

U.S. EPA SUSTAINABLE COMMUNITY BUILDING BLOCKS: SUSTAINABLE DEVELOPMENT CODES



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C L A R I O N



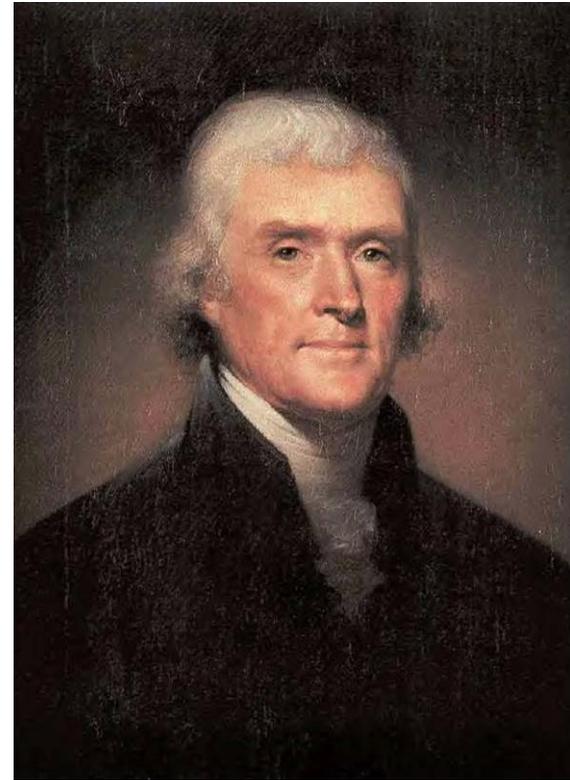
Shelburne, VT
June 2011



What is a Sustainable Community?

“Then I say the earth belongs to each generation during its course, fully and in its own right, [but] no generation can contract debts greater than can be paid during the course of its own existence.”

– Thomas Jefferson (1789)



Sustainable Communities...

...meet the needs of the present while ensuring that future generations have the same or better opportunities. *Brundtland Commission 1987*

SUSTAINABLE COMMUNITIES ARE ABOUT PRESERVING CHOICES—ENVIRONMENTAL, ECONOMIC, AND SOCIAL



AMERICA'S BABY BOOMERS = THE **SKI** GENERATION

SKI =
SPENDING the
KID'S
INHERITANCE





A SUSTAINABLE WORLD??? IT'S NOT JUST ABOUT CLIMATE CHANGE...

- **Fuel:** Oil production to peak in next 5-10 years...while world oil consumption increases by 50% by 2030.
- **Food:** China will demand more food in 2030 than the entire world produces today.
- **Health:** 34% of U.S. population obese. Obesity in children has tripled in last 3 decades. Costs the nation \$147 billion in weight-related hospital bills.
- **Climate:** Last decade--hottest on record; 99% of glaciers in Alaska in retreat; 5-foot sea level rise and weather extremes predicted...violent storms, drought..
- **Biodiversity:** Habitat destruction...ocean acidification = 6TH major species extinction event looming??

Local Sustainability Programs

Typical Focus: Gov't Operations

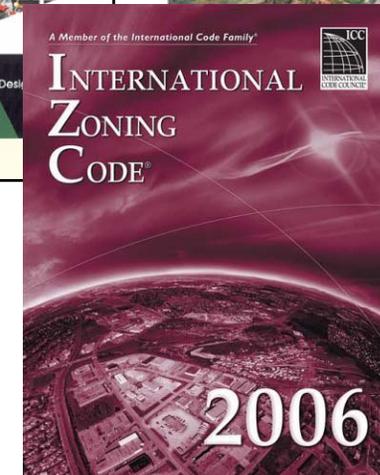
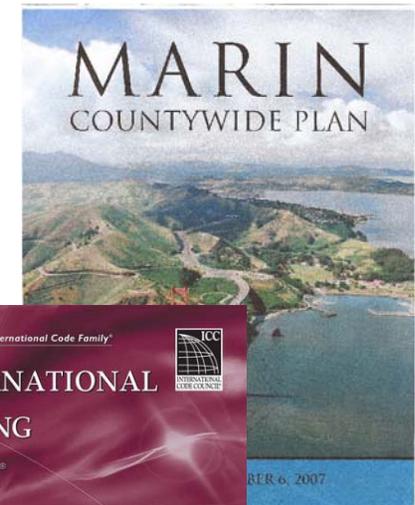
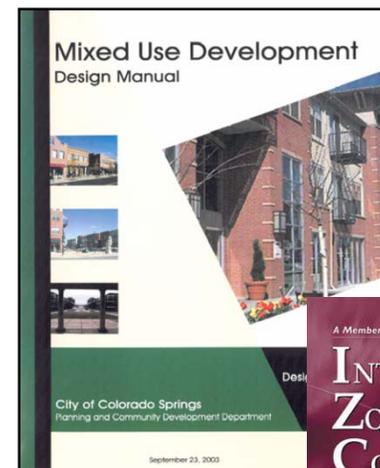
- Hybrid fleets
- Compact fluorescent bulbs
- Mass transit
- Plant street trees
- Green city buildings
- Purchase renewable power
- Recycling programs



Local Sustainability Programs

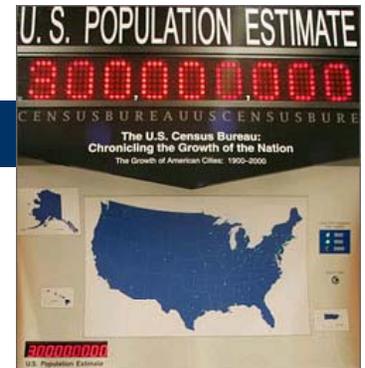
WHAT'S MISSING??

- Little focus on:
 - Development patterns/private development
 - Development code barriers to “green” projects
 - Code incentives



WHY DO DEVELOPMENT PATTERNS AND CODES MATTER??

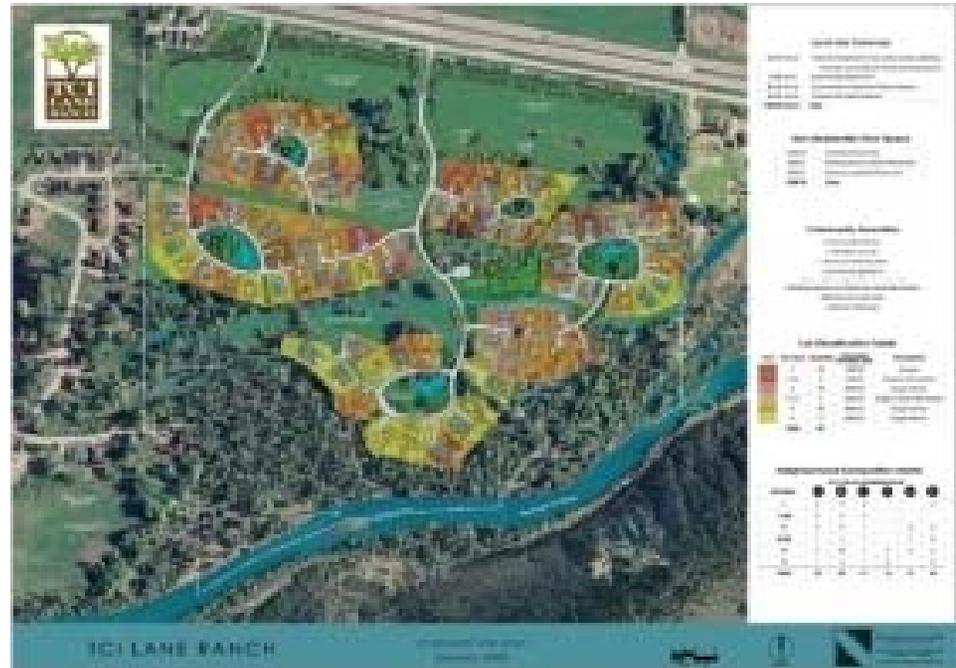
- 100 MILLION MORE OF US BY 2043!!
- 70 MILLION NEW HOUSING UNITS
- BURN CALORIES, NOT FOSSIL FUEL!!



WHY DO DEVELOPMENT PATTERNS MATTER??

NET ZERO ENERGY = SPRAWL = “*GREENWASH*”

- 5 miles from nearest small town/15 miles to small city
- No connections to adjacent subdivisions
- No jobs, services
- Critical wildlife habitat



How Can Development Codes Support Sustainability?

- **Development codes CAN help address critical issues:**
 - RENEWABLE ENERGY
 - FOOD SUPPLY
 - HEALTH
 - CLIMATE CHANGE
 - WATER CONSERVATION
 - SAFETY
 - HABITAT PROTECTION
 - AND OTHERS



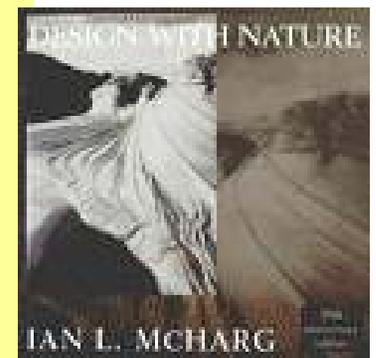
THINK GLOBALLY... ACT LOCALLY

- Development codes = powerful tool to accomplish community goals.
- DON'T WAIT:
 - Mandatory elements in comp plans
 - States preempting/suing local govts.
 - Federal laws...GHGs; ESA; MGA
 - Save money
 - Federal stimulus funding for code updates
 - Adaptation--man cannot breathe underwater or eat dust (infrastructure, migration, food)!



KEY FEATURES OF A SUSTAINABLE CODE?

- Covers **new topics**: energy, health, food security, climate change, recycling—and relationships among them
- **Not just reactive or prescriptive**: removes barriers, creates incentives
- **Balances** environment, economics, social aspects of development
- **Tailored** regionally to climate and ecology...Design With Nature.



THREE PATHS TO SUSTAINABILITY

THINK B-I-G!!

- **BARRIERS**

- > Eliminate barriers to mixed-use development and infill

- **INCENTIVES**

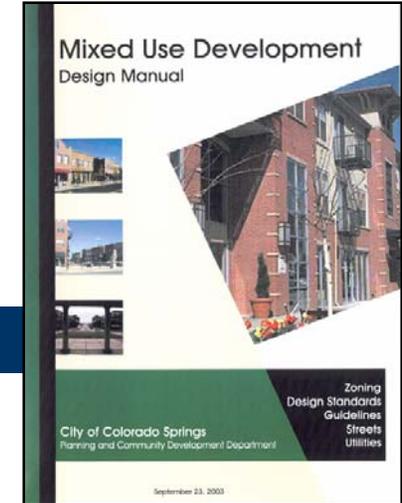
- > Create density bonuses for green roofs

- **GAPS**

- > Fill regulatory gaps ~ require water-efficient landscaping



Sustainable Code: Renewable Energy/Energy Conservation



- Remove Barriers
 - Create true, by-right mixed-use zone districts with compatibility standards to help reduce reliance on automobile
- Create Incentives
 - Green building expedited permitting/reduced fees
 - Automatic parking reductions for infill development/credit for on-street parking



Sustainable Code: Renewable Energy/Energy Conservation

- **Fill Regulatory Gaps:**
 - Require green/cool roofs
 - Establish a firm urban service boundary with clear policies/rules for change or expansion

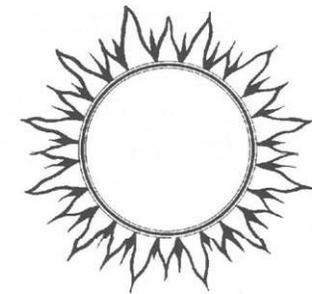


Sustainable Code: Renewable Energy/Energy Conservation

- Fill Regulatory Gaps:
 - Preserve solar access at site level
 - Require solar-ready houses



Solar Access
Guide



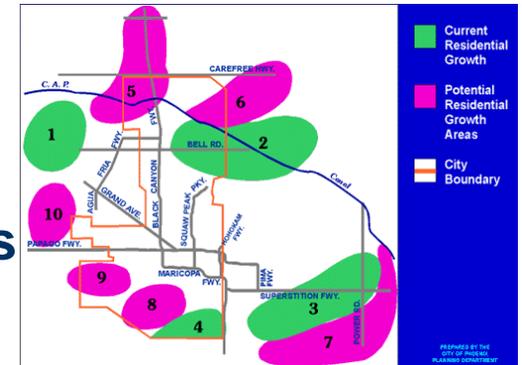
or Solar Shadow Analysis



Sustainable Code: Natural Area Protection

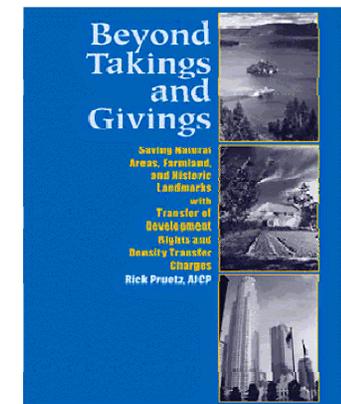
- **Remove Barriers:**

- Identify preferred and off-limits development areas and rezone
- Allow shared driveways in subdivisions to avoid habitat fragmentation



- **Create Incentives:**

- Offer density bonuses for provision of large blocks of contiguous open space
- Adopt development rights transfer or purchase program



Sustainable Code: Natural Area Protection

- Fill Regulatory Gaps:
 - Require significant % of open space set asides and wildlife habitat management plans in new edge subdivisions
 - Enact tree and vegetation protection requirements
 - Adopt true agricultural/rural zoning (1 unit/40-80+ acres) in rural areas.



Sustainable Code: Housing Choices

- Remove Barriers:

- Permit detached accessory dwelling units by right in residential zone districts
- Allow small and non-conforming lot development with contextual dimensional and compatibility standards



- Create Incentives:

- Offer density bonuses for projects with a mix of housing types and units
- Grant parking reductions for affordable multi-family projects



Sustainable Code: Housing Choices

- Fill Regulatory Gaps:
 - Enact affordable housing mitigation requirements (e.g., require ADUs with all large SF dwellings over a certain size).
 - Require mix of housing types or units in new developments



Sustainable Code: Other Issues

- Mobility/transportation
- Green infrastructure
- Recycling and reuse
- Health/Safety



THE TIME IS RIPE: PEOPLE ARE READY!!!

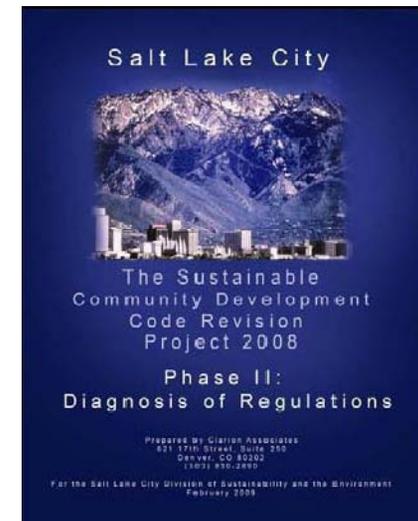
Rooftop garden
on car



THE TIME IS RIPE: LOCAL GOVERNMENTS ARE LEADING THE WAY!!!

SALT LAKE CITY GREEN

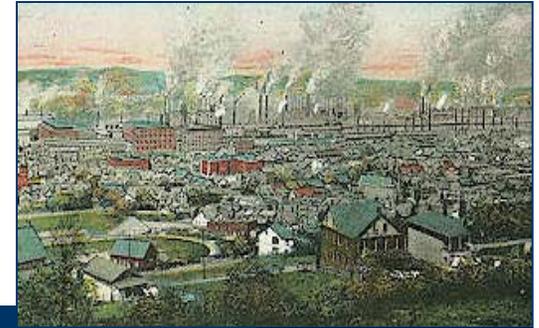
<http://www.slccgreen.com/CodeRevision.htm>



WASHINGTON, D.C., ZONING REVIEW

<http://dczoningupdate.org/sustainability.asp?area=sus>

CAN WE REVOLUTIONIZE ZONING???



EUCLIDEAN ZONING MILESTONES:

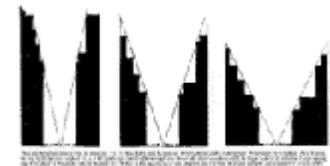
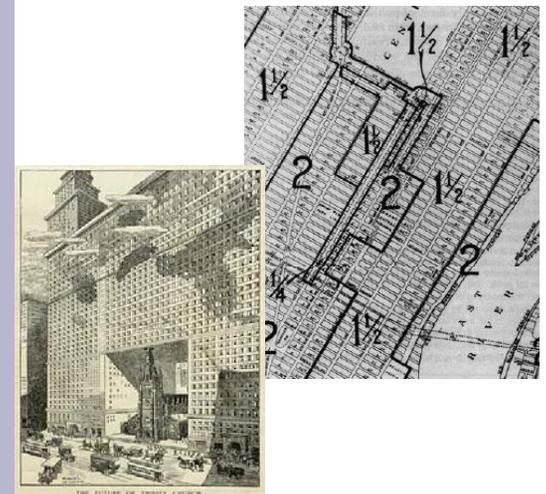
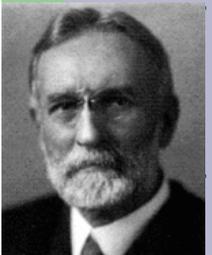
- 1916—New York City adopts city wide zoning scheme. Only 48 cities by 1921



1921—Standard State Zoning Enabling Act

1926—Upheld by U.S. Supreme Court

1926—425 zoned cities=1/2 U.S. population



Sustainable Code Implementation: Low-Hanging Fruit Strategy

Energy Conservation

- Allow reduction of parking spaces to accommodate recycling bins
- Require cool roofs
- Grant extra landscaping credit for tree protection



Sustainable Code Implementation: Use Menus As A First Step

Article 3: Building Design Standards
Section 3.3. Options to Improve Building Design
Subsection 3.3.2. Building Design Options

C. Table of Design Options

Option	Description / Comments
Group A: Each option worth 1 point	
Achieve star rating under the City of Austin Green Building program.	Each star of the rating qualifies for one point. No double credit for Green Building points from Group B.
Provide for linear stores in building façade. (1 point for each linear store)	See Article 5, Definitions
Provide façade articulation.	See definition D.1. below.
Provide primary entrance design.	See definition D.2. below.
Provide roof design.	See definition D.3. below.
Provide building materials meeting the standards of this section.	See definition D.5. below.
Improve storefronts to new regulatory standard of Section 3.2.2 for glazing type/size & shading.	Applies only for buildings existing at the effective date of this Subchapter.
100% of glazing on ground-floor facades that face any street or parking lot have a Visible Transmittance (VT) of 0.6 or higher.	
Complies with neighborhood design guidelines	
Group B: Each option worth 2 points	
Design building so that at least 75% of the façade facing the principal street consists of storefronts with at least two separate entrances facing the principal street	
Provide sustainable roof.	See definition D.4. below.
Integrate solar power generation into building design.	The specific features and design shall be approved by the Director. Examples may include, but are not limited to, rooftop solar panels or Building Integrated Photovoltaics.
Achieve Green Building rating of 2 stars.	



WWW.LAW.DU.EDU/RMLUI



Sustainable Community Development Code

A Code for the 21st Century

Beta Version 1.1

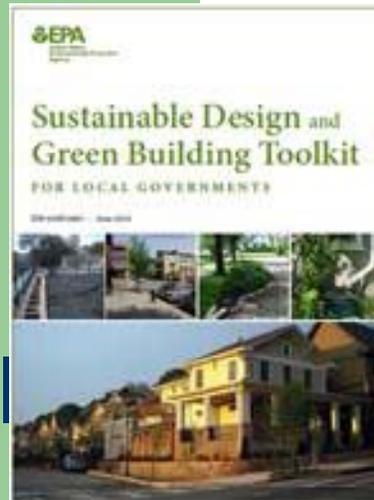


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REMEMBER:

Before There Was The Sustainable Code, There Was The....

SUSTAINABLE PLAN



WHAT ARE SOME OTHER KEY SUSTAINABILITY TOPICS THAT SHELBURNE'S DEVELOPMENT CODES SHOULD ADDRESS??



SUSTAINABLE COMMUNITIES BEGIN WITH SUSTAINABLE PLANS AND DEVELOPMENT CODES

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