Ellen Dunham-Jones, AIA
Professor, MSUD Coordinator, Georgia Institute of Technology
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unintended consequences:

**traffic and auto-dependence**
suburbia overburdens arterials and underuses local streets, in a vicious spiral

**public health & aging**
suburban living raises risk of obesity, suicide, and death by automobile crashes

**climate change & sustainability**
suburbanites’ have higher carbon footprints than urbanites
living compactly reduces per capita water and energy use

**affordability**
low density costs municipalities more to serve with less revenue per acre
“drive ‘til you qualify” savings are wiped out by transportation costs

**poverty and social capital**
since 2005 more Americans in poverty live in suburbs than cities
1100 shopping malls: 1/3 are dead or dying

50,000+ strip malls, 10-11% vacancy rate

350,000+ big box stores, slowly refilling

suburban office vacancy rates 14-22%
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
“60% of demand for housing will be in the “urbanizing suburbs” for at least a generation.”

**Washington DC – 2012:**
- 43 Walk Ups, 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:
  - 12X the tax revenue of Edge Cities
  - 6X the tax revenue of drivable suburbs

**Dallas, TX – 2014:**
- 9 Walk Ups. DART TODs?
- Only 7% of Walk UPs are in the suburbs. Good opportunities for urbanization
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

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

Mashpee Commons, Mashpee, MA: Cornish Assoc. LTD, Duany Plater-Zyberk & Co
From edge city sprawl to developer-led walkable urbanism

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 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
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?

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
Testing a Road Diet – from 4 lanes to 2 with bike lanes, a pop-up café and o.s. pkg
Wheat Ridge, CO, W.38th Avenue
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%
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
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.
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
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 its 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
Halifax Regional Municipality, Nova Scotia – March, 2015

**Suburban**  
City’s Annual Cost, per Household

- Parks & Recreation: $129  
- Fire Department: $406
- Transportation: $171
- Culture / Economy: $36
- Sidewalks & Curbs: $194
- Roads: $280
- Storm & Waste Water: $613

**Urban**  
City’s Annual Cost, per Household

- Parks & Recreation: $69  
- Solid Waste: $185
- Governance: $297
- Libraries: $72
- School Bussing: $87
- Transfers to Provinces eg. School Boards: $435
- Culture / Economy: $19
- Roads: $26
- Storm & Waste Water: $147
- Water: $197

**Total**

- Suburban: $3462  
- Urban: $1416

*For more data and more reports, visit thecostofsprawl.com*

Data based on Halifax Regional Municipality
Connecting affordable housing to affordable transportation in a health district

Lancaster Urban Village, Lancaster, TX: City Wide CDC, Catalyst Urban Dev’m't, BGO Archts

- Redevelopment of 2 motels with 193 mixed-income appts abv retail and across from VA hospital, DART station, and Urban League job training/social svcs ctr
- First of 4 TODs in distressed corridor, leveraging funds from higher-income TODs
- Combined funding for non-profit developers and for-profit developers
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

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;
Jobs

retrofitting *challenge*:

Attract and retain 25-34 yr olds

Anti-corporate office, maker space, & innovation districts

Update outttadate office parks and sleepy suburbs with mixed uses and housing

Reinhabit, redevelop, or regreen the white elephants
Raising office rents by inserting walkable, mixed-use as an amenity?

Legacy Town Center, Legacy Business Park, Plano TX:

Cassidy Turley’s Q2 2013 Report: existing rental rates in Far North Dallas have risen 22% in 5 yrs to $29.04/sf and 4th lowest vacancy rate (9.9%) of 13 Dallas submarkets.

“Just up the North Dallas Tollway, the success of Legacy has sparked the construction of Granite Park Four, Hall Office Park, Legacy Tower, Dominion at Parkwood, and Lincoln Legacy Two, all of which are underway, in hopes of mirroring what Legacy did so well: creating a premier mixed-use environment.”

Raising office rents by inserting walkable, mixed-use as an amenity?

Legacy West, Legacy Business Park, Plano TX: Gensler Cassidy Turley’s Q2 2013 Report: existing rental rates in Far North Dallas have risen 22% in 5 yrs to $29.04/sf and 4th lowest vacancy rate (9.9%) of 13 Dallas submarkets.
From IBM light industrial site to Austin’s upscale Second Downtown Domain, Austin, TX: Endeavor Realty, Simon Retail
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 1/16th the market

retrofitting challenge:

Energy

District Energy Systems

Waste Heat Capture

Peak Load Shaving with renewables

Energy retrofits of existing buildings
From airport to mixed-income, solar + smart grid new urbanist community

Mueller, Austin, TX: City of Austin w Catellus Development, Roma Design Group

- CHP district energy system for commercial uses
- Pecan Street $10M grant: world’s largest database on res’l water & solar use, avail to research
- 25% affordable housing mixed into wide variety of housing types. 50/50 jobs/hsg balance.
- PPP: city shares in proceeds w developer taking the risk; paid back for infrastruc w new tax rev
- 20% open space. All greenways function as stormwater green infrastructure
- Ped and bike network, light rail station proposed
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.
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
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
From office superblock to LEED Platinum complex in new eco-district

Hasselo on 8th, 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 Lloyd 700 Superblock

PSU/NAIOP Workshop

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, light rail and bike corridors

657 apts, 1,000 bike parking spaces, 1200 underground car parking stalls,
From urban mall to multi-modal TOD and flood control park
Meriden Downtown Hub, Meriden, CT: Parsons Brinckerhoff, Milone & MacBroom
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
Looking Ahead

Great transit is poised to eclipse great schools as the prime factor determining real estate value. The communities that provide both will be big winners.

Connecting affordable housing to affordable transportation is key to growing participation in, and expansion of, the economy.

Design matters

How will San Antonio retrofit its highly dispersed suburban development to accommodate the next generation’s high population growth?