

THE NEXT GENERATION OF SUSTAINABLE COMMUNITIES

How might a more rapid and widespread shift towards sustainable communities come about?

In January 2020 an invited group of 70 professionals representing academic, business, and non-profit sectors, met at the University of California, Davis to discuss lessons learned from sustainable community initiatives and how to facilitate a more rapid change toward sustainable urbanism. The inspiration for the event came from construction of The Sustainable City (TSC) in Dubai and West Village at UC Davis. TSC is a neighborhood of 500 homes, community facilities, and businesses completed by Diamond Developers in 2018 with the goal of being the first operational zero-net energy project in the United Arab Emirates. West Village is the first zero-net-energy neighborhood in the United States, which will eventually house more than 5,000 students, staff, and faculty on the campus of UC Davis. The January event was organized under the auspices of – and funded by – the University of California Davis Arab Region Consortium's Sustainability Research and Training Program housed in UC Davis Global Affairs. To learn more about this program visit: <u>http://sjoseph.ucdavis.edu/srtp.</u>

Participants considered several types of initiatives:

- Large, master-planned neighborhoods such as The Sustainable City, West Village, European eco-districts (such as Hammarby Sjöstad, Western Harbor, and Royal Seaport in Sweden, Vauban and HafenCity in Germany, and BedZed in Great Britain), and Village Homes (an older eco-neighborhood in Davis, CA)
- **Efforts to improve existing neighborhoods** through regulation or incentives such as offered by California's cap-and-trade-funded grant programs
- **Smaller-scale examples of green development** built by affordable housing nonprofits, campuses, private developers, and other types of organizations



The Sustainable City

One of the world's newest and most dramatic examples of sustainable community was built in Dubai between 2015 and 2018. This project created by Faris Sayed's Diamond Developers includes 500 homes, a mixed-use plaza, an international school, a school for autistic children, 11 biodome greenhouses, waste-water recycling, more than 10 megawatts of photovoltaic energy, and an off-grid, positive-energy innovation center. Cars are kept to the periphery, and parking is covered with solar panels.



Given the challenging politics and social situations in much of the world, some of the conference's break-out sessions struggled with moments of "darkness." Many participants noted a disconnect between the urgent need for change and the slow pace of local government decision-making, public engagement, and development.

Morning keynote speaker Harrison Fraker, former Dean of the College of Environmental Design at UC Berkeley, noted that "integrated systems thinking for sustainable communities works technically, but the biggest challenge is the legal, political, institutional, and social governance framework."

Kacey Lizon, Deputy Executive Director of the Sacramento Area Council of Governments, commented that **"What we're talking about is inventing a new model of growth."**

Panelist Kate Meis, Executive Director of the Local Government Commission, wondered **"Do we have** anything close to the capacity we need?"

Participants noted **5 overarching categories of challenges** with current development processes:

- Affordability
 - » The high cost of land, labor, and local government fees works against affordability
 - » It is hard for people to think about sustainability when more basic needs are not met, often making sustainability a luxury for the privileged
- Participation in Public Processes
 - » People do not know how to engage in public processes, or do not have the time
 - » People do not trust public processes
 - » Not-In-My-Backyard opposition keeps dense and affordable housing out of many jurisdictions



- Perverse Incentives
 - » It is still easier for developers to build sprawl rather than infill
 - » Sprawl provides a "sugar rush" of fees to local government, but imposes long-term costs
 - » Suburban areas still often support sprawl over infill development because of local politics
 - » Some 60% of new CA homes are being built in the wildland urban interface at high risk of fire
- Financial and Regulatory Limitations
 - » Local governments have very limited staff capacity and resources
 - » Local regulation, utilities, and lengthy approval processes undermine creative projects
 - » It is hard to attract capital for creative projects in secondary markets
- Institutional Inertia
 - » Silo-based agencies and professions prevent an integrated approach to projects

There's a really big issue with recruitment and retention of qualified staff in small communities...we have overworked and under-resourced local communities.

Erica Manuel

CEO of the Institute for Local Government



UC Davis West Village

The largest zero-net-energy development in the United States, West Village houses nearly 3,000 U.C. Davis students and staff in three- and fourstory buildings grouped around courtyards. West Village's first phase combined 4 megawatts of photovoltaics with construction that was 50% more energy-efficient than California's already strict building code. In addition to student apartments, the neighborhood includes a community college center, research institutes, and recreational facilities. The project's second phase will double the number of student apartments by 2021.



Recommendations

Despite these challenges, certain themes emerged about strategies to promote a next generation of sustainable communities:

1. Emphasize not just affordable housing, but affordable and livable communities.

Participants noted that sprawl imposes huge costs on local government to maintain roads, water, sewers, and public services for far-flung development. The solution is more proactive planning that takes a whole-community design approach. This would guide compact, well-balanced, well-connected development while establishing firm boundaries against sprawl.

2. Make the case for investing in public goods.

Many attendees emphasized the need to talk about housing as a human right and services such as public transit and environmental protection as a benefit to all, not just the disadvantaged. Building up local government capacity is essential in order to provide these public goods.

3. Clarify priorities.

"People often don't know what's most important to do" said one participant, noting that the City of Berkeley has put effort into a plastic straw ban but wondering if that should have been such a high priority. Participants agreed that **carbon neutrality** is a top priority for sustainable communities, with **social equity** and **public engagement** at the top of the list as well.

4. Push for a state-level planning framework.

One speaker put it bluntly: "We've got to do what Oregon did." The Oregon model established statewide land use planning goals and requirements, such as for reducing vehicle use and creating urban growth boundaries. Then it coupled those with technical support and incentives across levels of government.

5. Help local government work effectively.

To bring sustainability goals into reality, local implementation is crucial. Yet local government in the U.S. and California particularly is handicapped by limitations such as Proposition 13 (which requires 2/3 votes for many tax increases and limits assessed value of property). State, regional, or federal government may need to step in to ensure that local communities have the resources and support they need.

6. Make it easy for people to do the right thing, and hard for them to do the wrong thing.

Members of the public often don't have time or capacity to research many issues. When a hot water heater breaks, the homeowner typically doesn't have time to explore electric heat pump options that would greatly reduce GHG emissions. We must make it easy for people everywhere to make climate-smart choices.



7. Catalyze "creative spirals."

Panelist Andrew Hardagon framed the challenge as one of creating "virtuous cycles" that encourage bursts of creativity. In this view small, committed groups of people with clear goals and vision plus high levels of interaction bring about rapid innovation. All sectors of society can seek to foster and support such groups.

Specific Strategies

Breakout sessions at the conference focused on many dimensions of sustainable communities, including energy use, GHG emissions, urban design, transportation, greenspaces, housing affordability, social equity, healthy food systems, and behavior change. For more sustainable communities to come about, initiatives in all these areas must fit together holistically and involve the public in ways that consider social equity and grassroots involvement in decision-making.

The Affordable Housing and Sustainable Community (AHSC) Program

With proceeds from its cap-and-trade program to reduce greenhouse gas (GHG) emissions, California was able to spend almost \$12 billion between 2014 and 2020 on a suite of programs to promote more sustainable community development. One of the foremost is the Affordable Housing and Sustainable Communities (AHSC) program. This made \$1.1 billion in grants available to local organizations and governments to support affordable housing projects and other projects that reduce GHG emissions. Although the program has focused primarily on subsidizing affordable housing development, it could be expanded to support broader sustainability planning and so help a larger number of sustainable neighborhoods emerge in the future.





Specific strategies that participants emphasized include the following:



- ✓ By-right approval of green, affordable, infill projects to speed development
- Public sector provision of infrastructure to help suburban infill pencil out
- Requirements for all-electric construction of buildings to eliminate fossil fuels
- Requirements for energy retrofits at time of resale of existing homes/buildings
- Life-cycle and supply-chain analysis of materials used in development
- ✓ Integrate **food production**, gardens, and supporting organizations into development
- Cooperative and limited-equity models of housing
- ✓ Explore/promote the **Eco-Block** concept (intensive improvements to one urban block)
- Housing affordability through rent controls, eviction protections, fewer permitting obstacles, more land controlled by the public sector
- ✓ Funding to cover the **up-front cost** of green construction, repaid from operating savings
- ✓ Substitute "zero carbon" for "zero net energy"?

Transportation

- ✓ Banning conventional vehicle engines as well as gas furnaces and gas hot water heaters
- Adopting "feebates" so those buying polluting vehicles pay high registration fees while those buying electric vehicles get a rebate
- Restricting fossil fuel vehicles from major cities
- ✓ Mileage pricing for transportation (with steps to avoid penalizing low-income drivers)
- Reduce parking requirements in codes; steep charges for parking
- Expansion of car-sharing
- ✓ Consider **gender issues** in transportation, including safety, trip needs

Institutional/Social/Economic

- ✓ Address **structural issues** such as wages, inequality, and revenue for local government
- Strong leadership and training on community engagement and sustainability
- ✓ Be **transparent** about public goals; help people understand each other's needs & values
- Emphasize grassroots involvement, ongoing communication, collective learning
- ✓ Help consumers be aware of the effects of their choices
- ✓ Redefine "success" through **indicators** that include social and environmental dimensions
- ✓ Better coordination between state agencies and across levels of government
- Stronger teeth to regional planning; e.g., conditioning state infrastructure money on local smart growth + prioritizing state investment in infill areas
- Broader and more meaningful Sustainable Community Strategy regional plans in CA
- ✓ **Regional revenue sharing** to improve equity and decrease sprawl incentives



- State funds and technical assistance for local climate planning
- ✓ A differential fee structure, so that sprawl pays high fees while infill projects don't
- ✓ Subsidize low-income household energy efficiency/renewable energy/low-emitting vehicles
- ✓ Align municipal **capital improvement plans** with climate action plans
- Create a state bank for sustainable development projects (since 1994 CA has had an Infrastructure and Economic Development Bank, but it cannot finance housing)
- ✓ Find and support leaders with cajones/ovaries

The conference concluded with the conveners emphasizing the urgency of climate and sustainability challenges and their global nature. UCDAR founder, AND DIRECTOR, Suad Joseph reminded participants that, "What we think of as our necessities are bought at the expense of people around the world—their lives, their comfort, their future. It's not an accident that most of them are people of color."

Looking Forward

Moving toward a next generation of sustainable communities, either in the form of new developments or changes to existing places, will require a variety of interrelated changes which, although seemingly very difficult now, are not impossible given political, professional, and grassroots leadership. Collectively we know much of what needs to be done. We need to work together to catalyze "creative spirals" to leverage change.

The need for such change is pressing. Climate and sustainability challenges are urgent, and most greatly harm the least-well-off among us.





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Suad Joseph

UCDAR Founder and Director Distinguished Research Professor, UC Davis



Behavior is an important component of a sustainable community. You can design the behavior in, but you also need to actively educate people.

Alana Matthews Founder of African-American Collaborative for Climate Equity



Even though things are really dark there's an opening now for ideas that people in a different terrain wouldn't even consider.

> Julie Sze Professor of American Studies at UC Davis





Endnotes

The conference organizing committee consisted of Suad Joseph, Bryan Jenkins, Stephen Wheeler, Bernadette Austin, Meghan Klasic, and Nermin Dessouky, with undergraduate assistants from the Joseph lab: Elise Boyle, Layla Mustafa, and Noor Halabi. This event concluded the Sustainability Research and Training Program (SRTP) funded by Diamond Developers of Dubai (<u>https://diamonddevelopers.ae/</u>), developers of The Sustainable City in Dubai (<u>https://www.thesustainablecity.ae/</u>). SRTP ran from 2013 to 2020, with Pls Suad Joseph and Bryan Jenkins and a team of leaders from the University of California Davis Arab Region Consortium (UCDAR). SRTP distributed \$1.75 million among nine inter-university research projects (<u>http://sjoseph.ucdavis.edu/srtp</u>). UCDAR was founded in 2001 by Suad Joseph to facilitate collaborative interdisciplinary research among faculty of the partnering universities: the American University of Beirut, the American University in Cairo, the Lebanese American University, Birzeit University, the American University of Sharjah, and the University of California, Davis. Housed in UC Davis' Global Affairs, UCDAR facilitates projects on Water, Energy and Food (WEF Nexus), Transforming Refugee Mental Health (TRMH), Gendering STEM Education (GSE), and Mapping the Production of Knowledge on Women and Gender in the Arab Region. For more information, see <u>http://</u> <u>sjoseph.ucdavis.edu/ucdar</u>.

