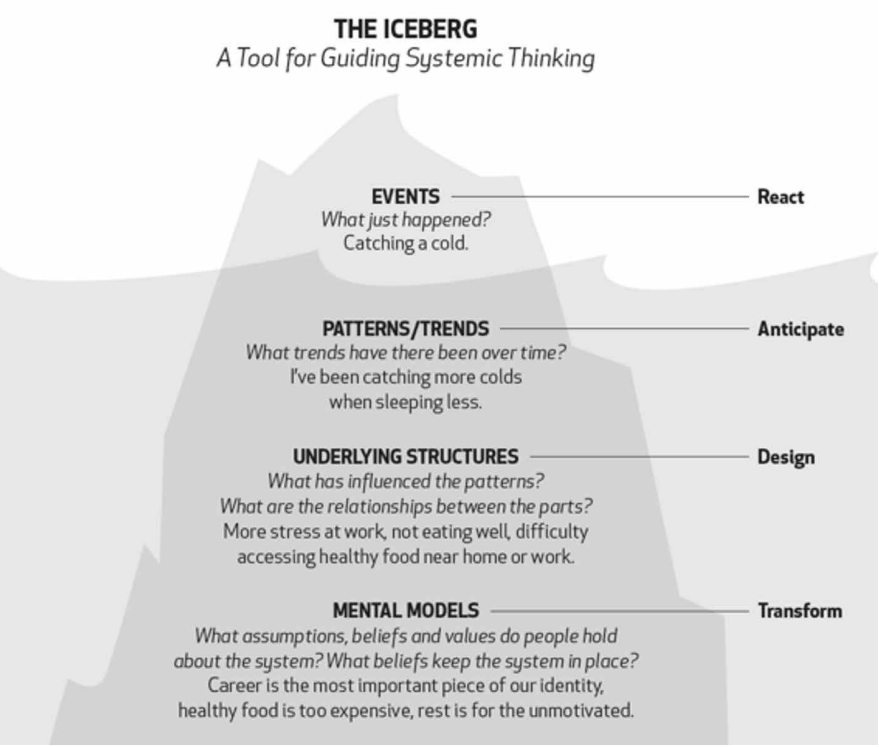


Figure 3: The Iceberg (Meadows, 2008)

Tool: Systems thinking with the Iceberg Model

The iceberg makes us look at a system through different lenses and provides a way to talk about the pictures we each hold of what is happening in the system. It forces us to expand our horizon and not limit ourselves to looking at just a single activity or event, but to step back and identify the different patterns that event is part of, the possible structures that might be causing it to occur, and finally, the thinking that is creating those structures. It also helps us identify our own mental models, because in the end, the only thing we really can change is ourselves. By changing the way we think, we change the way we act, and therefore can create the transformation that we seek (Grillo, 2010).

Working with your team review the iceberg layers and complete the template for your housing supply challenge issue. A few examples are provided for each section. For more detailed instruction you can download *The Complete Facilitators Notes for the Iceberg Model* provided by REOS Partners.

Iceberg Layers	Housing Supply Iceberg
Events: What are the surface-level issues and challenges that we are seeing and hearing related to housing supply challenge issue you are exploring?	• Lack of affordable housing. • Homelessness • Long wait lists for affordable housing
Patterns: What are the underlying patterns that we are noticing? What keeps happening?	• Housing prices have risen in cities across Canada. • Lots of new construction and still not enough affordable housing
Underlying (Systemic) Structures: What is causing the pattern we are observing? The answer is usually some kind of structure: Organizations – governments, organizations Policies - laws, regulations, tax strictures Rituals – habitual behaviours so ingrained the are not conscious Physical things – Places, build environment	• Historic lack of government funding • Inadequate or sub-standard housing • Housing supply deficit • No requirements to integrate affordable housing into new construction
Mental Models: These are the attitudes, beliefs, morals, expectations and values that individuals hold that allow the systemic structures to keep functioning as they do. We often gain these beliefs and values from our society and family, and often unaware of them.	• NIMBYism

Systems Thinking Resources

These recourses will help further develop your systems thinking skills and is the mindset you should adopt when you start doing research to better understand your challenge statement and will help you engage with stakeholders during **Module 2**.

- MaRS Solutions Labs developed a *Living Guide to Social Innovation Labs* that includes useful systems thinking information and resources that will help you sharpen your systems thinking skills.
- *Introduction to Systems Thinking* from the Systems Thinking. This report will provide you with an overview of systems thinking and introduce you to various tools and techniques that could be applied to your project.

2 Conduct research about the housing system

You have likely gathered some information and research on your housing supply challenge and this step is intended to gather in additional information using secondary or desk research. Primary research (surveys, interviews, etc.) should be conducted in Module 2. There are a variety of sources of data that you could access, and a few open data portals are noted below. Once you have conducted your research you will need to summarise your findings.

Secondary Research

Secondary research will help you analyze and summarize existing facts, figures, and qualitative and quantitative data to understand the context, scope, and scale of your housing supply challenge area of focus . Here are some of the major things you should try to uncover in your research:

1. Who is experiencing this problem? (either directly or in-directly)
2. What is the size or scale of this problem? (How big is it? How many people experience it? Is it getting bigger, or smaller?)
3. Why does it matter? (What impact will there be if this problem is not addressed? Who else might be impacted by this problem?)
4. What are some of the root causes of the problem? (And what are the conditions that led to those root causes?)

Open Data Portals

Open data portals can provide useful information and allow you to dig into the raw data yourself. Federal, provincial, and local governments across Canada share their data with the public through open data portals. These portals allow the public to freely access, analyze, and reuse the large amounts of information that governments collect on everything from neighbourhood equity scores, daily shelter occupancies, to social and affordable housing waitlists status.

The *Government of Canada Open Data* portal provides useful information as do Provincial portals and Statistics Canada Housing Statistics reports on housing issues.

For more information on how to use open data, check out the Government of Canada's Open Data 101, and the *Open Data Handbook*.

3 Create additional systems maps to better understand your housing supply challenge issue

Following the research phase, you can use different system mapping techniques to help make sense of the system, clarify your assumptions and set the stage to engage stakeholders (see **Module 2: Empathize and Analyze**). Systems maps are representations of collective understanding by participants of why a system behaves the way it does, and how it can be changed. It is the shared understanding of the interdependencies between inputs, outputs/outcomes, issues, trends, drivers and actors (MaRS Solution Lab, 2019).

Each of the mapping tools noted below will help deepen your understanding of the housing system, your housing supply challenge and help you enhance your solution. Instructions are provided to complete a **Cluster Map** while other mapping tools include a short description and a link to detailed tools and resources that will help walk you through the steps required to complete the map.

Cluster Mapping

This is where you put all the key things you learned doing secondary research into a map. A cluster map helps you organize and categorise the information you've gathered on your housing supply challenge statement. It lays out the key challenge, some of the behaviours, attitudes, and structures that lead to that challenge, and builds a shared understanding of how the different parts work together. You should come back to this tool as you work through the following modules. It will change over time. As you gain experience in systems thinking, you'll begin to view issues from different perspectives (see **Module 2: Empathize and Analyze**) and challenge your assumptions.

Detailed cluster mapping steps:

Getting Started

The hardest part of building a cluster map is getting started. Try not to worry about if you're doing it right; the purpose of mapping is to explore your team's collective knowledge, bring it out in the open, and start connecting the dots. Before getting started, make sure that every team member can add to the board collaboratively – brainstorming (or brain dumping in this case) should always be a collaborative process where everyone can contribute equally. Here are some loose steps to follow:

1. Place your topic at the centre of your online board.
2. Collectively dump everything you know or have learned about the topic on the board. Resist the urge to refine, connect, or solve in this moment. Just jot down the concepts, words, and ideas connected to the issue. To keep your team on course, you may want to set a 5- to 10-minute timer for this part of the activity.
3. Once you've added everything up on the board, take a couple of minutes to read one another's contributions. Ask for clarification on ambiguous or unclear points. Resist the urge to correct, refine, or reword other people's contributions – focus on simply understanding them.
4. Consolidate any identical or duplicate concepts, words, or ideas. You can either stack them to show their importance or delete the duplicates.
5. Now, start connecting concepts. You're basically playing a word association game here. Draw lines between concepts, words, and ideas that are connected. You're not done until the map is a dense mess. You may want to set a 10- to 15-minute timer for this part of the activity.

Note: If you feel you've got a handle on this, you can begin to colour code lines to describe types of relationships (e.g., regulation, influence, power, money flow) or add arrows to show the direction of power and influence.

Take a moment to congratulate yourselves. The hardest parts are done. You may choose to take a break here and come back with fresh minds for Step 6 and Step 7.

6 As a team, scan your map and discuss the questions below. Jot down notes so you remember the key insights from this process.

a. What ideas or concepts related to your challenge topic jump out at you after doing this activity?

b. Which concepts, words, ideas in your cluster map are the most densely connected (have the most lines connected to them)? These are often the best places to build a solution.

c. What do you need to learn more about or what seems to be missing? These can inform your approach to Module 2: Empathize and Analyze.

d. What did you learn from this activity? What was the most interesting idea that emerged from this process?

7 Summarize your reflections into 3–5 key insights.

Insight: an understanding of the meaning or significance behind the information you've gathered. An insight is developed by uncovering meaningful learnings and findings from information, and typically results in viewing challenges with a fresh perspective. (Dalton, 2016)

Resource
Form more information on Insight Generation, please see *What is Insight? The 5 principles of Insight Definition* by Jonathan Dalton

Reminder
A cluster map is only as good as it is useful. Don't do it just to get it done; use it to shape your thinking and add to it when you learn more. You can even refine it and use it to tell a story. Some of the best idea pitches are based on a solid cluster map.

Trend Mapping

A trend map is a visual depiction of relevant trends influencing the system around a given topic. Developing a trend map for housing supply can help your group deepen their understanding of your issue through exploring related history, identifying key external factors, and tracking shifts in social and cultural norms. (FSG, 2017)

Detailed trend mapping guide:
FSA's *Guide to Trend Mapping* will walk you through a feasibility assessment as well as how to prepare for and facilitate a trend mapping activity.

Systems Mapping Resources

- *Mars Solutions Lab* includes a description of each of the mapping tools noted above.
- *The Systems Thinking Toolkit* developed by FSC includes a set of mapping tools and detailed descriptions of how they can be used. Each of these will help deepen your understanding of the housing system, your housing supply challenge and help you enhance the solution you are focus on.

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