Community Building & Sustainable Development

David Brain

Professor of Sociology & Environmental Studies

New College of Florida

iCar Phase V. Reports from the Frontier
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My background as a sociologist.

- Research:
  - Sociology of professional expertise and the built environment.
  - New directions in planning: New Urbanism, Smart Growth and the “architecture of community.”
  - Public space, place-making and civic urbanism.
- Practice:
  - Community engagement, urban design and planning.
  - Design-centered collaboration (National Charrette Institute, since 2004).

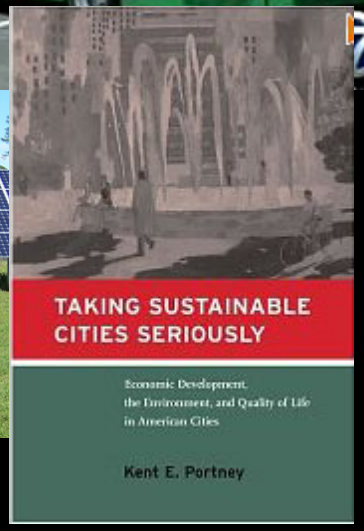
2 mistaken assumptions

- “We just have to get the science right.”
  - Environmental problems can be solved if we understand the functioning of natural systems.
  - Nature and culture are distinct and separate systems that just need to be brought into alignment.
- “We just have to include everybody in the public process.”

What is a sustainable community?

- Energy efficient.
- Zero waste.
- Economically healthy.
- Equitable and democratically governed.
- Adaptive.
- Resilient.
- Continuously improving.

Taking sustainable cities seriously?



drawdown.org

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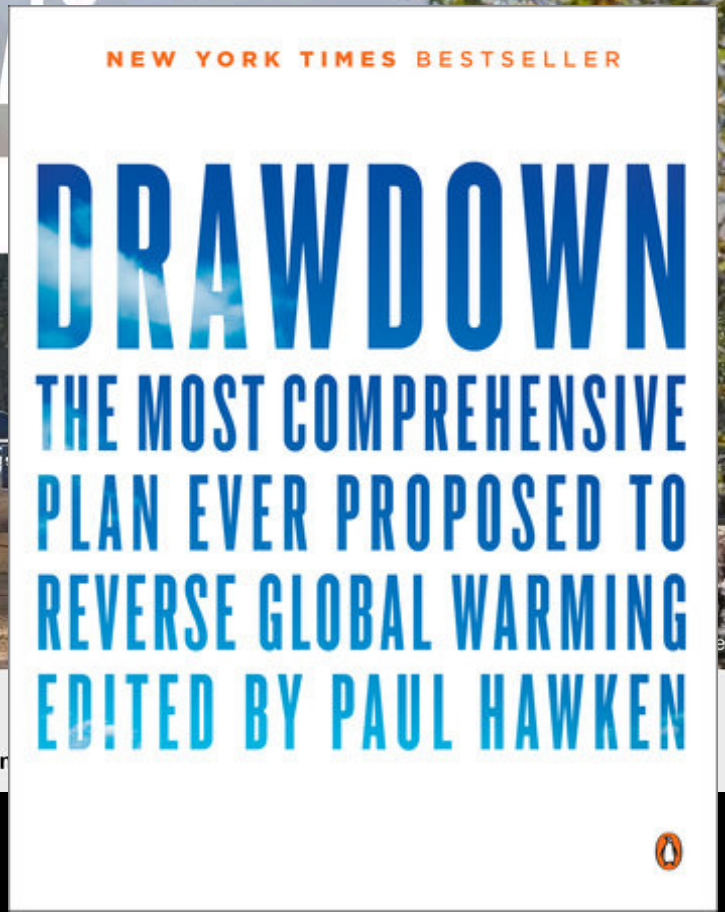
100 SOLUTIONS TO REVERSE GLOBAL WA

Search solutions by name or rank

NEW YORK TIMES BESTSELLER

#1 Best-Selling Er

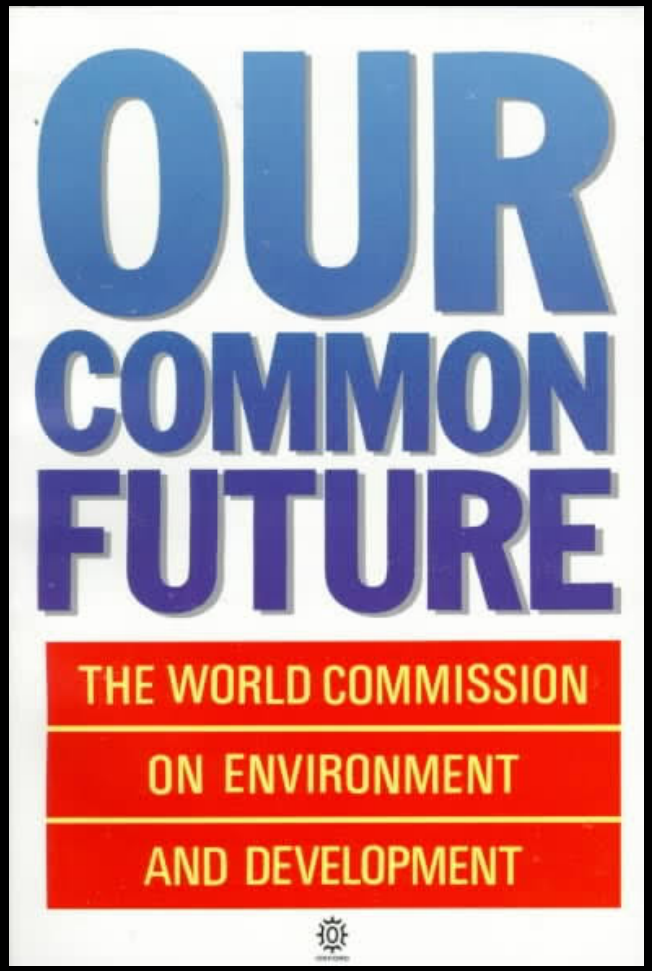


At least 25 of the 80 solutions identified by the "Drawdown" group are related to the built environment.

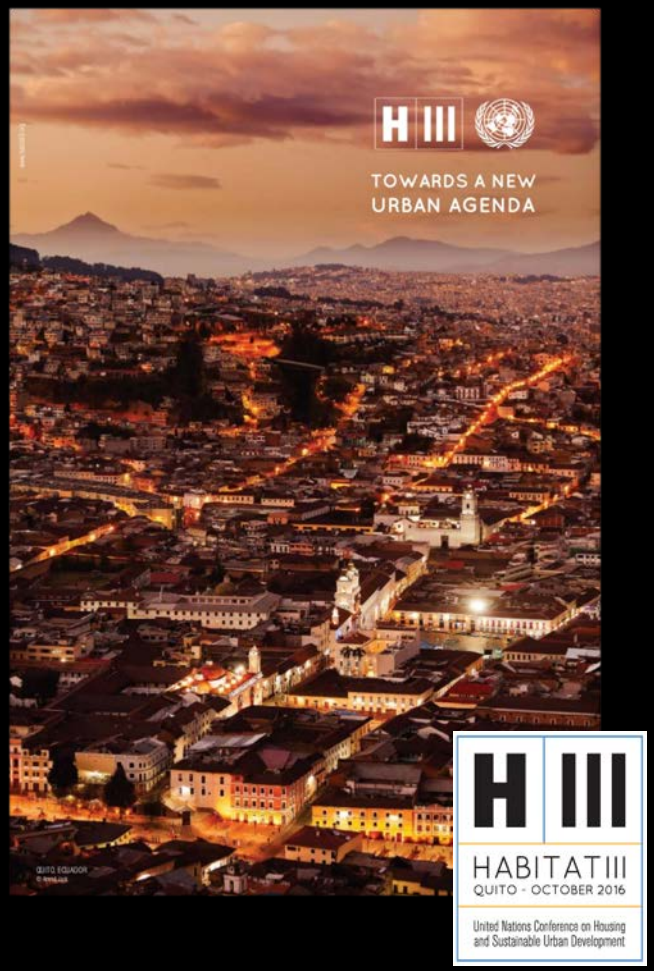
→PLACES, as things we do together, not simply individual consumption choices.

Rank	Solution	Sector	TOTAL ATMC	Net Cost (BIL	Savings (BILL
1	Refrigerant Management	Materials	89.74	N/A	($902.77)
2	Wind Turbines (Onshore)	Electricity Generation	84.6	$1,225.37	$7,425.00
3	Reduced Food Waste	Food	70.53	N/A	N/A
4	Plant-Rich Diet	Food	66.11	N/A	N/A
5	Tropical Forests	Land Use	61.23	N/A	N/A
6	Educating Girls	Women and Girls	59.6	N/A	N/A
7	Family Planning	Women and Girls	59.6	N/A	N/A
8	Solar Farms	Electricity Generation	36.9	($80.60)	$5,023.84
9	Silvopasture	Food	31.19	$41.59	$699.37
10	Rooftop Solar	Electricity Generation	24.6	$453.14	$3,457.63
11	Regenerative Agriculture	Food	23.15	$57.22	$1,928.10
12	Temperate Forests	Land Use	22.61	N/A	N/A
13	Peatlands	Land Use	21.57	N/A	N/A
14	Tropical Staple Trees	Food	20.19	$120.07	$626.97
15	Afforestation	Land Use	18.06	$29.44	$392.33
16	Conservation Agriculture	Food	17.35	$37.53	$2,119.07
17	Tree Intercropping	Food	17.2	$146.99	$22.10
18	Geothermal	Electricity Generation	16.6	($155.48)	$1,024.34
19	Managed Grazing	Food	16.34	$50.48	$735.27
20	Nuclear	Electricity Generation	16.09	$0.88	$1,713.40
21	Clean Cookstoves	Food	15.81	$72.16	$166.28
22	Wind Turbines (Offshore)	Electricity Generation	14.1	$545.30	$762.50
23	Farmland Restoration	Food	14.08	$72.24	$1,342.47
24	Improved Rice Cultivation	Food	11.34	N/A	$519.06
25	Concentrated Solar	Electricity Generation	10.9	$1,319.70	$413.85
26	Electric Vehicles	Transport	10.8	$14,148.00	$9,726.40
27	District Heating	Buildings and Cities	9.38	$457.10	$3,543.50
28	Multistrata Agroforestry	Food	9.28	$26.76	$709.75
29	Wave and Tidal	Electricity Generation	9.2	$411.84	($1,004.70)
30	Methane Digesters (Large)	Electricity Generation	8.4	$201.41	$148.83
31	Insulation	Buildings and Cities	8.27	$3,655.92	$2,513.33
32	Ships	Transport	7.87	$915.93	$424.38
33	LED Lighting (Household)	Buildings and Cities	7.81	$323.52	$1,729.54
34	Biomass	Electricity Generation	7.5	$402.31	$519.35
35	Bamboo	Land Use	7.22	$23.79	$264.80
36	Alternative Cement	Materials	6.69	($273.90)	N/A
37	Mass Transit	Transport	6.57	N/A	$2,379.73
38	Forest Protection	Land Use	6.2	N/A	N/A
39	Indigenous Peoples' Land Management	Land Use	6.19	N/A	N/A
40	Trucks	Transport	6.18	$543.54	$2,781.63
41	Solar Water	Electricity Generation	6.08	$2.99	$773.65
42	Heat Pumps	Buildings and Cities	5.2	$118.71	$1,546.66
43	Airplanes	Transport	5.05	$662.42	$3,187.80
44	LED Lighting (Commercial)	Buildings and Cities	5.04	($205.05)	$1,089.63
45	Building Automation	Buildings and Cities	4.62	$68.12	$880.55
46	Water Saving - Home	Materials	4.61	$72.44	$1,800.12
47	Bioplastic	Materials	4.3	$19.15	N/A
48	In-Stream Hydro	Electricity Generation	4	$202.53	$568.36
49	Cars	Transport	4	($598.69)	$1,761.72
50	Cogeneration	Electricity Generation	3.97	$279.25	$566.93
51	Perennial Biomass	Land Use	3.33	$77.94	$541.89
52	Coastal Wetlands	Land Use	3.19	N/A	N/A
53	System of Rice Intensification	Food	3.13	N/A	$677.83
54	Walkable Cities	Buildings and Cities	2.92	N/A	$3,278.24
55	Household Recycling	Materials	2.77	$366.92	$71.13
56	Industrial Recycling	Materials	2.77	$366.92	$71.13
57	Smart Thermostats	Buildings and Cities	2.62	$74.16	$640.10
58	Landfill Methane	Buildings and Cities	2.5	($1.82)	$67.57
59	Bike Infrastructure	Buildings and Cities	2.31	($2,026.97)	$400.47
60	Composting	Food	2.28	($63.72)	($60.82)
61	Smart Glass	Buildings and Cities	2.19	$932.30	$325.10
62	Women Smallholders	Women and Girls	2.06	N/A	$87.60
63	Telepresence	Transport	1.99	$127.72	$1,310.59
64	Methane Digesters (Small)	Electricity Generation	1.9	$15.50	$13.90
65	Nutrient Management	Food	1.81	N/A	$102.32
66	High-speed Rail	Transport	1.52	$1,038.42	$368.10
67	Farmland Irrigation	Food	1.33	$216.16	$429.67
68	Waste-to-Energy	Electricity Generation	1.1	$36.00	$19.82
69	Electric Bikes	Transport	0.96	$106.75	$226.07
70	Recycled Paper	Materials	0.9	$573.48	N/A
71	Water Distribution	Buildings and Cities	0.87	$137.37	$903.11
72	Biochar	Food	0.81	N/A	N/A
73	Green Roofs	Buildings and Cities	0.77	$1,393.29	$988.46
74	Trains	Transport	0.52	$808.64	$313.86
75	Ridesharing	Transport	0.32	N/A	$185.56
76	Micro Wind	Electricity Generation	0.2	$36.12	$19.90
77	Energy Storage (Distributed)	Electricity Generation	N/A	N/A	N/A
77	Energy Storage (Utilities)	Electricity Generation	N/A	N/A	N/A
77	Grid Flexibility	Electricity Generation	N/A	N/A	N/A
78	Microgrids	Electricity Generation	N/A	N/A	N/A
79	Net Zero Buildings	Buildings and Cities	N/A	N/A	N/A
80	Retrofitting	Buildings and Cities	N/A	N/A	N/A
			1050.99	$29,609.30	$74,362.37

“Sustainable development.”



The Brundtland Commission, 1987



UN Habitat III, 2016

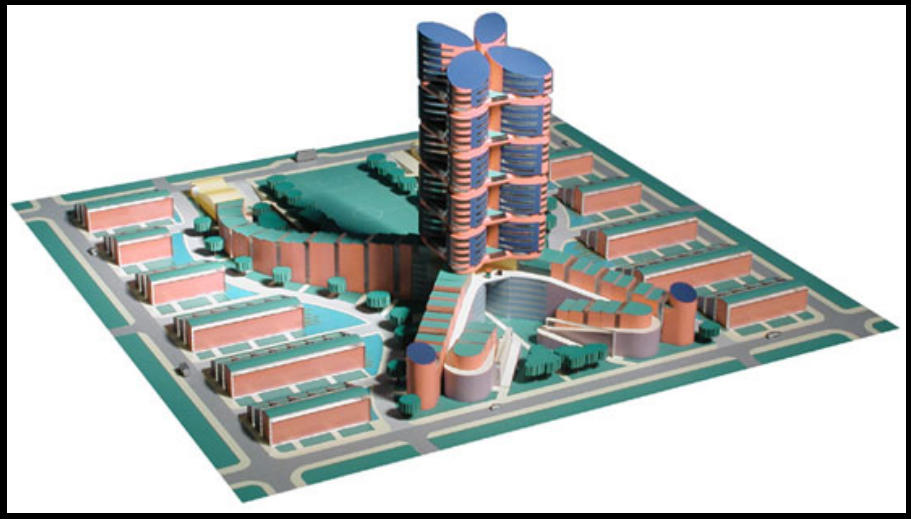
The temptation of a technological solution.

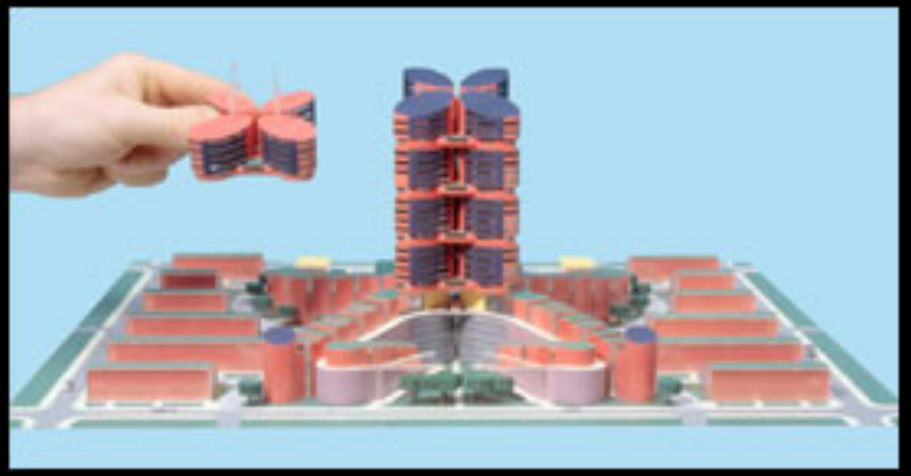
- Designs for “zero carbon/zero waste” lifestyles tend to be technological solutions.
- We need to attend to the conditions necessary to maintain human engagement in meaningful places.
- Otherwise, “sustainable” patterns of building are simply not going to be sustainable– except by imposition.

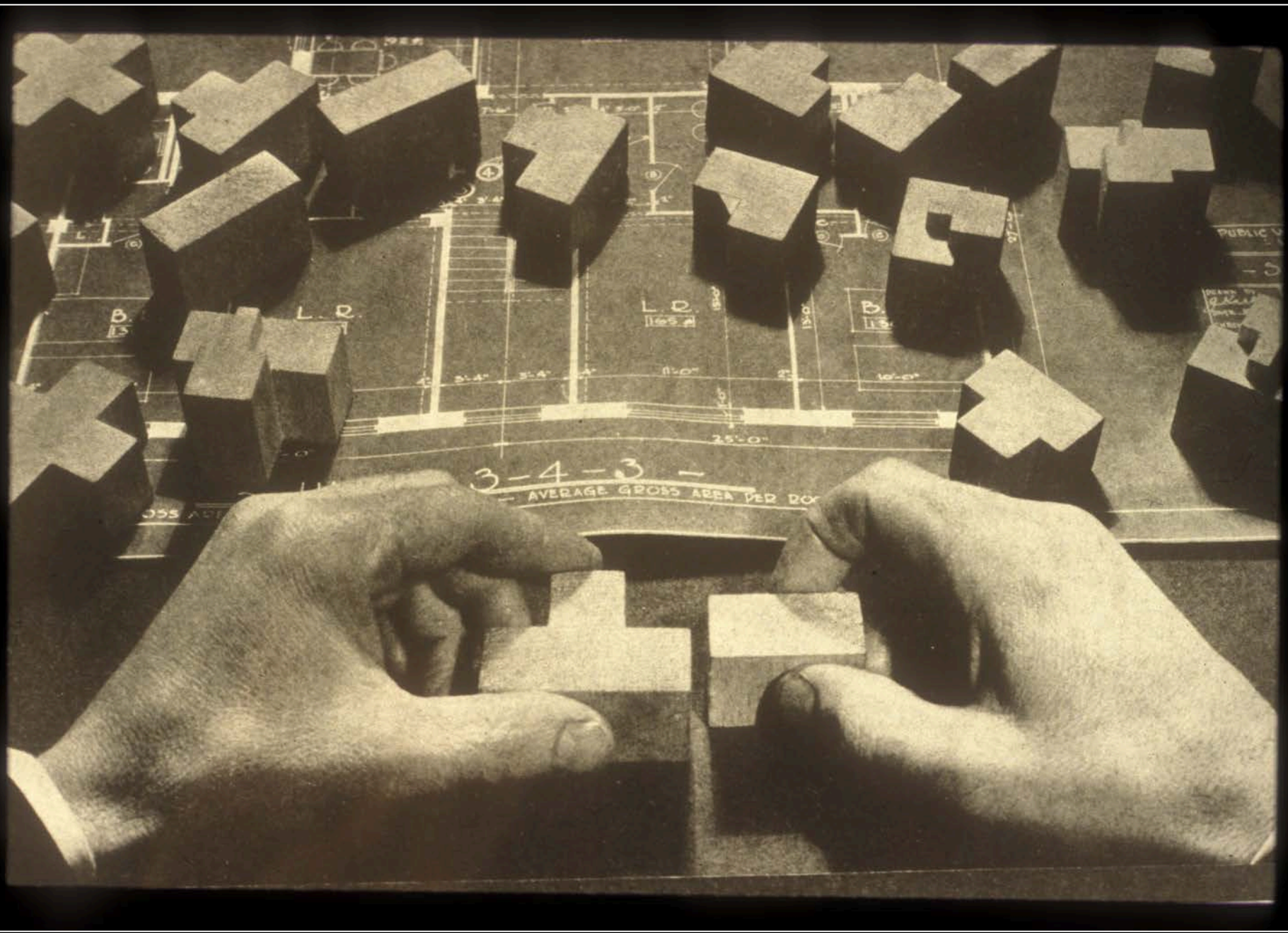
SkyZed– the “Flower Tower” from zedfactory.com

Technological solutions.

- How will this building learn and adapt over time to human culture and society?
- Whose hand is that?



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AVERAGE GROSS AREA PER

The rule of specialists.

Solving one problem at a time. No capacity for complex and adaptive responses.

The paradox of a system of experts

- The best technical knowledge often produces well-supported decisions that add up to disaster.

Diane Vaughn, *The Challenger Launch Decision.*

The problem with measuring ecological footprints.

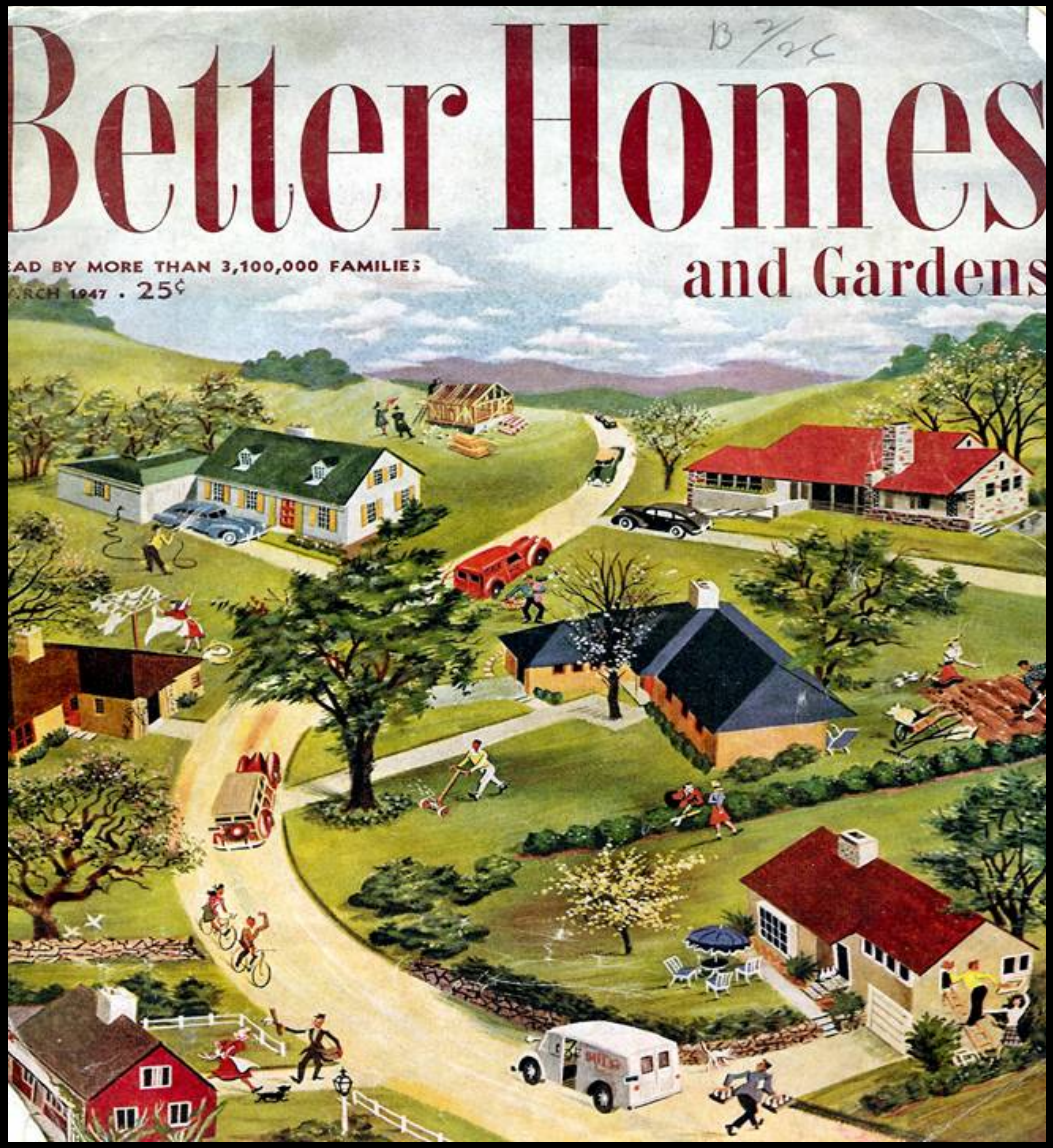
- If human settlement involves an energy budget, we need to know what we are budgeting for.

Source: Creative Loafing

The value proposition: What kinds of places are worth sustaining?

- Places that preserve what people value.
- Places that realize community aspirations.
- Places that enhance the quality of life.
- Places that offer appropriate return on all investments.
- Places that are capable of adaptation and continuous improvement.

So…what do we want to sustain?




McDonald's
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STOP

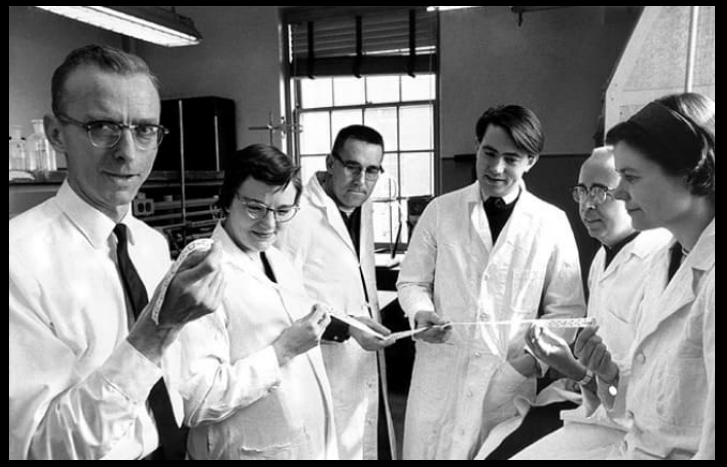
The development regime:

Institutionalized resistance to change.

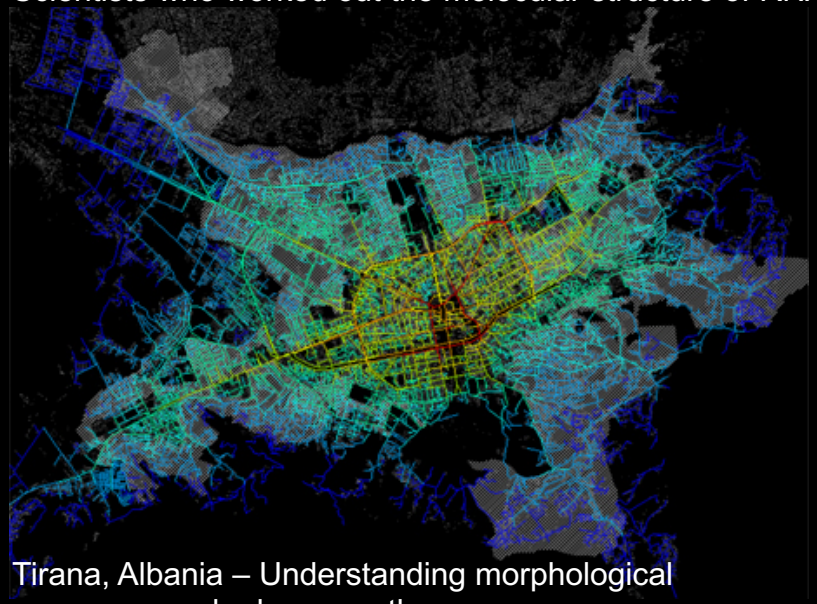
- The intersection of public bureaucracy, democratic politics, and market-oriented institutions.
- Three paradoxes:
  - Specialization and the division of labor.
  - Environmental regulation that encourages a narrow perspective.
  - Public participation as part of the problem.

Science is not enough.

- Science has its own techniques for constructing consensus.
- It can't resolve conflicts motivated by conflicting interests, values or political maneuvering.

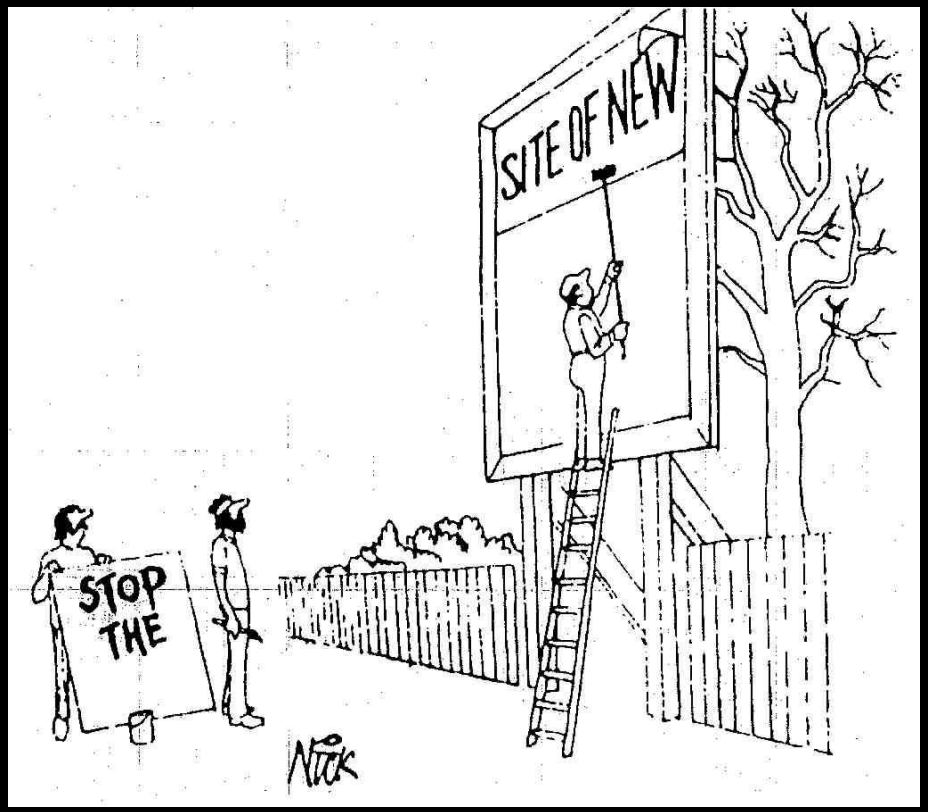


Scientists who worked out the molecular structure of RNA



Tirana, Albania – Understanding morphological processes and urban growth

The paradox of public involvement.



- Legacy of urban renewal: “maximum feasible participation.”
- In the name of procedural fairness and democracy, we’ve created an unreliable process that undermines civic capacity and leads to reactionary politics (NIMBY).
- Major obstacle to creative change.

The politics of planning …

- Citizen intervention focused on procedural obstruction.
- Technical discussions become politically charged, political decisions become technically obscure.
- Political paralysis reinforces “business as usual” development patterns.
- Pervasive fear of “meeting the neighbors.”

How can resistance turn into positive community transformation?

Inclusive participation in what process?

- Not just *more* participation but higher *quality* engagement.
- To be truly inclusive, it is not enough just trying to make sure there is diversity represented in the room.
- It matters what you do once people are in the room.
- Building consensus-- but around what?

Collaboration by design.

- The real challenge of sustainability isn't solving technical problems, but solving the problem of working together.
- Form and intention, vision and action.

National Charrette Institute

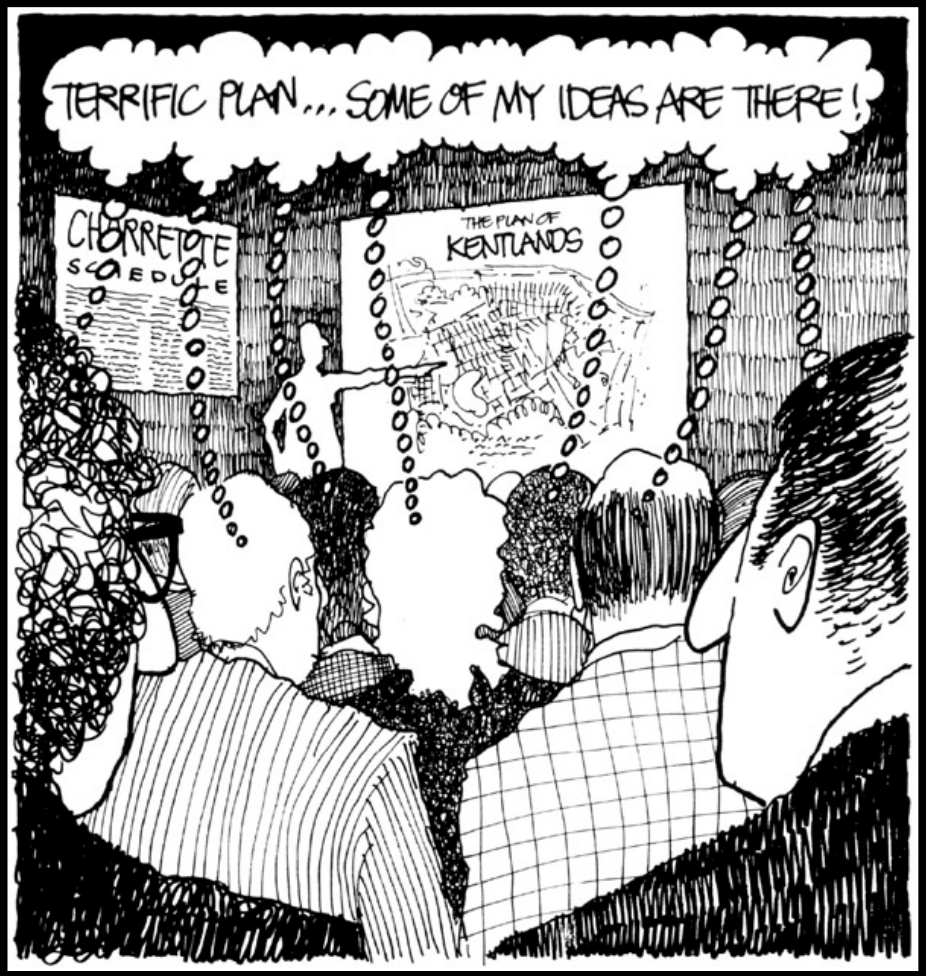
Michigan State University

- Embedding people in the design process.
- “Co-design” involving citizens and experts.

National Charrette Institute
MICHIGAN STATE UNIVERSITY

What is a Charrette?

- The charrette is a multi-day collaborative planning event that engages all affected parties to create and support a feasible plan.



Drawn for The Washington Post, 1988, by Roger K. Lewis, FAIA, Professor, U. Maryland School of Architecture

Core Values

Structuring the interaction between citizens and experts.

- Collaboration:
  - Each individual's unique contribution supports the best outcome.
- Transparency:
  - Clarity in rules, process and roles is essential to collaboration.
- Shared Learning:
  - Cross-disciplinary design assures reduced rework and facilitates implementation.
- Direct, Honest, Timely Communication:
  - Respectful communication fosters an environment of trust and reduces rework.

Three Big Challenges to Collaboration

- Lack of trust
- Fear of change
- Expert “silos.”

Trust and community capacity.

- Building relationships as process of constructing shared knowledge.
- Building capacity to realize a vision, as you create the vision.

Building a common narrative.

public meeting
vision

alternative
concepts

public meeting
review

preferred
plan

open house
review

plan
development

public meeting
confirmation

Key characteristics of the charrette process.

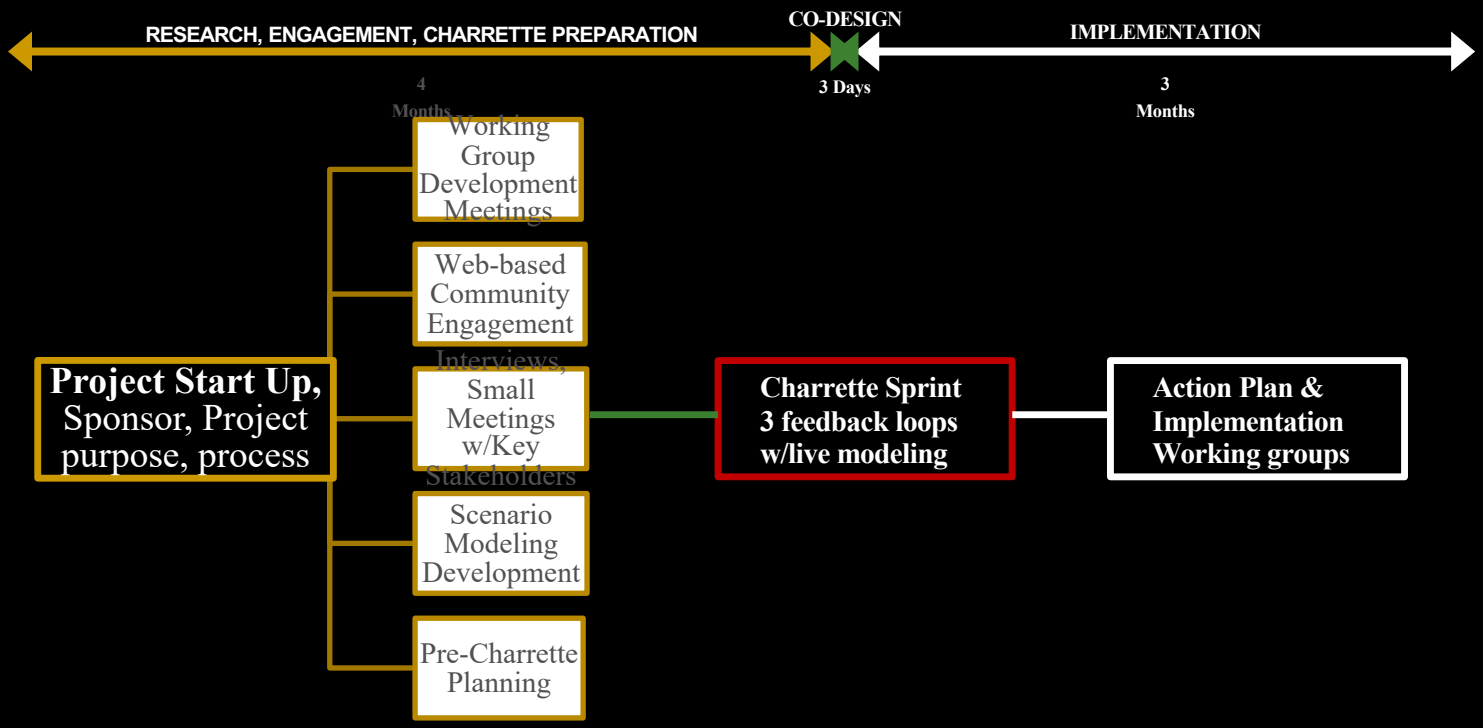
- Collaborative, integrative and dynamic work process, in a defined and compressed time frame.
- Short-feedback loops (short in time and space).
- Cross-disciplinary design (from the big picture to the details).
- Feasible, action-oriented outcome.

Planning for resilience.

- Creating the capacity for community action and adaptation.

https://www.planning.org/nationalcenters/hazards/innovations/

NCI Disaster Planning Process



Shift in the locus of agency

- Tactical Urbanism
- Incremental Development
- Lean Urbanism
- Bottom-up Urbanism

LEAN URBANISM
MAKING SMALL POSSIBLE

Underlying principles for building sustainable cities

- Small but strategic projects.
- Incremental but cumulative.
- Immediately responsive and adaptive.
- Shared learning by doing.
- Mobilizing community-based resources in a way that accomplishes goals AND builds community capabilities (social capital).
- Integrating VISION and ACTION.

Civic urbanism.

- It is not just about building the right kind of places, but building the right kind of place-making practices.
- Building social relationships, not by engineering places but by engaged place-making.
- Planning and design become opportunities for civic innovation.

"The lack of resources is no longer an excuse not to act. The idea that action should only be taken after all the answers and the resources have been found is a sure recipe for paralysis."

Jaime Lerner. (Architect, urbanist, former mayor of Curitiba, Brazil)

David Brain

Email: brain@ncf.edu