

PORTLAND

OREGON



National Council of State Housing Agencies
2019 Executive Directors Workshop
July 14 – 17, 2019

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Workshop Schedule

Sunday | July 14

2:00 p.m. – 11:00 p.m.

Hospitality Suite*

Presidential Suite | Room 1423, 14th Floor

5:30 p.m. – 7:00 p.m.

Meet & Greet for Attendees & Guests

Pendleton Patio | Second Floor

Monday | July 15

7:30 a.m. – 8:30 a.m.

Breakfast for Attendees & Guests

Founders Veranda | Second Floor

8:30 a.m. – 12:30 p.m.

Executive Directors Forum

Rose City Ballroom | Second Floor

12:30 p.m. – 1:30 p.m.

Lunch for Attendees & Guests

Founders Veranda | Second Floor

1:30 p.m. – 5:30 p.m.

Small Group Breakout Sessions

See Tab F for details.

2:00 p.m. – 11:00 p.m.

Hospitality Suite*

Presidential Suite | Room 1423, 14th Floor

6:00 p.m. – 7:30 p.m.

Reception for Attendees & Guests

xport North Deck | 16th Floor

***The Hospitality Suite is closed during NCSHA-scheduled events.**



NCSHA Executive Directors Workshop

Workshop Schedule

Tuesday | July 16

| | |
|------------------------|---|
| 7:30 a.m. – 8:30 a.m. | Breakfast for Attendees & Guests Founders Veranda Second Floor |
| 8:30 a.m. – 12:30 p.m. | Innovation and What It Means for State HFAs Rose City Ballroom Second Floor |
| 12:30 p.m. – 1:30 p.m. | Lunch for Attendees & Guests Founders Veranda Second Floor |
| 1:30 p.m. – 5:30 p.m. | Small Group Breakout Sessions See Tab F for details. |
| 2:00 p.m. – 11:00 p.m. | Hospitality Suite* Presidential Suite Room 1423, 14th Floor |
| 6:00 p.m. – 8:30 p.m. | Reception & Dinner for Attendees & Guests Founders Veranda Second Floor |

Wednesday | July 17

| | |
|-------------------------|--|
| 7:30 a.m. – 8:30 a.m. | Breakfast for Attendees & Guests Founders Veranda Second Floor |
| 8:30 a.m. – 11:30 a.m. | Executive Directors Forum Rose City Ballroom Second Floor |
| 11:30 a.m. – 12:30 p.m. | Boxed Lunches for Attendees & Guests Founders Veranda Second Floor |

*The Hospitality Suite is closed during NCSHA-scheduled events.



NCSHA Executive Directors Workshop



**National Council of State Housing Agencies
2019 Executive Directors Workshop
Executive Directors Forum
Monday | July 15
8:30 a.m. – 12:30 p.m.
The Porter Portland
Rose City Ballroom | Second Floor**

Discussion Leader: NCSHA Board Chair Tia Boatman Patterson
Executive Director | California Housing Finance Agency

AGENDA (REVISED)

- 8:30 a.m. – 8:45 a.m. Introductions, Opening Remarks, and Overview of the Program
- 8:45 a.m. – 10:15 a.m. What's Next for State HFA Homeownership Programs
- The latest with FHA
 - How is it affecting your agency and how are you responding?
 - What NCSHA is doing
 - The latest with Fannie and Freddie
 - How is it affecting your agency and how are you responding?
 - What NCSHA is doing
 - New Opportunities
 - FHLBanks
 - Private mortgage insurance
 - Private label securitization
 - The elephant in the room: standardization
- 10:15 a.m. – 10:30 a.m. Break
- 10:30 a.m. – 11:00 a.m. Better Quantifying the State HFA Value Proposition
- Why now?
 - What do we need and how do we get it?
 - How do we make the most compelling case?
- 11:00 a.m. – 11:45 a.m. Open Discussion of Legislative, Regulatory, and Business Issues
- 11:45 a.m. – 12:30 p.m. Discussion with Prosper Portland



**National Council of State Housing Agencies
2019 Executive Directors Workshop
Innovation and What it Means for State HFAs
Tuesday | July 16
8:30 a.m. – 12:30 p.m.
The Porter Portland
Rose City Ballroom | Second Floor**

Guest Speaker: Matthew Hoffman
Managing Director | Innovation Ventures, LLC

AGENDA

- 8:30 a.m. – 8:45 a.m. Overview and goals
- 8:45 a.m. – 9:30 a.m. Innovation in affordable housing (presentation)
- 9:30 a.m. – 10:00 a.m. Examples of current state HFA innovation (discussion)
- 10:00 a.m. – 10:15 a.m. Break
- 10:15 a.m. – 11:30 a.m. Innovation Sprints (break-out groups)
- 11:30 a.m. – 12:00 p.m. Innovation Sprints report-outs
- 12:00 p.m. – 12:30 p.m. How NCSHA can further support state HFA innovation (discussion)

Matt Hoffman
Managing Partner
Innovation Ventures



Matt leads Innovation Ventures' work at the intersection of housing, technology, innovation, and capital. He is an active early-stage investor in companies with tech-enabled solutions that can transform the housing sector in a way that increases affordability and sustainability. Matt is a founding partner in HEALTH+, a suite of telehealth services bringing healthcare and lower cost prescription medications to lower income residents of multifamily housing. He has over 25 years of experience in the private, public, and non-profit sectors as a social and business entrepreneur.

Most recently, Matt served as Vice President of Innovation for Enterprise Community Partners, Inc., a national organization working to deliver capital, policy, and solutions to the affordable housing sector. In that role, he built an investment portfolio of HousingTech companies and led the launch of an online brokerage for social impact investing.

His previous experiences include serving as a policy advisor to the U.S. Secretary of Commerce and running a federal interagency taskforce on e-commerce; providing business strategy and policy consulting to high-tech and startup companies as Vice President of E-commerce at Infotech Strategies; and co-founding and running a real estate development company in Baltimore, Maryland.

Matt has served on numerous non-profit boards and currently chairs the board of Integrated Living Opportunities, which builds community for young adults with autism seeking to live independently.

He is a graduate of Harvard's Kennedy School of Government (MPP) and Brown University (BA). He resides in Bethesda, Maryland where his free time is consumed by Afro-Cuban drumming, playing pickleball, and organic gardening. He is married to Ellen Lurie Hoffman and is the father of two teenage daughters.

Market Map: the 200+ innovative start-ups transforming affordable housing

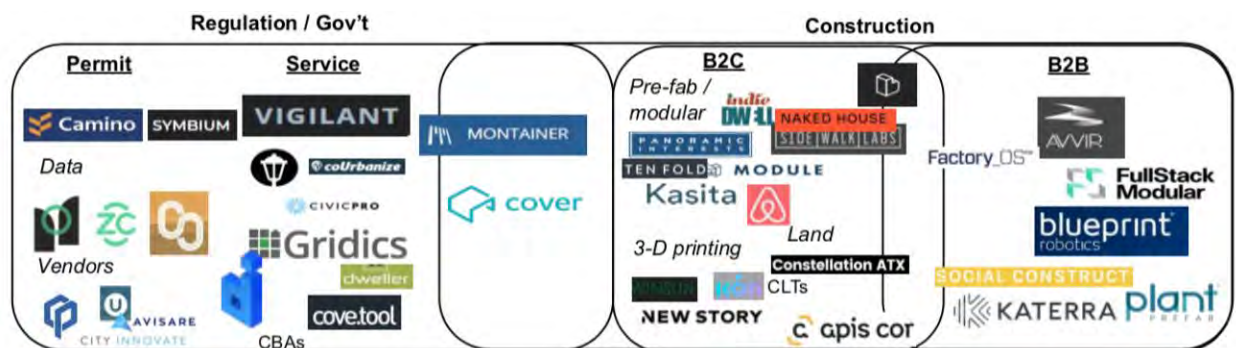
David Wu, TechCrunch, May 2019

In this section of [my exploration into innovation in inclusive housing](#), I am digging into the 200+ companies impacting the key [phases](#) of developing and managing housing.

Innovations have reduced costs in the [most expensive phases](#) of the housing development and management process. I explore innovations in each of these phases, including construction, land, regulatory, financing, and operational costs.

- Reducing Construction Costs
- Reducing Land Costs
- Reducing Regulatory Costs
- Reducing Financing Costs
- Operations

Reducing Construction Costs



This is one of the [top three challenges](#) developers face, [exacerbated](#) by rising building material costs and labor shortages.

This is a heavily crowded and hot field that has been seeing a lot of activity in the past decade. [Katerra](#), for instance, raised \$1.2 billion of total financing. New venture funds have even formed to fund efforts like this such as [Building Ventures](#). It's hard to compete in a field that is saturated with lots of money and talent. Yet efforts that trend towards minimalism, such as the reinvention of manufactured homes or "naked" homes, have seen less activity by entrepreneurs and investors. Overall, there are many more startups that can be added here as construction technologies have [entire maps of their own](#), but I focus on those that appear to or frame themselves around inclusion.

There are five main categories of housing construction startups.

The first category — and the most prominent — are those using prefabrication. Because these units are created in controlled, factory environments, prefabrication can purportedly reduce [costs by 30% and completion times by 40%](#).

One subset targets other businesses. These startups include [FullStack Modular](#), [Blueprint Robotics](#), [FactoryOS](#), [Blokable](#), [Rad Urban](#), [Katerra](#), and [Plant Prefab](#). Whereas most factories employ assembly line workers to create these units, [Blueprint Robotics](#), a Baltimore-based startup, [creates even greater efficiencies](#) by using industrial robots common in automotive production lines.

Another subset targets consumers themselves, which include [Module](#), [Cover](#), [indieDwell](#), and [Panoramic Interests](#). Of special note, [Module](#) allows homes to “grow” with residents, helping them add space as needed. Cover is vertically integrated, creating a more seamless customer experience.

The best prefabrication startups will have mitigated numerous risks embedded in the model. Opening a factory for prefabrication involves high upfront costs. So during economic busts, many factories without diverse customer sources [close](#). Beyond that, slim profit margins and highly dispersed plots of land in a largely suburban nation like the United States exacerbate [operational costs](#).

The second category, though less popular, is 3D printing. While these interventions target emerging markets for now, companies like YC-backed [New Story](#) claim to be able to print a concrete housing unit [in 24 hours](#). Other notable 3D printing companies include [apis cor](#) and [WinSun](#) in China.

The third category uses data analytics and robotics to reduce construction costs, often onsite. [Skycatch](#)'s drones, for instance, provide autonomous robots real-time feedback on the construction environment, dramatically improving the accuracy and efficiency of the robots' work. Similarly, [Avvir](#) uses computer vision and data analytics to uncover construction inefficiencies and mistakes.

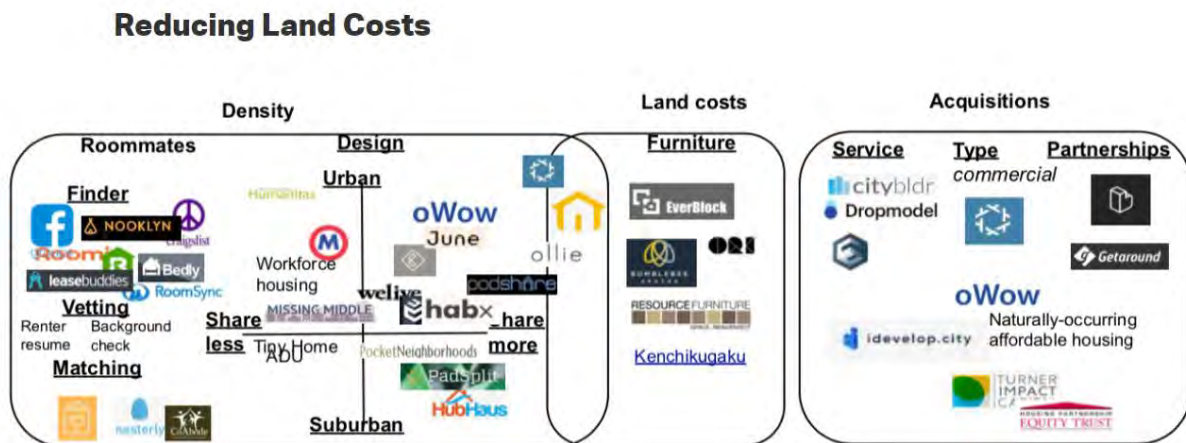
The fourth category reduces costs by simplifying [furnishings and interior finishings](#), such as wall treatments, interior doors, and lighting — huge drivers of hard costs. [Naked House](#) provides homes that include minimal finishes, which can purportedly reduce costs by [40%](#). [Social Construct](#) “productizes” interiors finishings and mechanical, electrical, and plumbing materials, breaking down the insides of buildings into small, interlocking parts that save on construction time and cost.

The fifth category reduces costs by not building at all. In manufactured housing communities, for instance, homeowners typically provide their own housing unit, and simply rent the land at a [discount](#) from a landlord, who only needs to maintain the lot. Case in point: A traditional home in the Bay Area, for instance, can cost at least [8 times more](#) than a comparable manufactured home.

Some developers are scaling this idea with micro-units. [Constellation ATX](#), for instance, uses Kasita’s prefabricated homes as the manufactured home. It then rents lots to future homeowners. [Three Pillar Communities](#) is an investment fund focused on creating and redeveloping manufactured housing communities like these.

While manufactured housing has the potential to reduce costs, many owners suffer from high interest rates and other terms that some call [predatory](#). Innovators here must be careful to pair [fair financing](#) with their efforts to further inclusive housing.

Reducing Land Costs



Driven by a lack of supply in major cities, land costs are one of the [top three challenges](#).

Density

Housing can be designed to allow more people to share the same land. When that happens, often through roommates, upzoning, or more efficiently designed units (“microunits”), the cost of housing decreases for each person.

Innovations here are popular among entrepreneurs and investors, resulting in efforts by those of tech behemoths like [WeWork](#). More can be done, however, to ensure that more density actually means more affordability. [PadSplit](#) and [Starcity](#) appear to be leading that effort.

Coliving efforts that target new audiences outside of professional millennials are also promising. Examples include a focus on families, such as [Common’s](#) and [Tishman Speyer’s](#) new venture [Kin](#) and “[co-housing](#)” or “[pocket neighborhoods](#)” that combine smaller units around a shared common space. With these innovations, families have more options than large, isolated single family homes.

Design

There are two main types of design innovations. The first are those that provide living experiences themselves. The second are companies that use furniture and other tools to help people share living space.

On the first main design innovation, those that provide living experiences can be further categorized into two axes. The first axis is whether the organization is targeting higher density, urban areas or whether the organization is targeting lower density, suburban-like areas. For instance, accessory dwelling units (“ADUs”) or tiny homes are more common in areas with larger backyards or empty lots. These tend to be suburban or rural areas, not dense inner cities. In contrast, many of the most popular co-living companies tend to be in dense, urban areas, such as [The Collective](#), [Common](#), and [Ollie](#).



Tony Anderson via Getty Images

The second axis is a rough measure of how much is being shared. For instance, companies that share more are more likely to share bathrooms, kitchens, and other furnishings, which result in further cost savings.

These include [PadSplit](#), [HubHaus](#), and [Starcity](#). [Podshare](#) and [HomeShare](#) go even further. PodShare tenants live in “bed pods” that lack doors or walls, while Homeshare allow some tenants to live in living rooms converted into bedrooms divided by cubicle-like partitions. In contrast, tenants in ADUs, tiny homes, and more expensive co-living units (such as [WeLive](#)) tend to share less, often having their own bathrooms, kitchens, and even living rooms.

To deal with denser living conditions, these innovations often help residents build communities that make sharing space more pleasant. [Hubhaus](#), for instance, builds cultural groups to help residents living in close quarters enjoy each other’s company.

On the second main design innovation, there are two sets of tools that help people share space in a more livable way. The first set includes furniture tools that help people maximize their use of space. These include [Bumblebee Spaces](#) (robotics to store furniture in ceilings), [Everblock](#) (lego-block-like walls to form new rooms quickly), [Ori](#) (whose robotic furniture combines bed, kitchen, and storage), and [Resource Furniture](#) (which provides well-designed space-saving furniture, like wall/murphy beds).

Beyond furniture tools, the second set helps residents form better connections, turning the existing efforts of those like HubHaus into a platform. [Cobu](#) is a platform that helps residents connect based on any shared passion, while [Building Impact](#) focuses on volunteering and [Meal Sharing](#) and [Resident](#) focus on dinner hosting.

Roommates

Beyond these curated efforts to build living communities, a variety of tools exist to help renters find roommates themselves. Renters can save anywhere from [12-20%](#) off their rent by living with roommates. Finding a roommate is a time-honored way to pool resources, increase bargaining power, and obtain economies of scale.

Given the clear need, this is a crowded field with huge incumbents like Craigslist and [Facebook](#). There are a few differentiating efforts, such as those that pair underserved groups (such as [Coabode](#)’s focus on single mothers), diverse groups (such as [Nesterly](#)’s focus on the elderly with the young), and more roommates (so that roommates can form larger groups and obtain better economies of scale).

Roommate apps range from tools that help you reduce transaction fees from rentals (e.g., [Naked Apartments](#) or the “no fee” search on [Streeteasy](#)), find roommates ([Roomi](#), [Bedly](#), Facebook, Craigslist, and others), vet roommates ([Checkr](#)’s and Roomi’s background checks), and match with roommates that meet your preferences (such as [Welcome Home](#)’s living preference algorithm).



Hoxton/Tom Merton via Getty Images

Some work-trade roommate platforms pair landlords willing to provide discounted rent in exchange for roommates who can offer help around the house. Nesterly, for instance, pairs seniors with millennials and other renters who want to save money and can help around the house. Others pair underserved populations together, such as single mothers ([CoAbode](#)) and the elderly ([Golden Girls Network](#)).

Acquisitions

Find diamonds in the rough. Purchase high-potential land at a lower price. If inclusive housing entrepreneurs can purchase land cheaper, they can pass those savings onto renters and future owners. But as I note above, affordability is not guaranteed. Investors, unless socially-motivated, are likely to capture the savings themselves.

There are three acquisition innovations to consider.

The first are services that help developers understand where to purchase. [Citybldr](#), [Envelope](#), [idevelop.city](#), and [Parafin](#) use large datasets, regulations, and/or algorithms to understand which properties to acquire and how to develop them. For mom-and-pop investors and real estate brokers, [Dropmodel](#) eases due diligence for real estate investments.

Citybldr has the potential to help achieve economies of scale in housing. It helped a group of homeowners in Seattle sell their homes for nearly [40%](#) more than if they were to sell individually. By doing so, Citybldr incentivized more to sell, including those who may have otherwise been resistant to new development efforts. By grouping parcels of land, developers obtain more space for land to develop larger, higher-density developments.

The second are services that acquire underutilized types of housing. Empty lots behind buildings can be used to build housing such as accessory dwelling units. [Brownfield Listings](#) helps developers find vacant buildings, such as factories or warehouses, which [E-lofts](#) and [Starcity](#) convert into housing units. [Turner Impact Capital](#) and [Housing Partnership Equity Trust](#) buy and keep older, multifamily projects affordable for the long-term.

The third are partnerships that unlock more value out of land. One housing startup, [Blokable](#), partnered with a church to produce a 3-story apartment complex on the church's empty lots. By working with the car-sharing operator Getaround, one developer saved itself from building [71 spots](#) of parking.

Data-driven efforts to acquire real estate for housing are accelerating. It's likely that many sophisticated developers have such tools in-house. Yet efforts like the above help more people benefit from data analytics. I'm excited about efforts, like Citybldr's and Blokable's, where the whole leads to more value than the sum of its parts.

Reducing Regulatory Costs

There are a variety of services that exist.

One set of tools helps developers navigate local politics. [coUrbanize](#) and [Neighborland](#) engage those that do not have the resources to participate in time-consuming development processes, [as I discussed in Hacker Noon](#). Anti-development behavior is a major blocker of development projects.

But tools like coUrbanize have helped affordable housing developers get approvals [on schedule](#). Created in the last 20 years, [community benefit agreements](#) have also successfully helped developers obtain support from local organizations.

Another helps developers navigate zoning codes. [Gridics](#) and [Symbium](#) (with a focus on ADUs) help developers visualize zoning codes and development possibilities with a specific parcel. [Camino.ai](#) helps governments and the public navigate zoning, permitting, and licensing applications better.



Bombaja via Getty Images

[CivicPro](#) provides local regulatory intelligence about changes in codes and policies. Other companies like [Upcodes](#) integrate code compliance directly in building information modeling software, reducing compliance errors and thus costs.

Targeting a more lay customer, [Cover](#) and [Dweller](#) helps local homeowners add code compliant, prefabricated units to underutilized land, like backyards and empty lots. By asking a series of questions, Cover gathers data about its customers and then generates a code-compliant ADU that can immediately be purchased and installed.

While less technology-focused, [Dweller](#) focuses on affordability and also provides [financing](#), a [painful barrier](#) for many would-be ADU purchasers. In return for paying for the upfront costs of constructing and permitting the unit, Dweller owns the ADU and receives [a portion](#) of the unit's future rent.

As I will further discuss in this package's conclusion, this is a promising and overlooked area. Regulatory politics and compliance is a painful and expensive part of the process of developing housing. This field will grow as legal technologies ("legaltech") and regulation technologies ("regtech") continue to [expand](#).

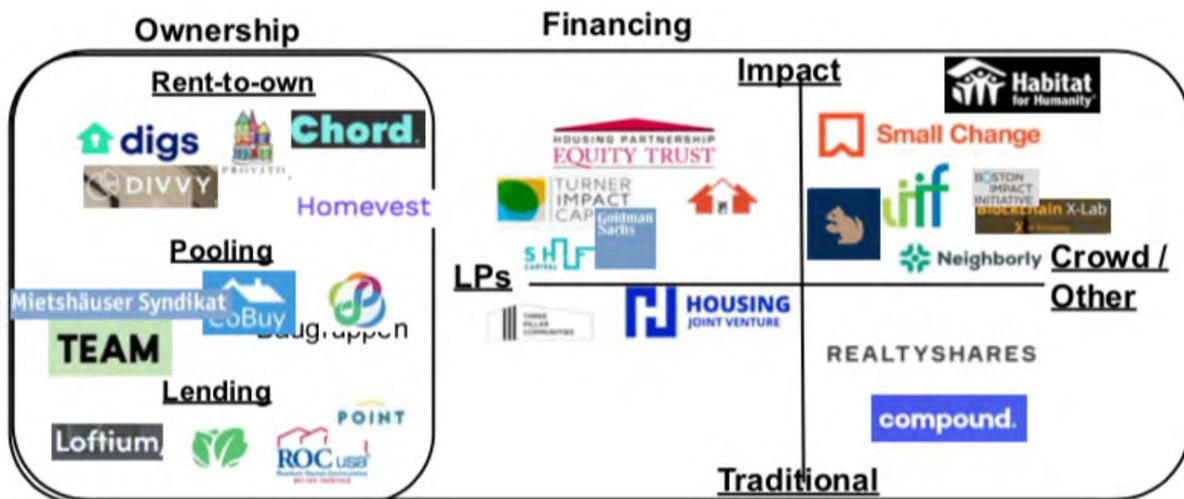
With the help of such technologies, more people may be able to navigate contractual, regulatory, and government affairs issues easily.

Furthermore, discovering regulatory opportunities can help businesses target new markets and reduce operational costs. Take, for instance, the example of the Oakland developer that avoided expensive parking requirements in the zoning code by partnering with a car sharing provider.

Through technologies like these, end users will be better protected from harm without completely stifling innovation.

Reducing Financing Costs

Raising enough money for a new project is one of the biggest hurdles for a development project.



Social Impact funds and crowdfunding

Financing innovations come in two main categories: impact-oriented or crowdsourcing.

Social impact funds focus on both profit and social impact, such as **Turner Impact Capital** and **Housing Partnerships Equity Trust**. These investors have discovered that buying “naturally affordable” older properties and keeping them affordable can be **good business**.

Since demand for lower rent increases during recessions, such units act like bonds in economic downturns. Raising a private fund has other critical advantages too. **Housing Partnerships Equity Trust**, which is led by a group of nonprofits, found they could close **deals faster** than if they relied on public financing.

For similar reasons, city governments have also invested in quasi-private housing funds, such as the city of San Francisco's investment into the [SF Housing Accelerator Fund](#).

Using a data-driven approach, [Perl Street](#) raises money to finance urban technology startups, including those in the housing sector. By using diverse data sources to boost growth and reduce the risks of their portfolio companies, Perl Street offers a unique investment approach.



Pattanaphong Khuankaew / EyeEm via Getty Images

Some funds raise money from a diverse group of people, including retail investors. This method is often called crowdfunding. [Small Change](#), for instance, first rates developments based on key impact criteria such as affordability, and raises money from retail investors for those projects. The Low Income Investment Fund's [Impact Note](#) raises money from investors who want to co-invest in affordable housing projects.

There's a decent amount of competition and interest in this space. In addition to competing with numerous traditional real estate crowdfunding sites, such as [RealtyShares](#) or [CrowdStreet](#), these funds have to compete against REITs and other low-friction, highly-liquid equity investments.

Yet, this space has potential opportunity to help housing innovators more. In my conversations with coliving, ADU, and micro-unit developers, innovators have a hard time getting cheap financing typically reserved for single-family homes.

Small Change, by garnering socially-conscious investors, and **Perl Street**, through its use of data, have been able to obtain cheaper financing for alternative housing forms. But more work is likely needed to create models that can scale such efforts well.

Renter ownership

Some models raise money from the tenants or future residents themselves to promote **renter ownership and development**.

One model involves residents pool together money to purchase a larger home together. **CoBuy**, for instance, allows future residents to pool money (also often called “collaborative mortgages”) and ease the process of purchasing a home together.

Baugruppen is a model of development where future residents pool financing and become developers themselves. While traditional developers require 10 to 25 percent returns on their capital, citizen-developers, since they simply care about living in the units, do not require such high returns. Housing costs, as a result, drop.

Yet residents may often not have sufficient funds to afford a mortgage. To deal with such issues, **Mietshäuser Syndikat** provides discounted capital from an association of other like-minded housing groups. These groups form a co-housing financing syndicate whose goal is to create more permanently affordable housing projects.

ROC USA secures loans for low-income manufactured housing residents to purchase their community from a landlord. Residents form a newly-formed cooperative, which technically owns the **land itself**. The cooperative form is called a limited equity cooperative; the resale values of the tenant’s share are limited to promote long-term affordability.

Aside from providing low-cost funds, other innovations help individual residents raise money by taking a cut of the owner’s future profits. **Landed** provides down payment assistance to “essential professionals,” such as teachers, and has a right to share in the future appreciation of the home.

Point works similarly, but any homeowner, not just educators, are eligible. **Loftium** reduces rent for prospective renters, provided that they share additional income they generate from sharing economy sites, like Airbnb.

In limited areas, **Loftium** and **Kabbage** also provides a **down payment** and other forms of capital, provided that they keep the cash flow from future Airbnb rentals.

The final intervention identified here provides upfront capital in exchange for a premium later on. Called rent-to-own, or shared equity schemes, companies like **Divvy** make money in three primary ways.

First, tenants pay for a “lease option” that gives the tenant an option to buy the house. Second, the tenant purchases the home at a price higher than Divvy’s initial purchase price (in one example, at a 11% premium). Finally, renters make extra payments that go towards maintenance and ownership “credits.”

If they decide to go elsewhere, these payments are forfeited (though, in the case of Divvy, maintenance funds at least appear to be returned). Other variations exist, including that of Provito and Homevest, which uses security deposits to help renters obtain ownership.

Rent-to-own interventions may help more people purchase housing, especially those with poor credit scores. Yet consumer advocates say that, if not executed carefully, tenants may be burdened by both the risks of renting, including the possibility of eviction and high monthly payments, and ownership, including extensive maintenance costs.

Given that many are locked out of ownership, this is a burgeoning field with large amounts of need. I’m particularly excited about new models, such as CoBuy and ROC USA, that leverage group buying power. ROC USA, in particular, promotes long-term affordability, which many interventions overlook.

By pairing group purchases with limited equity cooperatives, ROC USA helps future would-be homeowners — and many generations beyond — to continue to afford ownership, even if true market property values in the neighborhood have escalated many-fold. There are significant opportunities to use law, technology, and finance to scale such models like ROC USA.

Operations



Aside from developing housing, operational costs, whether they include utility, property management, or legal costs, have a large impact on the tenant's overall housing costs.

Part of a thriving and competitive ecosystem of property technology (“proptech”) and real estate technology (“retech”), the following categories deserve (and have) **maps of their own**. To identify those that may reduce operational costs, I highlight key examples that may also filter savings to end users, such as renters and homeowners.

Utility costs

As I detail in **Hacker Noon**, utility costs (electricity, gas, water, and sewage), from one analysis of public real estate records, add **25% to homeowners' costs** and up to **27%** to renters' costs. The biggest utility culprit is energy—electric and gas take up **49%** of total utility costs. It's clear, then, that more energy-efficient and energy-producing units mean more money for residents.

Portable tools help reduce energy costs, such as smart thermometers (**Nest**) and outlets (**ThinkEco**). New financing tools to help renters and property owners afford energy-efficient retrofits. These tools include increasing the renter's utility bill (also called “on-bill financing”) such as that of **Matter.solar**, or the crowdfunding efforts of **BlocPower** and **Mosaic**. Finally, innovators are targeting energy sources themselves. Smart energy retailers (**Drift**) use analytics and a marketplace to save costs. Community solar farms (**Solstice**) and microgrids (**Lo3 Energy**) enable even renters to obtain and invest into the production of new sources of energy.

Property management costs

Property management companies can charge anywhere from 7% to 10% of rent just to manage daily operations, and, even then, offer variable service. **Keyo**, for instance, focuses on brokerage and leasing. **Active Building**, **Zenplace**, and **Bixby** help with renter management, while **Boodskapper** specializes in maintenance.

Some tools are focused on benefiting renters

These interventions help managers increase their market and reduce turnover. To ease the financial hardship of renting, **Rhino** and **The Guarantors** overcome barriers caused by security deposits and income limitations. **Stake** reduces turnover rates by offering a loyalty program that invests a portion of rent into a stock fund the longer a renter stays in the building. **Till** provides renters threatened with eviction with loans to stay in their apartments.

Now, I want to focus on innovations that improve housing inclusion more generally, such as efforts to pair housing with transit, small business creation, and mental rehabilitation. These include social impact-focused interventions, interventions that increase income and mobility, and ecosystem-builders in housing innovation.

Nonprofits and social enterprises lead many of these innovations. Yet because these areas are perceived to be not as lucrative, fewer technologists and other professionals have entered them. New business models and technologies have the opportunity to scale many of these alternative institutions — and create tremendous social value. Social impact is increasingly important to [millennials](#), with brands like [Patagonia](#) having created loyal fan bases through purpose-driven leadership.

While each of these sections could be their own market map, this overall market map serves as an initial guide to each of these spaces.

- [Social impact innovations](#)
- [Landlord-tenant tools](#)
- [Innovations that increase income](#)
- [Innovations that increase transit accessibility and reduce parking](#)
- [Innovations that improve the ability to regulate housing](#)
- [Organizations that support the housing innovation ecosystem](#)
- [This is just the beginning](#)
- [I'm personally closely watching the following initiatives](#)
- [The limitations of technology](#)
- [Move fast and protect people](#)

Social Impact Innovations

These innovations address:

- Health outcomes, such as Kaiser Permanente's [\\$200 million](#) investment into housing and the [Building Healthy Places Network](#);
- Homelessness, such as the [Housing First](#) movement and [Community Housing Partnership](#)'s use of modular building techniques for homeless housing;
- Rehabilitation for vulnerable populations, such as the [Delancey Street Foundation](#); and finally
- Education, such as the National Housing Trust's initiatives to place affordable housing next to [good school districts](#).

To promote long-term affordability, community land trusts and limited-equity cooperatives — often together — are used. In limited-equity cooperatives, housing is collectively owned by residents, units of which are limited in their resale value to promote affordability for future residents. They are often paired with community land trusts, which may own the ground leases and veto efforts by residents who wish to remove resale limitations and profit from increases in home values.

One example combining the features of these two forms is the [East Bay Permanent Real Estate Cooperative](#) (“PREC”). Given the complicated legal nature of these arrangements, law firms like the [Sustainable Economies Legal Center](#) assist innovators like PREC.

There are also innovators who target affordable housing operators. [Boodskapper](#), for instance, uses artificial intelligence to help optimize inspections and maintenance requests for public housing projects. [Haven Connect](#) helps broader affordable housing operators fill their units faster, by providing “Turbo Tax for affordable housing” for applicants and modern waitlist management for operators.

Landlord-Tenant Tools

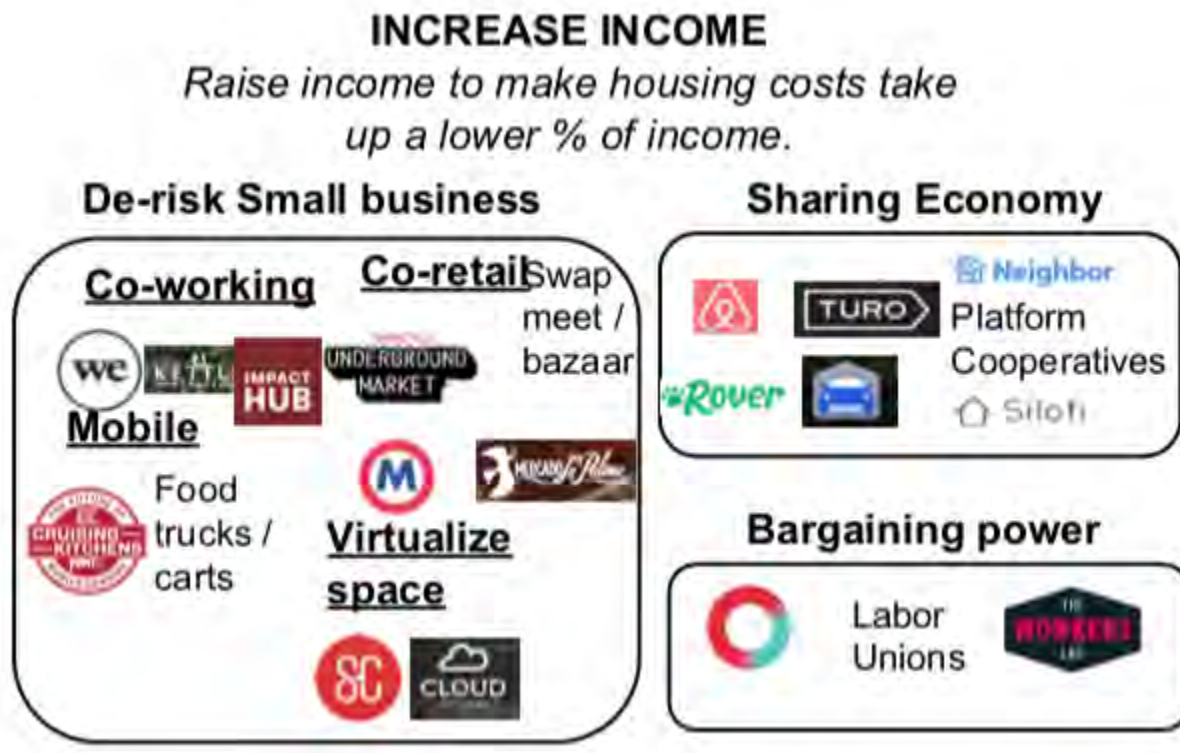


Even if someone lives in more affordable housing, there’s no guarantee that this housing is high quality. Various [tools](#) exist to equip renters to navigate laws and obtain information to ensure their housing is up to par. [Justfix.nyc](#) services tenant organizers who hold landlords accountable.

[Heat Seek](#) documents temperature data for residents who do not have sufficient heat in their apartment and can use the data as evidence for legal claims against their landlords. [Community.lawyer](#) offers document workflows to help tenant lawyers. [Rentlogic](#) grades buildings on their ability to respond to formal complaints about violations of building codes that impact safety and cleanliness.

[Eviction Lab](#) is a nationwide database about evictions, whose purpose is to help housing activists and policymakers make better decisions (though it has been subject to various [critiques](#) about its community engagement and data collection strategies). [DoNotPay](#) is using its technology that famously contested 160,000 parking tickets to help the “newly evicted file for housing aid.”

Innovations that Increase Income



Housing affordability is a function of the cost of housing against a [resident's income](#). As a result, if incomes can increase without significant raises in housing costs, housing becomes more affordable.

The first set of innovations reduce the risk of small business creation, which is one critical way residents may increase their income.

These efforts include affordable coworking that reduces the cost of office space for businesses (e.g., [ImpactHub](#) and [Kettlespace](#)), co-retail that reduces the cost of space for service businesses (e.g., [Underground Market](#), night markets and bazaars like Brooklyn's [Smorgasburg](#), [Makerhoods](#), and [Mercado La Paloma](#)), services that help entrepreneurs reduce the need to rent expensive physical space (e.g., [CloudKitchens](#) for restaurants and [Shortcut](#) for barbers), and services that ease remote work and virtual offices (e.g., [OwlLabs](#)).

The second set helps residents make more money through sharing economy initiatives, such as room rentals ([Airbnb](#)), pet services ([Rover](#) and [Wag!](#)), parking ([Silofi](#)), and storage ([Neighbor](#)).

Some take sharing economy ideas even further. So-called "platform cooperatives" encourage mutual ownership of the technology platform. [Stocksy](#), for instance, is mutually owned by artists who sell their services on the platform. Platform cooperatives are tech-inspired versions of historical efforts to increase worker and employee ownership so that

these underserved groups can develop more wealth. These include worker-owned cooperatives and employee-owned stock ownership programs.

The final set increases worker bargaining power to help them raise their income and benefits. Coworker.org uses a platform to help workers voice their concerns and create changes in their environment. Inspired by labor unions, [The Workers Lab](http://TheWorkersLab.com), more generally, funds initiatives like these.

Innovations that Increase Transit Accessibility and Reduce Parking



Housing also can become more affordable when it's cheaper for people to live in more distant, yet more affordable neighborhoods. Especially when residents can get around without the expense of a car, they have more money in their pocket to spend on housing or other life necessities.

Some innovations target consumers directly. Bus-like or carpooling alternatives, such as [Dollaride](http://Dollaride.com), [Via](http://Via.com), and [UberBus](http://UberBus.com), may allow residents to live further away without significantly increasing mobility costs. Car-sharing, such as those of [Getaround](http://Getaround.com), [Turo](http://Turo.com), and [Zipcar](http://Zipcar.com), also reduce car ownership. For short-to-medium-sized distances, micro-mobility innovations like shared bikes and scooters help residents travel without a car.

Developers can do more too. [Smart growth](http://Smartgrowth.com) and [transit-oriented development](http://transit-oriented development.com) are a set of strategies to link housing and transit, thereby reducing mobility costs for residents and parking costs for developers. [Coord](http://Coord.com), which provides transit, bike-sharing, and curbside data, can help developers find such lots.

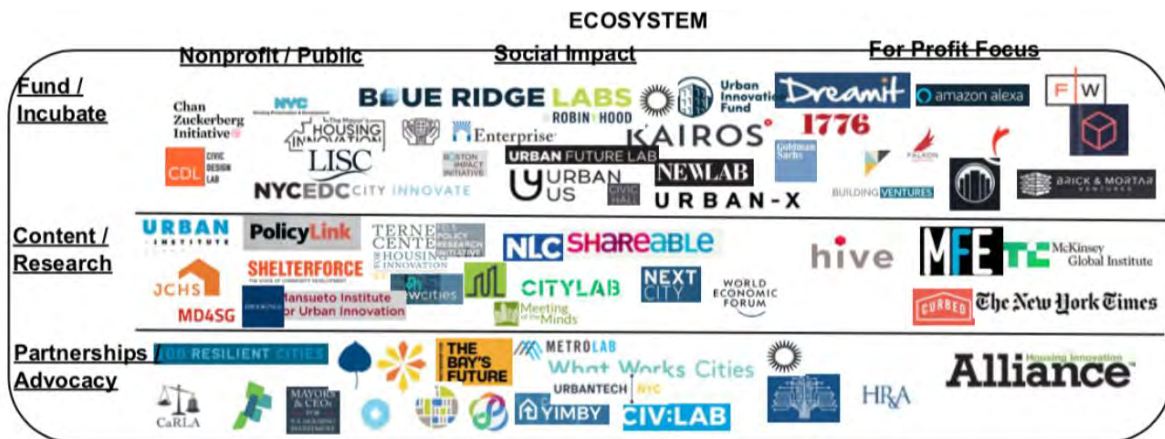
Furthermore, as [one developer found](#), partnering with transit innovators can save costs by avoiding parking requirements. Finally, developers may consider organizing community-oriented investments into [bus rapid transit](#) or [bike-only lanes](#), partnering with tools like [Neighborly](#). Cash-strapped cities may be grateful for the help, which provide more affordable mobility options.

Innovations that Improve the Ability to Regulate Housing

Some technologies improve the government’s capacity to govern housing, which can accelerate the production of quality housing. [Camino.ai](#) and [Symbium](#) help make government regulations, such as the development permitting process, easier to navigate.

[Numina](#), [ZenCity](#), and [ClearRoad](#) use data to help governments build more responsive policies with regards to housing and transportation. Efforts like [CoProcure](#), [Startup in Residence](#), [Avisare](#), and [Atlas’ procurement toolkit](#) are addressing the procurement and innovation problem. [UrbanLeap](#) helps governments, such as those in Las Vegas and Pittsburgh, assess their vendors and pilots better.

Organizations that Support the Housing Innovation Ecosystem



Beyond initiatives that directly create housing innovations are organizations with national reach. These include those that:

Fund or incubate innovations, such as Urban.us ([Shaun Abrahamson](#) and [Stonly Baptiste](#)), MetaProp ([Zach Aarons](#) and [Leila Collins](#)), Urban Innovation Fund ([Clara Brenner](#) and [Julie Lein](#)), Enterprise Community Partners ([Matthew Hoffman](#)), Kairos ([Ankur Jain](#)), Urban-X ([Micah Kotch](#) and [Greg Lindsay](#)), Dreamit Ventures ([Andrew Ackerman](#) and [Charles LaCalle](#)), Hub at Company ([Robinson Hernandez](#) and [Matt Harrigan](#)), NYC Economic Development Corporation ([Jonathan Lane](#) and [Karen Bhatia](#)), Urban Futures Lab ([Pat Sapinsley](#)), Blue Ridge Labs ([Hannah Calhoon](#)), NYC’s Civic Hall ([Andrew Rasiej](#) and [Jessica Quinn](#)), Boston’s Housing Innovation Lab ([Marcy](#)

[Ostberg](#) and [Mayor Marty Walsh](#)), Oakland's Civic Design Lab ([Kiran Jain](#) and [Mayor Libby Schaaf](#)), City Innovate's Startup in Residence ([Jay Nath](#)), Turner Center for Housing Innovation's Innovation Program ([Michelle Boyd](#)), Chan Zuckerberg Initiative ([Ruby Bolaria](#)), and Fifth Wall ([Brendan Wallace](#)).

Produce research and content to understand the problem or new solutions, such as Shareable ([Neal Gorenflo](#)), Harvard University ([Ed Glaeser](#)), Shelterforce ([Harold Simon](#)), CityLab ([Richard Florida](#) and [Kriston Capps](#)), CityLab's Technopolis Podcast ([Molly Turner](#) and [Jim Kapsis](#)), NextCity ([Oscar Abello](#)), New York Times ([Emily Badger](#) and [Conor Dougherty](#)), HIVE ([Jennifer Castenson](#)), Market Urbanism ([Adam Hengels](#)), PolicyLink ([Michael McAfee](#) and [Angela Glover Blackwell](#)), Urban Institute ([Sarah Rosen Wartell](#)), Brookings Institute ([Amy Liu](#)), TechCrunch ([Kim-Mai Cutler](#), [Danny Crichton](#), [Arman Tabatabai](#)), Fels Policy Research Initiative ([Diana Lind](#)), Bloomberg Tech ([Joshua Brustein](#)), Curbed ([Patrick Sisson](#)), CB Insights ([Construction Tech](#) and [Real Estate Tech](#)), Wall Street Journal ([Laura Kusisto](#)), McKinsey Global Institute ([Jonathan Woetzel](#) and [Jan Mischke](#)), Change Order Podcast ([David Friedlander](#)), Trulia ([Issi Romem](#)), and the Turner Center for Housing Innovation ([Carol Galante](#)).

Advocate for new policies and create partnerships, such as NewCities ([Sebastien Turbot](#) and [John Rossant](#)), Tech-Equity Collaborative ([Catherine Bracy](#)), [NYC's Housing Data Coalition](#), California Renters Legal Advocacy and Education Fund ([Sonja Trauss](#)), [Urban Tech NYC's The Grid](#), NeighborWorks ([Marietta Rodriguez](#)), Adrienne Arsht Center for Resilience ([Kathy McLeod](#)), Aspen Institute's Center for Urban Innovation ([Jennifer Bradley](#)), What Works Cities ([Simone Brody](#) and [Jennifer Park](#)), Meeting of the Minds ([Gordon Feller](#) and [Jessie Hahn](#)), Living Cities ([Ben Hecht](#) and [Brinda Ganjuly](#)), 100 Resilient Cities ([Michael Berkowitz](#)), HR&A's Inclusive City practice ([Andrea Batista-Schlesinger](#)), Rethinking.RE ([Dror Poleg](#)), and the Housing Innovation Alliance ([Betsy Scott](#)).

This is Just the Beginning

This is the first attempt at putting such a dynamic and cross-cutting set of companies onto a map — I will continue to iterate. I'm personally closely watching the following initiatives

Democratizing housing ownership and production.

As I discuss in [Shareable](#), most housing is owned and produced by a [few](#). I'm excited about methods to help low- and middle-income people pool resources to produce permanently affordable housing.

By pooling resources together, they can increase their bargaining power and capture economies of scale, like what big corporations do every day. Promising methods include increasing renter ownership (e.g., ROC USA and community land trusts), helping consumers to finance and build housing (e.g., Cobuy and Cover), and bolstering resident income (e.g., platform cooperatives and co-retail).

Housing as social intervention.

Housing is a critical resource that promotes physical stability, relationship-building, and access to life-changing resources, such as jobs, schools, and mobility. Given how difficult housing innovation is to do, most innovators, understandably, focus on creating cheaper housing.

Nonprofits and governments — which are often resource-strapped — lead most of this work. Finally, Millennials, whose buying power will soon outpace the generations before it, increasingly care about [social impact](#) where they work and buy.

With these trends in mind, innovations to design housing as “social intervention” are promising, a term popularized by [Karen Kubey](#). Examples here include new financing tools like Small Change, Blokable’s partnerships with mission-driven nonprofits, and efforts listed above to design housing to promote health, mobility, and rehabilitation.

Mobility is of special note. When density arises without sufficient ways to travel freely, support for more housing will drop. See, for instance, opposition to housing due to effects like increased [traffic](#). As a result, addressing the second-order effects of more housing is critical for long-term support of an inclusive housing agenda.

Legal and regulation technologies for the masses.

With the help of legaltech and regtech, new startups can help more navigate zoning and building codes and obtain [legal help](#) in housing disputes, as I document in [TechCrunch](#). Rarely do low-income tenants use the law to their advantage. [86%](#) of civil legal problems in the U.S. are reported to have received inadequate or no legal help.

As [Matt Desmond](#)’s 2016 book *Evicted* makes clear, the privileged, such as landlords, use one critical legal tool — [evictions](#) — to maintain the profitability of slum housing. This tool has devastating consequences for the reproduction of social inequality. Look to Justfix, Heat Seek, Cover, Symbium, and Camino, for instance, to help everyday consumers navigate laws more effectively.

The limitations of technology

But as much as technology can help, it has its limits. Those with the most resources may use technology to serve their own interests.

One way forward are policies that encourage [new actors](#) to participate in housing development and management, as I discuss in the [Columbia Public Policy Review](#). These policies can incentivize [public benefit](#) developers, such as community development corporations, and [community-driven developers](#), such as [baugruppen and homeowners who want ADUs](#), who build housing that is affordable by design.

Furthermore, these policies must further encourage testing to ensure innovations actually improve people’s lives, while mitigating harms.

Preliminary research shows such methods may garner community support necessary for more housing supply. When new developments include units that serve those with more modest incomes, voters — both conservative and liberal — are more likely to support them, according to [MIT](#) and [Harvard](#) research.

Yet simply having more affordable units is insufficient. Residents ask who gets [to develop and benefit](#) from housing. When potential voters see that a major developer will likely earn a large profit from their new building, their opposition to the project increases by [20 percentage points](#).

Voters are [twice as likely](#) to oppose development for this reason than due to traffic congestion. By answering such questions about distributive justice can we gain further insight into the opposition against increasing housing supply. Many urban residents, as UCLA urban planning professors contemplate, may perceive that [“only deep-pocketed and aggressive developers can afford to build.”](#)

Future work could discuss government innovations like the above. Others in this vein include pilots, public-private partnerships, and new policy and taxation frameworks from around the world. [Tokyo’s Urban Renaissance Law of 2002](#), the [land value tax](#) or [tax increment financing](#), and Minneapolis’ recent ending of [exclusionary zoning policies](#) come to mind.

Other housing policy innovations are surveyed [here](#). While the focus of this piece is on business innovations, these policies form regulatory opportunities that entrepreneurs cannot ignore.

Other topics ripe for exploration are neighborhood and city-building efforts. So-called smart cities and housing, for instance, aim to improve municipal services and livability, using data and emerging technologies like machine learning. [Sidewalk Toronto](#) and [UNStudio’s Brainport Smart District](#) are prominent examples.

Writers like Ben Green, however, demonstrate [the dangers](#) of prioritizing technological efficiency above all. Building on such critiques, some efforts explicitly frame themselves around sustainability, justice, and community.

The [“Sharing Cities”](#) and [“Circular City”](#) movements are examples of this sort. [Neal Gorenflo](#), [Sheila Foster](#), [Julian Agyeman](#), and [Duncan McLaren](#) extend this work, often focusing on innovations driven by residents and community-based organizations, rather than large corporations.

Finally, future work can delve deeper into many of these topics. Of particular note are social impact innovations that connect housing to multiple social aims.

Many nonprofits are taking the lead in using housing to bolster sustainability, rehabilitation, and welfare for the middle-income and underserved, such as the homeless and low-income populations. Inclusivity goes beyond cost.

It acknowledges the critical social circumstances that enable or block people from building happier, healthier, and more meaningful lives. If designed appropriately, the home — and the neighborhood in which it is embedded — has the potential to do so.

Move fast and protect people

Ultimately, innovations here can generate both economic and social value.

Housing is a basic human need — one that will become harder to access as population and property values continue to grow. Every year, the U.S. economy is losing [\\$1.6 trillion](#) to high housing costs. We lose wages and productivity because people cannot afford to live where they're best suited.

Yet as much as innovation is sorely needed, it must be [responsible](#). When human lives are at stake, innovators cannot just move fast and break things. Instead, they must engage with communities, protect stakeholders, and meticulously test that their solutions work. In spaces like housing, innovators may need to move from minimum viable to [minimum virtuous products](#).

Emerging [research](#), for instance, details that simply increasing housing supply may have harmful effects on neighborhoods. Instead, more housing can be built to be [affordable by design](#) using many of the tools discussed here. This housing can then be connected to initiatives that sustain [permanent affordability](#), like community land trusts.

Innovators have an opportunity to create a better world. When more can meet their basic needs regardless of their circumstances, more can achieve happier, healthier, and meaningful lives.

The billion-dollar financings of Opendoor, Katerra, and Compass are just a taste of what's to come.

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Catalyzing public sector innovation

Defining your role in the innovation ecosystem

A report from the Deloitte Center for Government Insights

ABOUT THE DELOITTE CENTER FOR GOVERNMENT INSIGHTS

The Deloitte Center for Government Insights shares inspiring stories of government innovation, looking at what's behind the adoption of new technologies and management practices. We produce cutting-edge research that guides public officials without burying them in jargon and minutiae, crystalizing essential insights in an easy-to-absorb format. Through research, forums, and immersive workshops, our goal is to provide public officials, policy professionals, and members of the media with fresh insights that advance an understanding of what is possible in government transformation.

Innovation focused on addressing societal challenges rarely occurs in a vacuum. Rather, it requires an ecosystem of actors working together and filling distinct but equally important roles. Deloitte's unique perspective on ecosystem-driven innovation helps organizations understand how to make an impact on an area of importance even when they aren't positioned to solve the problem themselves. In a fiscal and regulatory environment in which public sector organizations are being asked to do more with less, identifying and playing the right role in an ecosystem of actors are vital steps to achieving the mission and continuing to evolve.

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Introduction



Actors of innovation

This decade marked a breakthrough in humanity's understanding of the universe.

For years, scientists had unsuccessfully attempted to solve one of the great challenges of astrophysics: how to map the presence of dark matter.

Dark matter cannot be seen with telescopes. It emits neither light nor radiation. And yet, scientists believed that it had to exist due to its gravitational effects on visible matter. They just hadn't been able to map it.

But this all changed in May 2011, when a dramatic leap forward in dark matter research came from the most unlikely of sources.

A consortium of scientists from NASA and the European Space Agency posted the challenge of mapping dark matter to the competition website Kaggle, making their data available for potential innovators to use in developing approaches of their own.¹ In less than a week, a glaciology PhD student named Martin O'Leary had crafted an algorithm that outperformed existing approaches for mapping dark matter by applying techniques his field used for estimating the mass of submerged glaciers.²

O'Leary's solution represented a revolutionary step forward in solving a long-standing challenge faced by the scientific community. However, his innovative contribution to the field of astrophysics would likely never have been possible without Kaggle and the international space agencies. Kaggle played a vital role by providing an incentive platform for non-traditional problem solvers like O'Leary to apply

their own knowledge to the dark matter challenge. Meanwhile, the space agencies provided essential data without which O'Leary's algorithm may never have been possible.

This story points to an often-discussed but rarely examined point about public sector innovation: It seldom occurs in a vacuum. *Rather, innovation focused on addressing societal challenges often requires an ecosystem of actors working together and filling distinct but equally important roles.*

Why roles matter

In the private sector, it's often innovate or perish. No one questions the notion that multiple companies will likely be developing similar products and services simultaneously, as this kind of competition lies at the heart of a free-market economy.

But in the public sector, innovation can be more challenging. Organizations hoping to address societal challenges are often faced with resource limitations and little tolerance on the part of donors, taxpayers, and other constituents for the expenditure of these resources on unproven solutions. Additionally, market forces that can naturally drive innovation in the private sector do not always have the same effect in the public sector. For example, if two government agencies or nonprofit organizations were conducting the exact same research, many would view these efforts as redundant and wasteful. But the sheer number of individuals and organizations focused on public sector challenges can make

Large public sector challenges are often addressed simultaneously by a number of actors in a variety of ways. When launching a new innovation initiative, organizations should consider the appropriate role or roles their effort can fill within the existing ecosystem of actors that are focusing on the same challenge. Then, they should implement a set of strategies specifically aligned to that role or roles.

redundant efforts common, with new entrants struggling to identify ways to add value.

For public sector organizations and others playing in this space, the following important question should be top of mind: *If my organization hopes to launch an innovation initiative that has an impact on a societal challenge, where should it start, and how does it fit in with other actors already focused on the same or similar challenges?*

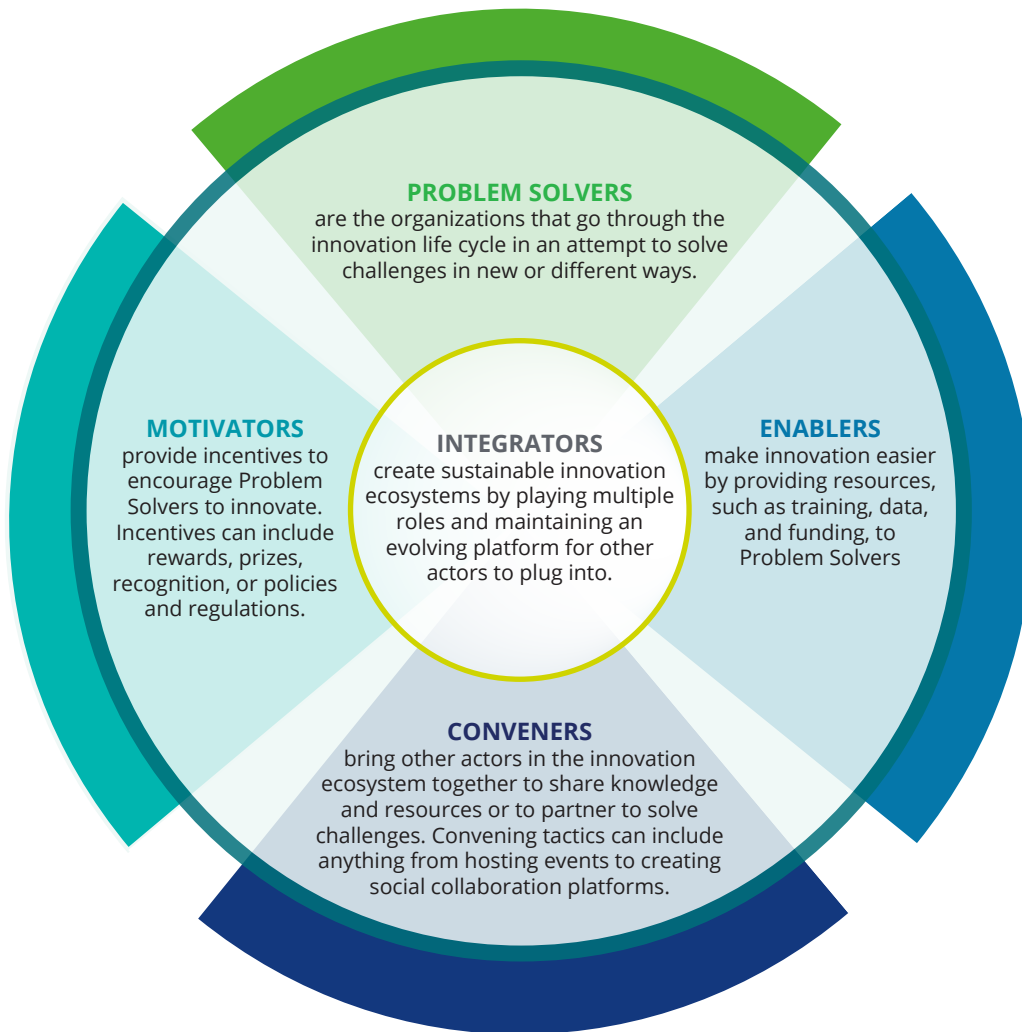
An examination of innovation initiatives in the United States begins to provide an answer to this question. *These initiatives generally involve an organization playing at least one of five key roles in an innovation ecosystem: Problem Solver, Enabler, Motivator, Convener, and/or Integrator.* By understanding which of these five roles to assume when launching an initiative, organizations hoping to support public sector innovation may be able to more effectively deploy their resources, partner with other organizations, and reduce redundancies.

Five roles in public sector innovation initiatives

AN analysis of over 100 prominent innovation initiatives³ focused on societal challenges across the United States confirmed what is already well known: that the definition of “innovation” varies widely from one group to another.⁴

However, if one classifies these initiatives based on what they are actually trying to achieve—that is, if we take the word “innovation” out of the equation—a pattern begins to emerge. Nearly every such effort—regardless of whether they are launched by a

Figure 1. Five roles in public sector innovation



private sector company, a nonprofit organization, a foundation, an individual, or a government agency—involves organizations playing at least one of five key roles:

- Developing innovative solutions
- Giving others tools or resources to make innovation easier
- Creating incentives to spur innovation
- Bringing various actors together to collaborate through the innovation process
- Establishing and/or sustaining the innovation ecosystem as a whole

For purposes of this paper, we will refer to these five roles as *Problem Solver*, *Enabler*, *Motivator*, *Convener*, and *Integrator*.

Multiple roles are often essential to making an innovation effort a success, and each role involves the application of a specific set of strategies and approaches. For example, in the case of mapping dark matter, Kaggle’s platform acted as a Motivator, providing a financial incentive that prompted non-traditional Problem Solvers to get involved. The space agencies acted as Enablers, contributing essential data that enabled O’Leary to develop his innovative solution.

Taking an ecosystem-based approach to innovation can have a dramatic impact in addressing societal challenges. If each actor within an ecosystem understands its appropriate role and engages in the right strategies to fulfill this role, the entire ecosystem can function more effectively. A clear understanding of one’s appropriate role can also serve as a valuable starting point for organizations hoping to launch new innovation initiatives, helping them use resources as efficiently as possible and interact in a complementary manner with other actors.

Finally, an ecosystem-based approach to innovation can help organizations implement strategies to build their capacity to fill needed roles more effectively on an ongoing basis, creating an infrastructure for ongoing innovation success.

Problem Solvers

In 2013, Amber Schleuning, deputy director of the Department of Veterans Affairs (VA) Center for Innovation, was struggling to tackle the many access issues veterans face when attempting to locate services or file claims online. In conjunction with the department’s US digital services team, she interviewed hundreds of veterans and applied human-centered design principles to rethink the way the VA organizes and presents its services to constituents online. The VA’s “Vets.gov” platform, released in 2015, has begun to change the way veterans access services and interact with the department.⁵

PROBLEM SOLVERS

Problem Solvers are the groups or individuals who are most often identified as “innovators.” They are the actors who come up with a solution to a public sector challenge.

Common strategies used by Problem Solvers include:

- Design thinking and human-centered design techniques
- Ideation sessions
- Diverging and converging techniques that combine unlike concepts into solutions
- Scenario planning and futurist techniques that project the potential benefits of new solutions being applied to a specific problem area

Organizations hoping to build their capabilities as Problem Solvers often:

- Establish innovation groups responsible for idea generation, piloting, and incubation
- Use innovation programs to bring in external Problem Solvers
- Establish innovation committees or governance groups to guide solution development

Schleuning's effort is a classic example of a public sector leader employing design thinking to fulfill the Problem Solver role. Problem Solvers are the groups or individuals we most typically think of as "innovators": They are the ones who come up with a solution to a specific challenge. As the actors who create the solutions, Problem Solvers are familiar with the innovation life cycle: coming up with new ideas, selecting the most promising ideas, prototyping them as solutions, and working to scale those solutions to a broader population.⁶

There is a great deal of literature on how to "innovate" as a Problem Solver. From design thinking methodologies to the use of the "Ten Types of Innovation"⁷ to build innovative breakthroughs, Problem Solvers have a variety of tools and methodologies at their disposal. Some Problem Solvers apply scenario planning techniques to envision how innovations could shape the future, while others are adept at divergent and convergent thinking to combine seemingly unlike concepts into new solutions.⁸

Many public sector organizations have acted as Problem Solvers using techniques like these. For example, NASA invented the water filters now used by many municipal water plants, and the global positioning system (GPS) that we now use in our cars was originally developed by the United States' Defense Advanced Research Projects Agency (DARPA) as a means of targeting ballistic warheads.⁹

Problem Solver innovation initiatives do not have to be restricted to a single challenge. It is also possible for an organization to launch an initiative that builds its capability to act as a Problem Solver on an ongoing basis. In some cases, these efforts involve the establishment of groups or labs devoted to developing and piloting innovative solutions directly within the communities where the solutions are developed, such as the Offices of New Urban Mechanics in Boston and the Entrepreneurship in Residence Program in Philadelphia and San Francisco.¹⁰ In other cases, technology platforms that harness Problem Solvers' knowledge, such as the US Transportation Security Administration's IdeaFactory or New York City's Simplicity, can be used to improve overall government efficiency and support idea generation and selection.¹¹

Examples of other organizations that are working to build a sustainable capacity as Problem Solvers include Gateway Cities Innovation Institute, a nonprofit group that supports innovative policies and works collaboratively with local governments to find new solutions to civic challenges, and Los Angeles Civic Innovation Lab, a cross-governmental innovation unit that develops new solutions for the city and forges partnerships to help agencies be more effective Problem Solvers.¹²

But while Problem Solvers are often the most celebrated actors within an innovation ecosystem, they rarely act in isolation. Rather, Problem Solvers are often supported by other actors filling the roles of Enabler, Motivator, Convener, and Integrator.

FEDERAL SPOTLIGHT: LAB@OPM

At the federal level, the US Office of Personnel Management began building on its capacity to serve as a Problem Solver through the establishment of Lab@OPM in 2012. Lab@OPM began as a group of employees who met regularly to tackle the agency's most difficult challenges using human-centered problem-solving methodologies. The creation of this internal organization has had a strong effect on OPM's overall culture; it has been hailed as a success across the government, leading to requests for the Lab@OPM to partner with other agencies. For example, in 2016, the US Department of Agriculture (USDA) sought the Lab's assistance in solving design issues in the USDA's free and reduced-cost lunch program.¹³ The Lab@OPM has become a way for the federal government to tackle innovation head-on. It is an excellent example of the government equipping itself to solve challenges without outside actors.

Enablers

In 2016, the city of Chicago began installing 500 outdoor sensor boxes as part of a new, real-time open data initiative called Array of Things. The city plans to release data on air quality, noise levels, traffic, and other measures to the public, allowing private citizens, companies, and other organizations to develop innovative new analysis tools and applications that improve public health and safety outcomes in the region.¹⁴ This effort is a prime example of a city fulfilling another role in an innovation ecosystem: Enabler.

Enablers make innovation easier—or in some cases possible—by providing other actors with resources that help them innovate. For example, in December 2016, the White House Office of Science and Technology Policy (OSTP), in partnership with the General Services Administration (GSA), launched a Challenges and Prizes Toolkit for federal agencies and employees interested in making greater and more effective use of prize challenges. The toolkit contains a step-by-step guide for the execution of each stage of the prize design process, case studies, lists of mentors, templates, and strategies for overcoming frequently encountered hurdles.¹⁵ With continued support from GSA and a federal community of experts, the toolkit represents an example of the federal government taking on the Enabler role.¹⁶

In other examples of enabling, many cities have rolled out their own innovation incubators. Philadelphia's FastFWD program, for instance, provides direct financial support and 12 weeks of training to aspiring entrepreneurs with ideas for how to address urban challenges. The first 40 entrepreneurs to go through the program have, since May 2014, raised more than \$40 million in private capital for their projects.¹⁷ As another example, in partnership with The Rockefeller Foundation in September 2016, the Boulder, CO-based Unreasonable Institute launched a Future Cities Accelerator that awards \$100,000 in grant funding, plus nine months of intensive mentorship and start-up support, to for-profit and nonprofit organizations with innovative solutions to challenges facing poor and vulnerable urban populations across the United States.¹⁸

ENABLERS

Enablers seek to make innovation easier—or in some cases possible—by providing other actors with necessary resources.

Common Enabler strategies include:

- Training sessions that equip Problem Solvers with new skill sets
- The release of data sets for use in a specific challenge
- Facility-sharing sessions
- One-time investments in new innovation projects

Organizations hoping to build their capabilities as Enablers often:

- Build an infrastructure for technology and web-based projects through Wi-Fi or broadband initiatives
- Launch open data initiatives
- Provide online toolkits to support Problem Solvers
- Establish permanent grant and training programs

As with the other innovation roles, organizations can build their capacity to act as Enablers on an ongoing basis. These efforts may include technology infrastructure projects that make the development of new technology innovations easier, such as city-wide Wi-Fi or broadband initiatives; permanent training programs that potential Problem Solvers can turn to in order to learn needed skills; open data initiatives to drive innovation; and permanent grant programs that offer seed funding to support innovation.

Similar to Chicago, cities such as Houston and New York are building their capacity as Enablers by implementing open data initiatives to provide civic data and performance metrics that Problem Solvers can use in developing new products and services.²¹ Meanwhile, Chattanooga, TN, has developed its own community-owned fiber-optic grid, providing tech-minded entrepreneurs and others with a

FEDERAL SPOTLIGHT: DATA.GOV

In May 2013, President Barack Obama signed an executive order requiring that data generated by the federal government be made available to the public in open, machine-readable formats. The creation of Data.gov, a website where federal data made available by the collecting agencies are aggregated to promote transparency and encourage innovation, reflects a broader movement toward open government data.¹⁹ Individual agencies have since begun to follow suit, with the US Department of Defense rolling out its own open data site, data.mil, in December 2015.²⁰

10-gigabit broadband service that allows them to experiment with datasets and test complex applications that require high-bandwidth connectivity.²² As a result of Chattanooga's enabling infrastructure, innovators such as Branch Technology—named to Inc.com's 2015 "10 Most Disruptive Technology Companies" list for its creation of the world's largest free-form 3D printer—are able to focus their efforts on problem-solving.²³

Motivators

In his September 2009 Strategy for American Innovation initiative, President Barack Obama called on agencies to increase their use of tools such as prizes and challenges to promote innovation.²⁴ Within six months, the Office of Management and Budget issued a memorandum that provided a policy framework to guide agencies in using challenges to stimulate innovation to advance their missions. Soon after, many government agencies responded by launching incentive programs that still flourish today.

President Obama's plea was neither a call for agencies to fill the role of Problem Solver, as they would not be the ones actually developing the innovations, nor a request that agencies act as Enablers, as they would not necessarily provide essential tools or resources to support the innovation process. Rather, the president was asking agencies to fill another role within the innovation ecosystem: **Motivator**.

Motivators provide incentives that encourage Problem Solvers to innovate. Motivators' capacity-building efforts may include the development of competition platforms that allow Problem Solvers to vie for prizes; annual awards that afford recognition for successful innovation; and policies and

regulations that require or reward new approaches to challenges.

Prizes and competitions are perhaps the most visible examples of Motivator tactics. Bloomberg Philanthropies, for example, has served as a Motivator by awarding millions of dollars to Problem Solvers through its Mayors Challenge, a competition designed to encourage American cities to generate innovative ideas that solve uniquely urban problems and improve quality of life.²⁵ Other foundations, including the XPRIZE Foundation and Ashoka Changemakers, have also acted as Motivators by sponsoring prizes and contests.²⁶ Governments

MOTIVATORS

Motivators provide incentives to encourage potential Problem Solvers to innovate.

Common Motivator strategies include:

- Challenges and competitions that award prizes or recognition for new innovations
- The use of games or gamification to encourage participation in problem-solving

Organizations hoping to build their capabilities as Motivators often:

- Establish competition platforms that allow Problem Solvers to vie for funding
- Provide awards that confer status in exchange for successful innovation
- Establish policies and regulations that require or reward new approaches
- Issue social impact bonds that provide financial incentives for demonstrated social impact

FEDERAL SPOTLIGHT: CHALLENGE.GOV

In 2010, the US General Services Administration launched Challenge.gov, a federal online portal for crowd-based challenges. In the years since, Challenge.gov, which has received more than 5 million site visits to date, has become one of the US government's most successful efforts to fulfill the Motivator function on an ongoing basis. More than 100 federal agencies ran 740 challenge competitions on Challenge.gov between September 2010 and February 2017, addressing issues ranging from stopping illegal robocalls to developing 100-mile-per-gallon vehicles. Collectively, these competitions awarded \$250 million in prizes during this period. Challenge.gov's success has not gone unnoticed: Within four years of its launch, it was selected from more than 600 applicants as a winner of Harvard's Innovations in American Government Award.²⁷

have also adopted this tactic: Sacramento's 2016 RAILS (Rapid Acceleration, Innovation, and Leadership in Sacramento) program awarded up to \$1 million in grants to local organizations and companies that produced the most innovative and highest-impact new products and services.²⁸

The city of Boston has taken a different approach to spurring social innovation by turning innovation into entertainment. Boston citizens can use StreetCred, an app that aims to gamify civic engagement, to gather information necessary to solve citizen-identified problems. A point system encourages Bostonians to complete a range of actions, from reporting potholes to sharing civic accomplishments on Instagram, that help the city address urban issues. Completing a series of missions earns users virtual coins with which they can vote on actual grants to community groups.²⁹

Yet another Motivator tactic can be the use of social impact bonds: contracts between the public sector, a social service provider, and often a private sector entity. In this type of agreement, the private sector entity is incentivized to finance social interventions by the public actor's commitment to pay for improved social outcomes. Recently, firms like Goldman Sachs have aimed to reduce prisoner recidivism through the use of social impact bonds.³⁰

Conveners

On June 4, 2016, the White House hosted the fourth annual National Day of Civic Hacking, which brought together thousands of citizens, software developers, and entrepreneurs from across the United States to participate in more than 100

virtual and in-person hackathons where they could collaboratively design new solutions to civic challenges.³¹ By connecting civic-minded individuals with diverse skill sets, varied technical backgrounds, and a common interest in solving problems using public data, the 2016 National Day of Civic Hacking spawned new applications and data visualization tools that addressed issues ranging from affordable housing and prisoner recidivism to detecting Zika virus and increasing access to work visas.³²

Events such as hackathons are one approach taken by a fourth type of innovator: Convener. Conveners bring actors in the innovation ecosystem together,

CONVENERS

Conveners bring actors in the innovation ecosystem together to share knowledge and resources or to partner to innovate.

Common Convener strategies include:

- Organizing conferences, "un-conferences," hackathons, and other events that bring diverse parties together
- Using wikis or crowdsourcing tools to leverage broad-based knowledge and skills to solve a problem

Organizations hoping to build their capabilities as Conveners often:

- Develop social collaboration and crowdsourcing platforms that allow innovators to share knowledge and exchange ideas
- Establish physical spaces that bring other innovators together

FEDERAL SPOTLIGHT: WHITE HOUSE CANCER MOONSHOT SUMMIT

In addition to connecting disparate groups, Conveners can afford actors a level of visibility to an issue that serves as an additional catalyst for innovation. The June 2016 White House Cancer Moonshot Summit brought together more than 350 researchers, scientists, advocates, and data and technology experts to facilitate and encourage additional investment and improved policymaking for the prevention, diagnosis, and treatment of cancer. The highly publicized event resulted in dozens of new research, data-sharing, and investment commitments from organizations aiming to make breakthrough strides in cancer patient access and care.³⁹

either virtually or in-person, to share knowledge and resources or to partner to innovate.

Countless examples exist of the power of Convener initiatives to aid innovation. A 2016 snowstorm in Seattle inspired the city to set up its Let it Snow Hackathon, which encouraged citizens to use their combined skill sets to devise better storm communication tools using open-source data.³³ Another city, Philadelphia, partnered with Code for America to host a civic hackathon, Apps for Philly Transit, which gave participants the opportunity to conceive, design, and prototype uses of open data.³⁴ Both hackathons exemplify how an organization can play the Convener role within an innovation ecosystem, bringing together groups and individuals that otherwise would have remained dispersed.

Organizations can build their capacity to act as a Convener by creating social and professional networking sites, crowdsourcing platforms, and other physical and virtual spaces that bring innovators together to share knowledge and skills in the service of innovation. In Boston, for instance, the Innovation District Hall serves as a physical space that gives individuals and organizations the opportunity to convene and share knowledge.³⁵ Chicago's FoodBorne app provides a virtual platform for individuals to report food-borne illness, giving local residents the ability to collaborate with the city's Department of Public Health in an effort to safeguard citizens' health and root out food safety code violators.³⁶

Universities can be particularly effective Conveners due to their access to broad networks of intellectually and technically diverse actors and their ability to provide a neutral platform for engagement. MIT's Solve initiative, for instance, acts as a

convening platform that crowdsources solutions to challenges related to education, carbon emission, and chronic disease. It connects individuals with promising ideas with valuable enabling resources, such as MIT's network of academic and industry advisors, so that they may test, pilot, and implement their solutions.³⁷

The growing trend of creating coworking spaces further highlights the value of the Convener role, with companies such as WeWork, Hub, ImpactHub, and Cove increasingly cropping up near epicenters of innovation. In addition to providing enabling resources, these organizations provide professional convening spaces, affording innovators access to a wide variety of skills and experience. The ability to work together, bounce around ideas, and build on shared knowledge within these environments can allow entrepreneurs to get their new businesses up and running more quickly than would have otherwise been possible.³⁸

Integrators

A vital component of a true innovation ecosystem, the Integrator is a fifth, hybrid role that serves to align actors in the other four roles and enhance the effectiveness of the ecosystem as a whole.

Integrators help articulate the innovation ecosystem's goals and create processes and platforms that allow the ecosystem's other actors to work effectively together on an ongoing basis. Integrators should not be confused with Conveners: While Conveners serve as hosts, Integrators identify different actors who can partner with each other, make connections between them, and examine and select the right tools to create value among the ecosystem's various members.

Integrators usually begin by playing one of the other four roles and evolve into Integrators as they take steps to identify other actors, develop platforms, conduct ongoing analyses and activities to keep the ecosystem running, and help other participants partner effectively. South by Southwest (SXSW), for example, began as a Convener, but its brand and the community it has formed are so strong that it now also serves as an Integrator by reaching out to potential partnering organizations and bringing them together for various activities. Similarly, the City of Chicago's Data Portal, which originally provided a limited number of open-access data files that others could use to develop innovations for the city, now provides code-sharing opportunities, hacking groups, proactive app requests, and feedback on new and useful data sets to augment the site's functionality.⁴⁰ With this expansion of functionality, the site (and the organization running it) has morphed from an Enabler, offering resources to Problem Solvers seeking to address discrete challenges, into an Integrator that supports the ongoing community and attracts and enables a range of actors that produce innovations for the city.

Private sector organizations may also act as Integrators. Unilever, for instance, took on the Integrator role when it worked to generate new business in rural India by increasing handwashing

Figure 2. Unilever's innovation ecosystem around rural Indian sanitation



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while also reducing the country's 1.5 million annual child deaths from diarrhea. By engaging schools, nonprofits, microfinance institutions, and unemployed women, Unilever positioned itself at the center of the ecosystem of actors, bringing the right combination of participants together to solve this social challenge.⁴¹

FEDERAL SPOTLIGHT: HEALTH AND HUMAN SERVICES IDEA LAB

The US Health and Human Services (HHS) Agency established its IDEA (Innovation, Design, Entrepreneurship, Action) Lab in 2013 to promote innovation across the 90,000-person department. Historically, HHS has operated as a traditional Problem Solver, with deep roots in science and technology. However, since the establishment of the IDEA Lab, HHS has externalized its innovation efforts to create an ecosystem that attracts actors from both inside and outside the organization to act as Enablers, Conveners, Motivators, and other Problem Solvers. The IDEA Lab has provided Problem Solvers with health data resources (as an Enabler), hosted Innovation Days (as a Convener), and conducted over 140 open innovation prize competitions (by finding internal and external Motivators). While it does not serve in all of these roles itself, HHS has acted as an Integrator by identifying relevant actors and making connections between them in a manner that is sustainable and supports the organization's mission. In one case, a logistics expert from a major package delivery company was brought in to develop and deploy an electronic tracking system for the nation's organ procurement and transplantation process, which was previously entirely paper-based.⁴²

Selecting the right strategies for your innovation initiative

Which role(s) should you pursue?

Understanding the five innovation roles and how they fit together and complement one another can be essential for driving innovation across an ecosystem. Launching the wrong type of initiative can lead to redundant efforts, unnecessary costs, and missed opportunities to support actors that are better positioned as Problem Solvers or in other roles.

Organizations that can benefit from taking an ecosystem view of their innovation activities generally fall into one of two broad categories:

1. Organizations with established impact models. Some organizations already have a clearly defined role or set of roles they play when attempting to drive innovation. The XPRIZE Foundation, for example, is likely never going to give up its role as a Motivator that runs prize challenges. Similarly, Code Academy, an online platform offering free coding classes, is fundamentally an Enabler, equipping individuals with the skills to develop innovative solutions through programming. But while such organizations are unlikely to change their core impact model, they can still benefit from understanding the role they play and working to be more effective in filling that role. In a political environment in which lean operations and partnerships with the private sector are valued, government and nonprofit organizations in particular could benefit from understanding how to engage different types of actors in the right ways. For example, by understanding commonly used partnership strategies between actors, a Motivator might realize that more value can be created for the ecosystem if it teams with an Enabler to launch

an open data challenge rather than attempting to launch an effort independently. Similarly, a Convener may see immediate results by partnering with an Enabler to provide both a physical space as well as the necessary data and tools to run a hackathon.

2. Organizations looking for ways to make the greatest impact with their initiative's launch. Start-up nonprofits and socially focused organizations, new government programs, and organizations looking to shift their impact model can also benefit from taking an ecosystem view of their innovation activities. For these groups, an analysis of the actors already present in the ecosystem can help guide the type of initiative that could have the greatest impact, filling existing gaps and giving Problem Solvers the greatest likelihood of success (or in some cases helping to scale proven solutions more broadly). For example, if Problem Solvers are already attempting to solve a societal challenge but have been unsuccessful, perhaps they are lacking some key resource or piece of data. The new initiative could then focus on providing that resource, acting as an Enabler rather than launching an effort that is redundant with efforts already underway by other actors.

Both of these types of organizations can benefit from conducting a careful analysis of the ecosystem surrounding a specific public sector challenge, and then adopting the right role or combination of roles to maximize the value that the ecosystem produces.

The five innovation roles described in this report are by no means mutually exclusive. In many cases, organizations may choose to launch initiatives that fill multiple roles simultaneously. For example, it is common for think tanks to conduct research and

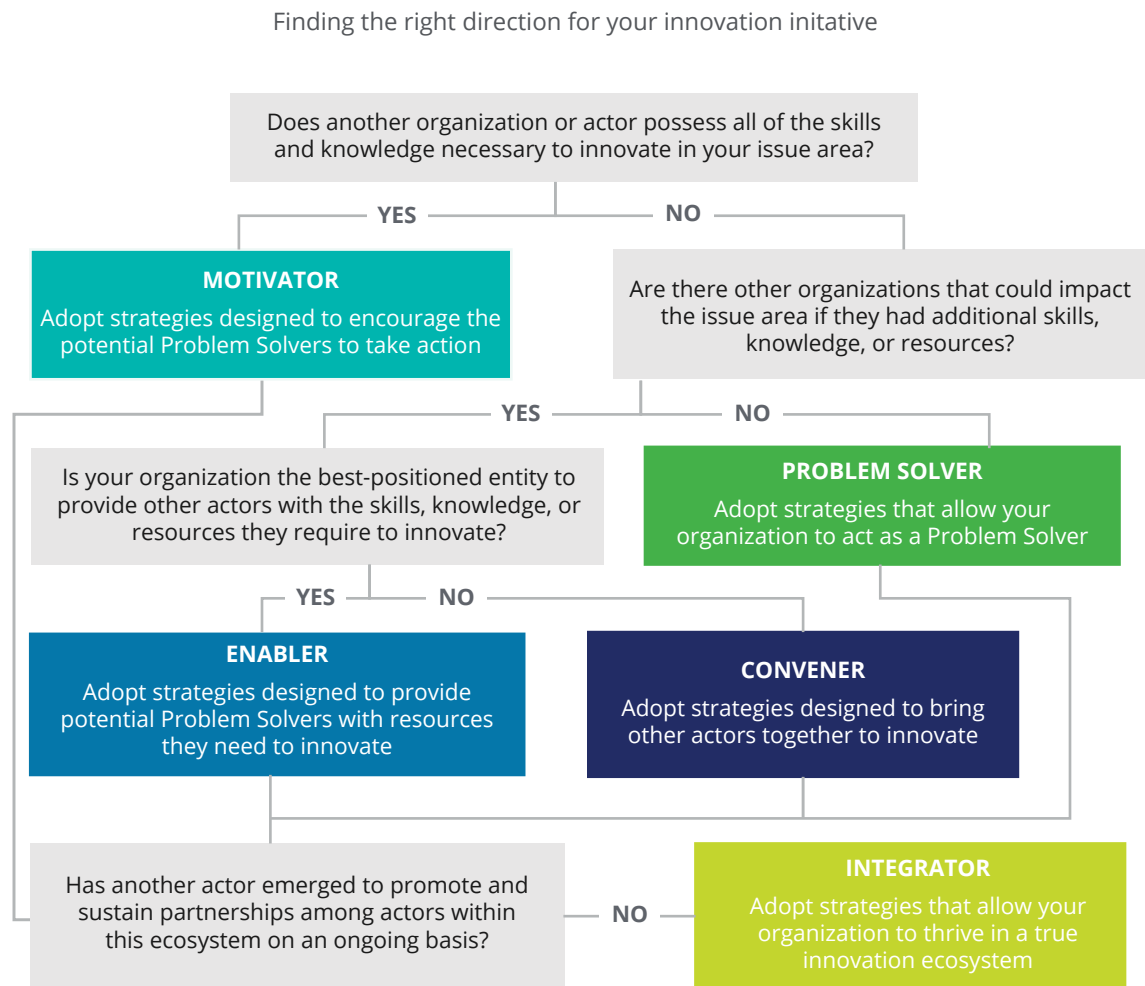
then hold a conference to release it to interested parties. This type of effort can simultaneously be considered both an Enabler and a Convener initiative, as it provides Problem Solvers with new and valuable information while also bringing together actors that might work together in using this information. Similarly, city governments that release data and then offer a reward to citizens who use it to develop a new mobile application are simultaneously serving in an Enabler and Motivator role, providing both essential data and an incentive.

The following questions can serve as a starting point for organizations seeking to identify the type of innovation effort that can allow them to take on the most impactful role(s) based on the actors

already present in an ecosystem. These questions, illustrated in figure 3, are also the types of questions that a strong Integrator will ask at the outset of an innovation effort to pull the various actors within an ecosystem together to tackle a societal challenge.

1. **Which other actors have the potential to impact the societal challenge(s) my organization cares about?** When selecting the right type of innovation initiative to launch, it is often critical to identify the other actors within an innovation ecosystem that are working to address the same or similar goals as one’s own organization. These other actors could include parties that have extensive knowledge/experience with either the same challenge or in the

Figure 3. Innovation initiative decision tree



same sector, those that have made an impact on a different challenge through an approach or solution that could be relevant in achieving the current innovation goal, or those that have similar innovation goals. Such parties may include individuals, corporations, social enterprises, nonprofit organizations, foundations, and government institutions; therefore, it is important for an organization to look beyond the actors that are most similar to itself.

2. **Do any of the identified actors already possess the skills and knowledge necessary to innovate in the issue area(s) my organization cares about?** Some organizations may be naturally positioned to be Problem Solvers due to their skill sets and knowledge—but, for some reason, are not currently acting in this capacity. If actors with the capabilities to make an impact on a given societal challenge are simply not applying those capabilities, launching a Motivator initiative may have the greatest impact.
3. **Would any of the identified actors be positioned to impact the issue area(s) my organization cares about if they had additional skills, resources, or knowledge?** Even if another actor is not ideally positioned to innovate, taking on the Problem Solver role may still be its best option if the only thing it lacks is a specific skill set, resource, or dataset. If this is the case, then an Enabler or Convener may be needed to equip the other actor with what it needs to innovate. If no such actor exists, then it is likely that few other actors are considering the issue area that matters to your organization, and your organization may be best served by launching an initiative focused on becoming a Problem Solver.
4. **Is my organization the best entity to equip other actors with what they need to**

innovate? In other words, does your organization have the data, skill sets, tools, expertise, or funding that other actors need to innovate successfully? Or is there another entity that can give the potential Problem Solver what it needs? If your organization is indeed the best positioned to provide these resources, this may suggest that your organization could make the greatest impact by launching an Enabler initiative. On the other hand, if another organization is better prepared to provide resources, then your organization should look to play a Convener role by bringing the other actors together.

5. **Has another actor emerged that focuses on establishing and sustaining the ecosystem as a whole?** If not, your organization should consider whether it would best serve the long-term needs of the ecosystem by serving as an Integrator.
6. **Is my organization focused on a specific one-time effort, or is it seeking to build its capacity to support innovation on an ongoing basis?** An organization can fill an innovation role as a one-time initiative—or it can engage in capacity-building efforts that allow it to fill that role on an ongoing basis. Once your organization has identified the appropriate type of initiative to launch, it should determine whether the specific strategies it employs are one-time efforts or intended to build long-term capabilities.

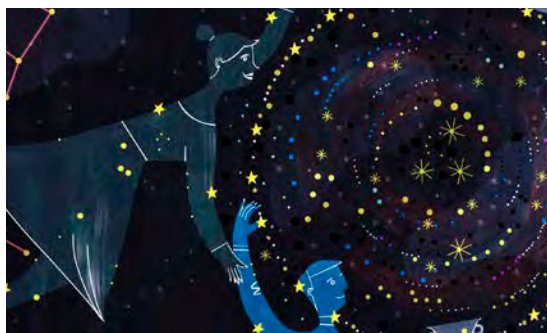
The five innovation roles described in this paper can serve as a compass of sorts, helping an organization define the direction its innovation initiative should take. By understanding which role or roles it can most effectively fill, and by working to strengthen its capabilities around this role or roles, an organization can play an important part in solving societal challenges more quickly, economically, and effectively as part of a productive innovation ecosystem.

Leading practices for creating and sustaining an innovation ecosystem

U P to this point, this report has focused on particular roles organizations can play within an innovation ecosystem, without specifically elaborating on how to establish a strong ecosystem that can function effectively in the first place. But to have a truly meaningful impact in the long run, it is important that leading actors in the ecosystem be prepared to think beyond excelling in their own role to look at the ecosystem's demands as a whole.

Evolution is expected

Ecosystems should evolve to adapt to their changing environments. Successful Integrators are able to withstand constant expected and unexpected change. For instance, even in its early years, SXSW, which began as a music festival,⁴³ focused on developing a refined yet inclusive platform for the conference that could evolve over time and attract art forms beyond music. As technology in the arts continued to break ground, the incorporation of diverse topics and tracks turned SXSW into a destination for technology, film, interactive media, and innovation as well as music. Today, SXSW brings together



over 70,000 individuals each year to share their knowledge and build their networks in the service of advancement and innovation within media and the arts.⁴⁴

A clear mission is critical to attract additional ecosystem participants

A true innovation ecosystem approach typically includes a clearly articulated mission that attracts more actors and additional resources into the community. Harvard Kennedy School's Innovation in American Government Awards, for instance, were specifically established to recognize and award public sector innovation. Since 1985, the award has received additional funding, attracted 27,000 applications, and named over 500 winners. The award website highlights case studies to showcase learnings, and it added a new section in 2010 to encourage community problem-solving among peers. As a result of having a clear mission, the Innovation in American Government Awards have attracted additional funding and transformed from being a simple recognition platform to becoming an enabling and integrating resource for actors across the thriving public sector ecosystem.⁴⁵

Prioritize a thriving community of innovation over individual initiative success

Established in 1958, DARPA continues to be at the forefront of groundbreaking and transformative

ideas.⁴⁶ How is this agency able to continue to attract funding and teams from wide-ranging backgrounds to engage in short-term, highly impactful projects? DARPA focuses on and embraces innovation, including the many failures that accompany it. Its focus is not on producing successful outcomes each time; the many actors within DARPA understand that to succeed in innovation, failure should also be accepted. This blend of focused attention on a single project with short-term timelines, coupled with a culture of experimentation that holds that both success and failure can lead to learning and

are acceptable outcomes, continues to create long-term success.

Whatever role an organization chooses to play, viewing public sector innovation through an ecosystem lens can be a fruitful way to encourage sustainable innovation efforts among disparate but connected actors. It can empower them to determine which initiatives would likely be most effective at any particular time and allow them to interact with other ecosystem players in a productive and coordinated fashion.

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ABOUT THE AUTHORS

Alan J. Holden

Alan J. Holden has more than a decade of experience working at the intersection of strategy and innovation. He is currently a manager in Deloitte Consulting LLP's Federal practice, where his work focuses on helping public sector organizations envision how emerging technologies and business models can be used to transform their operations. An experienced facilitator, public speaker, and entrepreneur, Holden holds an MBA in innovation management from the Wharton School, as well as a master's in public policy from Carnegie Mellon University and a BA from Duke University. Connect with him on LinkedIn at <https://www.linkedin.com/in/alan-holden-b836054/> or follow him on Twitter @AlanJHolden.

Sonora D. Braun

Sonora D. Braun, of Deloitte Consulting LLP, has four years of public sector consulting experience in the customer strategy, digital, and supply chain spaces, helping clients take an integrated approach to their operations from the standpoint of the customer. She became a consultant strategy fellow in early 2016 and focuses on growing Deloitte's design thinking and innovation initiatives. Braun graduated from the University of Virginia in 2013 with degrees in foreign affairs and Spanish, with a thesis concentrating on political ecosystems. Connect with her on LinkedIn at <https://www.linkedin.com/in/sonora-braun-b5273a88/>.

Lilian I. Lee

Lilian I. Lee is a senior consultant in Deloitte Consulting LLP's Federal practice. She helps public sector organizations develop strategies and build partnerships for achieving their missions. Prior to joining Deloitte, she worked in strategic communications and human rights in East and Southeast Asia. Lee holds an MS in foreign service (MSFS) from Georgetown University and a BA in English from UCLA. Connect with her on LinkedIn at <https://www.linkedin.com/in/lilian-lee-1a27016/>.

Abigail W. Phelps

Abigail W. Phelps has over 10 years of experience in the public and private sectors focused on solving client challenges in complex ecosystems. She holds a BA from Bates College in English literature and an MBA from MIT Sloan, and has experience in multiple industries including energy, financial services, high-tech, nonprofit, and federal markets. Connect with her on LinkedIn at www.linkedin.com/in/abigailphelps.

Rachel I. Samuelson

Rachel I. Samuelson is a senior consultant with Deloitte Consulting LLP's Federal practice. She helps public sector and nonprofit clients align their operational strategies with their vision for change and adopt design-centric approaches to policy formation, programming, and stakeholder engagement. With an MBA from Georgetown University and a BA in economics and international relations from Bucknell University, Samuelson brings deep experience to her clients' efforts at the intersection of innovation, partnership-building, and organizational change. Connect with her on LinkedIn at <https://www.linkedin.com/in/rachelsamuelson>.

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CONTACTS

R. J. Krawiec

Principal
Deloitte Consulting LLP
+1 860 572 9432
rkrawiec@deloitte.com

William D. Eggers

Executive director
Deloitte Center for Government Insights
Deloitte Services LP
+1 571 882 6585
weggers@deloitte.com

W. Bruce Chew

Federal government research leader
Managing director
Monitor Deloitte
Deloitte Consulting LLP
+1 617 437 3526
brchew@deloitte.com

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**National Council of State Housing Agencies
2019 Executive Directors Workshop
Executive Directors Forum
Wednesday | July 17
8:30 a.m. – 11:30 a.m.
The Porter Portland
Rose City Ballroom | Second Floor**

Discussion Leader: NCSHA Board Chair Tia Boatman Patterson
Executive Director | California Housing Finance Agency

AGENDA

NCSHA Updates

- Strategic Planning
- Executive Director Working Groups
- Meetings
- Annual Awards

Policy and Government Affairs Issues

- Affordable Housing Credit Improvement Act
- Bond Cap challenges and solutions
- Disaster relief
- FHA Risk-Sharing issues
- FY 2020 Appropriations
- Housing finance reform
- HUD's proposed rule on "mixed status" families
- HUD's proposed changes to the Equal Access Rule
- IRS Housing Credit compliance monitoring regs
- Neighborhood Homes Investment Act
- Opportunity Zones
- Performance-based contract administration issues
- Qualified contracts

General Information



The Porter Portland
1355 SW Second Avenue
Portland, OR 97201
503-306-4800

Perfectly located in one of America's most walkable cities is The Porter Portland. Rising 16 stories above the thriving Fountain District, the hotel is steps from premier shops, popular restaurants, and fascinating attractions. The MAX Light Rail station is a quick stroll away, ideal for any travels to Greater Portland.

The attractive guest rooms successfully combine rustic, urban, and modern design elements, with complimentary WiFi, a 50-inch TV, mini-fridge, a coffeemaker with local teas and coffees, and cozy extras like plush robes and slippers.

The Porter's restaurants blend indulgence with Portland's love for the outdoors. Foodies will crave Terrane Italian Kitchen + Bar for soulful Italian-inspired American food served all day. Grab gourmet pizza at the Chiosco take-out window or stop by The Portland Exchange for custom picnic baskets for a unique day in the city. Don't miss Xport, the rooftop restaurant and lounge, featuring outdoor dining decks and sweeping views of the mountains.

Book an appointment at Meditation Spa or take a refreshing dip in the heated indoor pool. The fitness center is always open, offering classes in meditation, yoga, and aqua aerobics.



NCSHA Executive Directors Workshop

General Information

Weather and Attire

In July, average temperatures typically range from the low 80s during the day to mid 50s in the evenings. Since meeting room temperatures may vary, we recommend you bring a sweater or jacket. Business casual attire is appropriate for all conference activities.

Getting There

The Porter Portland is 11 miles from Portland International Airport (PDX). Visit www.flypdx.com for airline and airport information.

Transportation between PDX and The Porter Portland is available via taxi and shuttle. Taxi fares range from \$50–60 from PDX, and shuttle fares range from \$40–75; rates vary based on travel time and are subject to change. Visit www.flypdx.com/GroundTransportation for a list of shuttle services.

The hotel offers valet parking for \$45/day. Space is limited and available on a first-come, first-served basis. Self-parking is not available. Refer to the following page for additional parking options nearby.

The Porter is accessible via Portland's MAX Light Rail Service. Board the Red Line at the airport terminal (just outside of Baggage Claim) and take it to the SW 5th and Morrison/Pioneer Place Mall stop. Cross the street to pick up the Orange or Green Southbound MAX and ride one stop to City Hall at SW 5th and Jefferson streets. Disembark and walk three blocks east (downhill) on Jefferson Street to The Porter.

Fares begin at \$2.50 for adults and \$1.25 for children and seniors. Visit MAX Light Rail Service's website for more information at <https://trimet.org/max/>.





[The Porter Hotel](#) Valet Parking – 1355 SW Second Avenue, Portland OR 97201

\$15 - *Event Parking*

\$45 - *Overnight Parking*

[SmartPark](#) - 123 SW Jefferson St, Portland, OR 97201

\$7.40 - *4 Hour Parking*

\$16 - *All Day Parking*

[City Center Parking](#) - 1400 SW 4th Avenue, Portland OR 97201

\$5 - *Per Hour*

\$15 - *All Day Parking*

[City Center Parking – Koin Tower](#) 222 SW Columbia Street, Portland OR 97201

\$6 - *Per Hour*

\$18 - *All Day Parking*

Street Parking

\$2 - *Per Hour*

Two hour maximum parking – [Parking Kitty](#) is Portland's Digital Payment App

PORTLAND HISTORY & TRIVIA

At a Glance

Just the Facts



POPULATION

601,510 (PSU Population Research center, 2014); 2.35 million in the Portland metropolitan area (U.S. Census Population Estimates, 2014)

AREA 145 square miles (376 square kilometers)



ELEVATION Average height of 173 feet above sea level (52.5 m)



TIME ZONE
Pacific

AVERAGE RAINFALL

42.85 INCHES (95.25 CM) — LESS THAN ATLANTA, HOUSTON, NEW YORK OR VANCOUVER, B.C. — AND WITHOUT THE HUMIDITY



AVERAGE TEMPERATURES

January — 42.6 F (5.9 C)
July — 68.3 F (20.2 C)

The Portland Police Department hired **THE NATION'S FIRST POLICEWOMAN, LOLA BALDWIN**, in 1908.



THE CITY OF PORTLAND WAS OFFICIALLY INCORPORATED ON FEB. 8, 1851.

More **ASIAN ELEPHANTS** (28 to date) have been born in Portland than in any other North American city.



Portland is home to **VOODOO DOUGHNUT**, a 24-hour doughnut shop that offers — in addition to a crazy selection of doughnuts — legal wedding ceremonies. It also boasts the Guinness Book of World Records' title for **"WORLD'S LARGEST BOX OF DOUGHNUTS."**



History



PORTLAND WAS ALMOST NAMED BOSTON. City founders Asa Lovejoy, who hailed from Boston, Mass., and Francis Pettygrove, of Portland, Maine, were each determined to name the new city after their respective hometowns. Unable to settle the argument, they decided to flip a coin, now known as the **"PORTLAND PENNY"** and on display at the Oregon Historical Society. Pettygrove won on two out of three tosses.

PORTLAND'S NICKNAMES INCLUDE CITY OF ROSES, STUMPTOWN, BRIDGETOWN AND BEERVANA.



Portland's **HAWTHORNE BRIDGE** is the oldest vertical-lift bridge in the country; it turned 100 in 2010. The nearby Steel Bridge celebrated its 100th anniversary in 2012.

Off Beat

Portland is home to the world's smallest dedicated park: **MILL ENDS PARK**, a mere 24 inches (61 cm) across. There are 37,000 acres (14,973 ha) of parks in the Portland metro area.

OREGON IS ONE OF ONLY FIVE U.S. STATES WITH NO SALES TAX — MAKING PORTLAND THE LARGEST CITY IN THE COUNTRY WITH TAX-FREE SHOPPING.



DARCELLE XV and Company is the **LONGEST RUNNING DRAG CLUB IN THE UNITED STATES** — since 1967.

Oregon is one of just two states in which residents — and visitors — **ENJOY THE LUXURY OF ALWAYS HAVING THEIR GAS PUMPED FOR THEM.** It's the law!

The Clinton Street Theater doesn't just dream — they've shown **"THE ROCKY HORROR PICTURE"** (almost) every Saturday night since April 1978, only taking off holidays.

Get Social

TAG YOUR POSTS
#PDXNOW

TWITTER: @TravelPortland,
@PRinPDX

INSTAGRAM:
@TravelPortland



ROAD CONDITIONS

Oregon Department of Transportation 800.977.6368



AIRPORT

Portland International Airport (PDX)



TRANSIT

Amtrak
MAX light rail system
Portland Streetcar
TriMet bus system



MILES TO OCEAN

78 (125 km)



MILES TO A GLACIER

62 to the Palmer Glacier on Mount Hood (100 km)



NEWSPAPERS

The Oregonian
The Portland Tribune
Asian Reporter
El Hispanic News
The Skanner
Portland Business Journal
Portland Mercury
Willamette Week

Workshop Activities

The Hospitality Suite

The NCSHA Hospitality Suite is located in the Presidential Suite, Room 1423, on the 14th Floor of the hotel. The Hospitality Suite is an exclusive area for all Workshop attendees and guests to relax in an informal setting.

Hospitality Suite Hours: Sunday, Monday, Tuesday | 2:00 p.m. to 11:00 p.m.

The Suite is closed during NCSHA-scheduled events.

Sunday Evening Meet and Greet

NCSHA hosts an informal Meet & Greet for all Workshop attendees and guests on Sunday, July 14, from 5:30 p.m. to 7:00 p.m. The reception will take place on the Pendleton Patio, located on the second floor. Come as you are from travel or afternoon activities.

Small Group Breakout Sessions

Networking opportunities are plentiful during the Executive Directors Workshop. The small group breakout sessions are unstructured time on Monday and Tuesday afternoons for you to plan your own activities and network with your executive director peers. See the destination guide at Tab G for a plethora of recommendations by the host state agency staff of Oregon Housing & Community Services.

Monday Evening Reception

NCSHA hosts a casual reception at the xport North Deck on the 16th Floor of the hotel on Monday, July 15, from 6:00 p.m. to 7:30 p.m. Enjoy drinks and light fare before heading off to dinner on your own. See a few dining recommendations from Oregon Housing & Community Services at Tab G.

Tuesday Evening Reception and Dinner

On Tuesday, July 16, NCSHA hosts a reception and dinner on Founders Veranda, on the hotel's second floor, from 6:00 p.m. to 8:30 p.m.



NCSHA Executive Directors Workshop

PORTLAND

— OREGON —



Destination Guide

Recommendations from
Oregon Housing & Community Services

Interesting Streets & Neighborhoods

Links below provide more details about each area.

Alberta Arts District

<https://www.travelportland.com/collection/alberta-arts-district/>

Mix of artsy local shops and bars; accessible by car

NW 23rd Avenue | Northwest Portland/Nob Hill

<https://www.travelportland.com/collection/northwest-portland-nob-hill/>

Neighborhood for strolling, shopping, and dining at local small businesses; accessible via the Portland streetcar

Pearl District

<https://www.travelportland.com/collection/pearl-district/>

Fashionable district with boutiques, restaurants, and craft breweries

SE Hawthorne Boulevard

<https://www.travelportland.com/collection/hawthorne/>

A quintessential Portland street filled with hippie and punk culture

Shopping

Powell's City of Books

1005 W Burnside Street

Portland, OR 97209

Daily | 9:00 AM – 11:00 PM

<https://www.powells.com/>

World's largest independent bookstore



Saturday Market

2 SW Naito Parkway

Portland, OR 97204

Saturday 10:00 AM – 5:00 PM | Sunday 11:00 AM – 4:30 PM

<https://www.portlandsaturdaymarket.com/>

Outdoor crafts and food market on the Portland waterfront; MAX light rail stops here

Blue Star Donuts

1155 SW Morrison Street, #102

Portland, OR 97205

Daily | 7:00 AM – 7:00 PM

<https://www.bluestardonuts.com/>

Local upscale donut chain

Salt & Straw

838 NW 23rd Avenue

Portland, OR 97210

Daily | 10:00 AM – 11:00 PM

<https://saltandstraw.com/>

Creative ice cream shop

Sweet Treats

VooDoo Doughnuts

22 SW 3rd Avenue

Portland, OR 97204

Open 24/7

<https://www.voodoo doughnut.com/>

Portland is the home of this gourmet donut chain.

Eastbank Esplanade-Waterfront Park Loop Hike

SE Water Avenue and Hawthorne Boulevard
Loop along both sides of the Willamette River with options to rent bikes. Shorter loop is a 40-minute walk.

International Rose Test Garden

400 SW Kingston Avenue
Portland, OR 97205
Daily | 7:30 AM – 9:00 PM
<http://explorewashingtonpark.org/international-rose-test-garden#>
Inside Washington Park, a 410-acre recreation area featuring green space, an arboretum, Japanese Tea Garden, zoo, views of the city and relaxing floral landscapes

Lan Su Chinese Garden

239 NW Everett Street
Portland, OR 97209
Daily | 10:00 AM – 6:00 PM
<https://lansugarden.org/>
A tranquil botanical garden located inside Chinatown, in downtown Portland

Mount Tabor Park

6220 SE Salmon Street
Portland, OR 97215
Daily | 5:00 AM – 12:00 AM
<https://www.portlandoregon.gov/bes/60284>
Urban park on an inactive volcano, with nature trails, areas to picnic, and a great view of the city



Recreation

Day Trips

Columbia River Gorge

Hood River, OR 97031

Home of Multnomah Falls. On the way, you'll see orchards, wineries, and small Northwestern towns. One such town, Hood River – a small town nestled on the waterfront – spotlights the beauty of the area and promises a fun-filled day of outdoor activities, food, and art.

McMenamin's Edgefield Hotel

2126 SW Halsey Street

Troutdale, OR 97060

<https://www.mcmenamins.com/edgefield>

Historic destination resort

Mount Hood

Clackamas/Hood River, OR

Stratovolcano with hiking and camping area

Oregon Coast

1.5 hours from downtown Portland, see historic towns and beaches along the coast

Oxbow Park

3010 SE Oxbow Parkway

Gresham, OR 97080

Daily | 6:30 AM – 6:00 PM

<https://www.oregonmetro.gov/parks/oxbow-regional-park>

Outside of Portland with hiking trails, rafting, and fishing on the Sandy River

Tillamook Creamery

4165 N Highway 101

Tillamook, OR 97141

Daily | 8:00 AM – 6:00 PM

<https://www.tillamook.com/>

Timberline Lodge

27500 E Timberline Road

Government Camp, OR 97028

7:30 AM – 9:00 PM

<http://www.timberlinelodge.com/>

Lodge with links to the film "The Shining".

Vista House

40700 Historic Columbia River Highway

Corbett, OR 97019

<http://www.vistahouse.com/>

Museum and memorial to Oregon pioneers.



Wineries

Willamette Valley Wine Country

Home to some of the best Pinot Noirs in the world, the Willamette Valley has numerous wineries and vineyards that are an easy drive from Portland. Two of Oregon HCS staff favorites are listed below.

For more information, visit Willamette Valley Wine:

<https://willamettewines.com/>

Located in the heart of Willamette Valley, and only 40 miles southwest of Portland, McMinnville offers easy access to an afternoon of wine tasting, lunch, and shopping. For more information, visit:

<https://visitmcminnville.com/>



King Estate Winery

80854 Territorial Highway
Eugene, OR 97405

Monday – Thursday | 11:00 AM – 8:00 PM

Friday | 11:00 AM – 9:00 PM

Saturday | 10:00 AM – 9:00 PM

Sunday | 10:00 AM – 8:00 PM

<https://www.kingestate.com/>

Sokol Blosser Winery

5000 Sokol Blosser Lane
Dayton, OR 97114

Daily | 10:00 AM – 4:00 PM

<https://sokolblosser.com/>

Reservations recommended

Restaurants

Portland has a vibrant dining scene, with options catering to every taste. The restaurants on this page are a short list of Oregon HCS staff favorites.

The city is also known for its wide array of food trucks: <https://www.travelportland.com/article/food-cart-pods/>

Andina

1314 NW Glisan Street
Portland, OR 97209
Sunday – Thursday
11:30 AM – 2:30 PM & 4:00 PM – 9:30 PM
Friday & Saturday
11:30 AM – 2:30 PM & 4:00 PM – 10:30 PM
<http://www.andinarestaurant.com/>
Upscale Peruvian tapas

Higgins

1239 SW Broadway
Portland, OR 97205
Visit website for lunch, dinner, and weekend hours
<https://www.higginsportland.com/>
Local sustainable Pacific Northwest fare

Irving Street Kitchen

701 NW 13th Avenue
Portland, OR 97209
Monday – Thursday | 4:30 PM – 10:00 PM
Friday & Saturday
10:00 AM – 2:30 PM & 4:30 PM – 10:00 PM
Sunday | 10:00 AM – 2:30 PM & 4:30 PM – 9:30 PM
<https://www.irvingstreetkitchen.com/>
American Southern-inspired comfort fare

Nel Centro

1408 SW 6th Avenue
Portland, OR 97201
Monday – Thursday | 6:30 AM – 11:00 PM
Friday | 6:30 AM – 12:00 AM
Saturday | 7:30 AM – 12:00 AM
Sunday | 8:00 AM – 11:00 PM
<https://www.nelcentro.com/>
Northern Italian cuisine inside the Hotel Modera

Nostrana

1401 SE Morrison Street, Suite 101
Portland, OR 97214
Monday – Thursday
11:30 AM – 2:00 PM & 5:00 PM – 10:00 PM
Friday | 11:30 AM – 2:00 PM & 5:00 PM – 11:00 PM
Saturday | 5:00 PM – 11:00 PM
Sunday | 5:00 PM – 11:00 PM
<https://nostrana.com/>
Seasonal Italian dishes

Picnic House

723 SW Salmon Street
Portland, OR 97205
Monday – Saturday
11:00 AM – 3:00 PM & 5:00 PM – 10:00 PM
<http://www.picnichousepdx.com/>
American cuisine

Shalom Y'all

1128 SW Alder Street
Portland, OR 97205
Daily | 11:00 AM – 10:00 PM
<https://www.shalomypdx.com/>
Israeli street food

Tasty n Alder

580 SW 12th Avenue
Portland, OR 97205
Sunday – Thursday | 9:00 AM – 10:00 PM
Friday & Saturday | 9:00 AM – 11:00 PM
<https://www.tastynalder.com/>
New American cuisine, small plates & steak

Trifecta

726 SE 6th Avenue
Portland, OR 97214
Monday & Tuesday | 5:00 PM – 9:00 PM
Wednesday & Thursday | 5:00 PM – 10:00 PM
Friday & Saturday | 4:00 PM – 10:00 PM
Sunday | 4:00 PM – 9:00 PM
<http://www.trifectapdx.com/>
Upscale American fare & creative cocktails

Coffee Shops



Barista

529 SW 3rd Avenue, #110
Portland, OR 97204
Monday – Friday | 6:00 AM – 6:00 PM
Saturday & Sunday | 8:00 AM – 5:00 PM
<http://www.baristapdx.com/>

Case Study Coffee Roasters

802 SW 10th Avenue
Portland, OR 97205
Monday – Friday | 7:00 AM – 6:00 PM
Saturday & Sunday | 8:00 AM – 6:00 PM
<https://www.casestudycoffee.com/>

Breweries

Deschutes Brewery

210 NW 11th Avenue
Portland, OR 97209
Sunday – Thursday | 11:00 AM – 10:00 PM
Friday & Saturday | 11:00 AM – 12:00 AM
<https://www.deschutesbrewery.com/pubs/portland/>

Ecliptic Brewing

825 N Cook Street
Portland, OR 97227
Sunday – Thursday | 11:00 AM – 10:00 PM
Friday & Saturday | 11:00 AM – 11:00 PM
<http://eclipticbrewing.com/>

Wayfinder Brewing

304 SE 2nd Avenue
Portland, OR 97214
Sunday – Thursday | 11:30 AM – 10:00 PM
Friday & Saturday | 11:30 AM – 11:00 PM
<https://www.wayfinder.beer/>

Wine Bars

Cerulean

1439 NW Marshall Street
Portland, OR 97209
Tuesday – Friday | 4:00 PM – 9:00 PM
Saturday | 1:00 PM – 10:00 PM
Sunday | 1:00 PM – 8:00 PM
<https://ceruleanwine.com/>

ENSO Winery

1416 SE Stark Street
Portland, OR 97214
Monday – Thursday | 4:00 – 9:00 PM
Friday | 4:00 PM – 11:00 PM
Saturday | 1:00 PM – 11:00 PM
Sunday | 1:00 PM – 8:00 PM
<http://www.ensowinery.com/>

Teutonic

3303 SE 20th Street
Portland, OR 97202
Visit the website for hours.
<https://teutonicwines.com/>

Distilleries

Eastside Distilling

1512 SE 7th Avenue
Portland, OR 97214
Daily | 12:00 PM – 8:00 PM
<https://www.east-sidedistilling.com/>

Westward Whiskey

65 SE Washington Street
Portland, OR 97214
Monday – Friday | 12:00 PM – 7:00 PM
Saturday & Sunday | 12:00 PM – 8:00 PM
<https://www.westwardwhiskey.com/>

Night Life

Aladdin Theater

3017 SE Milwaukie Avenue
Portland, OR 97202

<https://www.aladdin-theater.com/>

Crystal Ballroom

1332 W Burnside Street
Portland, OR 97209

<https://www.crystalballroompdx.com/>

Doug Fir Lounge

830 E Burnside Street
Portland, OR 97214

Daily | 7:00 AM – 2:00 AM

<https://www.dougfirlounge.com/>

Inside the Jupiter hotel in the Buckman neighborhood with eclectic diner food and bar

Mississippi Studios

3939 N Mississippi Avenue
Portland, OR 97227

Daily | 11:00 AM – 2:00 AM

<https://www.mississippistudios.com/>

A live music spot and bar inside a renovated church

Revolution Hall

1300 SE Stark Street, #203
Portland, OR 97214

<https://www.revolutionhall.com/>



Live Music

Attendee & Guest List

Alaska Housing Finance Corporation

Bryan Butcher

Arizona Department of Housing

Carol Ditmore

California Housing Finance Agency

Tia Boatman Patterson
Immauri Patterson*

Colorado Housing and Finance Authority

Cris White

**Georgia Department of Community Affairs/
Georgia Housing and Finance Authority**

G. Christopher Nunn

**Hawaii Housing Finance and Development
Corporation**

Craig Hirai

Idaho Housing and Finance Association

Gerald Hunter

Illinois Housing Development Authority

Audra Hamernik

Innovation Ventures, LLC

Matt Hoffman

Kansas Housing Resources Corporation

Melissa Vincent*
Ryan Vincent

Louisiana Housing Corporation

Keith Cunningham
Tara Cunningham*

MaineHousing

Daniel Brennan

**Maryland Department of Housing and Community
Development**

Kenneth Holt

MassHousing

Chrystal Kornegay

Michigan State Housing Development Authority

Gary Heidel
Myra Heidel*

Mississippi Home Corporation

Scott Spivey

Montana Housing

Bruce Brensdaal

National Council of State Housing Agencies

Kevin Burke
Lisa Bowman
Maury Edwards
Cary Knox
Garth Rieman
Jennifer Schwartz
Stockton Williams



Attendee & Guest List

Nebraska Investment Finance Authority

Timothy Kenny

Nevada Housing Division

Steve Aichroth

New Hampshire Housing Finance Authority

Dean Christon

Vangie Christon*

Oklahoma Housing Finance Agency

Deborah Jenkins

Oregon Housing and Community Services

Margaret Salazar

South Dakota Housing Development Authority

Mark Lauseng

Tennessee Housing Development Agency

Ralph Perrey

Utah Housing Corporation

Connie Whitaker*

Grant Whitaker

Vermont Housing Finance Agency

Maura Collins

Mike Versluys*

Virginia Housing Development Authority

Rick Dewey*

Susan Dewey

Washington State Housing Finance Commission

Kim Herman

West Virginia Housing Development Fund

Erica Boggess

Wisconsin Housing and Economic Development Authority

Joaquin Altoro

Wyoming Community Development Authority

Janet Hoversland*

Scott Hoversland



Calendar of Events



Annual Conference & Showplace

October 19 – 22, 2019
Boston, MA

Special Board of Directors Meeting & Executive Directors Forum

December 8 – 10, 2019
Washington, DC

HFA Institute

January 12 – 17, 2020
Washington, DC

Legislative Conference

March 9 – 11, 2020
Washington, DC

Housing Credit Connect

June 2 – 5, 2020
St. Louis, MO



NCSHA Executive Directors Workshop























