Planned Retrofit
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US EPA

Makeover Montgomery
April 14 - 16, 2011
What is Smart Growth?

- Growth that benefits the economy, the community, the environment, and public health.
- Provide consumers with new choices for housing, working, shopping, playing, and getting around.
- Follows well established principles, design techniques, goals, and outcomes.
  - But it is not one size fits all - each project conforms to the local character whether in an urban, suburban, or rural setting.
U.S. EPA and Smart Growth

• The EPA’s mission is to protect the environment and human health.

• How and where we build have direct and indirect effects on the natural environment and public health.

• Not all development affects the environment or human health the same way.

• The EPA’s Office of Sustainable Communities conducts research and policy development, outreach and education, and technical assistance on these issues.
Partnership for Sustainable Communities

Mission: To meet the President’s challenge for our agencies to work together to encourage and fully assist rural, suburban, and urban areas to build sustainable communities, and to make sustainable communities the leading style of development in the United States.

The Partnership is focused on ensuring that federal investments, policies, and actions do not subsidize sprawl and, instead, support development in more efficient and sustainable locations.
Guiding Principles

1. Provide more transportation choices.
2. Promote equitable, affordable housing.
3. Enhance economic competitiveness.
4. Support existing communities.
5. Coordinate policies and leverage investment.
Partnership for Sustainable Communities

- Over $2B in grants awarded to communities
  - DOT TIGER program
  - DOT/HUD planning grants
  - EPA brownfields planning grants
  - Other technical assistance

- Current initiatives
  - Equity in investment
  - Coordinated access to assistance
  - Aligning planning requirements

- epa.gov/smartgrowth/partnership
Partnership for Sustainable Communities

Partnership for Sustainable Communities 2010 Grantees

Legend:
- Joint DOT/HUD Grants
- DOT TIGER II Planning Grants
- HUD Community Challenge Grants
- DOT TIGER II Capital Grants
- FTA Livability and Alternatives Analysis Grants
- EPA Sustainable Communities TA and Brownfields Grants
- 2010 Regional Grantees
US EPA Office of Sustainable Communities

OSC Technical Assistance and Workshops 2005 - 2010

Legend:
- Red dot: Smart Growth Technical Assistance
- Green dot: Greening America’s Capitals
- Blue shade: Region 8 Partnership Summit on Rural Development
- Green shade: Region 9 Partnership Summit on TOD
- Light purple: Governor’s Institute Workshop
- Dark purple: State Stormwater Technical Assistance

Map created: 1/14/2011
Growth trends over the last 50 years

• Employment and population growth heavily focused on metropolitan regions.
• Within them, most growth occurred in low-density development at the fringe of urbanized areas.
• Emphasis on automobile travel to the exclusion of other modes.
• Results: higher per-capita land consumption, environmental impacts
Environmental Impacts of Growth Patterns

- Contaminated runoff and impaired water quality
- Increased in driving and decreased air quality
- Habitat loss
- Diminished access to nature
- Brownfields abandonment
We recycle our land, buildings and cities

- GAO estimates there are 425,000 brownfields sites in the US.
- Other studies suggest there are 5 million acres of abandoned industrial sites.*
- Brownfields are typically served by existing transportation, water & sewer infrastructure.

* Source – HUD Office of Community Planning & Development

Greensboro, NC:
Annual tax base in this area went from $400K before redevelopment (1995) to over $10 million after redevelopment (2003).
We walk more

- People in walkable neighborhoods are 7% less likely to be obese.

- In Minneapolis, greenhouse gas savings from walking and biking equal shifting 12% of vehicles to hybrids *

* Source – Rails to Trails Conservancy, The Short Trip with Big Impacts: Walking, Biking and Climate Change
We save families money

Better development strategies can reduce household transportation costs.

– Transportation accounts for 18% of all household expenses
– Gas has risen from 3% of expenditures in 2000 to nearly 5-6% in 2009, and prices are rising
– Most families spend more on driving than on health care, education, or food.

Over 10 years, if the U.S. shifted 10% of new housing starts to smart growth development, Americans would save:

• 4.95 billion gallons of gasoline
• $220 billion in transportation costs to households
We use less energy

Two Views of Cities and CO₂
CO₂ Generated by Automobiles in the Chicago Region per Year

Traditional View:
Cities produce large amounts of GHGs.

Emerging View:
City dwellers produce relatively low amounts of GHGs.

Center for Neighborhood Technology
We use less energy

**Location Efficiency:** Household and Transportation Energy Use by Location

- Transportation Energy Use
- W/ Green Automobiles
- Home Energy Use
- W/ Green Buildings

### Single Family Detached
- CSD: 240 (132) 158 (71) 149 (41) 113 (26)
- TOD: 108 (87) 108 (87) 89 (71) 89 (71)

### Single Family Attached
- CSD: 221 (132) 142 (41) 130 (97)
- TOD: 130 (71) 71 (26)

### Multi-Family
- CSD: 186 (132) 115 (41) 95 (70)
- TOD: 54 (44) 54 (44)

CSD - Conventional Suburban Development
TOD - Transit Oriented Development

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We improve the environment

If 10% of new homes next year are built at double the average density for new homes...

• **Air Quality**: Remove 3,000-8,700 tons of NOX and 1,700-5,000 tons of VOC

• **Water**: Runoff from new homes down by 8% nearly 1 billion cu/ft yr

• **Land**: Preserve 41,000 acres of land from development

Atlantic Station, a 139-acre redevelopment in midtown Atlanta avoided 50 million *annual* VMT, 33 million cu/ft of runoff, and protected 1000+ acres from development.
We save local governments money

• In general, higher density and mixed use returns far more per acre than lower density and single use
• Specifics depend on local tax regimes

• Sarasota, FL
  – Pop 370,000 in county, 50,000 in city
  – Downtown mixed-use yields 3-100x more property tax per acre than big-box retail

• Asheville, NC
  – Population 70,000
  – Wal-mart returns $50k/acre in property+sales tax
  – Downtown yields $330k/acre in property tax alone
We save local governments money

• Sarasota, FL: County property tax per acre
  – Single-family homes: $8200
  – Bix-box retail: $8400
  – High-end mall: $22,000
  – Low-rise mixed-use: $70,000
  – Downtown mixed-use: $800,000

• Charlotte, NC: Emergency response costs per capita
  – $740 for station in least-connected area
  – $159 for station in most-connected area
  – Response times improved with connectivity ordinance
Other reasons for change

- Gas prices-- $4/gallon and climbing
- Resource scarcity, materials costs, maximize infrastructure
- Interest in energy independence
- Housing affordability is impacted by transportation costs
- Demographic changes
  - Population is aging
  - Household size is shrinking
- Market demand
  - About one-third of the home buying market wants neighborhoods with smart growth characteristics

Belmont Bay, VA  Hercules Waterfront, CA  King Farm, MD
Retrofitting, a timing issue

Suburban Retrofit – After the fact.

The process of redeveloping existing suburban property types into a more urban form. Ellen Dunham-Jones

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Planned Retrofit – Before the fact.

The process of planning tomorrow’s urban form when it is not possible today.
Retrofitting Suburbia: The Challenge
Retrofitting Suburbia: The Concern
Planned Retrofit
Guiding principle

Plan the entire community’s vision, regardless of what can be accomplished today, but get the plan approved!

Mike Watkins

Rendering: Duany, Plater-Zyberk
When Smart Growth is not possible

- Lack of education about growth;
- Lack confidence in execution;
- Market factors;
- Legal factors;
- Timing;
- Financing;
- Political;
- NIMBYism;

Cartoon by John Ditchburn. May 13, 2005. 296
Planning for Planned Retrofit

• Policy;
• Legal;
• Smart growth is not possible;
• Planning and design;
• Approval process;
• Temporary development:
  – Legal;
  – Land & control;
  – Transportation access;
  – Other infrastructure; and
  – Construction
• Retrofit
Strategies

• Level the playing field for developing walkable communities (make redevelopment easier).
• Promote walkable communities and complete streets.
• Make sure future redevelopment is not frustrated by the temporary development.
• Maximize land and redevelopment costs, accelerate the redevelopment process.
• Consider incremental growth that does not shock the market or increase investment risk.
Techniques

• Develop legal constructs to support, protect, and facilitate retrofitting
• Policy development, tools, and incentives
• Develop linear-block layout, an interconnected grid
• Internal streets, medians, and surface parking considers future roads, on-street parking and sidewalks
• Allow for street connections to adjacent property
• Construct utilities to meet future density and layout requirements
• Plan for adaptive reuse of surface parking lots
• Design parking garages for future conversion to residential, civic, or commercial space
• Phased redevelopment
When Smart Growth is possible

• Opportunity at the site;
• Market conditions change;
• Prior obstacles are removed;
• Competitive edge needed;
• Market constraints/buildout;
• Changing demographics;
• Redevelopment easier due to planned retrofit.
Case study: Quebec Square, Stapleton, Denver, CO
Case study: Gresham Station Center, Gresham, OR
Case study: Kentlands Square, Kentlands, Gaithersburg, MD

Rendering: Duany, Plater-Zyberk
Case study: Potomac Yard Shopping Center, Alexandria, VA
Case study: Complete Street (proposed)

Illustrations: Duany, Plater-Zyberk
Case study: Flat parking garage
Case study: Connectivity

Illustration of New Neighborhood in Old Davidson, Davidson, NC: Dover Kohl & Partners
Others techniques proposed

• Trading commercial frontage setbacks for side setback access routes;
• Big Boxes with multi-face facades that will accommodate later break-up;
• Big Box tenants that escrow fund for future demolition;
• Triggers to reduce HOA/COA supermajority votes for certain types of development;
• Easements and ROWs between houses that allow for new streets
Thank You
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US EPA, Office of Sustainable Communities

All aerial images: Google Earth
Suburban impediments

Transportation

- curves, winding, dead ends;
- few road types used extensively;
- berms, ditches, swales, elevated width, speed;
- Few connections, lack of access points;
- primarily for the auto;
- Traffic and congestion; and
- Sidewalks, on-street parking, street trees are optional, missing, or unsafe to use
Suburban impediments

Land

- parcel sizes not uniform;
- irregular lots created by shape of roads;
- land sales are haphazard (timing and location);
- such land division frustrates future road networks;
- Commercial use fronts main roads, residential placed off main roads;
- Traffic and congestion, and
- Infrastructure constraints: location, placement, capacity, costs.
Suburban impediments

Legal

- Overlapping control (ownership and leases);
- Easements, ROWs, Setbacks;
- HOA’s, COA, CC&R; and
- Zoning, ordinances, rules, and regulations.