

ELLEN DUNHAM-JONES AND JUNE WILLIAMSON

RETROFITTING

URBAN DESIGN SOLUTIONS *for* REDESIGNING SUBURBS

SUBURBIA

UPDATED
EDITION



WITH A NEW UPDATE BY THE AUTHORS AND A FOREWORD BY RICHARD FLORIDA

Ellen Dunham-Jones, AIA

Professor, MSUD Coordinator, Georgia Institute of Technology

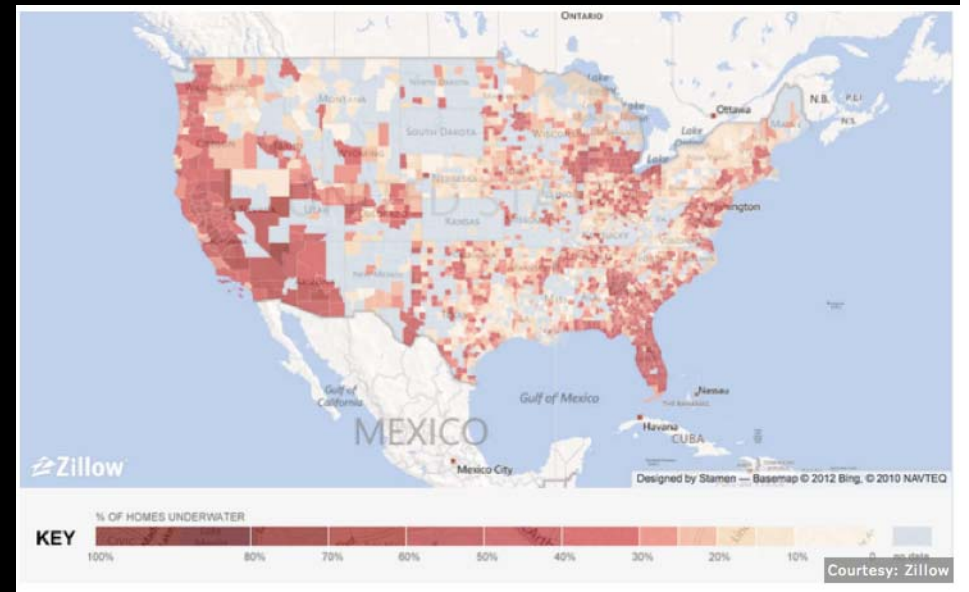
Chair, Congress for the New Urbanism

Note: Images are for educational purposes and may not have copyright approval



1100 shopping malls: 1/3 are dead or dying

50,000+ strip malls, 11% vacancy rate



350,000+ big box stores, 300 mil vacant sf

22% of homes are "underwater"

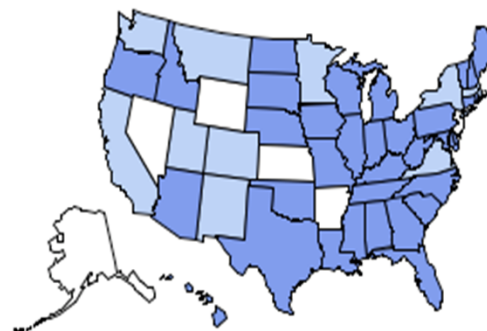
imperative : health: obesity

The shift from the industrial to the post-industrial economy has shifted the public health focus from infectious disease to chronic disease. Suburban development patterns have been linked with sedentary lifestyles, dramatic increases in **obesity** and consequent higher risk factors for **cardiovascular disease** and **diabetes**.

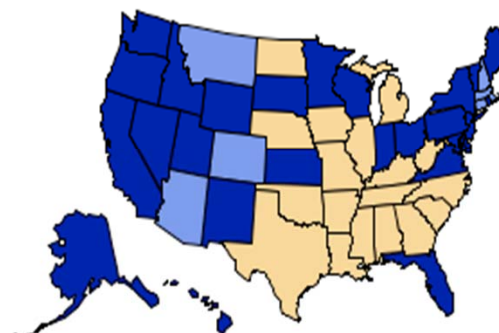
Centers for Disease Control, Healthy Communities Initiative

Obesity Trends* Among U.S. Adults BRFSS, 1990, 1999, 2009

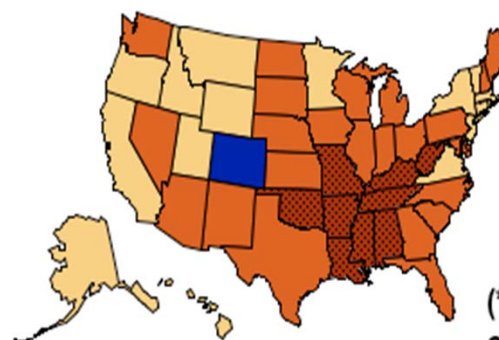
1990



1999



2009



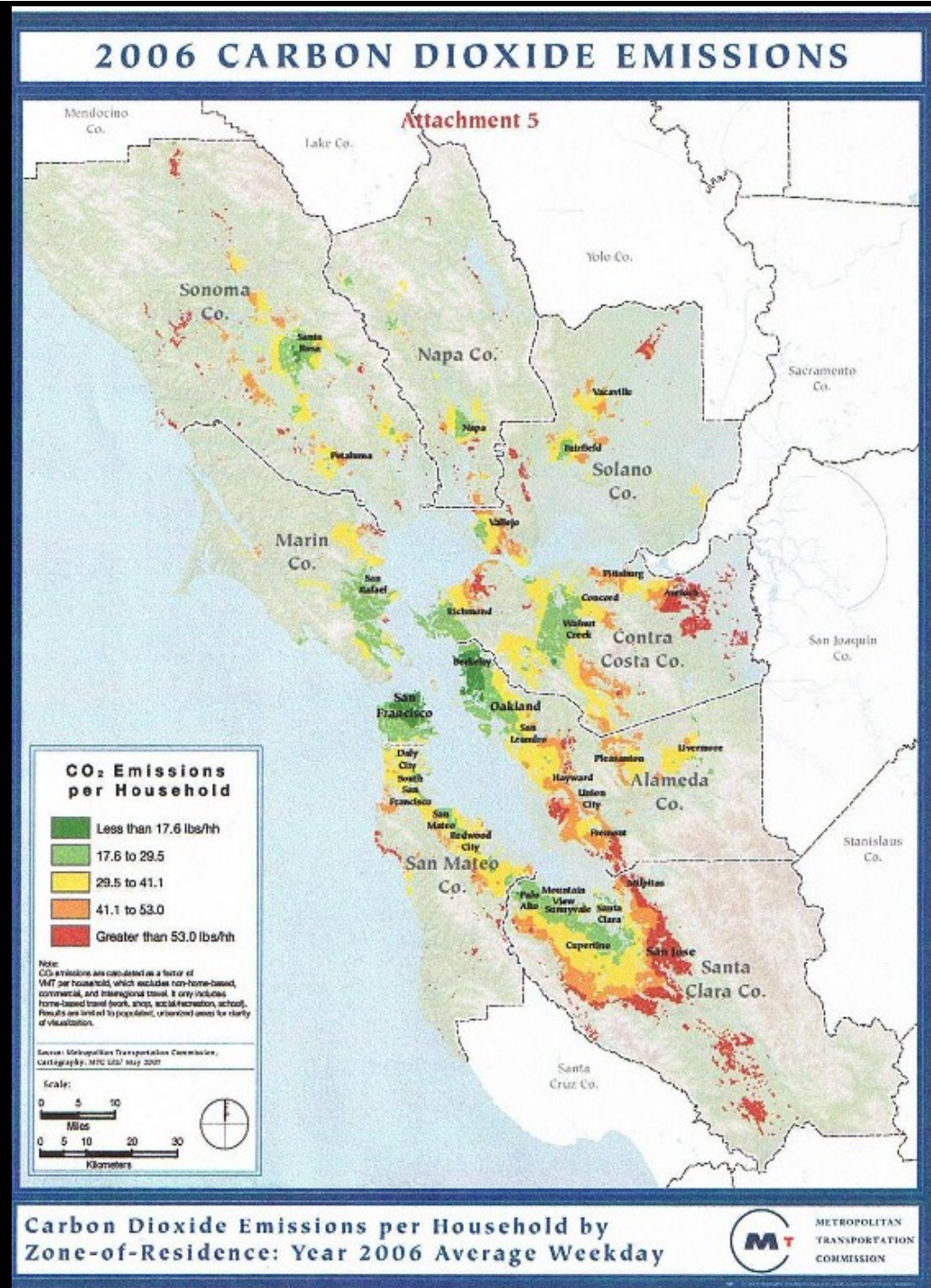
(*BMI ≥ 30 , or about 30 lbs. overweight for 5'4" person)



imperative :
climate change

On average, urban dwellers in the U.S. have 1/3 the carbon footprint of suburban dwellers.

Interpolation from various studies



imperative : poverty

Since 2005, more Americans in poverty have been living in suburbs than in cities – and their numbers are growing at a faster rate. *The Brookings Institution.*

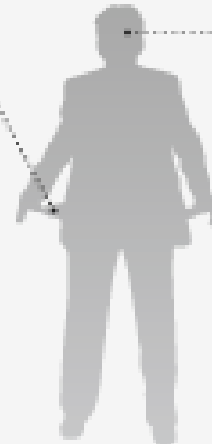
Between 2000 and 2008, large suburbs saw the fastest growing low-income populations across community types. *The Brookings Institution.*



13.7 million

Number of poor people in the suburbs as of 2009

37 percent
Increase in
the number
of poor people
in the suburbs
since 2000



**Recession related
fiscal challenges**

Poverty
Job loss
Foreclosure
Unemployment
Underemployment
Mortgage payments

Center for American Progress

imperative :
affordability

Average U.S. household spending
on transportation is 19% of income.
-9-12% in “walkable urbanism”
-25% in “drivable suburbanism”
-30% for those in the lower
income 1/2 of U.S. households

*Center for Neighborhood
Technology(2005)*



ABOGO and the Housing + Transportation Affordability Index

Center for Neighborhood Technologies, <http://htaindex.cnt.org>



A household at 88 Spring Street spends approx \$842/month on transportation (\$3.39/gallon)

The regional average is \$1275/month

Housing + Transportation Affordability Index

Center for Neighborhood Technologies, <http://htaindex.cnt.org>

Average Block Size

In Portland-South Portland-Biddeford, ME

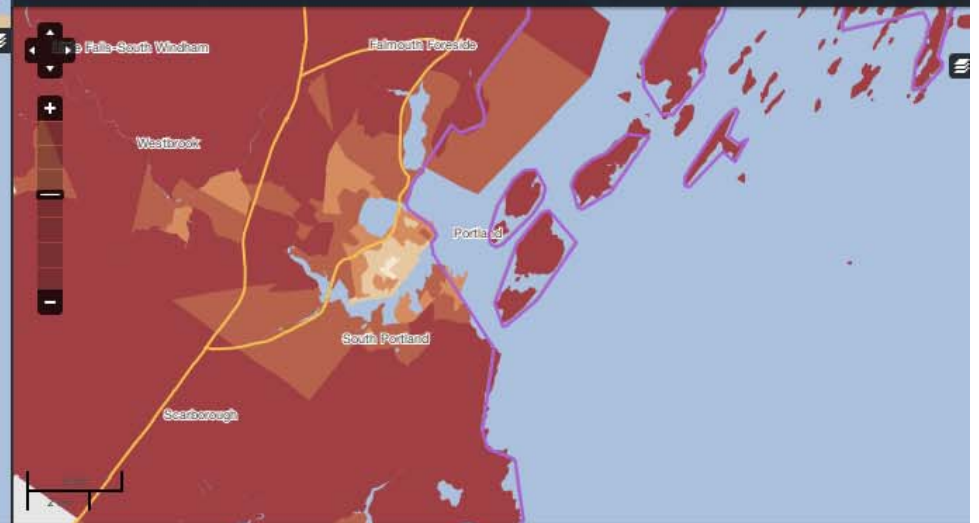
■ Insufficient Data ■ <5.25 Acres ■ 5.25 to 9 Acres ■ 9 to 17.5 Acres ■ 17.5 to 60 Acres ■ 60+ Acres



GHG Per Household

In Portland-South Portland-Biddeford, ME

■ Insufficient Data ■ <3.3 Tonnes/Year ■ 3.3 to 5.1 Tonnes/Year ■ 5.1 to 6.5 Tonnes/Year ■ 6.5 to 8.6 Tonnes/Year ■ 8.6+ Tonnes/Year



16.5% of Portland-Biddeford Metro households live in areas with walkable blocks

90% of households contribute more than 6.5 tonnes of GHG emissions/year, 73% are at or above the 8.6 tonnes/year (the highest number calculated)

market driver headlines :

demographic shifts

suburbia simply isn't "family-focused" anymore. 2/3 of suburban hh's don't have kids, 85% of new hh's won't through 2025 . Millennials are looking for nightlife and value wifi and connectedness more than cars.

the new centers

as metros have expanded, first ring suburbs and commercial corridors now have central locations, often meriting densification and urbanization of their "underperforming asphalt".



strategy:

DC Walk UPS

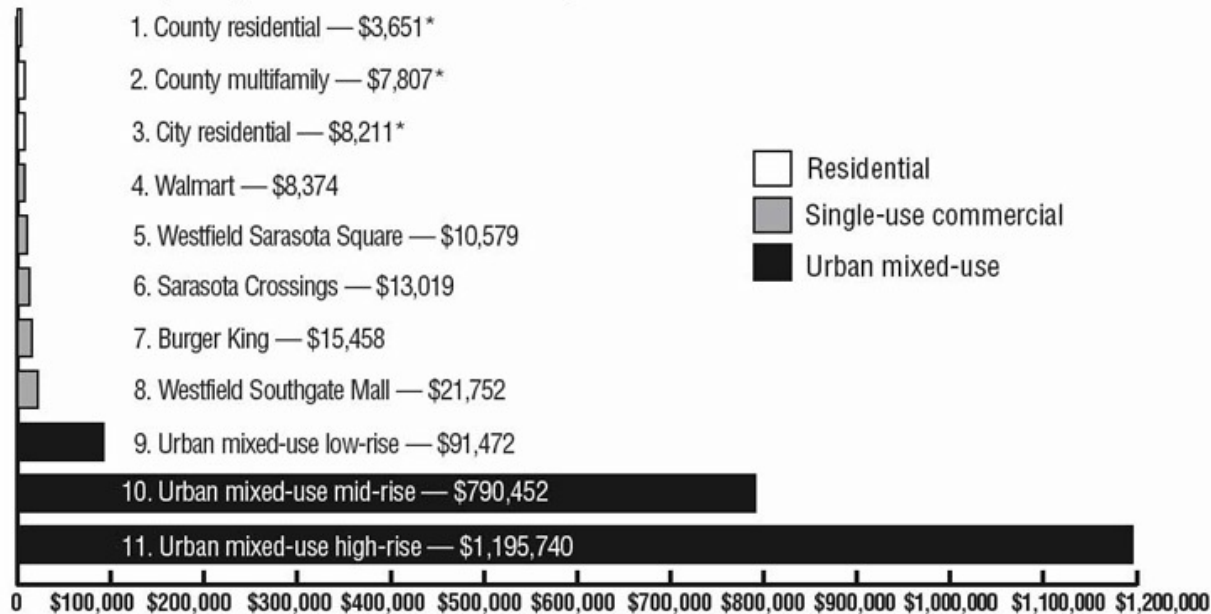
2012 Findings

GWU: Chris Leinberger, Mariela Alfonso

- 43 regionally-significant walkable urban places
- 75% price premium for office rents
71% price premium for multi-family residential rents/sales
- Retail \$6.71/sf premium for each tier ranking
- Walk UPS = 11% of metro area, but 33% of metro real estate income

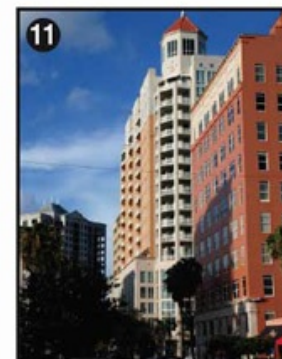
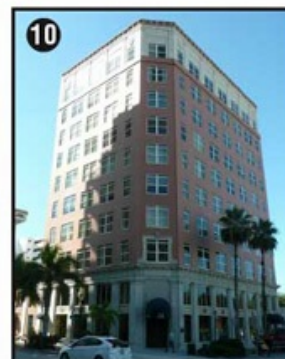
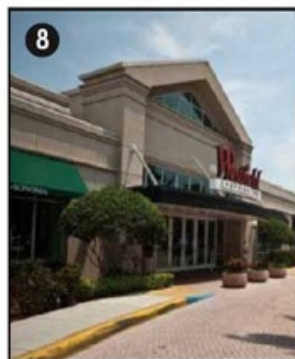


Annual tax yield per acre: Sarasota County, Florida



New Urban News; Sources: Sarasota County Government, Office of Financial Planning; Joe Minicozzi, Public Interest Projects. Based on 2008 tax figures.

*Based on average sales price per Sarasota County Board of Realtors, 2008 data.



strategy :

Re-inhabitation

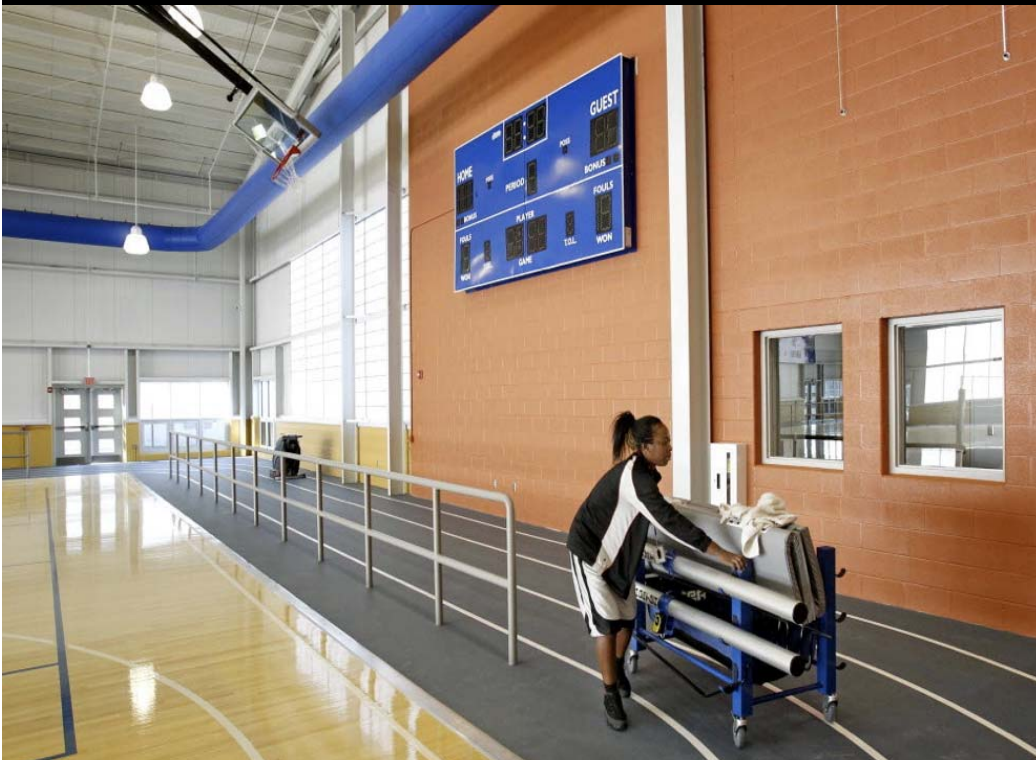
relocalization of people, place,
landscape, and activity

tactical urbanism,
crowdsourcing, and
collaborative consumption

cheap space for community-
serving uses

“third places”

From “Big Lots” to LEED gold recreation center and stormwater amenity
Collinwood Recreation Center, Cleveland, OH: City of Cleveland, Paul Volpe Architects



Updating the “L” strip mall with third spaces and portals to the neighborhood
Lake Grove Shopping Center, Lake Oswego, OR: Eric Shoemaker Beam Development



From “back” to a new front facing the neighborhood and inviting walking and biking

Meds & Eds: From dying mall to revived mall and university medical center

One Hundred Oaks, Nashville, TN: ATR & Assoc., Gresham Smith and Partners Architects



Source unverified

From retail strip to job and town center

Willingboro Town Center

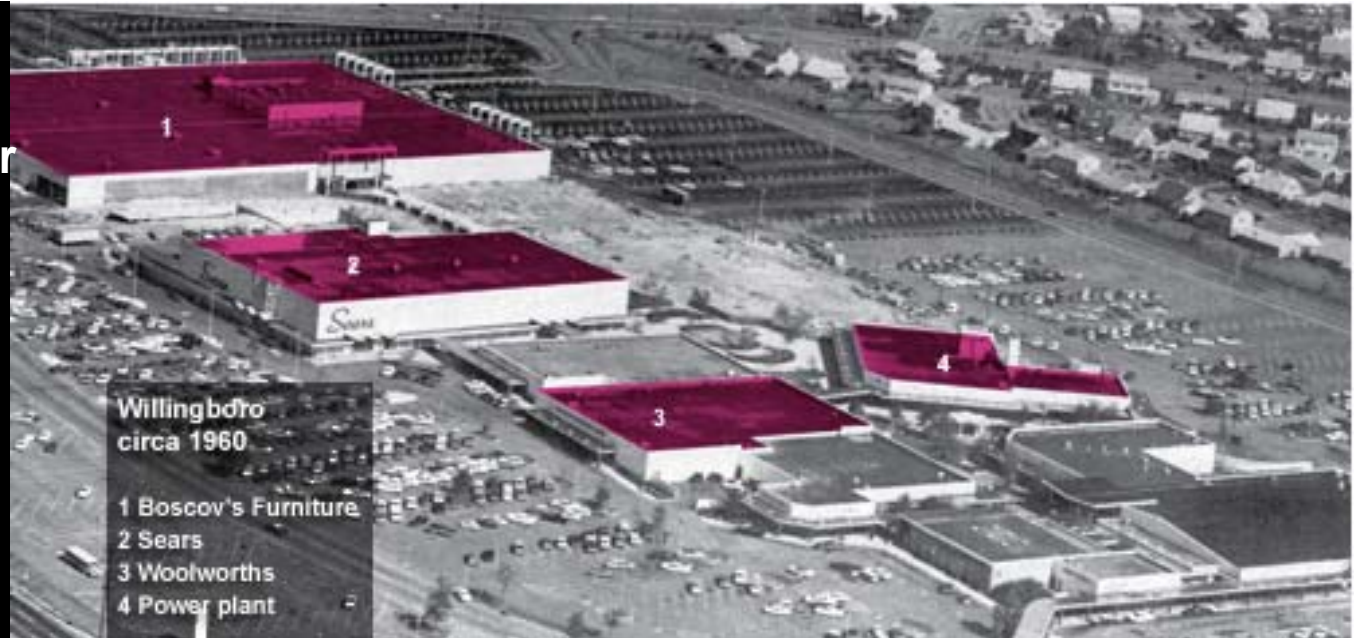
Willingboro, NJ (pop. 32K)

Delco Development, Croxton

Collaborative Architects

1960

1. Boscov's Furniture
2. Sears
3. Woolworths
4. Power plant



Courtesy Croxton Collaborative Architects

MTC Aerial Photography

2009

1. Mail-service pharmacy
2. Office building
3. Public library w/ retail
4. Community College
5. Town Commons
6. Townhouses
7. Planted swales



Crowdsourced street to become permanent?



If you're looking for a model example of [crowdsourced placemaking](#), check out the [Better Block project](#) in Oak Cliff, near Dallas, Texas.



2-day “Art Installation”
Build a Better Block,
Go Oak Cliff, October 2010
Oak Cliff, Texas

Source unverified

TACTICAL URBANISM^{BETA}

Short Term Action || Long Term Change

tac-ti-cal

adj: \tak-ti-kəl\

1. of or relating to small-scale actions serving a larger purpose
2. adroit in planning or maneuvering to accomplish a purpose



**Congress for the New
Urbanism: Next Gen**
*short-term projects for
long-term gains*



pavement to plaza



depave



parklet



yarnbombing



Adirondack chairbombing



guerrilla grafting

strategy:

Redevelopment

urbanize – organize buildings to
create connected outdoor rooms
and walkable street networks

densify and diversify: reward the
pedestrian eye

green the infrastructure

Incremental Sprawl Repair Prototypes The Fourplex and the Trenton Donut

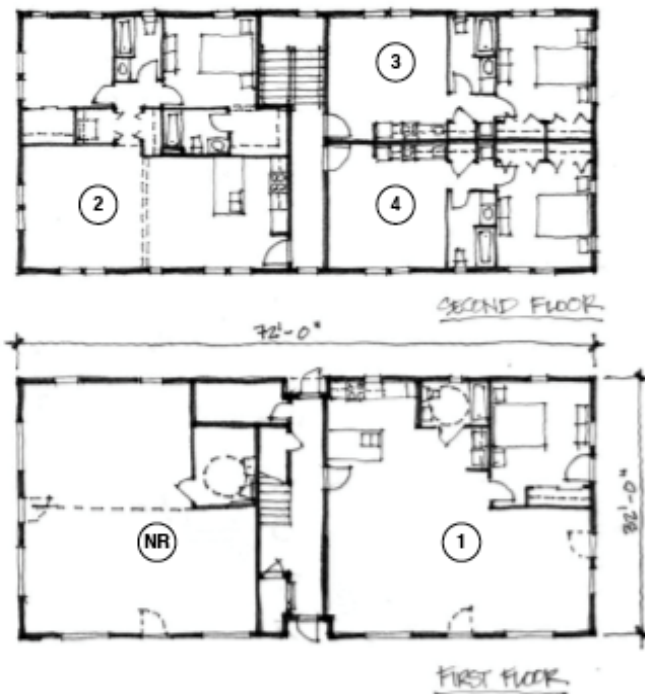
Various locations: Anderson/Kim; Rob Sharp

“Main Street” mixed-use building types are viable again now that FHA has raised cap on comm'l

Unit	Program	Area
1	1BR - First Fl.	1,080 SF
2	2BR - Second Fl.	1,034 SF
3	1BR (#1) - Second Fl.	540 SF
4	1BR (#2) - Second Fl.	540 SF
	Common Area	488 SF
Residential Subtotal		3,682 SF
NR	Non-Residential	906 SF
Total		4,588 SF

19.7% of the building is non-residential.

FHA mortgages allow for a maximum of 20% non-residential.



ROBERT SHARP, ARCHITECT

The Trenton Donut, above, Includes five micro commercial spaces with shopfronts, topped by residential. The building includes a central court — a haven of outdoor living in a commercial strip environment.

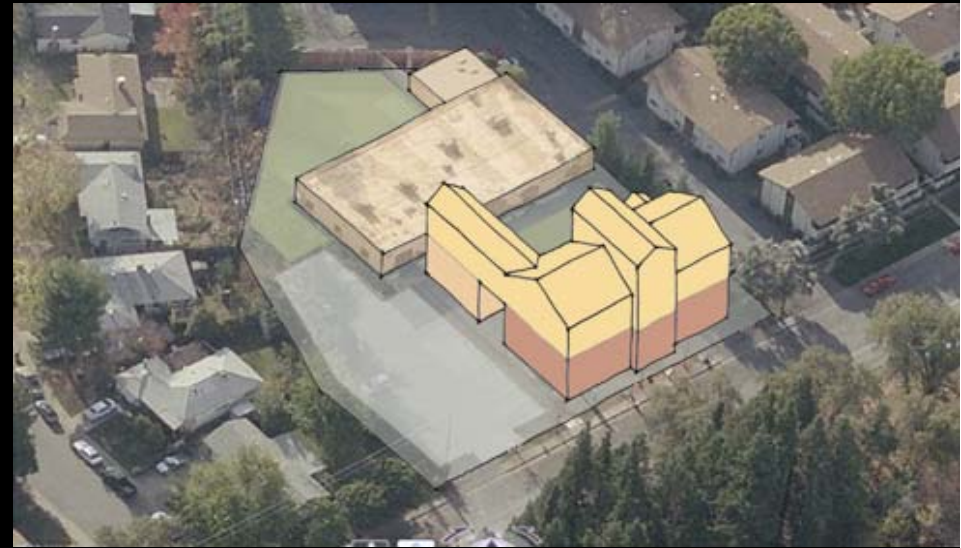


ROBERT SHARP, ARCHITECT

Liner building creates urban streetfront and courtyard retreat

Parkview Market, Chico CA (pop. 86K): Anderson/Kim

-grocery, office, residential and daycare



From grocery anchored strip mall to village center

The A&P Lofts, Old Cloverdale, Montgomery AL

City Loft Corporation, McAlpine Tankersley Architecture, The Colonial Company



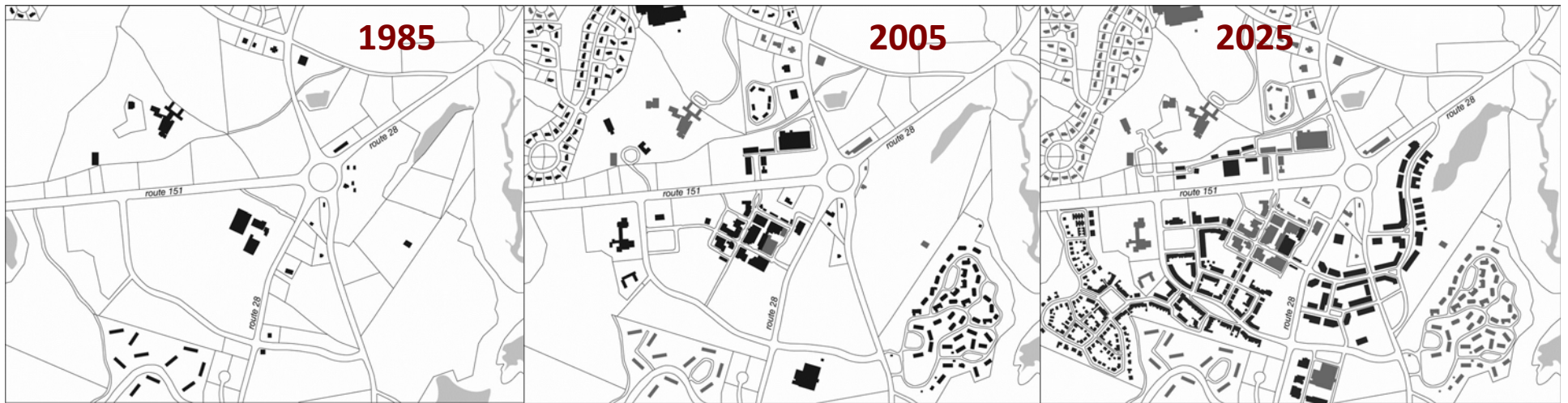
Using scale and placemaking to transition density, stormwater, and affordability

Cottages on Greene, East Greenwich, RI (pop.13k): 620 Main Street Assoc, Union Studio
From auto-repair to (15) 850-1ksf units on .85 acres, w bioretention, gardens and 30% deed-restricted affordable units

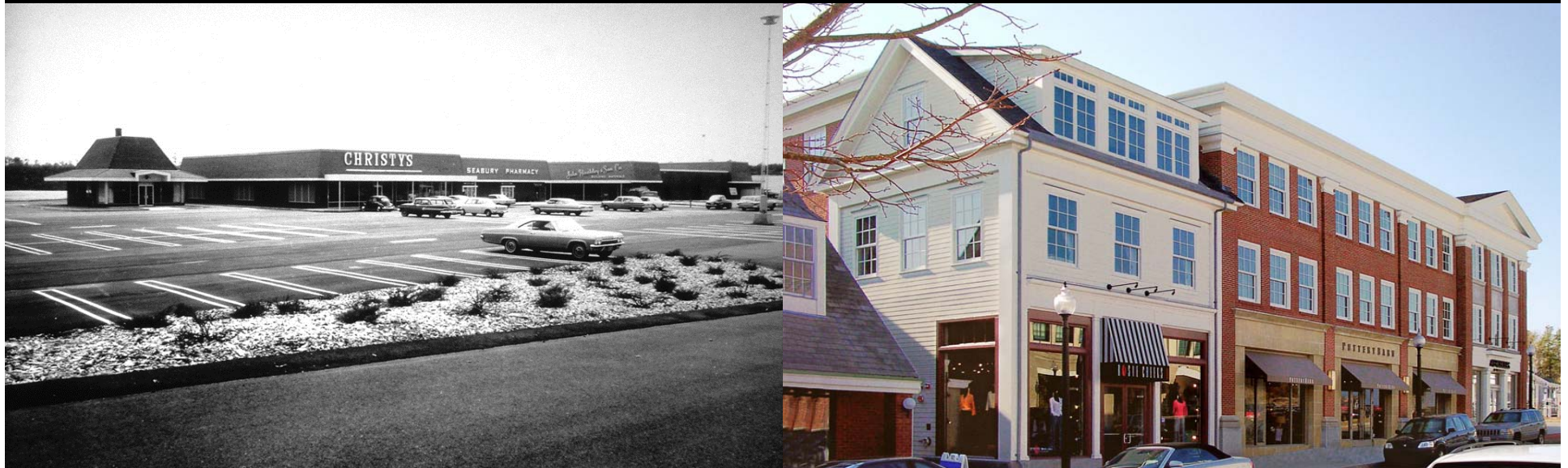


The “missing middle”: infill housing types for smaller households
Dan Parolek, Opticos Design





Source: Dunham-Jones, Williamson 2009



from strip center to “attachable urbanism”

Mashpee Commons, Cape Cod, MA, 1988-present

Cornish Assoc. Ltd / Duany Plater-Zyberk & Co / Imai, Keller Moore

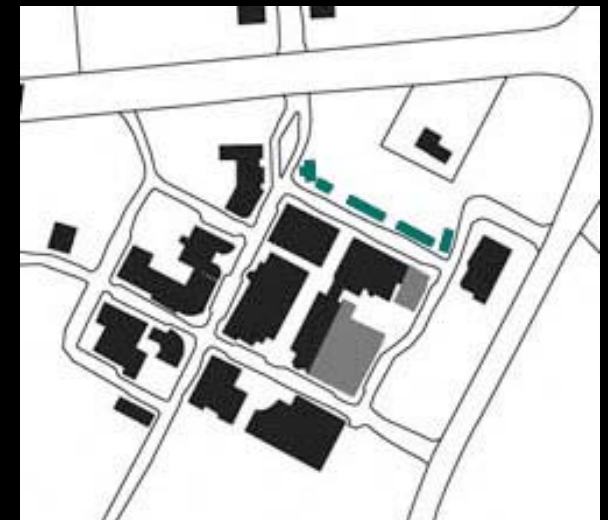


“skinny” liner buildings screen parking lots and provide incubator retail space for local shops – highest \$\$/s.f. on site

from strip center to “attachable urbanism”

Mashpee Commons, Cape Cod, MA, 1988-present

Cornish Assoc. Ltd / Duany Plater-Zyberk & Co / Imai, Keller Moore



From reinhabitation to redevelopment on 2.6 acre strip mall into town center

DeSoto Town Center, DeSoto, TX (pop. 50K): TCC High Street, JHP Architecture Urban Design



Leveraging Public Land and Crowdsourcing

Bristol Rising, Bristol, CT (pop. 60k): Renaissance Downtowns LLC



Recently Popular Ideas



Trader Joe's

👍 like (61) 💬 3



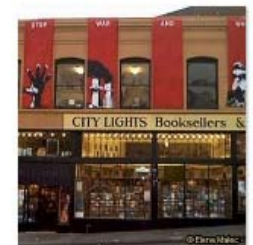
Performing Arts Centre

👍 like (342) 💬 45



Spice & Tea Exchange

👍 like (12) 💬 1



Literary Cafe + Performance Space...

👍 like (354) 💬 34

From 3-story regional mall to affordable TOD w/ anticipatory growth

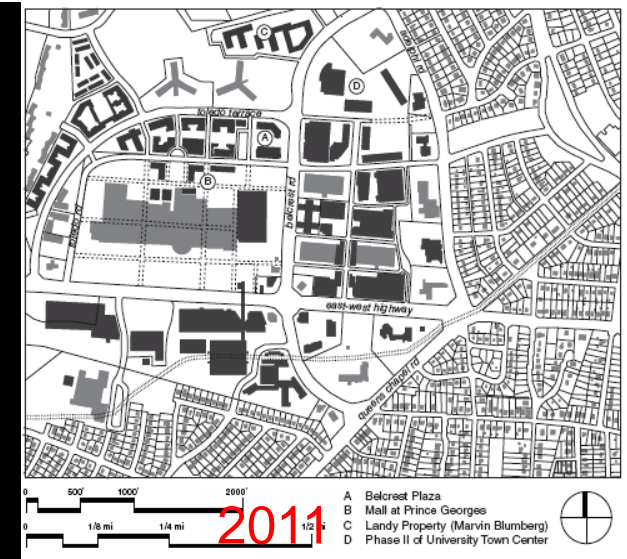
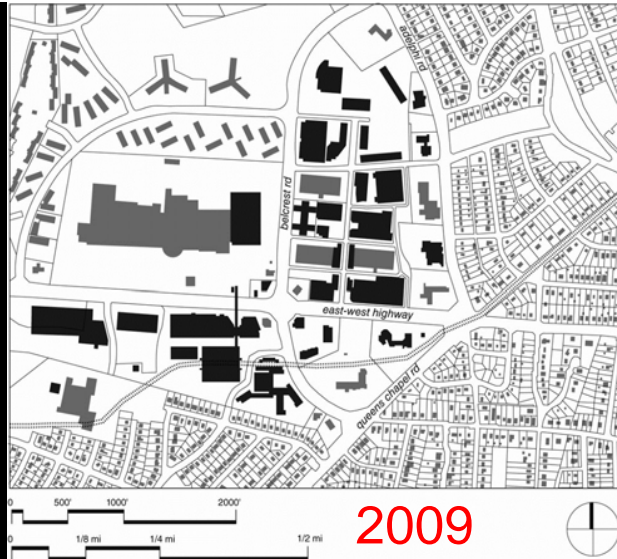
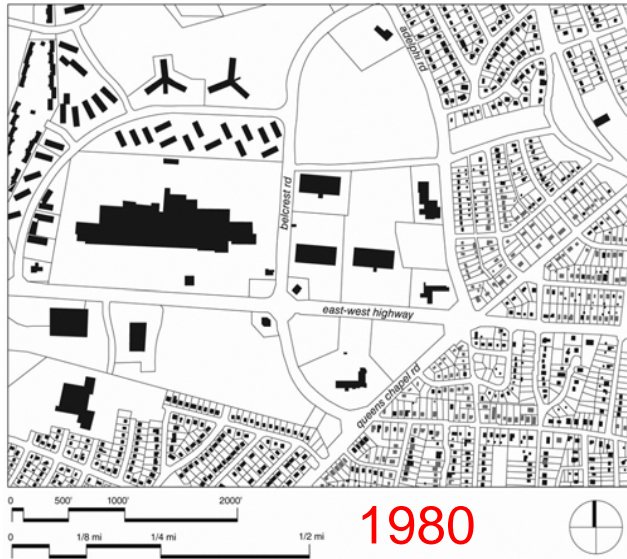
Englewood CityCenter, City of Englewood, Miller Weingarten Realty, Trammell Crow Residential, David Owen Tryba Architects, Calthorpe Associates

Sources unverified



tool: Antipatory Retrofitting:

Lay out parking lots as future building sites with utilities and trees lining the “streets”



transit triggers infill of an office park

University Town Center, Hyattsville, MD (pop. 18k)

Prince George's Metro Center, Inc.; Parker Rodriguez, RTKL Associates, WDG Architecture

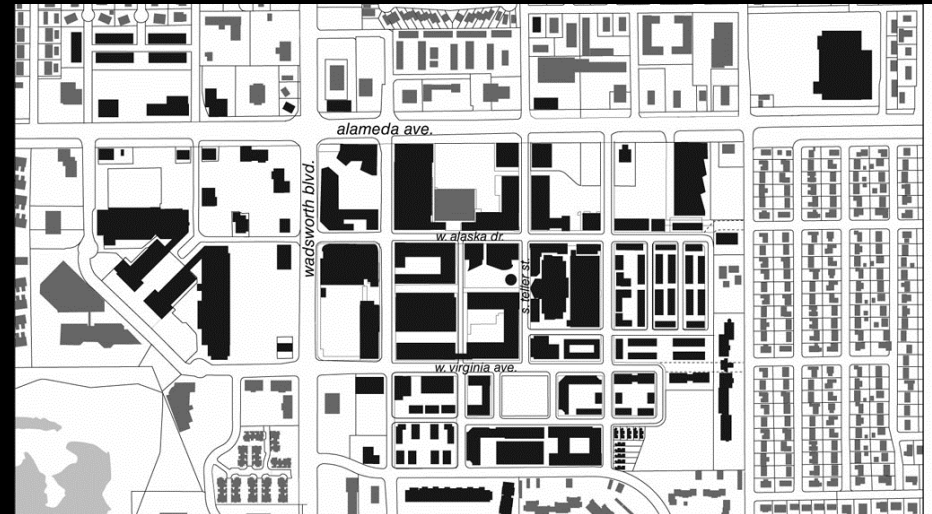
From dead mall to green downtown

Belmar, Lakewood, CO (pop 143k): Continuum Partners; Elkus Manfredi Architects, Civitas Inc.



Suburban Form

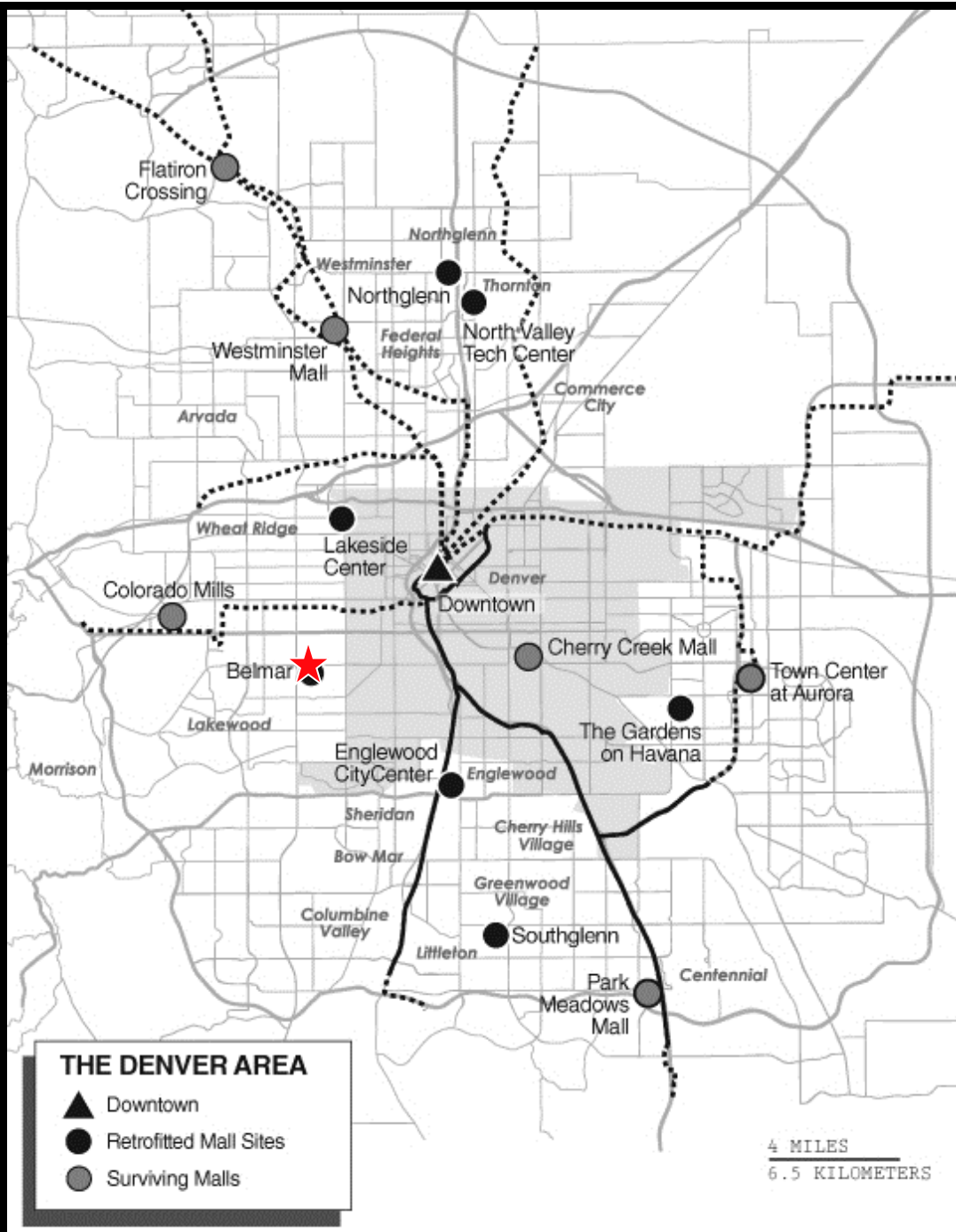
- buildings as discrete, stand-alone objects
- open space lacks form, is dominated by cars
- blocks and streets are large, unconducive to walking
- single uses, separated infrastructure systems



Urban Form

- buildings align and front onto the street
- open space shaped by the buildings; an outdoor room
- blocks and streets are smaller, more walkable, safer
- mixed uses, more integrated infrastructure systems





8 of 13 regional malls in the Denver Metro area have been retrofitted or announced plans to be.

Retrofitting does NOT imply the wholesale redevelopment of existing neighborhoods.

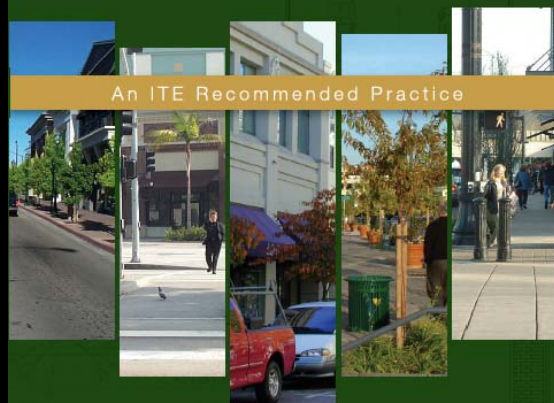
*Rather it provides existing neighborhoods with urban nodes on targeted underperforming sites—raising the question, **how to connect the dots?***

Source: Dunham-Jones, Williamson, 2009

Recapturing traffic islands for redevelopment while making walkable intersections

Fort Totten MetroRail stop, Washington DC Planning Department, WAMATA

Source: Washington DC Planning Dept website



An ITE Recommended Practice

Designing Walkable Urban Thoroughfares:
A Context Sensitive Approach



Institute of Transportation Engineers



From 5-lane arterial to 2-lane Main Street with multi-use parking Ramblas & solar

Lancaster, CA (pop 157k): CT/KDF Community Development Partners, Moule & Polyzoides

Since revitalization started in 2009: \$106mil in New Markets Tax Credits for redevelopment for local entrepreneurs; 50 new businesses; 10% increase in downtown property values; 50% cut in traffic collisions



Photoz; G. Komar



© Leigh Photography.com



Form-based codes to induce densification at nodes and support transit

Columbia Pike, Arlington County, VA, Ferrell Madden Associates, Dover Kohl & Partners



High rise housing above an expanded, hybrid mall

Oakridge Centre, Vancouver: Ivanhoe Cambridge, Henriquez Partners Architects



The Commons

- **Central Active Area**
 - Children's Play Area
 - Great Lawn
 - Rec Room
 - Juice Bar
 - Outdoor Seating
 - Tai Chi Plaza
- **Children's Play Area**
- **The Great Lawn**
 - Events Gathering Space
 - Passive Open Space
- **Rec Room**
- **The Meadow**
- **North Gardens**
 - Viewing Platform
 - Passive Open Space
- **South Gardens**
- **Community Gardens**
 - Residents' shared food and flower garden
 - Community tool storage etc.
- **The Commons Loop**



strategy:

Re-greening

reconstruct local ecology, daylight
culverted streams, and clean run-
off

add parks to increase adjacent
property values

food and energy production

carbon sequestration



Please join us for Meet & Greet with the MowGoats:
Clover, Buffy, Princess and Rosie!

Date: Tuesday, June 5, 2012

Time: 4 - 6 pm

Location: W. 61st Street and Frontier Avenue
(just south of Clark Avenue)

Decade-long study of 4,436 regreened vacant lots in Philadelphia showed reduction in gun assaults, vandalism, less stress and more exercise



RE-IMAGINING CLEVELAND

VACANT LAND RE-USE PATTERN BOOK

Bioretention



- 1 parking lot
- 2 roof
- 3 lawns
- 4 bioretention

Per Unit Cost Estimates

site demolition/grading \$20 per cubic yard (50)	\$1,000
walkway/paving materials	
compacted crushed gravel \$1.50 s.f. (1,800)	\$2,700
landscape materials	
topsoil \$25 per cubic yard (20)	\$500
mulch \$40 per cubic yard (80)	\$3,200
plant materials	
low mow seeding \$0.12 s.f. (3,700)	\$444
grasses-perennials \$5 s.f. (2,500)	\$12,500

Bioretention Total Cost Estimate

subtotal cost \$2.54 per square foot	\$20,844
contingency 10%	\$2,080
design/engineering 15%	\$3,120
total project cost	\$26,044

Cost Estimate.....Parcel Area 8,000 square feet (0.18 acre)



Vacant sites near parking lots and other paved surfaces can be used to provide bio-retention areas for managing stormwater. Bioswales and rain gardens must be designed and engineered in response to the soil conditions and water volumes at a specific site.

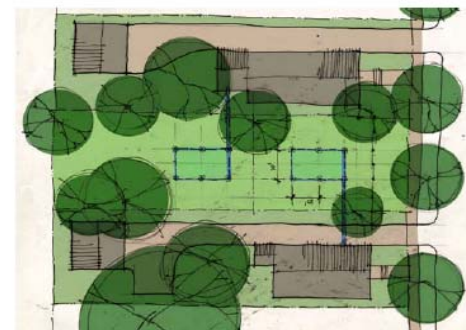
Geo Thermal Wells



Geo Thermal - Shared Utilities Total Cost Estimate

geothermal installation per house (\$21,000) (2)\$42,000

Geothermal technology uses the earth's renewable energy, just below the surface, to heat and cool a home, and to help provide hot water. Geothermal energy is extremely cost effective and environmentally friendly. Although the cost of installing a geothermal well is higher than installing a conventional heating system, a geothermal system results in significantly lower utility costs. Geothermal wells can be installed on a vacant site to generate energy for two adjacent houses.

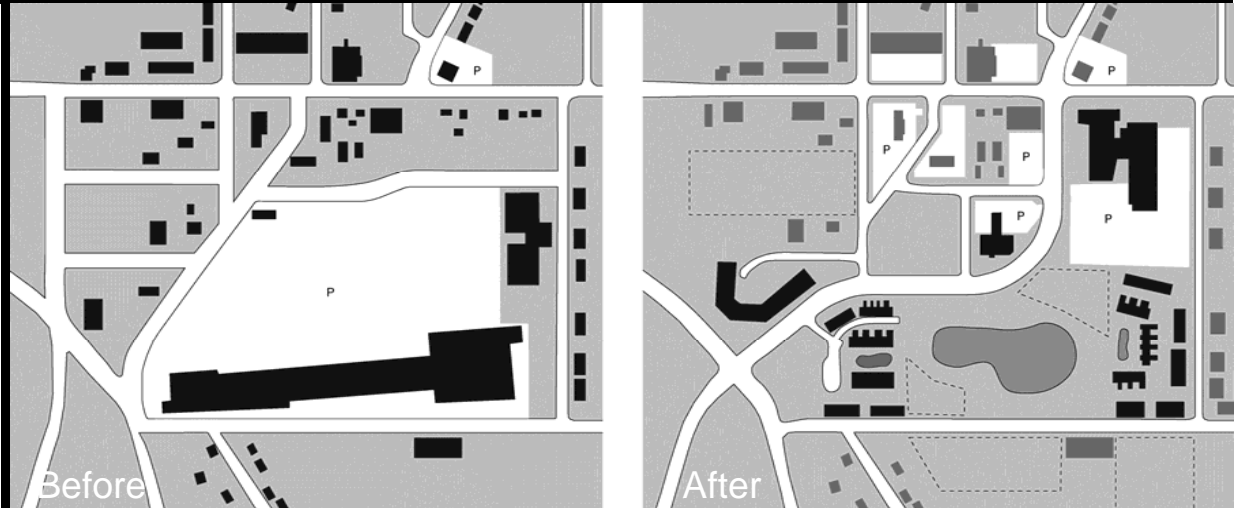


from shopping center to wetland w/ new lakefront property investment

Phalen Village, St Paul, MN, U.Minn CALA (Dowdell, Fraker, Nassauer) and City of St. Paul



CONTEXT MISSISSIPPI FLYWAY



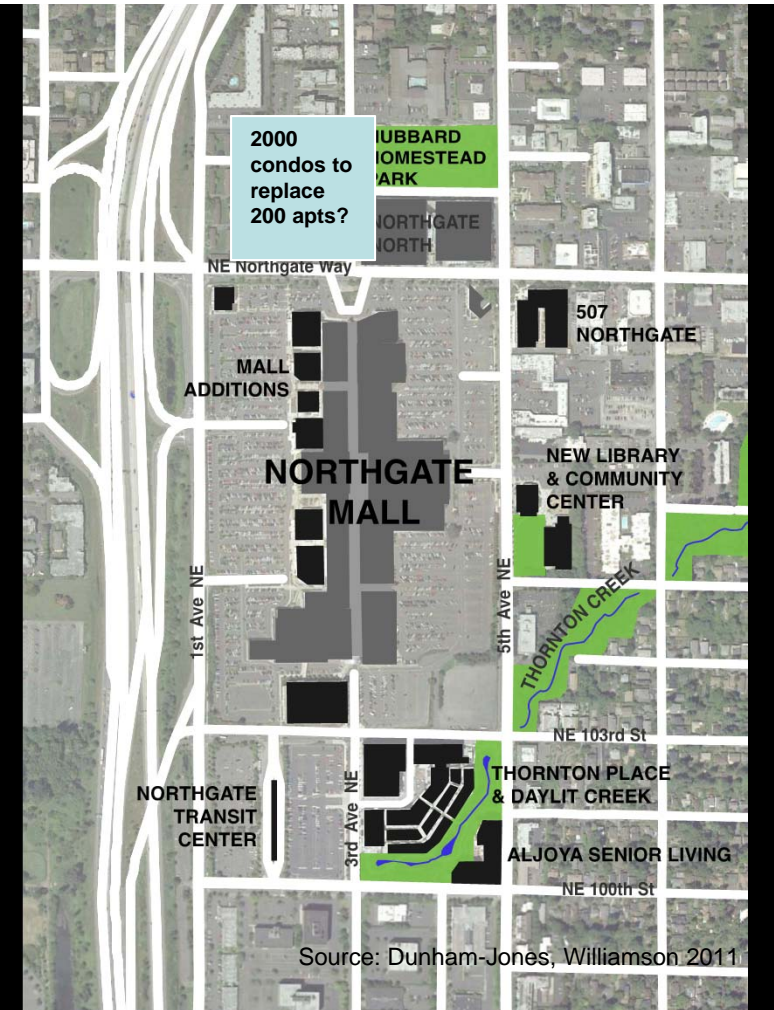
Source: Dunham-Jones, Williamson, 2009



From urban mall to park ringed with urban housing

Columbus Commons, Columbus OH: CDDC, Capitol South, Coma-Kokosing, Moody Nolan, EDGE Group





from mall parking lot to TOD with condos, senior housing, and daylit creek park

Northgate Urban Center, North Seattle, WA: LEED-ND pilot program

Thornton Place, Mithun Architects for Stellar Holdings & Lorig Associates

- Added 530 units of housing at net 96 units/acre (another 1800 coming?)
- Increased open space within the Northgate Urban Center by 50%
- Provided pedestrian links that shortened walking distances by 50% from several adjacent neighborhoods



Thornton Creek Water Quality Channel: City of Seattle, SvR Design

- Reduced impervious surface by 78%
- Designed to remove an estimated 40-80% of suspended solids from 91% of the avg annual stormwater runoff from the 680-acre drainage basin
- Created new habitat: native birds were observed within one month and native volunteer plants have gotten established with the 85% native species that were planted.
- Adds an estimated 30% increase in adjacent property values

Source: Kaid Benfield, Natural Resources Defence Council

strategy:

Next Steps for Slow Growth Places

Look at regional dynamics: dying malls + Main Streets. Target all 3 retrofit strategies accordingly

Review codes, fees, school funding, state transportation services, etc. to find ways to disincentivize sprawl and incentivize retrofitting

Consider TDRs and ROI req'mts on public investment to direct growth towards existing urban centers and away from inefficient locations that should be regreened

Consider urban growth boundaries or municipal service boundaries, and connectivity requirements

Leverage your public land and use civic buildings to anchor reinvestment

Use anticipatory Retrofitting for planned densification

challenge:

New Tools

The ITE street design manual

Community/Business Improvement Districts

Anticipatory retrofitting and contingent zoning

Design competitions

Street art

Greyfield audits

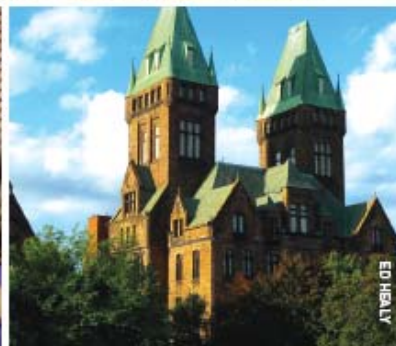


SAVE THE DATE:

22nd Annual
Congress for the New Urbanism

**JUNE 4-7
2014**

BUFFALO, NY



CONGRESS FOR THE NEW URBANISM

**Partnering to
Remove Obstacles
to Urbanism by
Reforming
Standards and
Practices**

Past Initiatives:
HOPE VI Mixed
Income Communities
LEED-ND
CNU/ITE Manual on
Walkable Urban
Thoroughfares



Project for Transportation Reform



Designing Walkable Urban Thoroughfares



Transportation Networks



Emergency Response and Street Design



Highways to Boulevards



Sprawl Retrofit



Live/Work/Walk: Removing Obstacles to Investment



Coming soon: Energy at a Neighborhood Scale



Health Districts



Rainwater-In-Context



LEED for Neighborhood Development

Emerging Initiatives: Tactical Urbanism,
Urban Agriculture, Code Reform, Low
Carbon Communities

ADDITIONAL RESOURCES

CNU Sprawl Retrofit Initiative: [Active list-serv, website with examples and model legislation. For info go to: http://www.cnu.org/sprawlretrofit](http://www.cnu.org/sprawlretrofit)
Retrofitting Suburbia Facebook page: <http://www.facebook.com/pages/Retrofitting-Suburbia/29939207705?ref=ts>

Designing Suburban Futures, 2013 book by June Williamson centered on next generation retrofits proposed through the Build a Better Burb design competition.

Sprawl Repair Manual: 2009 book by Galina Tahchieva of DPZ. Prototypical solutions at the regional, neighborhood, and building scale.

Big Box Reuse, Julia Christenson, 2008

Suburban Transformations, 2007 book by Paul Lukez

Malls into Main Streets: 2005 report by CNU to guide local officials and owners/developers through the process.

“Retrofitting Suburbia”, *Places* 17:2, Summer 2005, theme issue guest-edited by Dunham-Jones and Williamson

Greyfields to Goldfields: 2002 book by Lee Sobel and CNU based on 2001 regional mall study by Price Waterhouse Cooper

CNU 21, May 29-June 1, Salt Lake City

CNU 22, June 4-9, Buffalo, NY