

ELLEN DUNHAM-JONES AND JUNE WILLIAMSON

# RETROFITTING

URBAN DESIGN SOLUTIONS *for* REDESIGNING SUBURBS

# SUBURBIA

for 21<sup>st</sup> Century Challenges

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

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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

suburban office vacancy rates 16-24%

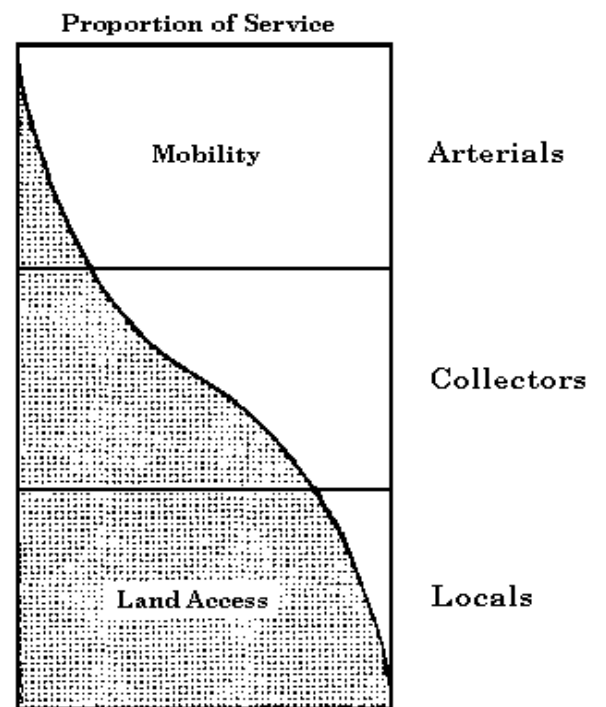
*The Problems of the Commercial Strip Corridor:*

# The “Stroad”

- Designed for Mobility, but zoned for Access, commercial strip corridors serve neither function well while perpetuating auto-dependency
- Part of a dendritic system that results in under-used local streets and over-used arterials
- Based on a system of access to cheap land that results in:
  - A degraded public realm
  - Land consumption
  - Fragmented sprawl
  - Affordable housing with unaffordable transportation costs



Figure II-4  
Relationship of functionally Classified Systems  
in Serving Traffic Mobility and Land Access





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 value wifi, nightlife and connectedness more than cars. 58% of 65+ want walkable urbanism (Pew, 2014)

# 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".

# price premiums

70-400% for walkable urbanism





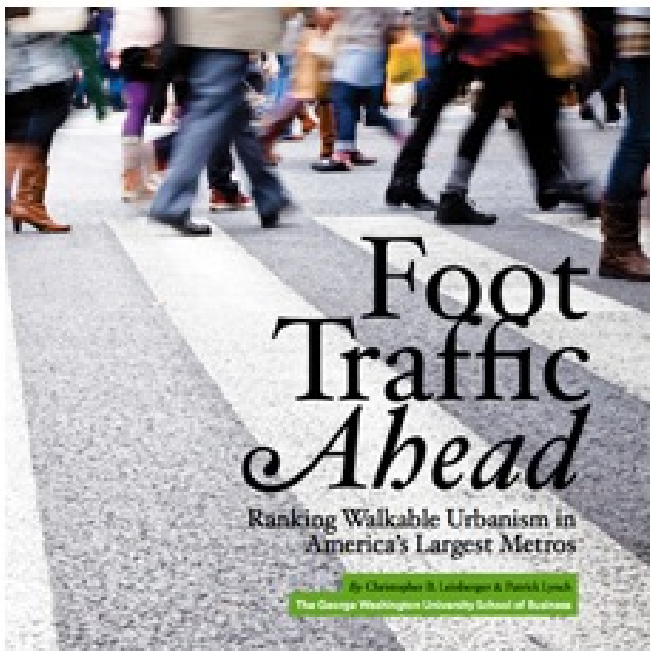
*strategy:*

# Walk UPs

DC: Chris Leinberger, Mariela Alfonso

Atlanta: Chris Leinberger, Mason Austin

Dallas: Chris Leinberger, Patrick Lynch



**“60% of demand for housing will be in the “urbanizing suburbs” for at least a generation.”**

C. Leinberger, *Builder*, March, 2015

## **Washington DC – 2012:**

- 43 regionally-significant walkable urban places, 50% in the suburbs
- 75% price premium for office rents  
71% price premium for multi-family residential rents/sales

## **Atlanta, GA – 2013:**

- 2008-2012: 60% of region's development took place in Atlanta's 27 Walk UPS.
- 112% avg rent premium

## **Boston, MA - 2015:**

57 Walk Ups:

- 134% premium for office
  - 120% premium for hotel
  - 54% premium for rental apts
  - 41% premium for retail
  - 20% premium for for-sale res'l
- 12X the tax revenue of Edge Cities  
6X the tax revenue of drivable suburbs

retrofitting *challenge*:

# Auto Dependence

**Walkability + Multi-modal systems**

**Transit-Oriented Development**

**Road diets**

**Street Networks**

**Parking Districts**

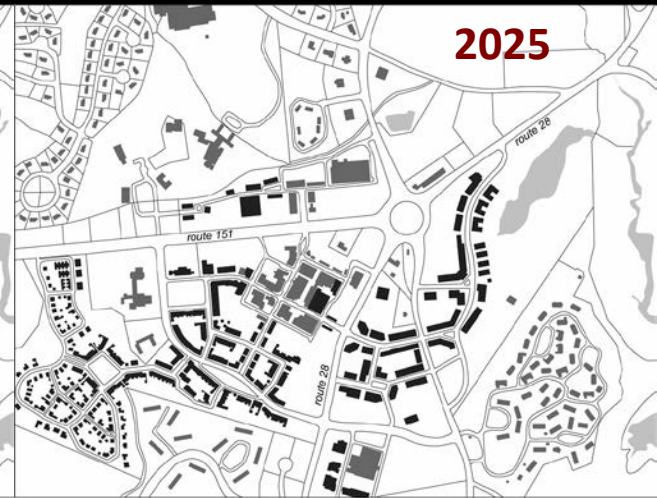
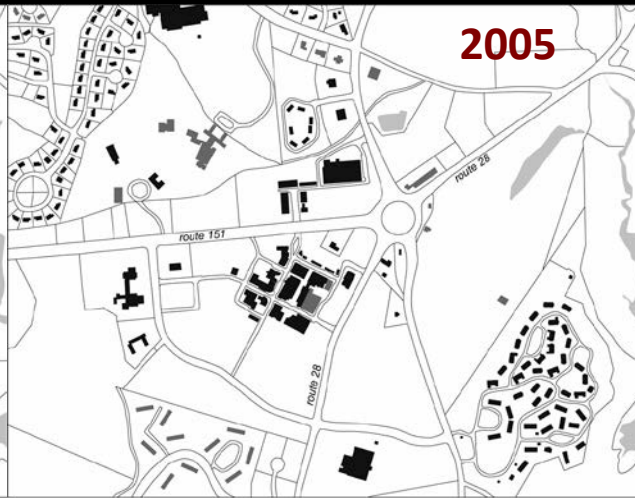
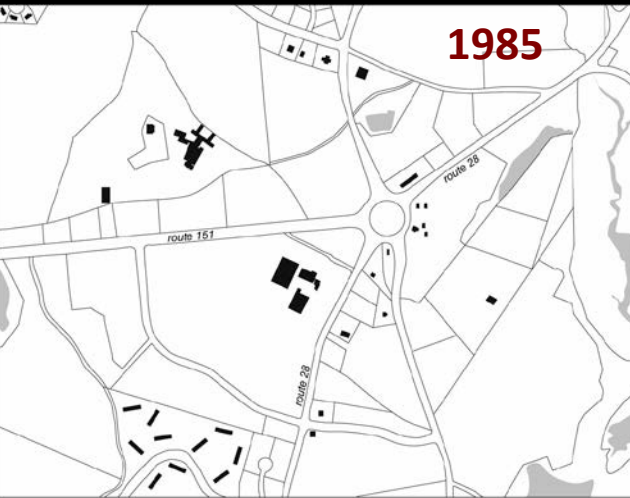
**Car Sharing**



# *from strip center to New England village by building on the parking lots*

**Mashpee Commons, Cape Cod, MA, 1988-present**

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



Source: Dunham-Jones, Williamson 2009





## ***Anticipatory Retrofits: parking lots as future building sites w “streets” & utilities***

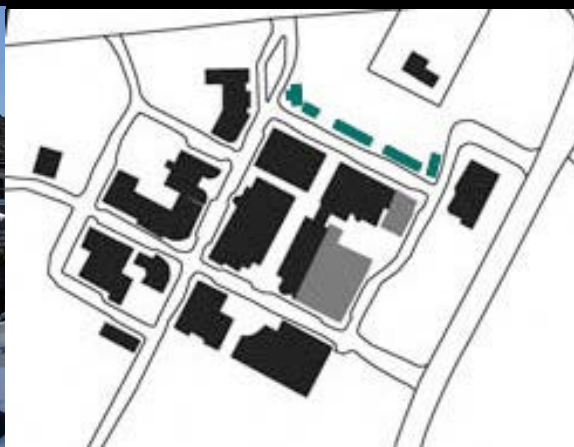
**Englewood CityCenter**, City of Englewood, Miller Weingarten Realty, Trammell Crow Residential, David Owen Tryba Architects, Calthorpe Associates

Sources unverified



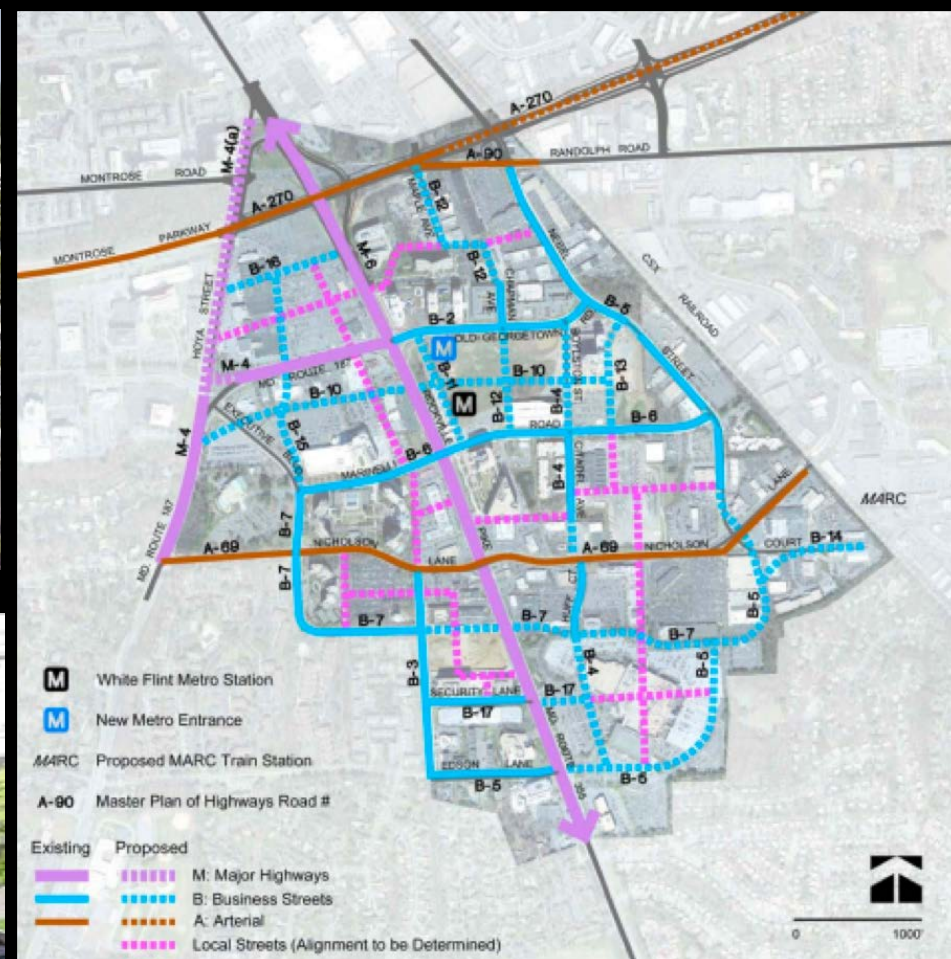
## ***Liner Buildings: shallow, local retail/apts that screens parking lots***

**Mashpee Commons**, Mashpee, MA: Cornish Assoc. LTD, Duany Plater-Zyberk & Co





**White Flint, N Bethesda MD:** W.F. Ptrship, Montgomery Cty, Glatting Jackson, var designers  
-new high-rise downtown over 20 years, \$6-7 bil tax revenue, 10k residents – 25% affordable





## *From auto-oriented commercial district to walkable, mixed-use TOD*

### Pike District (“White Flint”), North Bethesda MD



1970

- 1895: county repairs the Pike
- 1977: White Flint Mall opens
- 1984: White Flint Metro Station opens
- 1992: County adopts North Bethesda Garrett Park Masterplan
- 2008: County announces revising the Sector Plan



1990

- 2008: White Flint Partnership and Friends of White Flint form
- 2010: County adopts the White Flint Sector Plan & estab's Tax District
- County appoints the WF Implementation Coor'dr and the WF Imp'n Advisory Committee



2030

- 2010: N .Bethesda Mkt opens w county's tallest bldg
- 2011: County estab's Staging Allocation & monitoring
- 2011: 4 redev'l projects approved
- 2014: 3 more approved. Pike & Rose 1<sup>st</sup> phase opens



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

**White Flint, N Bethesda MD:** W.F. Ptrship, Montgomery Cty, Glatting Jackson, var designers  
-new high-rise downtown over 20 years, \$6-7 bil tax revenue, 10k residents – 25% affordable





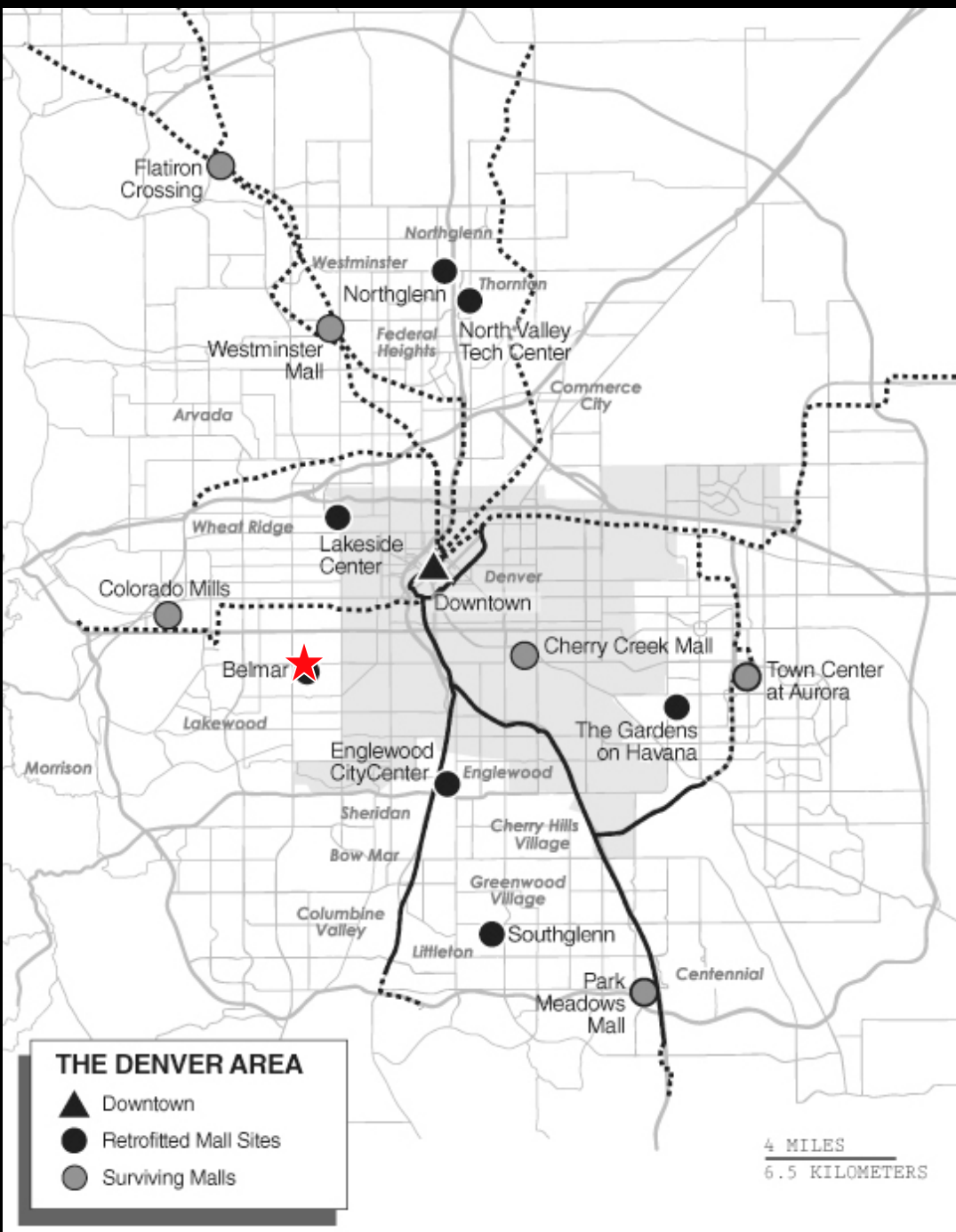
## *From dead mall to green downtown*

**Belmar, Lakewood, CO:** Continuum Partners; Elkus Manfredi Architects, Civitas Inc., VMWP



- 2002-8 fiscal and economic impact on Lakewood of \$207.2 million (\$49.5 million in 2008 alone), including a fiscal impact of \$10.6 million
- 9 acres of public space and parks including a 2.1 acre park, 1.1 acre plaza
- 8 bus lines come through the new downtown
- 2/3 complete in '09: 1.1 mil sf retail, .9mil sf office, 1300 residential units





*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?***

# *from commercial strip to multi-way boulevard and new downtown*

**Palm Canyon Drive**, Cathedral City, CA; Freedman, Tung & Bottomley source: Dunham-Jones, Williamson, 2009





***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 5-lane arterials to 4-lanes w/ bike paths by replacing signaled intersections with roundabouts***

## **Carmel, Indiana**



### **Keystone Parkway Is the Greenest Highway Intersection in the US**

by **Andrew Michler**, 05/10/11

filed under: *Green Transportation, TransportationTuesday*

 Like 133

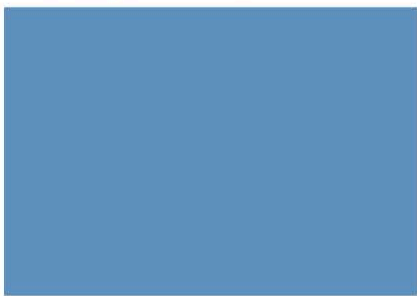
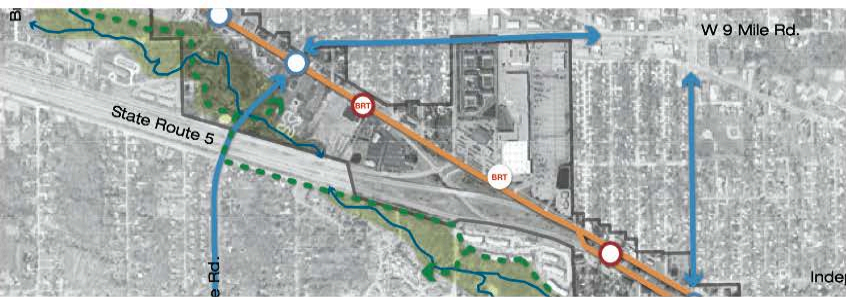


Roundabouts cost less than traffic signals, increase safety and traffic flow and eliminate left-turn lane— leaving room for multiuse bike paths while reducing idling and emissions.

Since installing 65 of 80 planned roundabouts injuries have fallen 80%



*Comprehensive planning for change*  
**Grand River Corridor, Farmington and Farmington Hills, MI:**





*retrofitting challenge:*

# Public Health

**Physical activity and walkability**

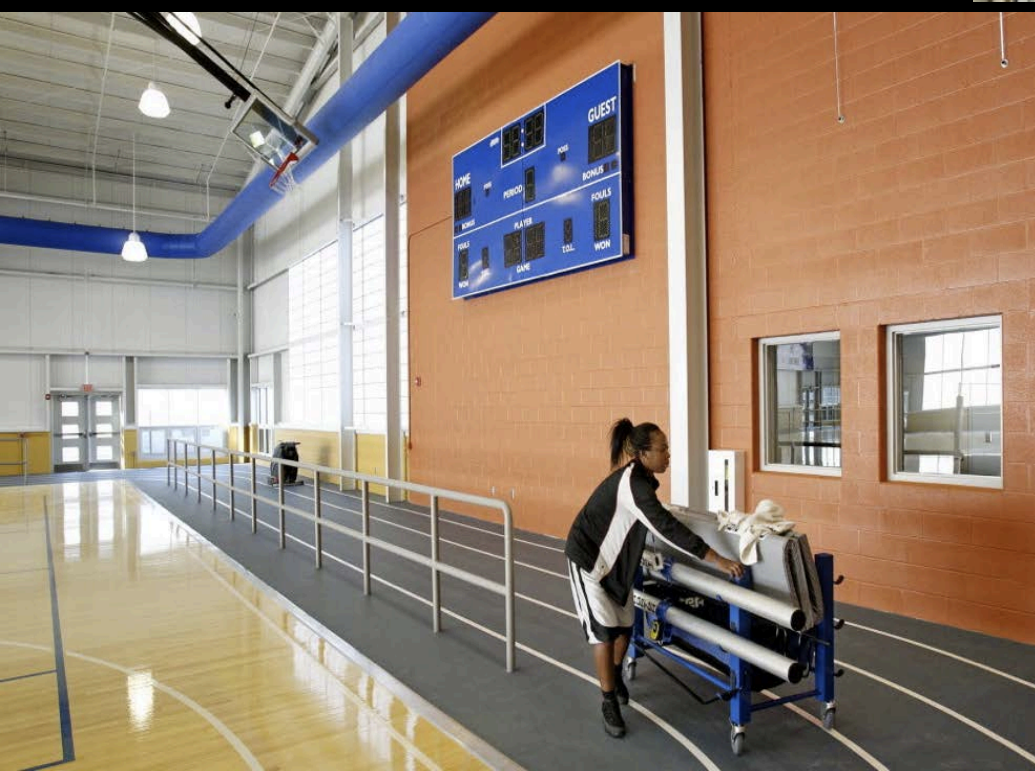
**Safer streets**

**Reduce exposure to toxic  
emissions**

**Increase access to health care and  
healthy food**

**Retrofit for an aging population**

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





# ***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

- Vanderbilt Health saved 44% over new construction, planted over 500 oaks, and has seen increased doctor satisfaction, patient follow-up and healthy outcomes
- The neighborhood has seen considerable new investment and rising property values
- Devel'r bought half-empty for \$49M, invested \$30-40M, sold in 6 yrs fully-leased for \$100-125M

*from dead mall to mixed-use NORC with sr housing, grocery, hotel: zero stormwater runoff and geothermal*  
**Wayzata Bay Center, Wayzata, MN:** City of Wayzata, Presbyterian Homes, LHB, DIIAP, InSite



The wetland site was drained for construction of the Bay Center mall in the sixties. In addition to capturing all stormwater on site under pile-supported streets, the project paid \$129k for wetland credits to the Wayzata Wetland Bank to further protect the lake.



*retrofitting challenge:*

# Social Capital

Civic Engagement

Share: Uber, Lyft, Airbnb

Tactical urbanism

Play

Gathering Spaces

“Missing middle” housing types

Welcome diversity

# 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

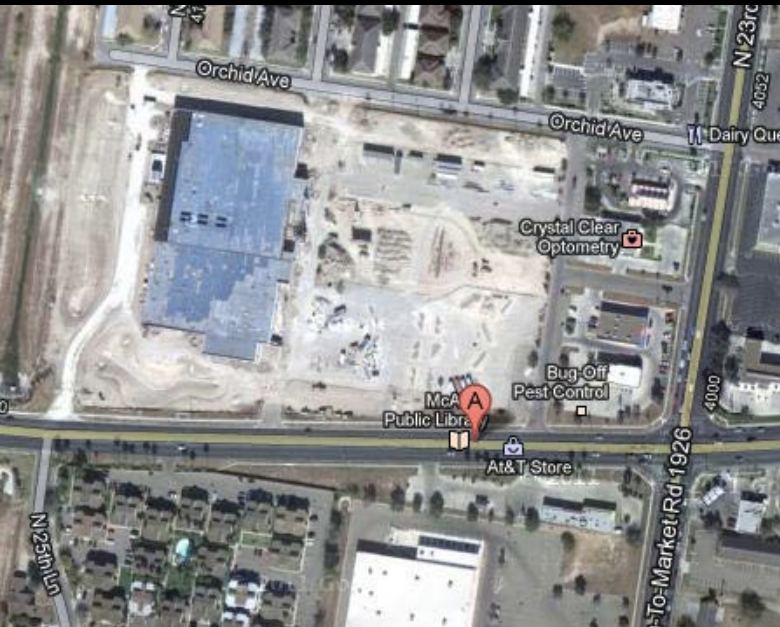


***Testing a Road Diet – from 4 lanes to 2 with bike lanes, a pop-up café and o.s. pkg***  
**Wheat Ridge, CO, W.38<sup>th</sup> Avenue**



# *From Wal-Mart to Public Library*

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



Lara Swimmer





# Updating the “L” strip mall as a “third place” with portals to the neighborhood

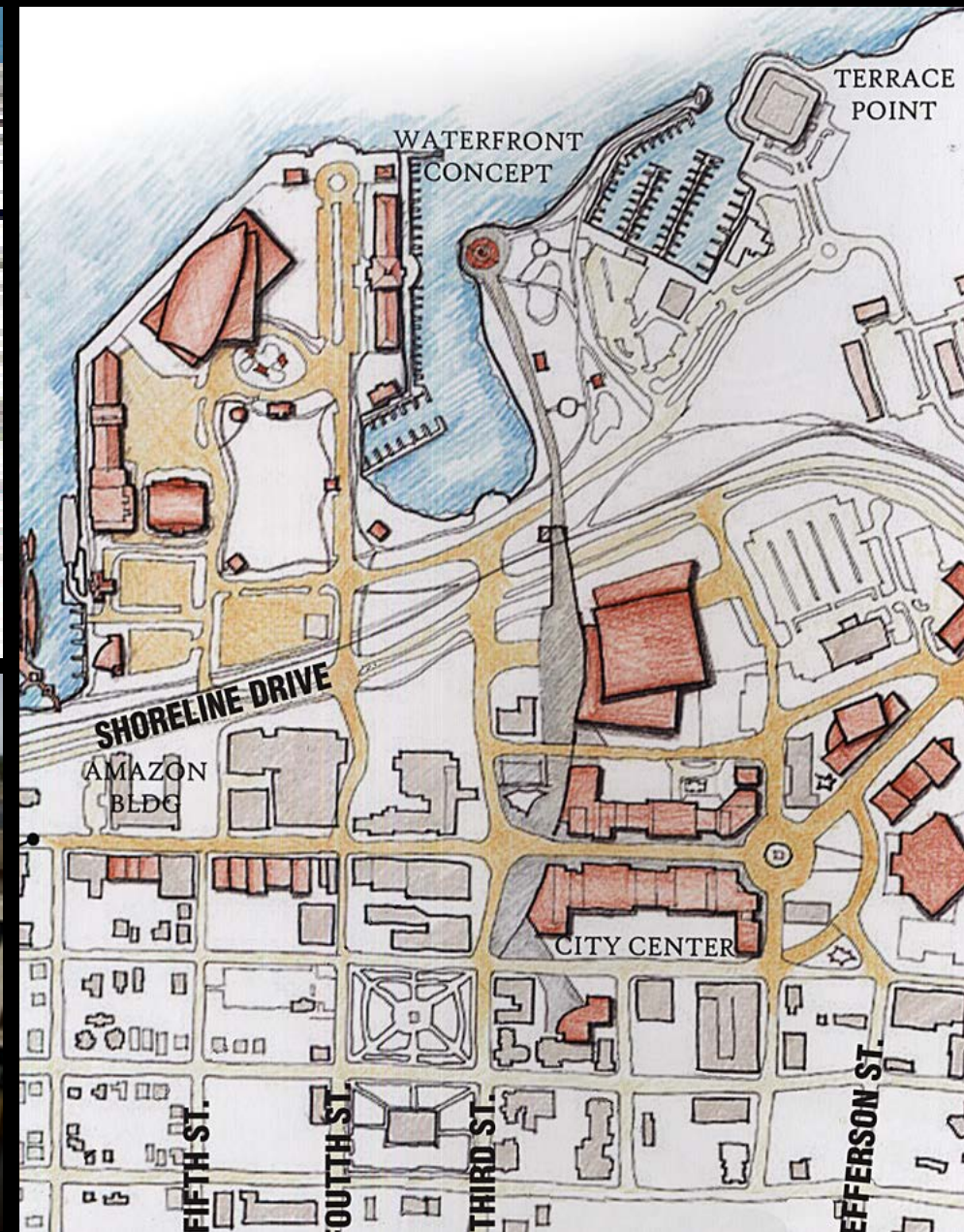
## Lake Grove Shopping Center, Lake Oswego, OR: Eric Shoemaker Beam Development



From “back” to a new front to the neighborhood



*From downtown mall to locally-funded restored urbanism*  
**Downtown, Muskegon, MI: Downtown Muskegon Development Corp, Chesapeake Group Inc**





# ***From downtown mall to park ringed with urban housing***

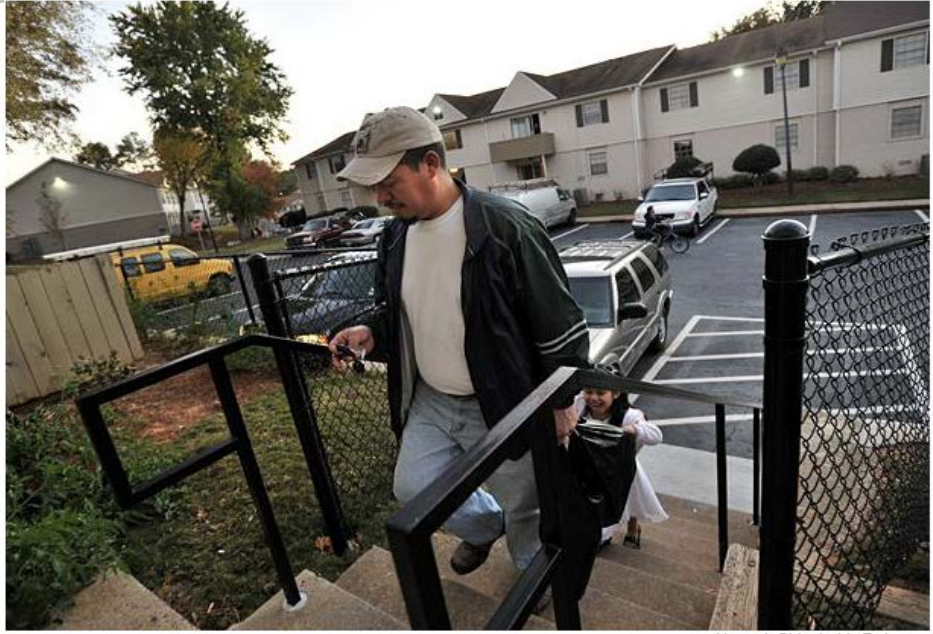
**Columbus Commons, Columbus OH: CDDC, Capitol South, Coma-Kokosing, Moody Nolan, EDGE Group**





# Gentrification in the name of regreening?

## Dunwoody Glen, Dunwoody GA



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

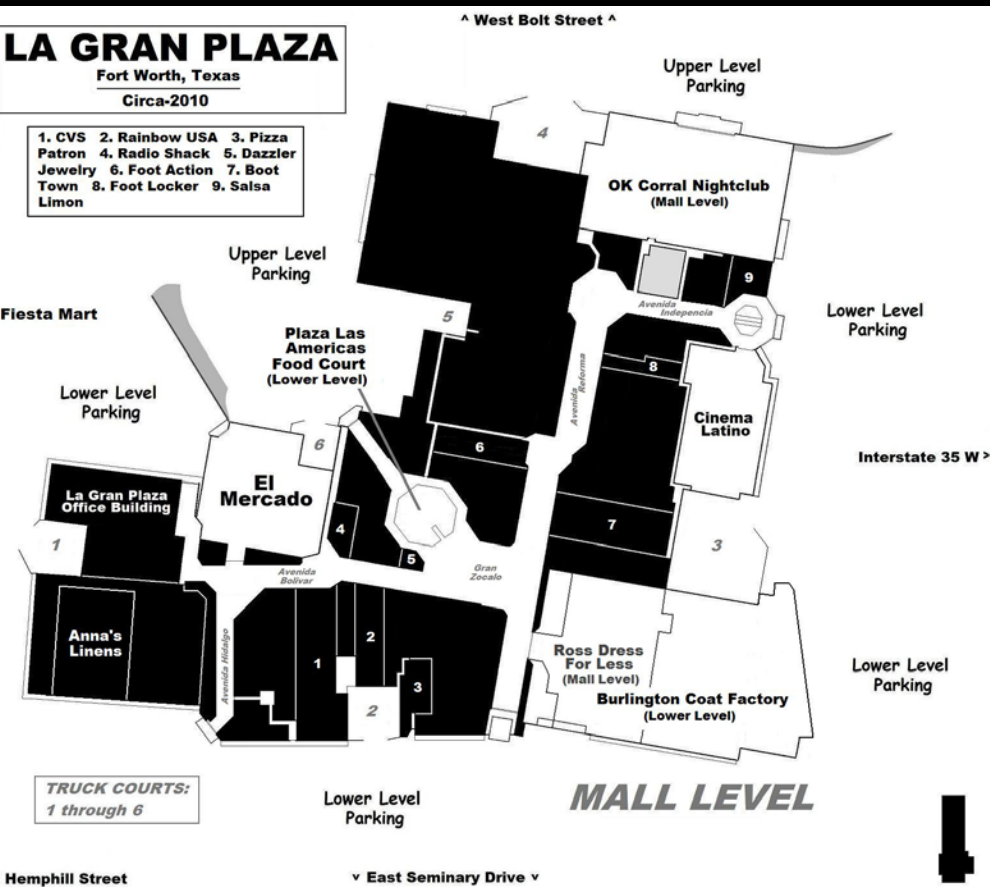
Dunwoody Glen Apartments resident Erick Pereira and his daughter Mariana Pereira, 5, walk back home after a trip to a local grocery store.



# From dead mall to hispanic shopping & cultural center

## La Gran Plaza, Fort Worth, TX: The Legaspi Co.

Bought in 2004 as a dead mall. Now 90% occupied. Largest Hispanic-Oriented mall in the U.S. Retail, plus it's own Mariachi band, Mariachi Academy for kids, Plaza Las Americas Food Court, hispanic health clinic, Mercado, Cinema Latino, Nightclub and celebratory event schedule.



*retrofitting challenge:*

# Equity and Affordability

**Equitable access: to transit, jobs, parks, schools, and housing**

**Inclusionary zoning**

**Replacement units**

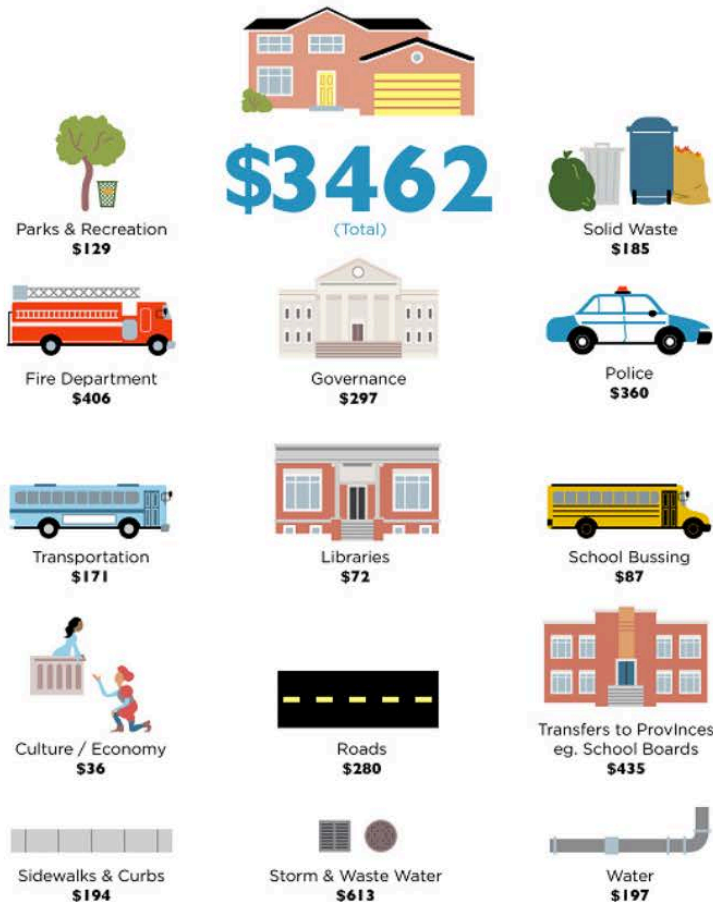
**Reinhabitation**

**The city as master developer**



# Suburban

City's Annual Cost, per Household



# Urban

City's Annual Cost, per Household



***Affordable, dense infill gracefully transitions the commercial-residential seam***  
**Cottages on Greene Street, East Greenwich, RI: 620 Main St Associates, Union Architects**



Former auto-repair lot



First proposal for affordable housing



Inward views to stormwater-catching court



15-units/acre maintains local scale at street



## *From strip to job and town center*

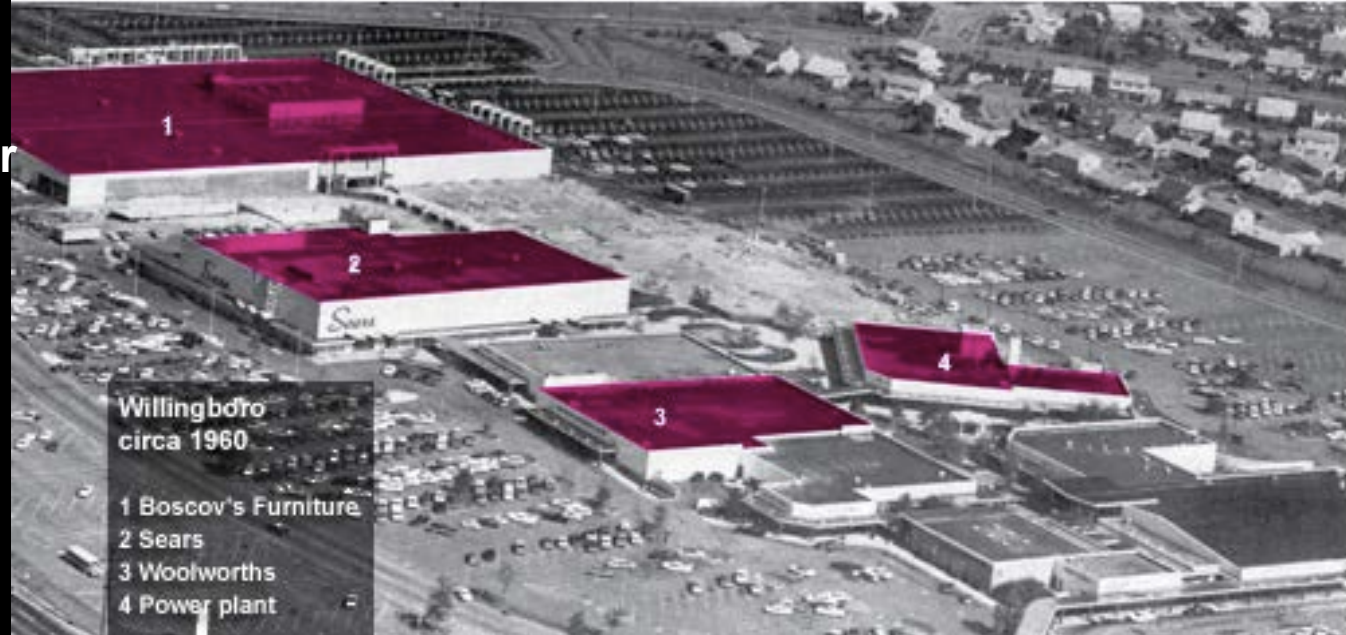
### **Willingboro Town Center**

Willingboro, NJ

Croxton Collaborative Architects

**1960**

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

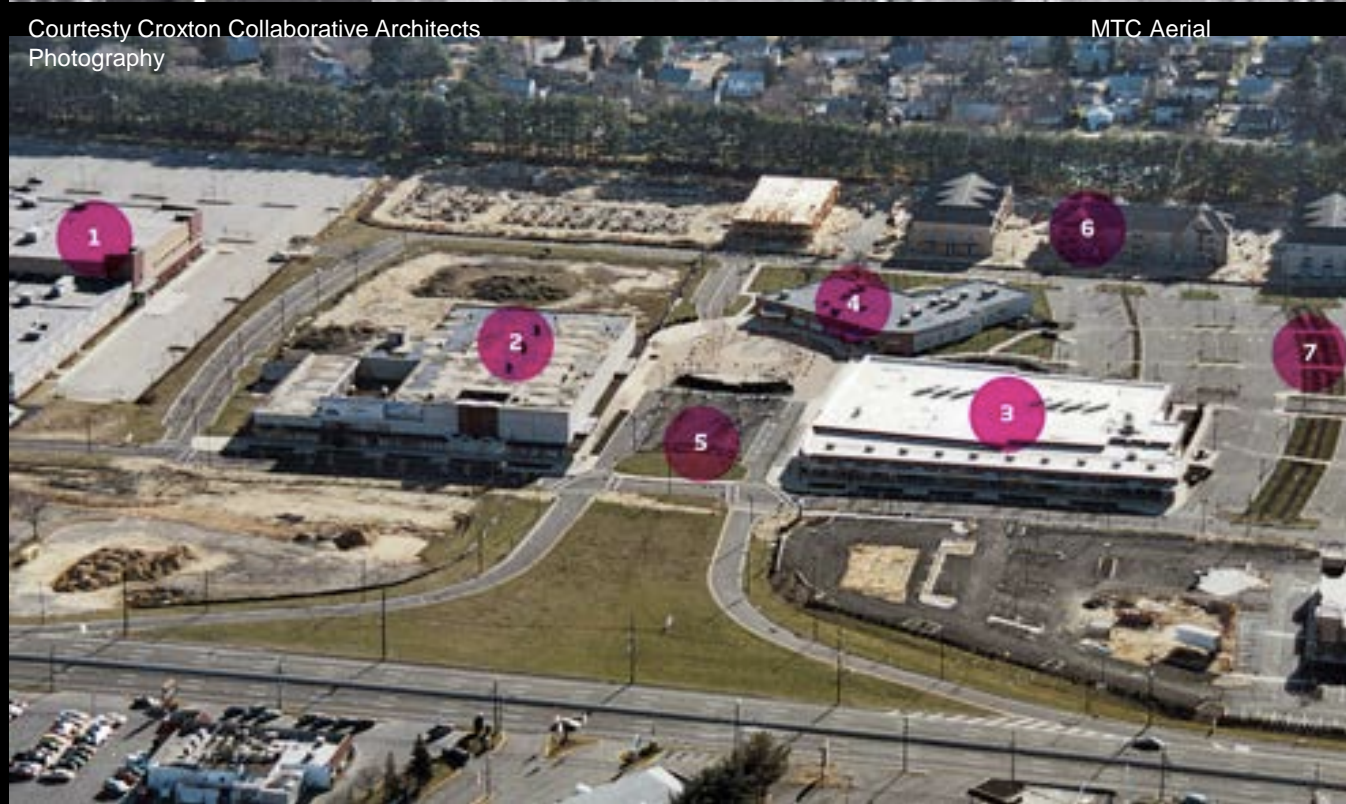


Courtesy Croxton Collaborative Architects  
Photography

MTC Aerial

**2009**

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





***From golf country club to gardens to feed and provide jobs for the homeless***  
**Riverview Gardens, Appleton, WI;**





retrofitting *challenge*:

# Jobs

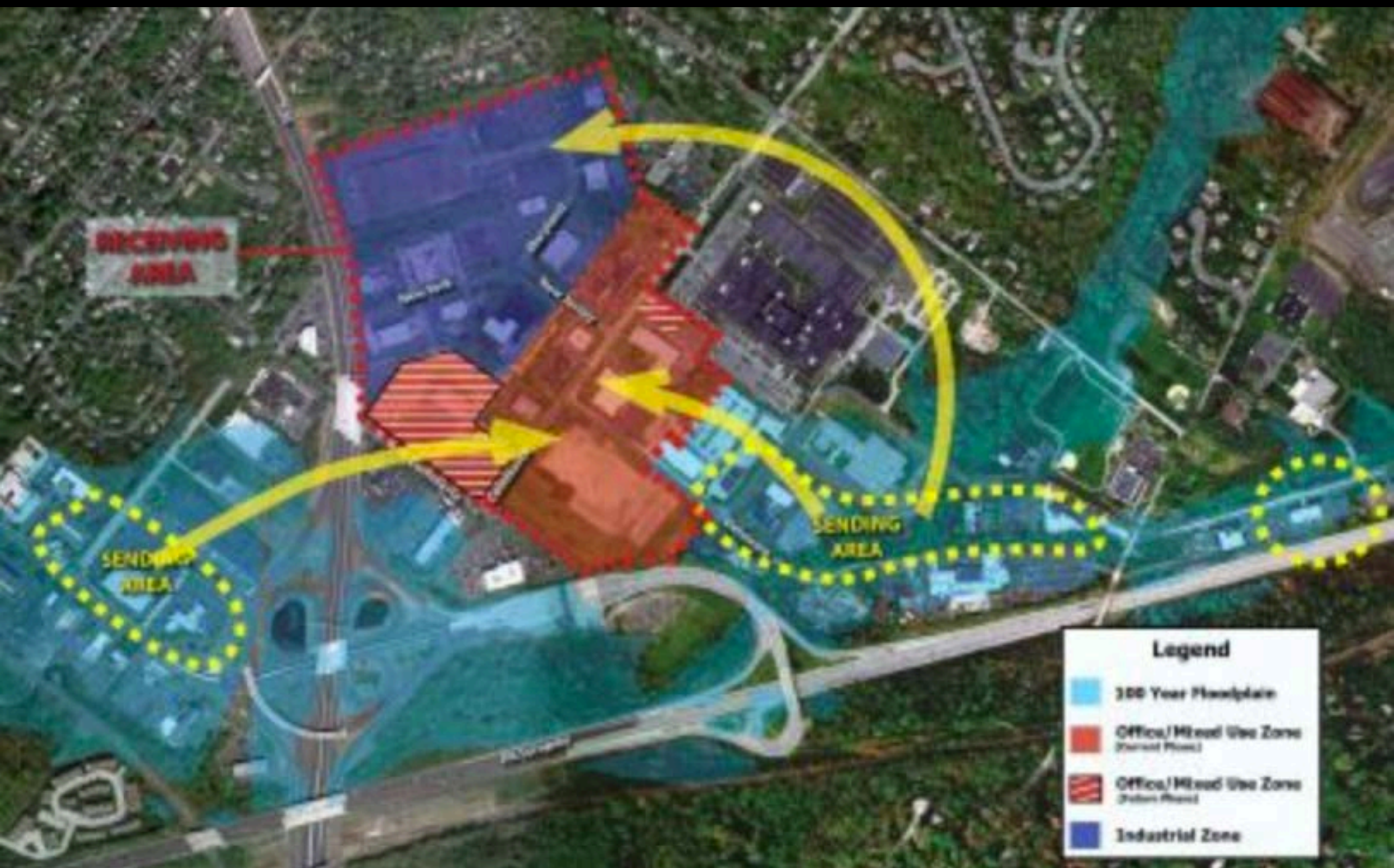
**Attract and retain 25-34 yr olds**

**Anti-corporate office, maker space, & innovation districts**

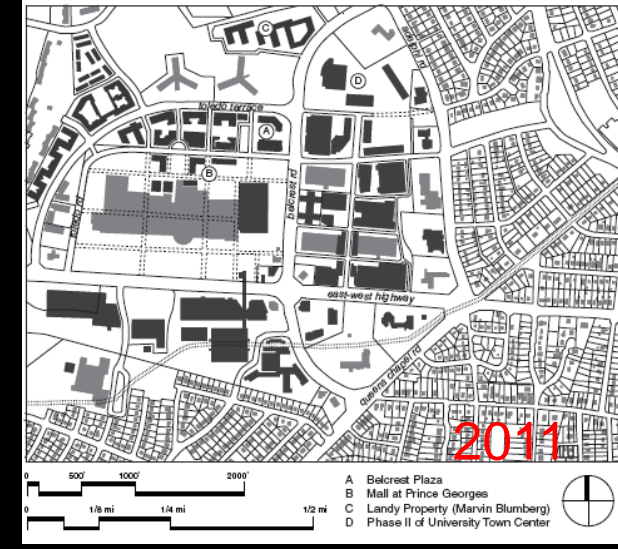
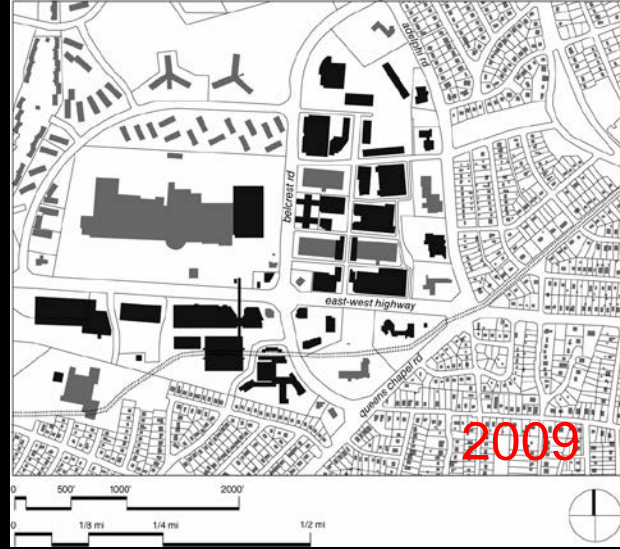
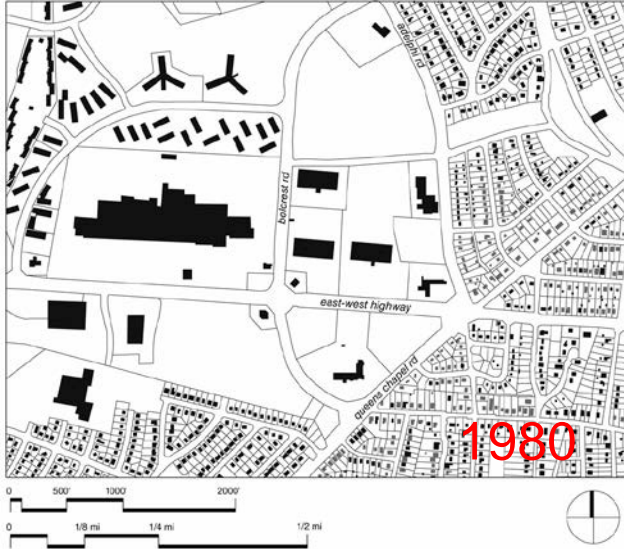
**Update outdated office parks and sleepy suburbs with mixed uses and housing**

**Reinhabit, redevelop, or regreen the white elephants**

**Transfer of Development Rights to regreen and urbanize flooded 50's biz park**  
**Fort Washington Office Center, Upper Dublin, PA: Urban Ptnrs, URS, Smith & Porter, McMahon**





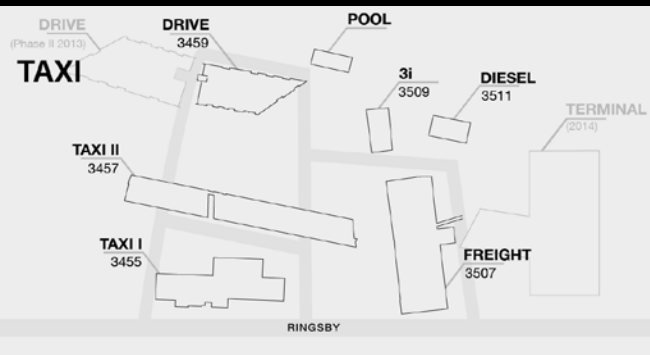


*transit triggers infill of an office park*  
**University Town Center, Hyattsville, MD**  
 Prince George's Metro Center, Inc.; Parker Rodriguez, RTKL Associates, WDG Architecture



# *from taxi distributor to small mixed-use TOD w daycare and container pool*

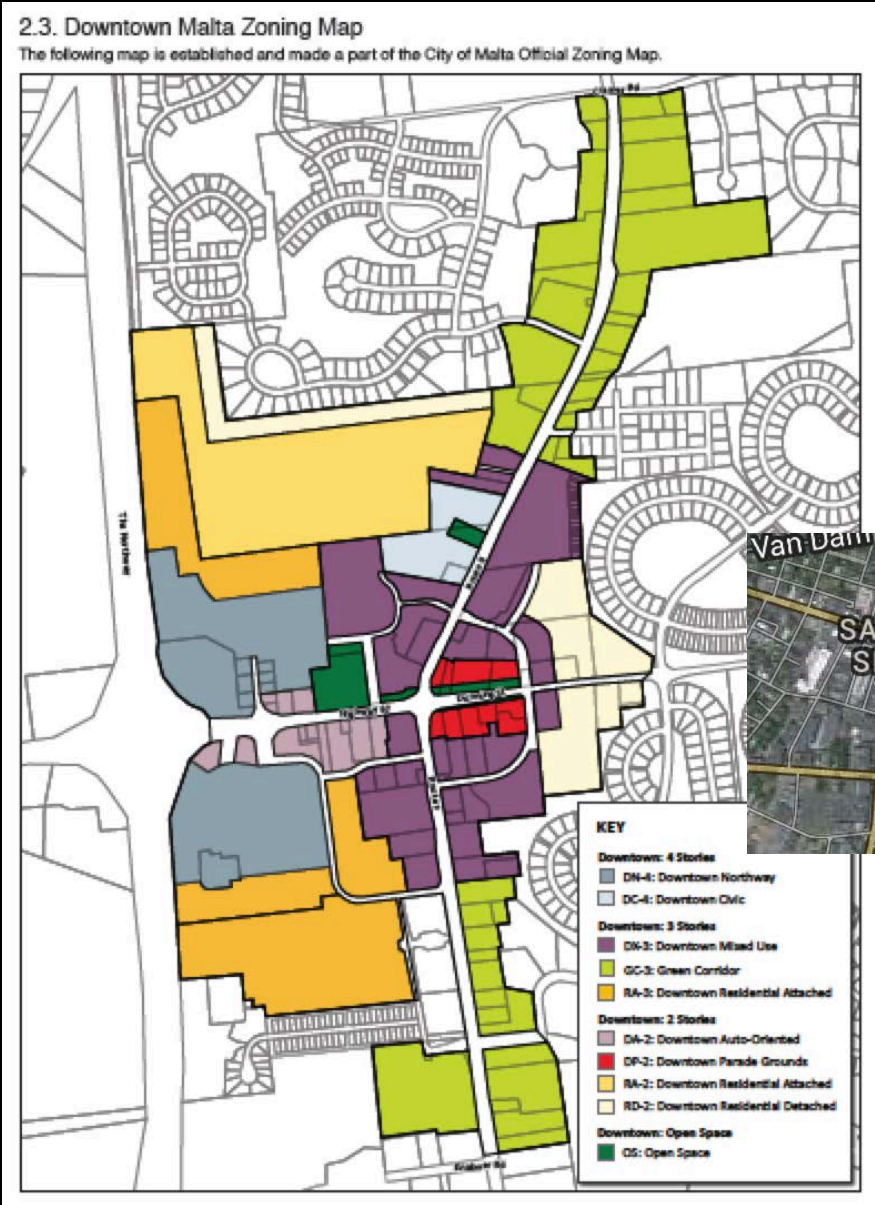
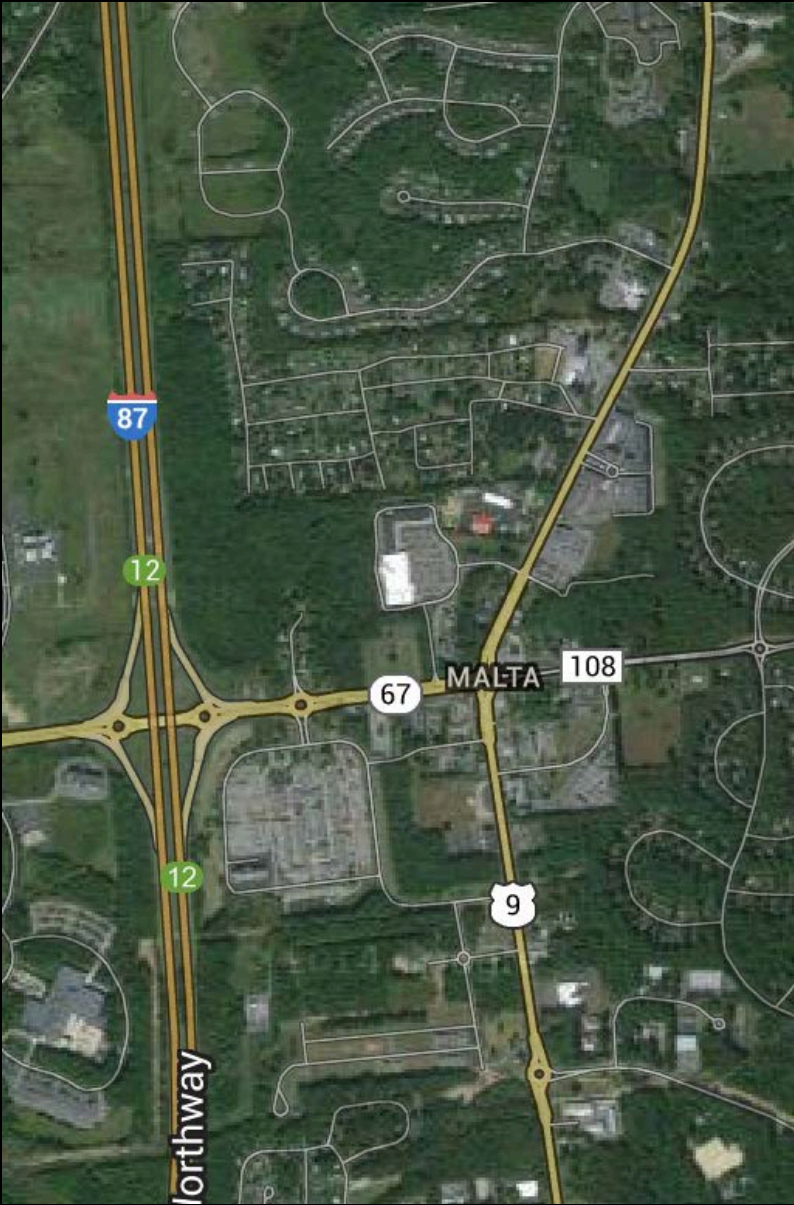
## TAXI, Riverfront North, Denver, CO: Zeppelin Development





**Failed attempt to replicate Saratoga Springs on 3X the land w 1/16<sup>th</sup> the market**

**Downtown Malta**, Malta, NY: Code Studio, Third Coast Design Study, Fuss & O'Neill, Howard/Stein-Hudson; Synthesis LLP





# *Failed attempt to replicate Saratoga Springs on 3X the land w 1/16<sup>th</sup> the market*

**Downtown Malta**, Malta, NY: Code Studio, Third Coast Design Study, Fuss & O'Neill, Howard/Stein-Hudson; Synthesis LLP



## Article XVI Downtown Malta **Form-Based Code**

prepared by

**CODE STUDIO**

for

the Town of Malta, New York

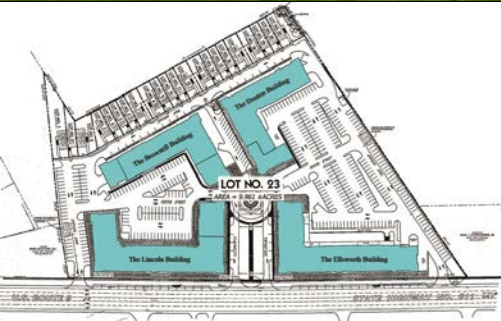
**ADOPTED** February 4, 2013





*Good code, too big area, inadequate phasing leads to failed fragments*

**Downtown Malta, Malta, NY:** Code Studio, Third Coast Design Study, Fuss & O'Neill, Howard/Stein-Hudson; Synthesis LLP



**Ellsworth Commons:** Albany Partners, Humphreys & Partners Architects



**Malta Crossings:** Seth Harry & Assoc



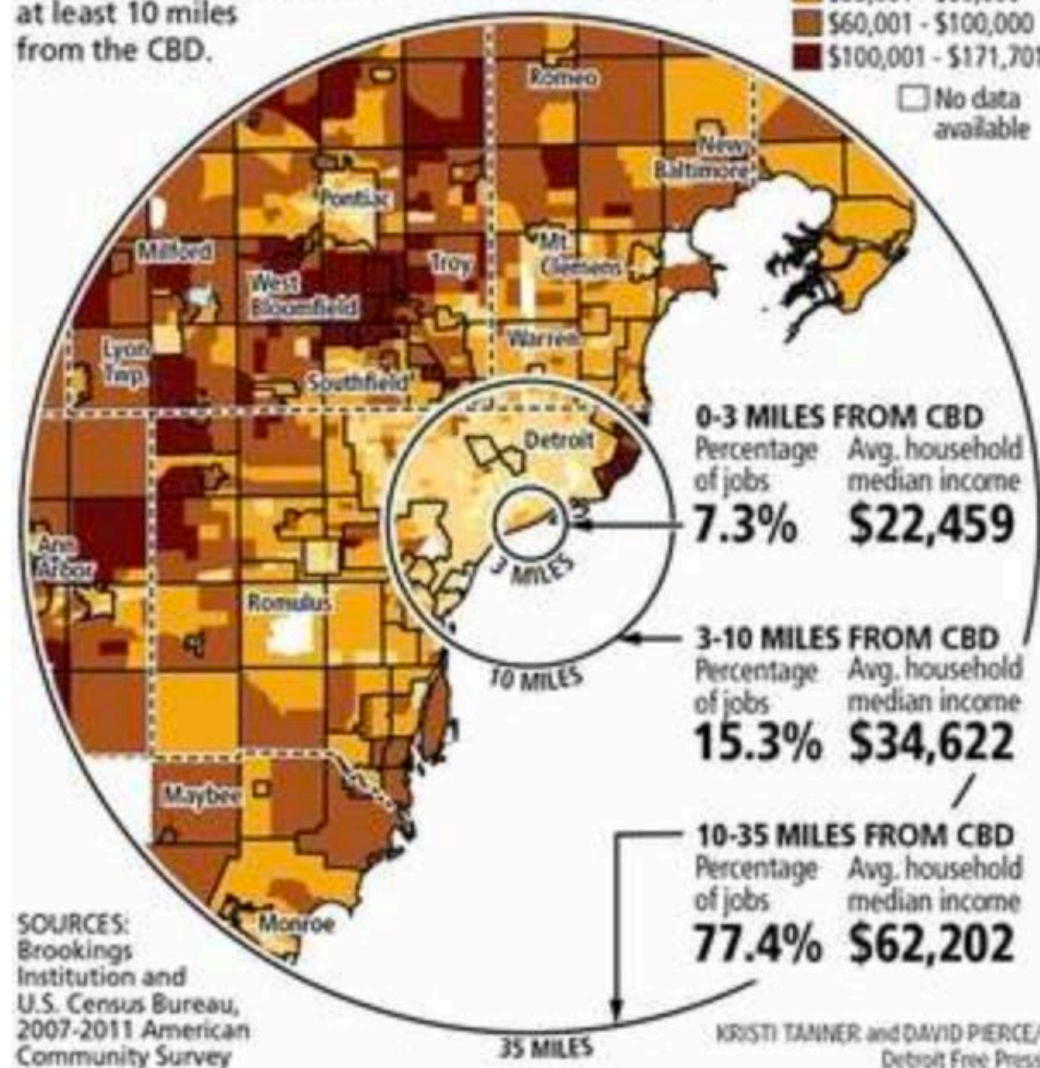


# JOB SPRAWL: WE'RE NO. 1

Metropolitan Detroit leads the nation's 100 largest metro areas in the percentage of its jobs found at least 10 miles from the central business district. More than 75% of jobs in metro Detroit are found at least 10 miles from the CBD.

Median household income

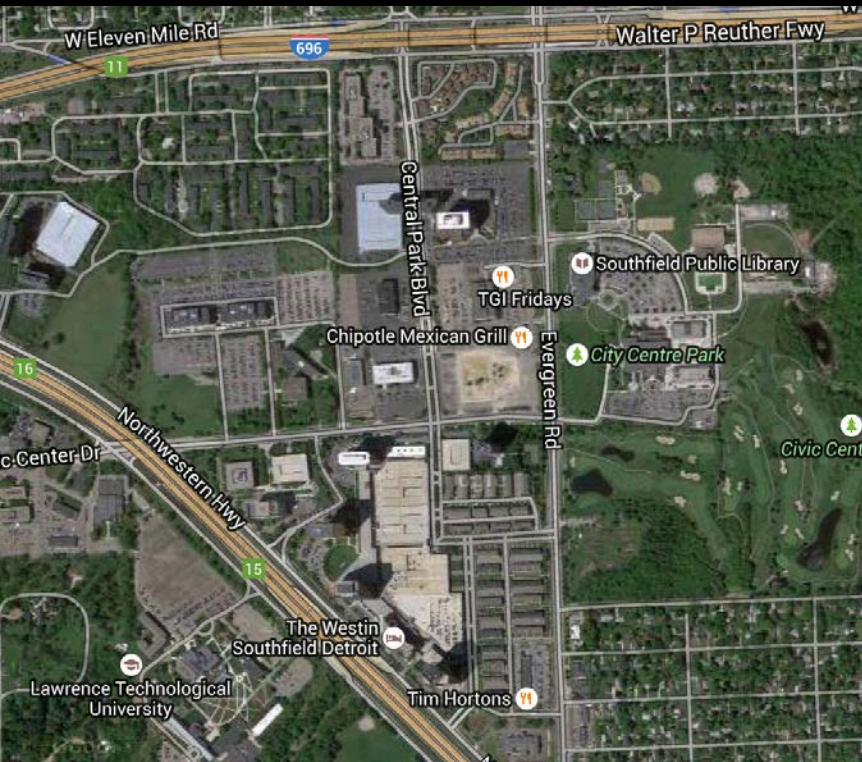
- \$5,568 - \$15,000
- \$15,001 - \$35,000
- \$35,001 - \$60,000
- \$60,001 - \$100,000
- \$100,001 - \$171,701
- No data available





## *From '60's office & civic plaza to walkable CBD*

**Southfield City Centre, Southfield, MI: City of Southfield, Lawrence Tech - Studio [Ci]**



May 2013 Phase II plan: 1M sf mixed-use development and public realm improvements including:

- “deck plaza” over Northwestern Highway to connect Lawrence Tech to the City Centre, Town Center and Municipal Complex
- E-W “flexible street” w pedestrian and bike zone as spine for City Centre
- Daylighting the Rouge River, various LID, and creation of stormwater park

*From '60's office & civic plaza to walkable downtown?*

**Southfield City Centre, Southfield, MI: City of Southfield, Lawrence Tech**





retrofitting *challenge*:

# Energy

**District Energy Systems**

**Waste Heat Capture**

**Peak Load Shaving with  
renewables**

**Energy retrofits of existing  
buildings**





# ***From 3-acre truck loading facility to urban park w/ 600 ton BTU geothermal source***

**Guthrie Green Urban Park**, Tulsa, OK: OSU, SWA, Kinslow, Keith & Todd Architects

The \$8M conversion of the 3-acre site in an emerging arts district received a \$2.5M ARRA grant to provide gardens, stage, pavilion and 120 wells to serve 120k of nearby non-profit users.



Guthrie Green Project Site - Before





**From airport to solar + smart grid new urbanist community**

**Mueller, Austin, TX: Catellus Development**

Use of retrofit's renewables more for peak-shaving than net-zero optimization



**Living laboratory shows how a smart grid works**

Austin community benefits from clean energy system of the future



Solar panels dot the roofs of homes in the Mueller neighborhood of Austin.





retrofitting *challenge*:

# Water

## Water Quality:

- Daylight culverted creeks
- Reconstruct wetlands
- Clean and control runoff

## Too little water:

- Capture for reuse
- Conserve

## Too much water:

- Regreen flood plains
- Blue/Green infrastructure/LID
- Pervious surface
- Hard and soft barriers
- Buildings and infrastructure that can take a bath
- Planned retreat



2000  
condos to  
replace  
200 apts?

1st Ave NE

3rd Ave NE

5th Ave NE

THORNTON CREEK

NE 103rd St

NE 100th St

***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**

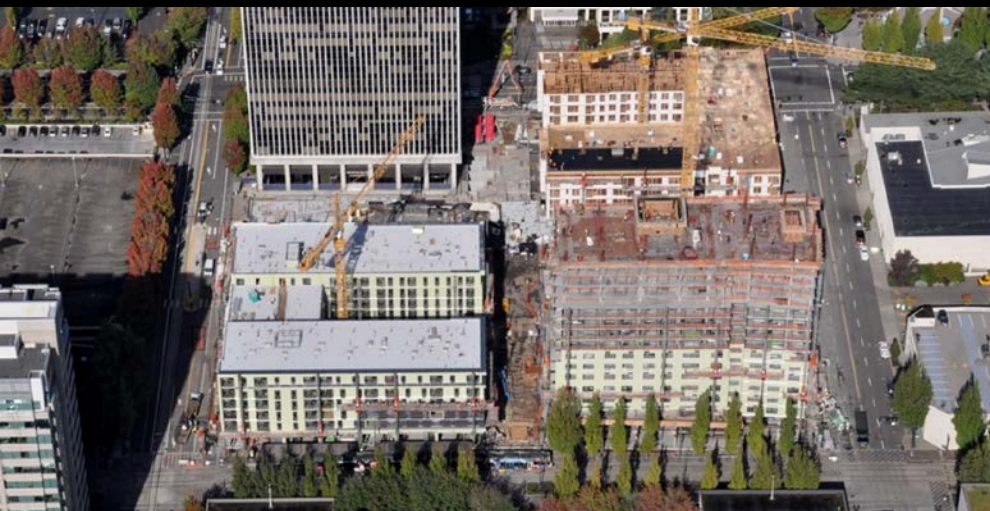
- Reduced impervious surface by 78%
- Designed to remove an estimated 40-80% of suspended solids from 91% of the avg annual stormwater runoff from the 680-acre drainage basin
- Created new habitat: native birds were observed within one month and native volunteer plants have gotten established with the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

Source: Kaïd Benfield, Natural Resources Defence Council



## ***From office superblock to LEED Platinum complex in new eco-district***

**Hasselo on 8<sup>th</sup>, Lloyd District, Portland, OR:** American Assets Trust, GBD Architects  
Nation's largest "living machine": 100% gray/blackwater treatment to flush toilets and irrigate the public plaza and green street instead of paying city to expand main sewer lines.  
100% solar hot water; rainwater storage and reservoir; street level stormwater networks



### **THE DEVELOPMENT INCLUDES INNOVATIVE GREEN TECHNOLOGY SUCH AS NORM:**

- The nation's largest and first multi-family Natural Organic Recycling Machine
- NORM will treat 100% of the grey and black water created by the buildings
- 60,000 gallons of wastewater will be diverted from the municipal sewer system every day by NORM
- That 60,000 gallons of water will be used for non-potable functions \*(toilets, landscaping, etc.)

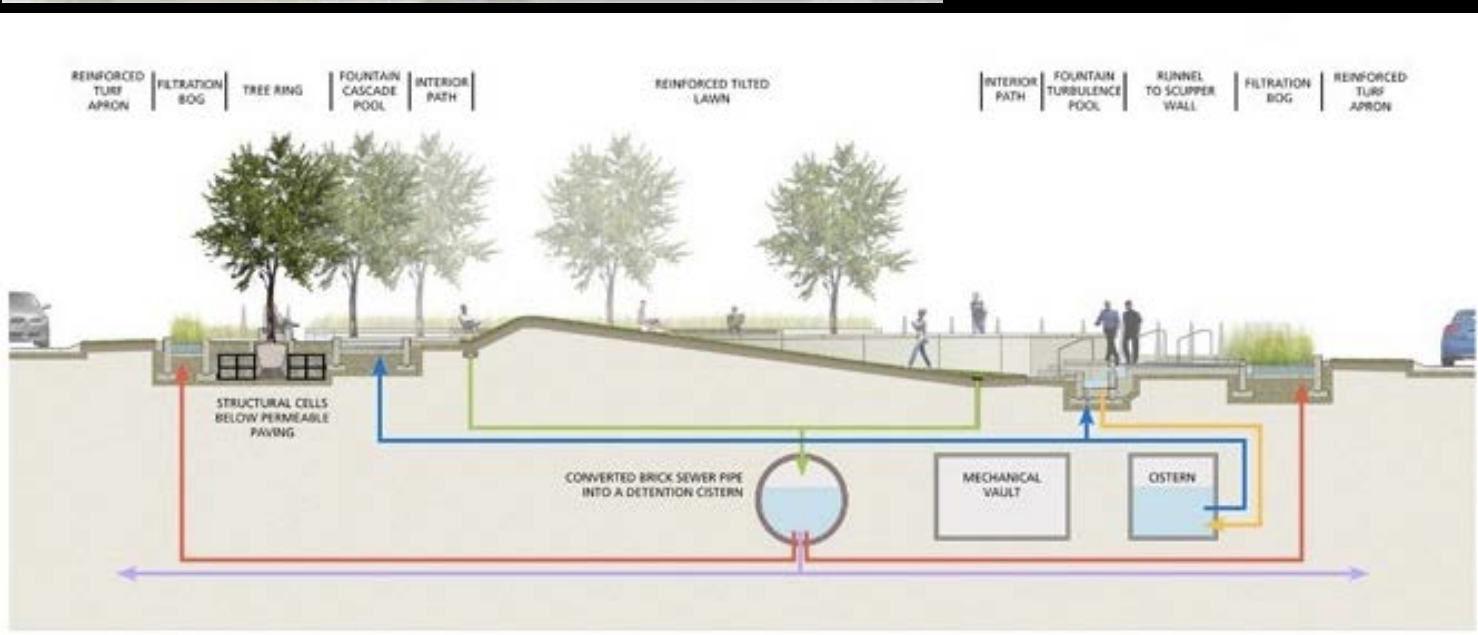
### **BEAUTIFUL DESIGN IN A LEADING-EDGE GREEN BUILDING:**

- Green roofs and gardens will naturally treat stormwater from the buildings and existing parking lot
- Onsite rainwater harvesting garden will circulate captured water
- 30% of annual energy savings over comparable buildings
- Over 1,000 bike parking stalls, making it the largest bike storage facility in North America
- Conveniently located at the intersection of the streetcar, lightrail and bike corridors

657 apts, 1,000 bike parking spaces,  
1200 underground car parking stalls,



*Intersection retrofit and public placemaking as redevelopment catalyst*  
**Uptown Normal Illinois Roundabout, Normal IL: Farr Associates, Hoerr Schaudt L'scape**





***Inserting bike paths and bioswales in a corridor retrofit***  
**Indy Cultural Trail, Indianapolis, IN: Rundell Ernstberger Associates**



## The Magnificent Bioswales & Stormwater Treatment Along the Indy Cultural Trail

from STREETFILMS



\$62.5M 8-mile bike path and bioswale system. Coincided with \$100Ms in new development and triggered 25 new businesses in core 5-block area in first 9 months.



*From urban mall to multi-modal TOD and flood control park*  
**Meriden Downtown Hub, Meriden, CT: Parsons Brinckerhoff, Milone & MacBroom**



BEFORE

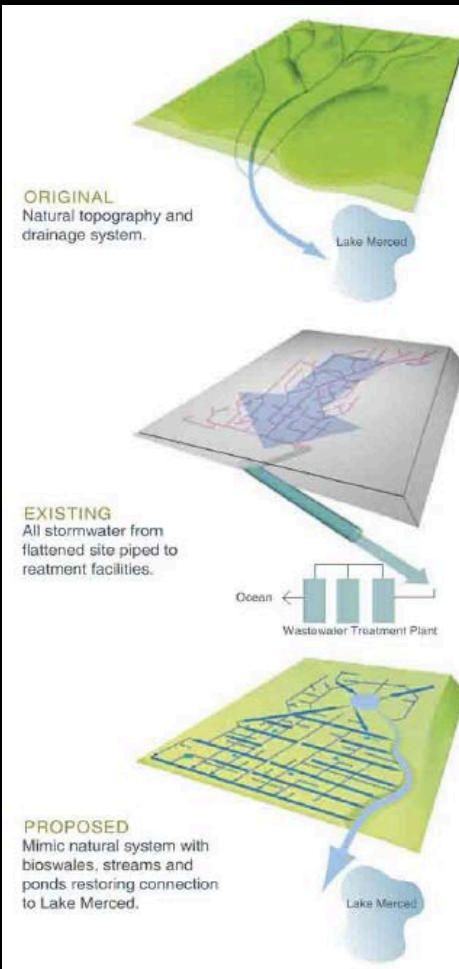




# *Upgrading 1940-s-50's environmental, social, and transportation systems*

**Parkmerced**, a 3,221-unit rental apt community, San Francisco, CA: SOM

5,665 net new residences with net zero increase in greenhouse gases, zero landfill waste, 100% aquifer recharge, local food, 56% reduction in reliance on “the grid” BUT concerns about evictions





*retrofitting challenge:*

# Layered solutions, Performance metrics

Auto-dependence

Affordability

Public Health

Social Capital

Jobs

Water

Energy

Waste

# Local Incentives for Retrofitting

**RE-ZONING** (including inclusionary zoning) **and** **EXPEDITED PERMITTING** to incentivize mixed-use.

**PUBLIC-PRIVATE PARTNERSHIP SAVVY** to creatively fund appropriate improvements, including **USE OF PUBLIC LAND**, **TIFS**, **PILOTS**, **SALES TAX REBATES**, **TAX CREDITS & ABATEMENTS**, etc .

**DEPARTMENTAL COORDINATION and CONSOLIDATION** between planning, building, emergency, health, and economic development departments.

**PERFORMANCE INCENTIVES** for conformance with **LEED-ND** or raising **WALKSCORE.COM** scores or affordability.

**SUBURBAN COALITIONS and BIDs** for collective political clout and problem-solving.

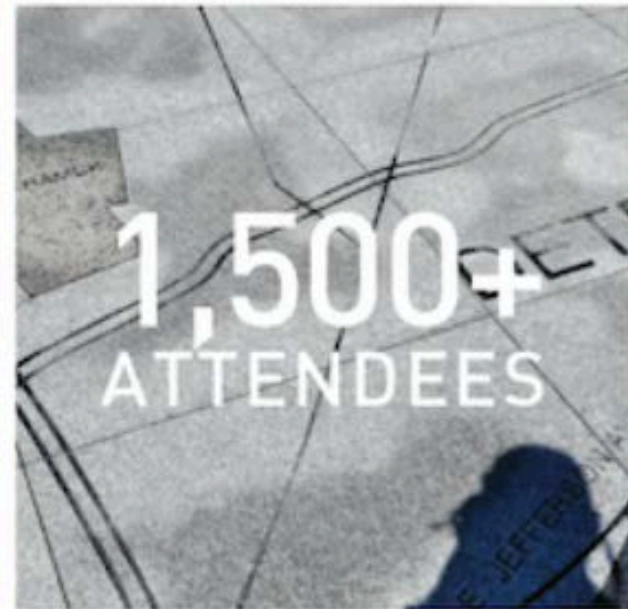
**LEADERSHIP AWARDS and DESIGN COMPETITIONS** to broaden recognition of new ideas.

To be most effective, all of the above need to be combined with **LEADERSHIP CHAMPIONS and NEW METRICS OF MUNICIPAL SUCCESS** and **DISINCENTIVES FOR CONTINUED SPRAWL**



# CNU 24

DETROIT | JUNE 8-11, 2016



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## Michigan

-need Assembly Row in public health to address the highway proximity emissions

-Grand Rapids Centerpointe Mall is doing well at ½ size. North Kent Mall also demalled.

-Livonia: Wonderland Mall = one of six malls that have been demalled in MI and turned into power centers. Westland in Holland may become the 7<sup>th</sup>. Approx 25% reduction in size.

Conclusions: public sector role – need champion, need vision, need to understand why properties are failing, collaborate w priv sector (CID/BIDs), pilot projects and long-term regulatory changes. Prepare for PPPs (leverage public land, public facilities, consider req'g replacement units and land banks to mitigate displacement.

What is the low-hanging fruit? The unloved aging comm'l strips. Public land.

Downtown malls, (Muskegon)parking lots. Liner bldgs. Infill. CHANGING THE METRIC

What's pop in MI: rightsizing & redev'g malls, car dealership retrofits, little transit

Cautionary tale: target reinvestment – don't spread the peanut butter.