

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

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The unintended consequences of suburbanization :

public health concerns

Dramatic increases in obesity linked to sedentary lifestyles in suburbia, car crashes leading cause of death for anyone under 35

climate instability & dependence on

fossil fuels Urban dwellers have approx 1/3 the carbon footprint of suburban dwellers. VMT and land urbanization have outpaced population growth 5 times.

disinvestment in downtowns

poverty and social segregation

Since 2005 more Americans in poverty live in suburbs than cities

affordability?

The savings of “drive ‘til you qualify” are wiped out by rising transportation costs
Low density increases municipal service delivery costs 40% on average

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

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 :

Re-inhabitation

relocalization of people, place,
landscape, and activity

tactical urbanism,
crowdsourcing, and
collaborative consumption

cheap space for community-
serving uses

“third places”

From Mies van der Rohe gas station to Senior and Youth Center

“Le Station”, Nun’s Island, Quebec, Arrondissement of Verdun, Eric Gauthier -FABG Architects, 2011



Geothermal heating allowed removal of the HVAC system to cleanly expose the roof and ceiling systems

From Wal-Mart to Public Library – a catalyst for walkability?

McAllen Public Library, McAllen TX; Boultinghouse Simpson Gates Architects, Meyer Scherer Rockcastle 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



From downtown mall to library, several colleges, office, health, and restaurants
Citi Plaza, London, Ontario



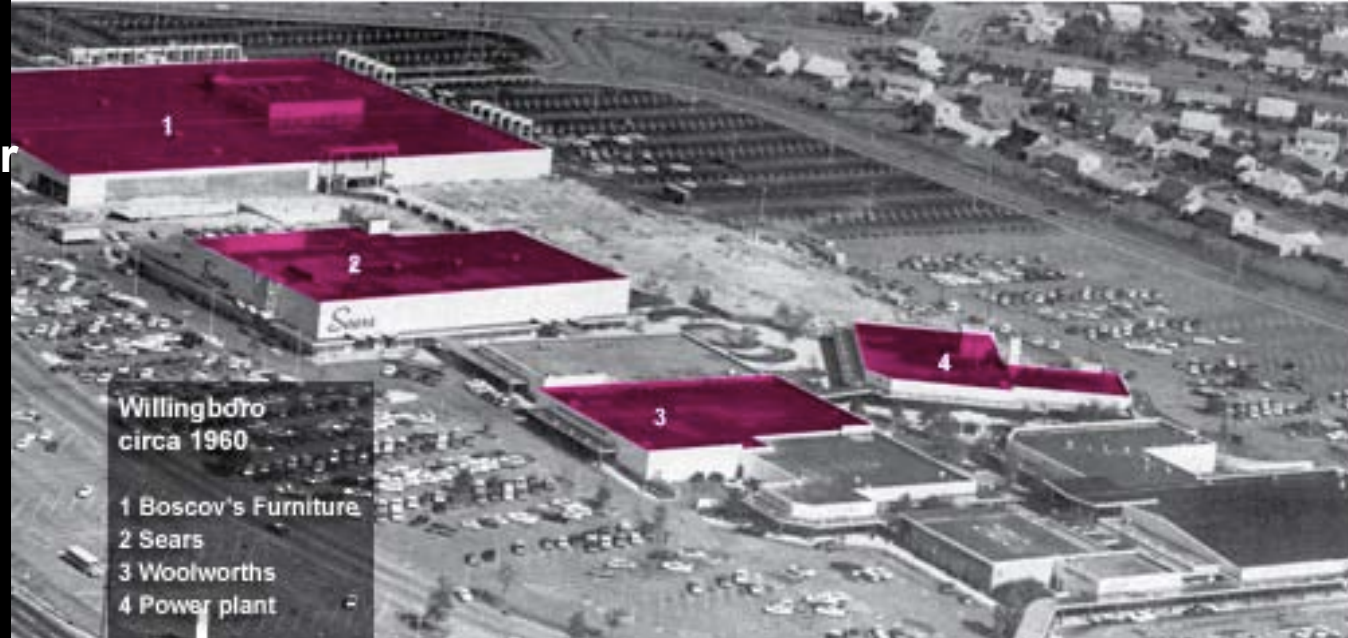
From retail strip to job and town center

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?



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

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



pavement to plaza



depave



parklet



yarnbombing



Adirondack chairbombing



guerrilla grafting

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

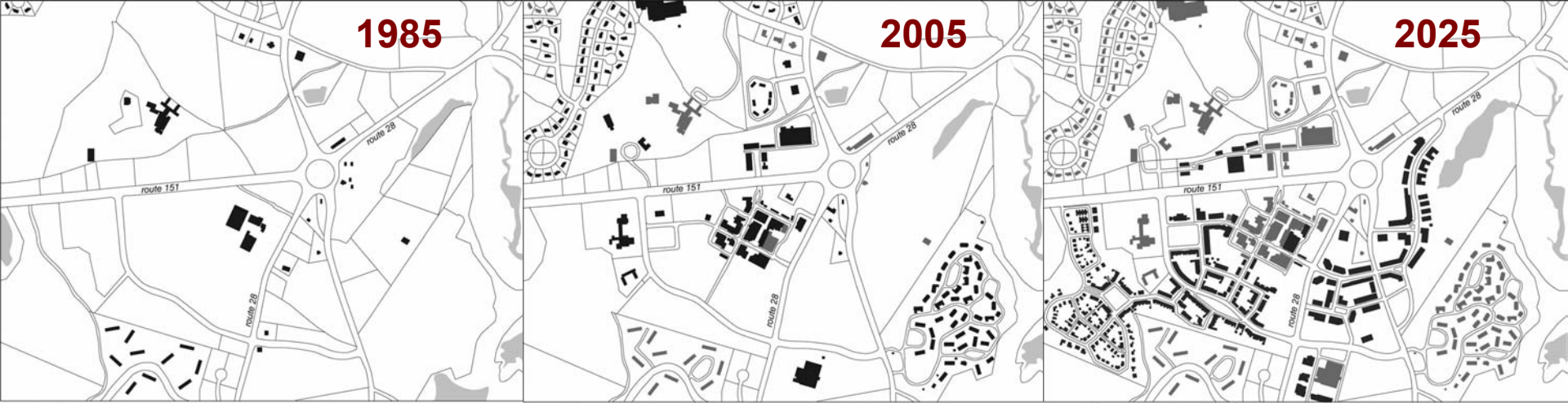
strategy:

Redevelopment

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

**densify and diversify: reward the
pedestrian eye**

green the infrastructure



1985

2005

2025

Source: Dunham-Jones, Williamson 2009



from strip center to “attachable urbanism”
 Mashpee Commons, Mashpee, MA (pop. 14k)
 1988-present
 Cornish Assoc. Ltd / Duany Plater-Zyberk & Co / Imai, Keller Moore

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



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



- 1 Live/Work Units
- 2 Leasing/Amenity
- 3 Public Plaza
- 4 Private Courtyard
- 5 Parking Garage
- 6 Multi-Family
- 7 Office over Retail
- 8 Retail

Leveraging Public Land and Crowdsourcing

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



[Downtown Fiesta!](#) [Pop Up Draws 20K!](#) [New Project Quotes Page!](#) [Zoning says](#)

Recently Popular Ideas



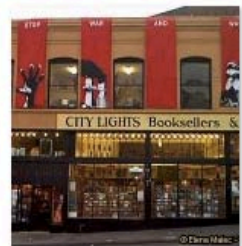
Trader Joe's
like (61) 3



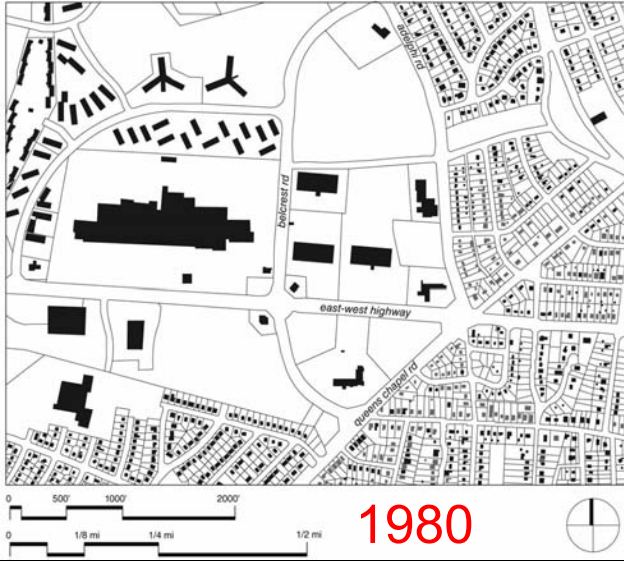
Performing Arts Centre
like (342) 45



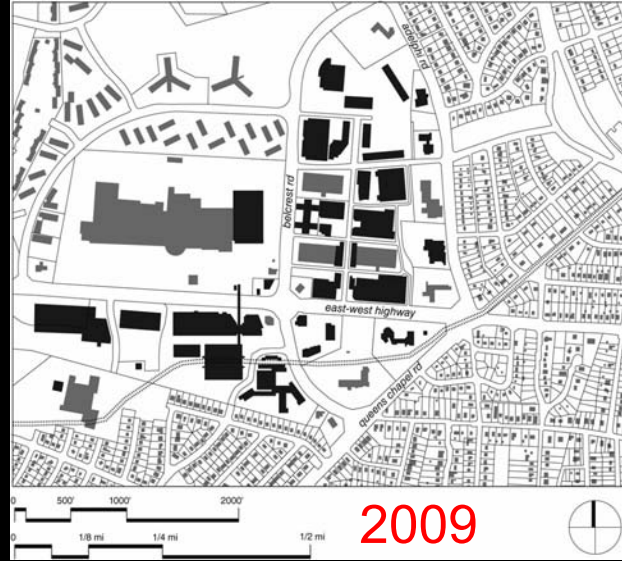
Spice & Tea Exchange
like (12) 1



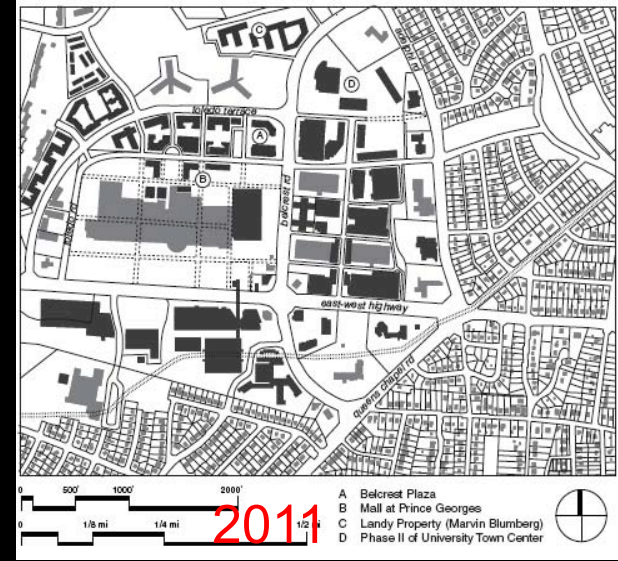
Literary Cafe + Performance Space...
like (354) 34



1980



2009



2011

- A Belcrest Plaza
- B Mall at Prince Georges
- C Landy Property (Marvin Blumberg)
- D Phase II of University Town Center



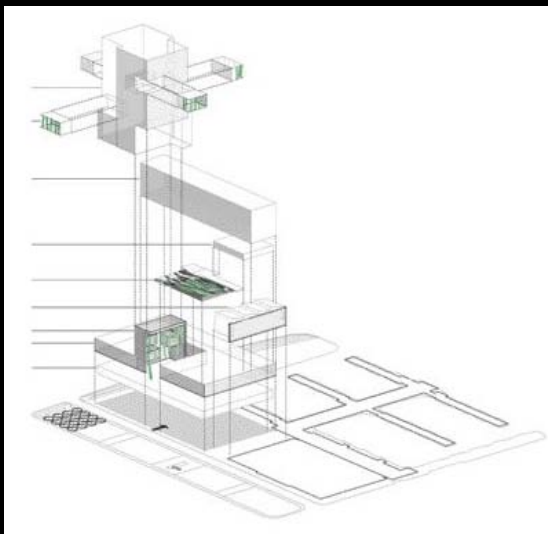
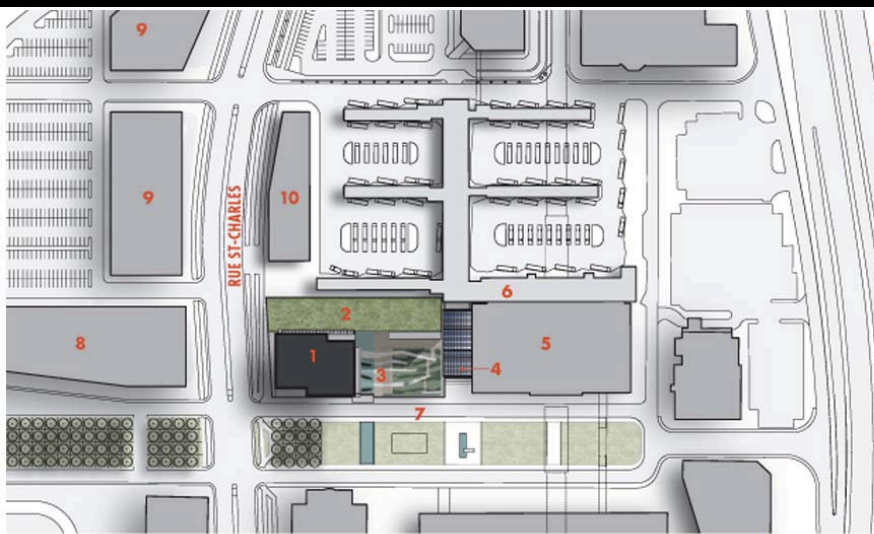
transit triggers infill of an office park

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

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

Vertical campus with diverse green spaces to catalyze retrofit of suburban hub

Université de Sherbrooke Longueuil, Quebec: Marosi Troy, Jodoin Lamarre Pratte, Labbe



From a park-n-ride + mall to a high-design, geo-thermal civic centre TOD
Surrey Central City, Surrey, BC (pop: 468k); Simon Fraser University, Bing Thom Architects



Library



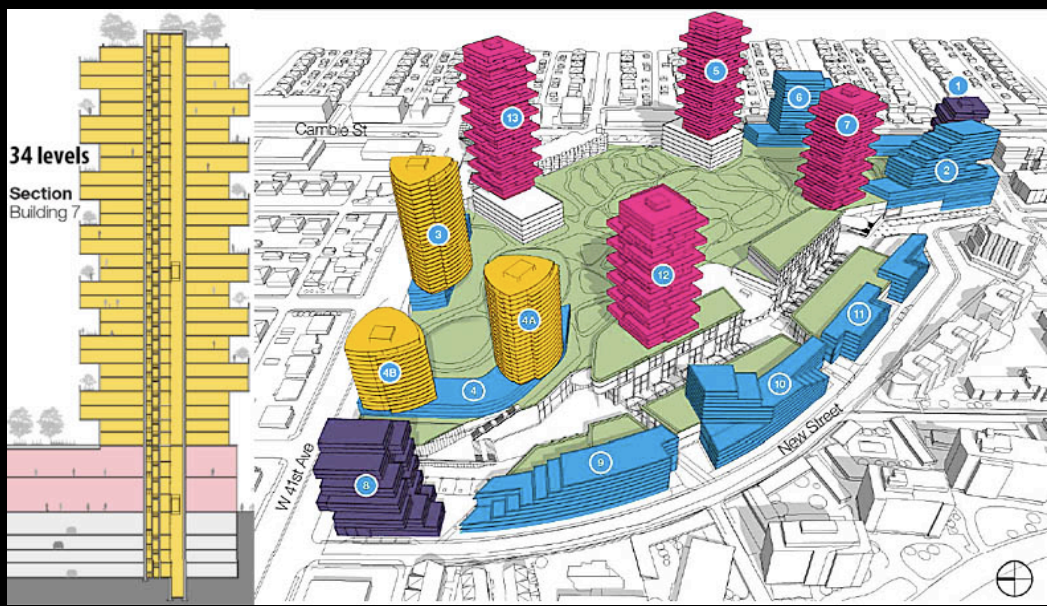
Classrooms above shopping mall



Phase 1: college classrooms built above mall, + new high rise

High rise housing above an expanded, hybrid mall

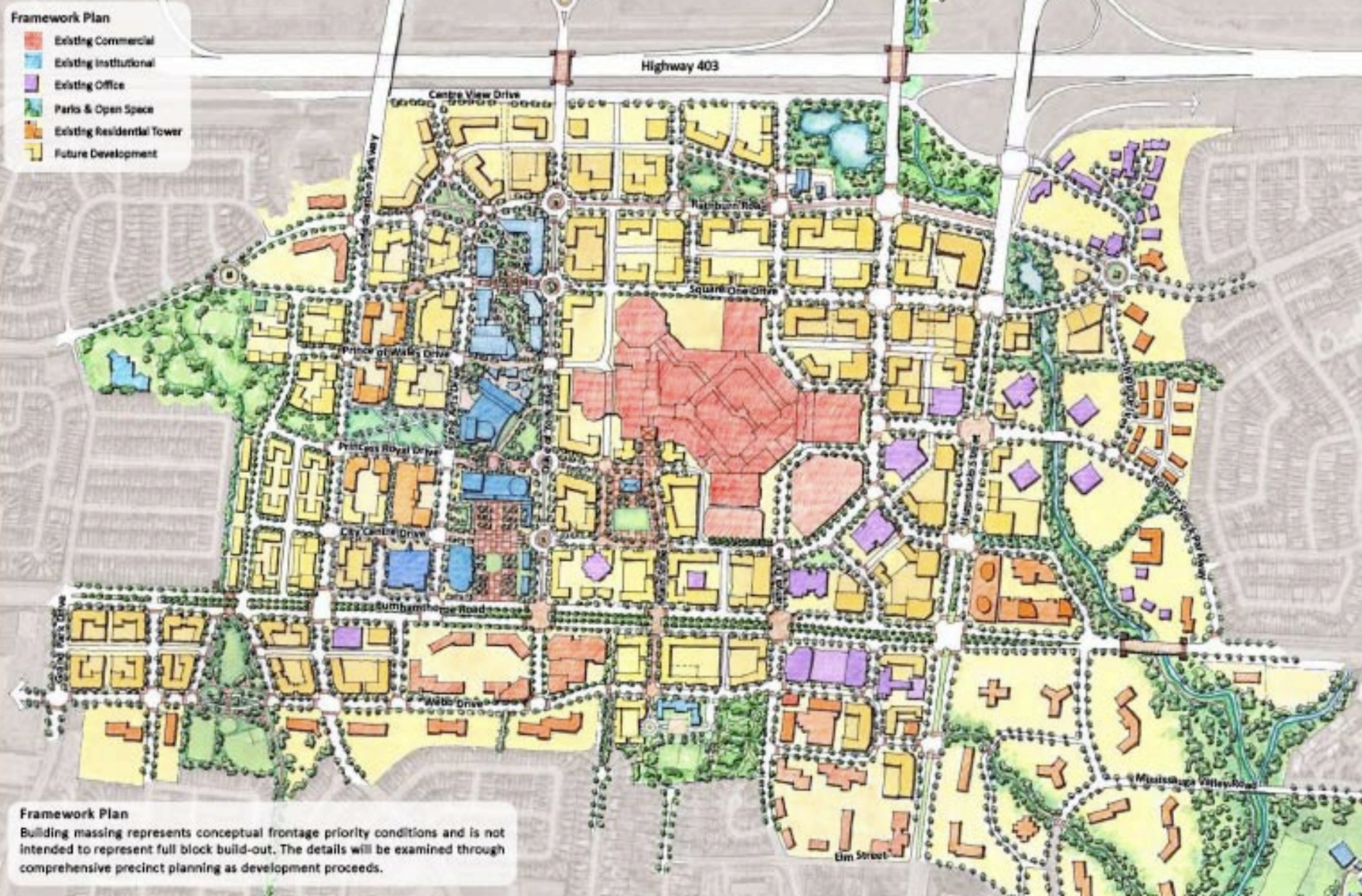
Oakridge Centre, Vancouver: Ivanhoe Cambridge, Henriquez Partners Architects



Infilling around the mall and office high rises

Mississauga Downtown 2021; City of Mississauga; Glating, Jackson, Kercher, Anglin; Greenberg Consultants,

- Framework Plan**
- Existing Commercial
 - Existing Institutional
 - Existing Office
 - Parks & Open Space
 - Existing Residential Tower
 - Future Development



Framework Plan
Building massing represents conceptual frontage priority conditions and is not intended to represent full block build-out. The details will be examined through comprehensive precinct planning as development proceeds.

From dead mall to green downtown

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



Suburban Form

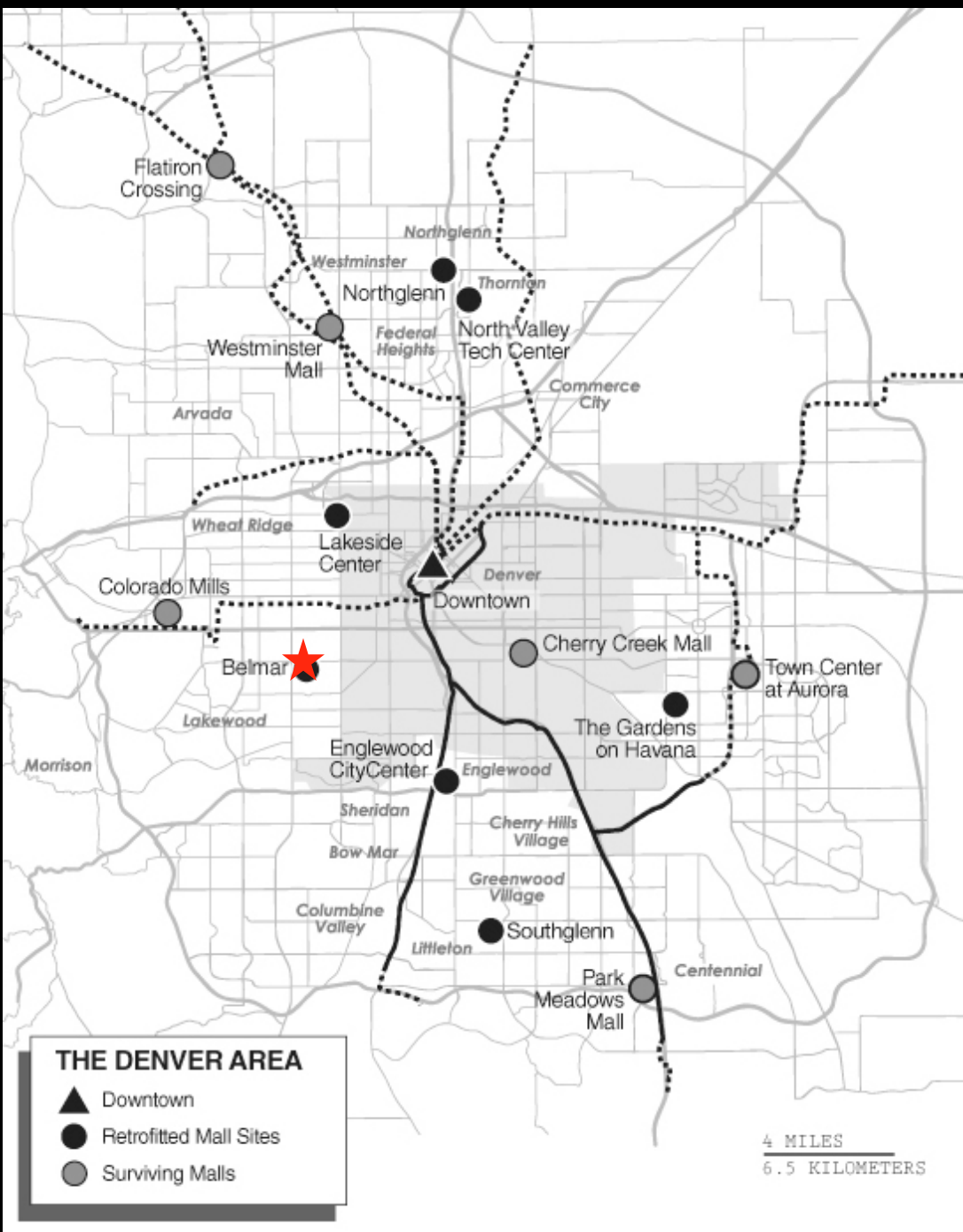
- buildings as discrete, stand-alone objects
- open space lacks form, is dominated by cars
- blocks and streets are large, uncondusive to walking
- single uses, separated infrastructure systems



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?

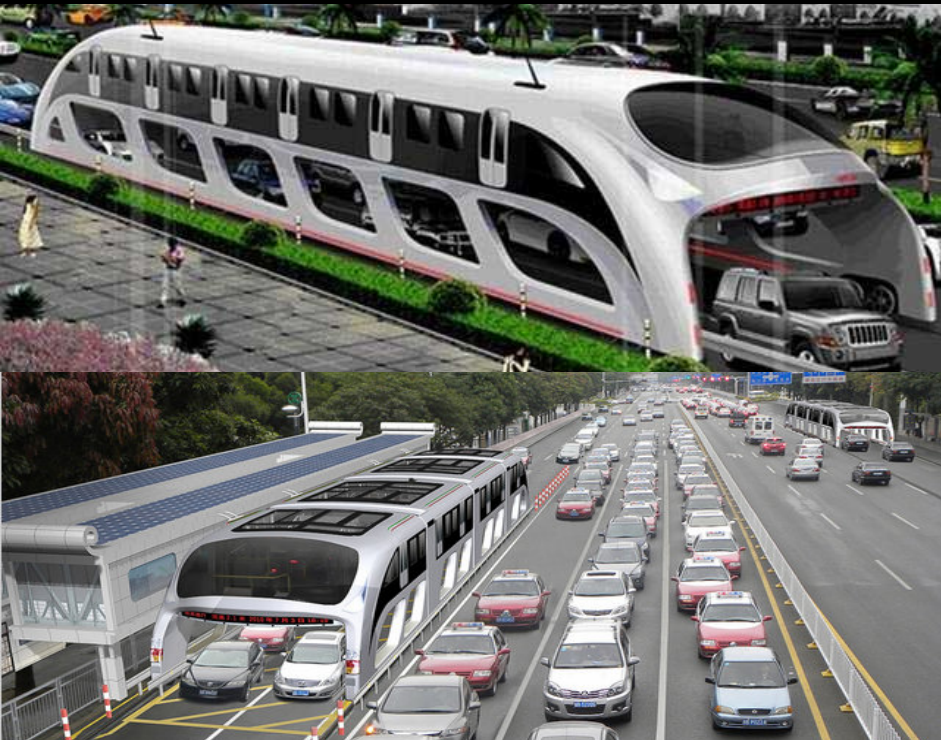
Source: Dunham-Jones, Williamson, 2009



SCHWEBELIFT HOLDINGS LIMITED



technological innovation: The Schwebelift, Driverless car, the Straddle Bus, and the Bamboo Bike



Implementation:

Triggering Corridor Retrofits

Streetscape Improvements

- Tactical Urbanism
- Road Diets to capture public land
- Complete Streets, street trees etc.

Planning processes that link multi-modal transportation investments to zoning changes

- Atlanta's Livable Centers Initiative
- Federal Partnership for Sustainable Communities grants
- Austin: negotiating Form-Based Codes as replacement zoning

Transit

- DC - rail, Denver – It rail, Portland-streetcar, Cleveland-BRT, etc.

Private-Sector Coalitions

- Build a Better Block
- Business Improvement Districts
- White Flint Partnership

Anticipatory Retrofitting

- Design new parking lots as future building sites


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



RIGGS ROAD and SOUTH DAKOTA AVE AREA DEVELOPMENT PLAN OPPORTUNITY SITES



1st STREET
4th STREET
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50th STREET

Fort Totten West
Riggs Road South Industrial Park
Fort Totten East Industrial Site
Fort Totten Apartments/Clark (ONGOING)
DC Government Triangle
Riggs Plaza Apartments/ Cafritz and Food for Friends
KFC/Taco Bell
Riggs Road North Industrial Site
Tiger Mart/ Lowe (PLANNED)
Dakota Apartments/ Lowe (PLANNED)

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



from commercial strip to multi-way boulevard and new downtown
Palm Canyon Drive, Cathedral City, CA (pop 51k); Freedman, Tung & Bottomley source: Dunham-Jones, Williamson,



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

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



From edge city sprawl to 430-acre BRT-extended TOD centered on boulevard

White Flint, MD: White Flint Partnership, Montgomery County, Glattig Jackson, var designers
-new high-rise downtown over 20 years, \$6-7 bil tax revenue, 10k residents – 25% affordable



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.

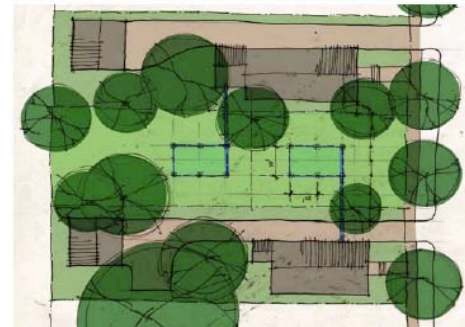
Geo Thermal Wells



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.

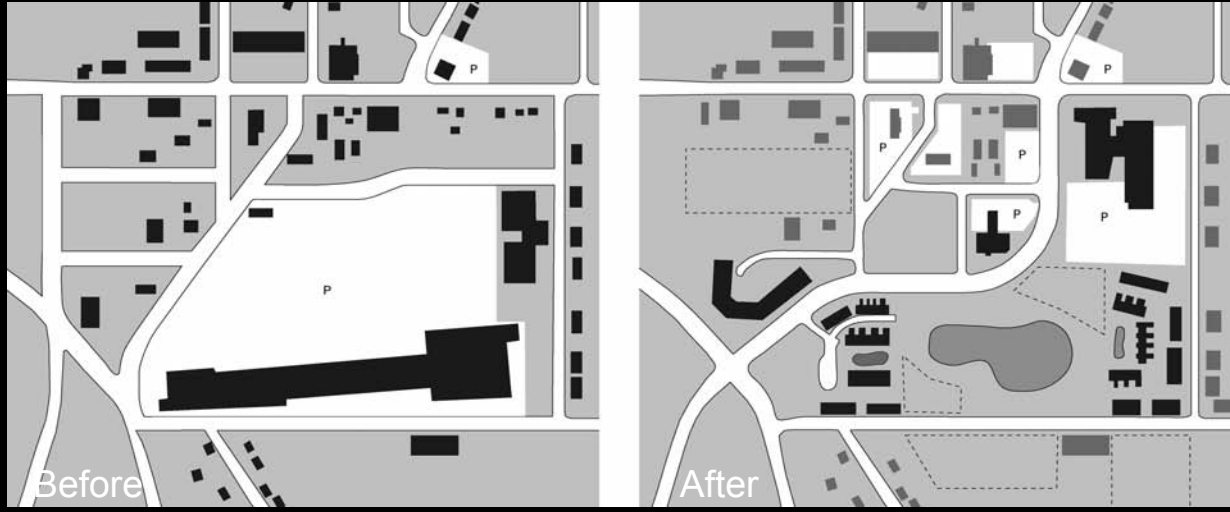


from shopping center to wetland w/ new lakefront property investment

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



CONTEXT MISSISSIPPI FLYWAY



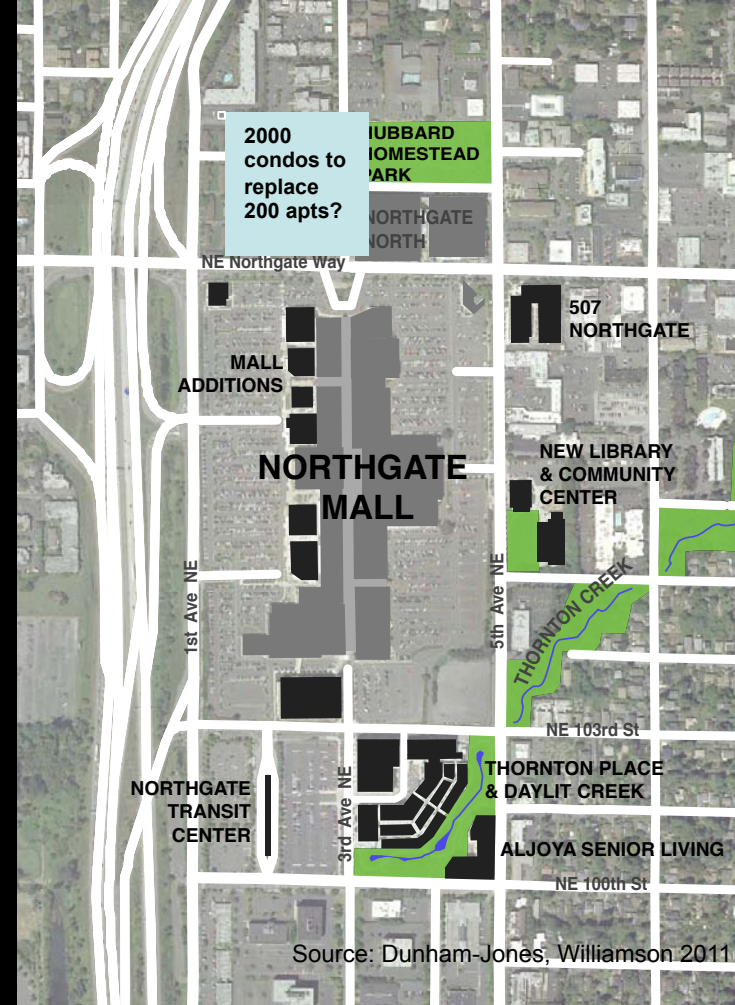
Source: Dunham-Jones, Williamson, 2009



From urban mall to park ringed with urban housing

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





Source: Dunham-Jones, Williamson 2011

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

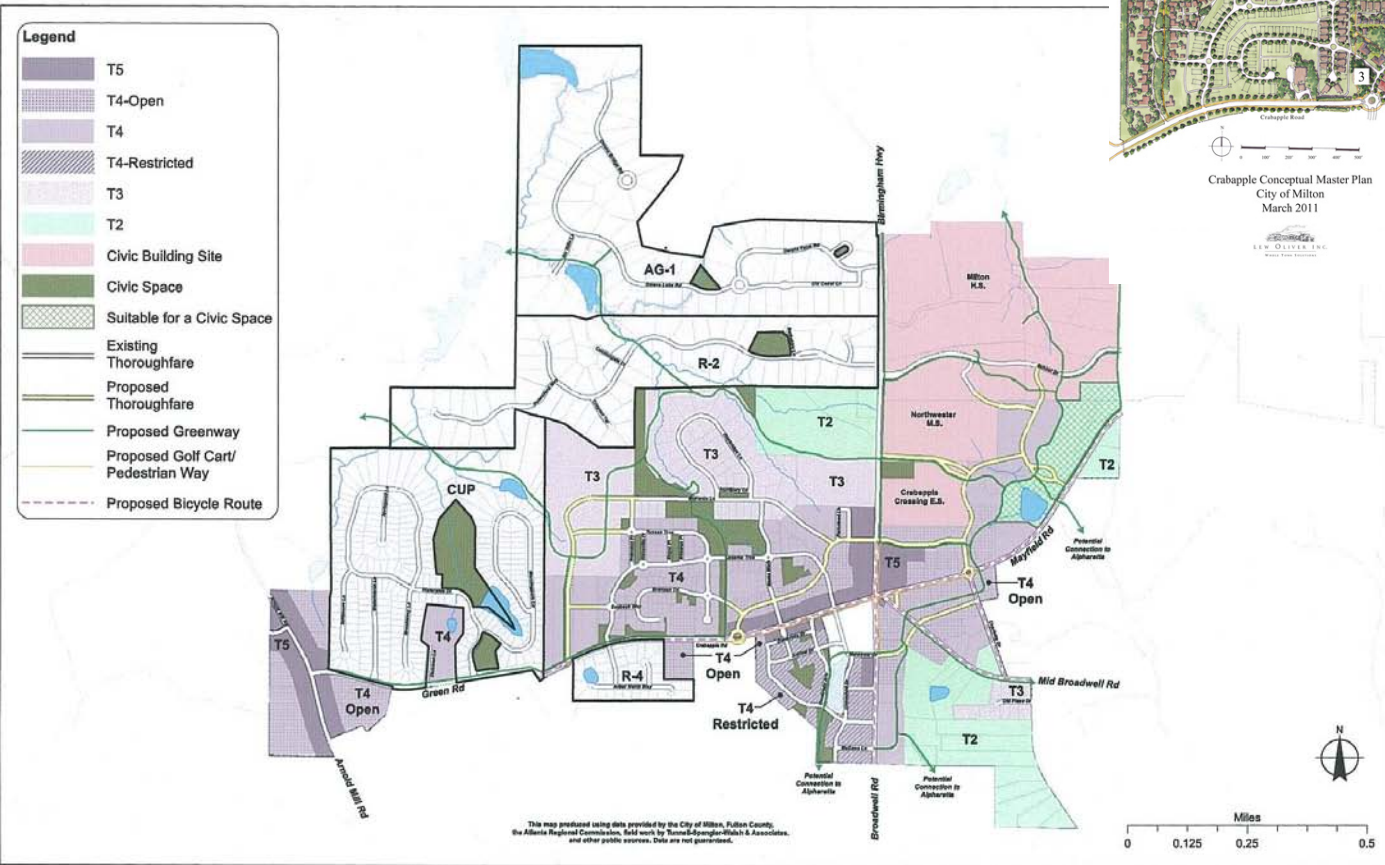
Source: Kaid Benfield, Natural Resources Defence Council

Transfer Development Rights to Concentrate Growth and Preserve Rural Land

Form Based Code w/ TDR: Milton GA, (pop 33k)

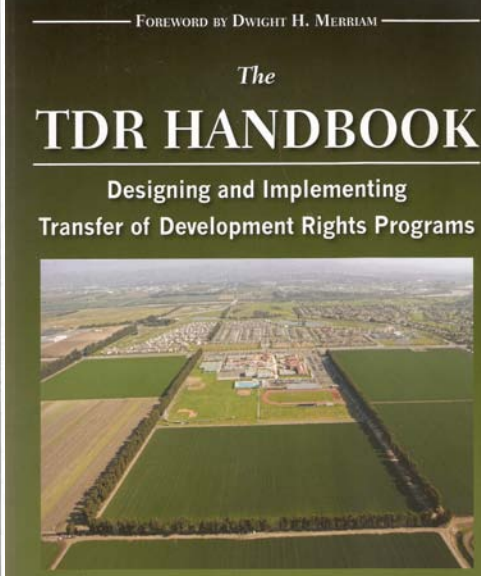
TSW & Assoc., Rick Pruetz

- Owners in T2 apply for Sending Sites
- Receiving areas in T3-T5 can nearly double baseline building units/acre by purchasing TDRs

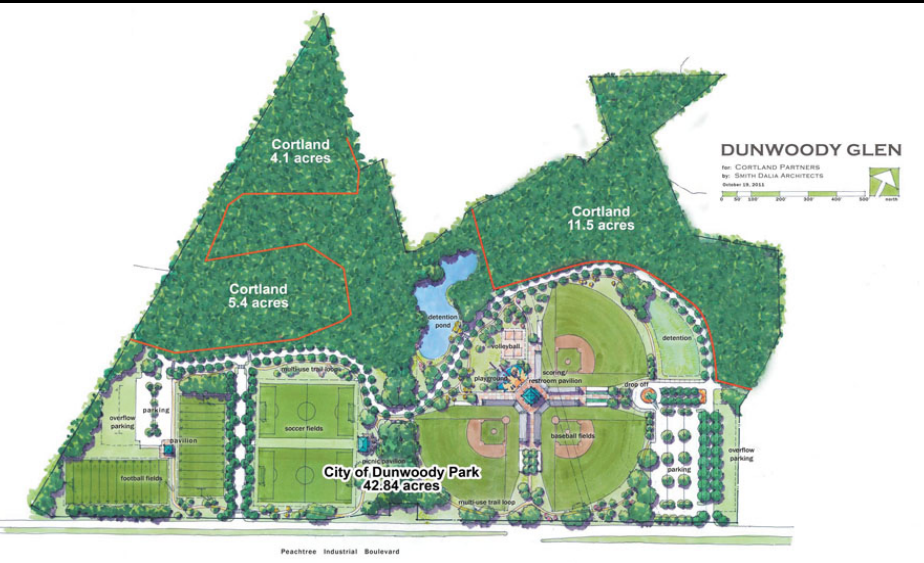
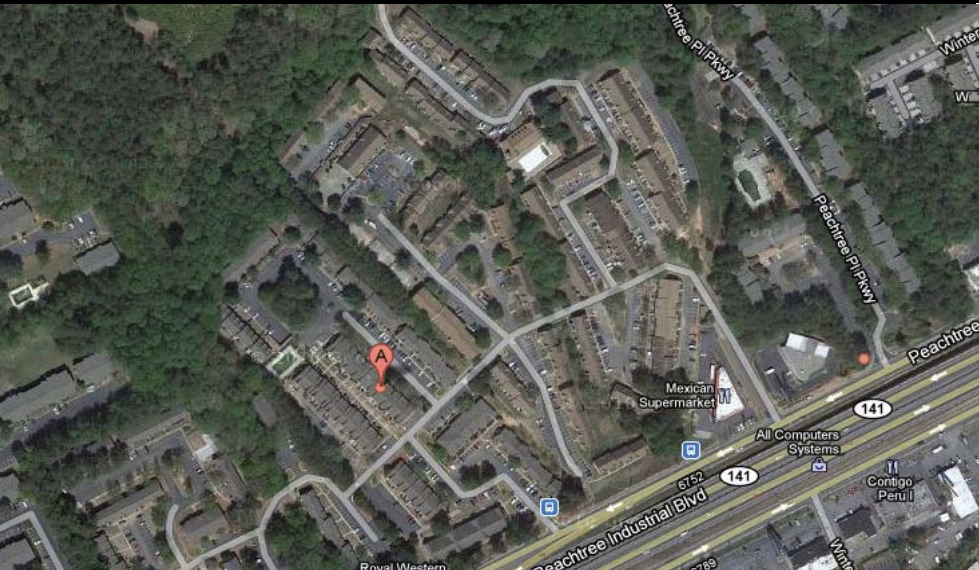


Crabapple Regulating Plan - DRAFT V6

CRABAPPLE FORM-BASED CODE
June 5, 2012
Prepared by Tunnell-Spangler-Walsh & Associates



Gentrification in the name of greening? Dunwoody Glen, Dunwoody GA (pop 46k)



Kids get off the school bus at Dunwoody Glen Apartments, which is one of apartment complexes could be torn down to build a sports complex



Dunwoody Glen Apartments resident Erick Pereira and his daughter Mariana Pereira, 5, walk back home after a trip to a local grocery store.

Hyosub Shin, hshin@ajc.com

Hyosub Shin, hshin@ajc.com

challenge:

New Tools

The ITE street design manual

Community/Business Improvement Districts

Anticipatory retrofitting and contingent zoning

Design competitions

Retrofittability analysis & performance metrics

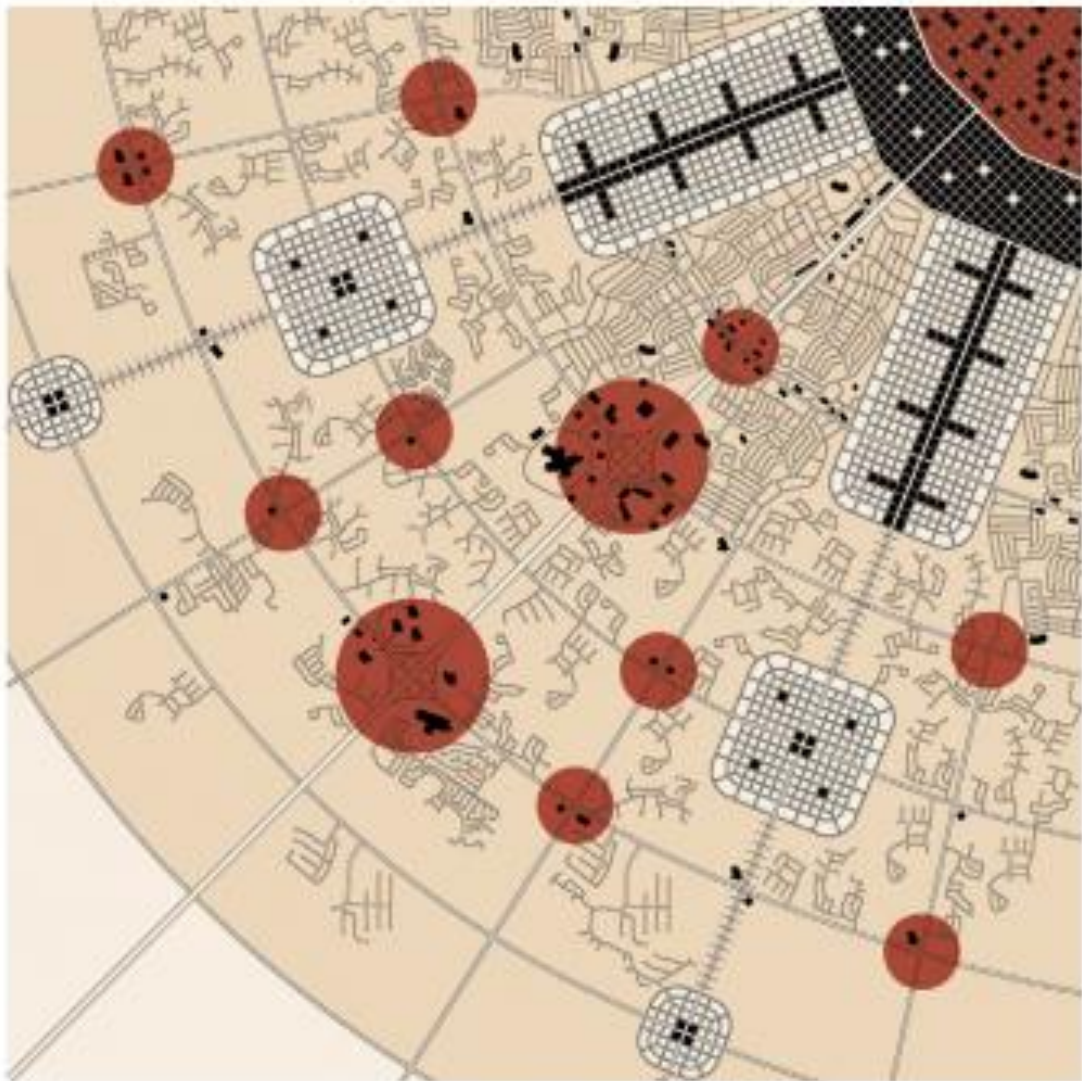
Street art


Real estate transaction fees

Greyfield audits

Targetted retrofitting at the Metro/Regional scale

Galina Tachieva, *The Sprawl Repair Manual*



-  Repair in urban core
-  Communities for preservation and emulation
-  Sprawl development
-  Sprawl repair targets
-  Sprawl as is or devolution
-  Undeveloped land

2-1. Sprawl repair targets: commercial, employment, and transportation nodes with the best potential for redevelopment

strategy:

Next Steps for High Growth Places

Conduct metro-scale greyfield audit and target areas for greening, redevelopment and reinhabitation

Update zoning codes and subdivision regulations to incentivize diverse and connected urbanism

Challenge designers to improve architectural quality of “instant urbanism”

Come to CNU 21: May 29-June 1 in Salt Lake City!

strategy:

Next Steps for Slow Growth Places

Look at regional incremental impacts:
dying malls + Main Streets

Target downtown malls for
redevelopment

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

Empower your youth and social media

Leverage your public land and use
civic buildings to anchor reinvestment

Come to CNU 22: June 4-9, 2014 in
Buffalo, NY

CNU 22



TERRY O'NEIL

SAVE THE DATE:

22nd Annual
Congress for the New Urbanism

JUNE 4-7 2014

BUFFALO, NY



ANGEL ART LTD.



NANCY PERIS



ED HEALY



MC HEART

CONGRESS FOR THE NEW URBANISM



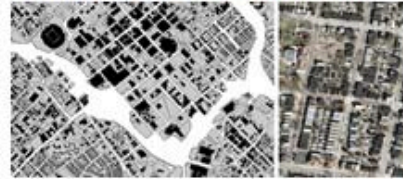
Project for Transportation Reform

CNU'S PROJECT FOR TRANSPORTATION REFORM



Designing Walkable Urban Thoroughfares

DESIGNING WALKABLE URBAN THOROUGHFARES



Transportation Networks

TRANSPORTATION NETWORKS



Emergency Response and Street Design

EMERGENCY RESPONSE AND STREET DESIGN



Highways to Boulevards

HIGHWAYS TO BOULEVARDS
RECLAIMING URBANISM
REVITALIZING CITIES



Sprawl Retrofit

SPRAWL RETROFIT



Live/Work/Walk: Removing Obstacles to Investment

LIVE/WORK/WALK
REMOVING OBSTACLES TO INVESTMENT



Coming soon: Energy at a Neighborhood Scale

ENERGY AT A NEIGHBORHOOD SCALE



Health Districts

HEALTH DISTRICTS



Rainwater-In-Context

RAINWATER IN CONTEXT



LEED for Neighborhood Development

LEED for NEIGHBORHOOD DEVELOPMENT

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

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

ADDITIONAL RESOURCES

**CNU Sprawl Retrofit Initiative: Active list-serv, website with examples and model legislation. For info go to: <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