EPA Sustainable Community Technical Assistance Programs

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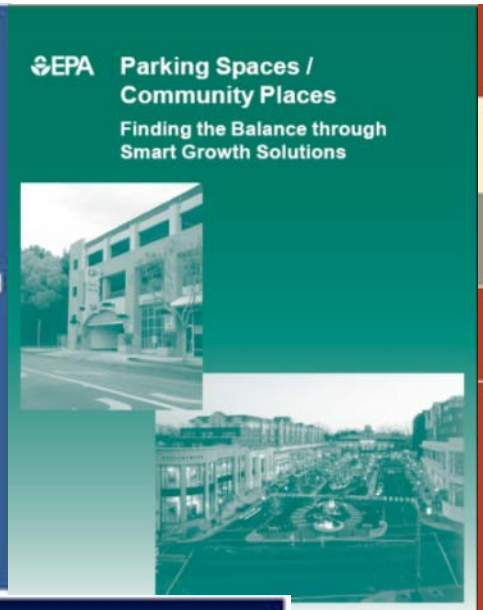
US EPA Office of Sustainable Communities

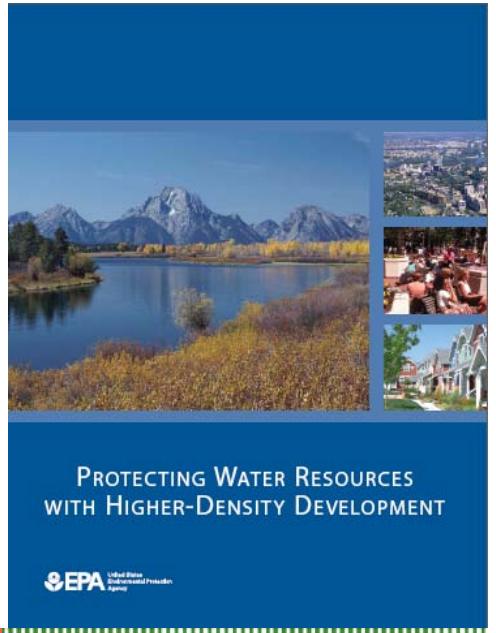
MWCOG IGBG / EAC JOINT MEETING
July 12, 2012

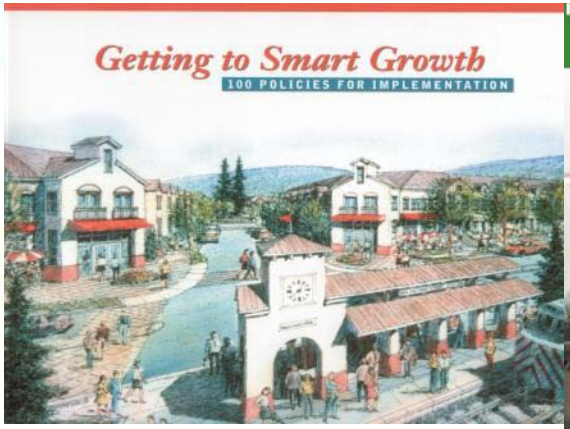
EPA Office of Sustainable Communities

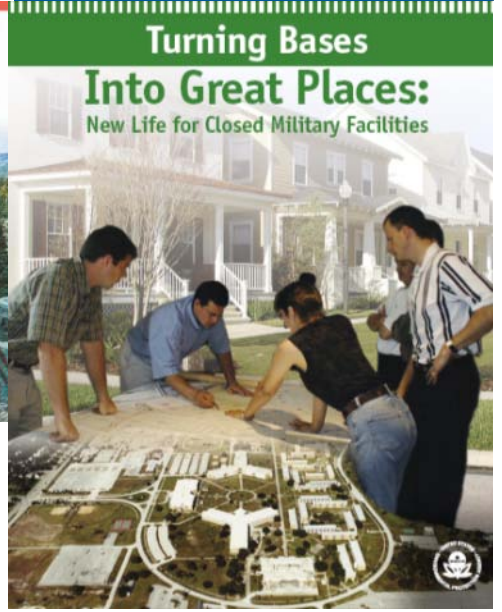
- Smart Growth Program started in 1995
- Green Building focus added in 2007
- EPA lead on HUD DOT EPA Partnership for Sustainable Communities

Resource Publications





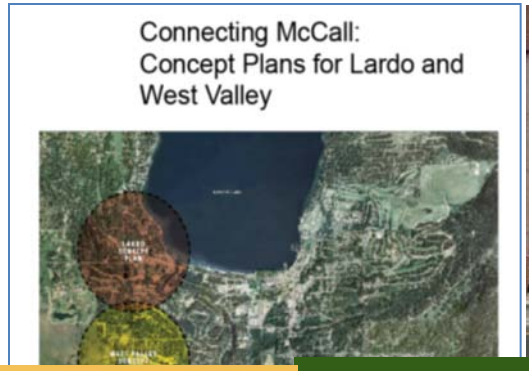


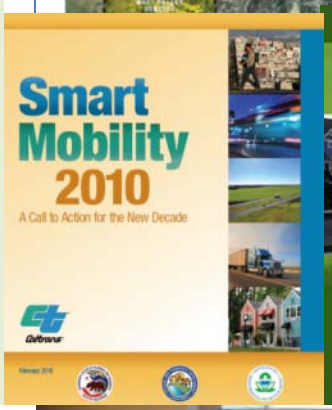


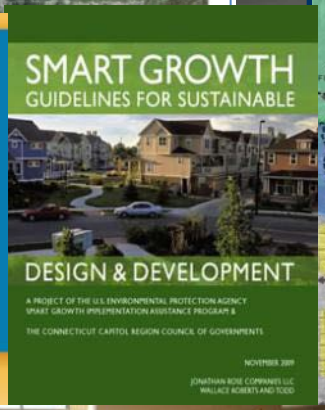
… and many more @
http://www.epa.gov/dced/publications.htm

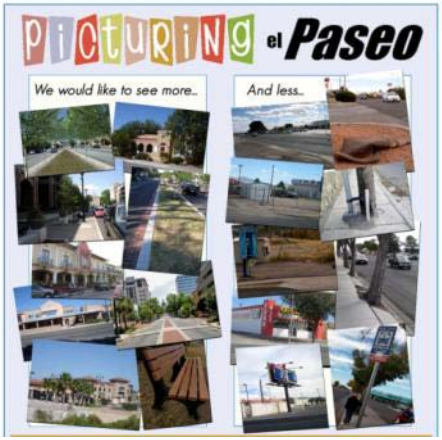
Smart Growth Implementation Assistance

- Launched in 2005
- Worked with 51 communities to date
- Designed to address difficult challenges…
- and find transferable solutions



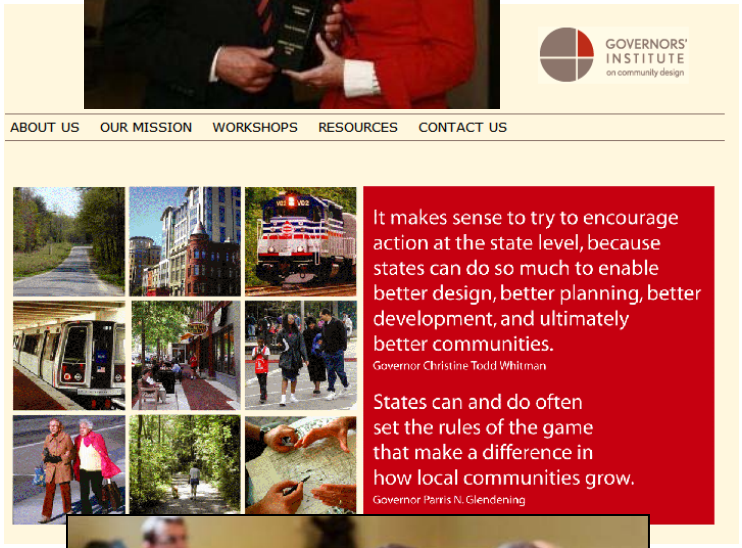






Governors Institute on Community Design

- Launched in 2005
  - Joint Venture with HUD and DOT
  - 16 workshops to date
  1. Work directly with the governor and key state agency leadership
  2. Bring in agency leaders from multiple states to address one topic



GREENING AMERICA'S CAPITALS

- Green Infrastructure Demonstration Project
  - 5 State Capitals in 2011

Boston, MA

Jefferson City, MO

Little Rock, AR

Charleston, WV

Hartford, CT

  - 5 Additional Projects in 2012: Phoenix, AZ; Montgomery, AL; Jackson, MS; Washington, DC; Lincoln, NE

Building Blocks for Sustainable Communities (EPA led technical assistance)

- Launched in 2011
  - 30 communities reached with contractor supported training
- 50 community workshops planned for 2012

Building Blocks for Sustainable Communities (Technical assistance led by grantees)

- Four cooperative agreements with national organizations to deliver technical assistance
- *40 to 70 communities per year*

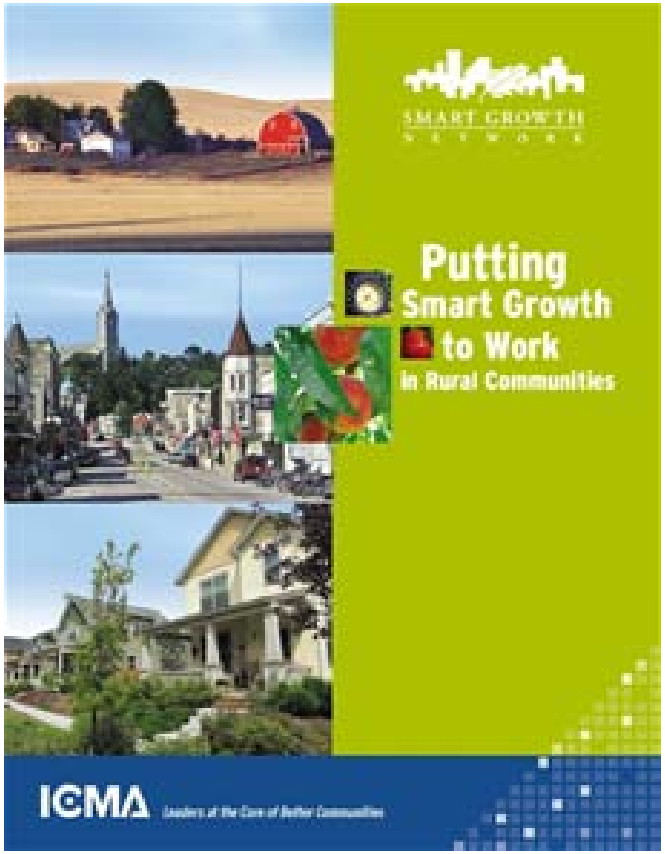
PPS PROJECT FOR PUBLIC SPACES

GLOBAL GREEN USA

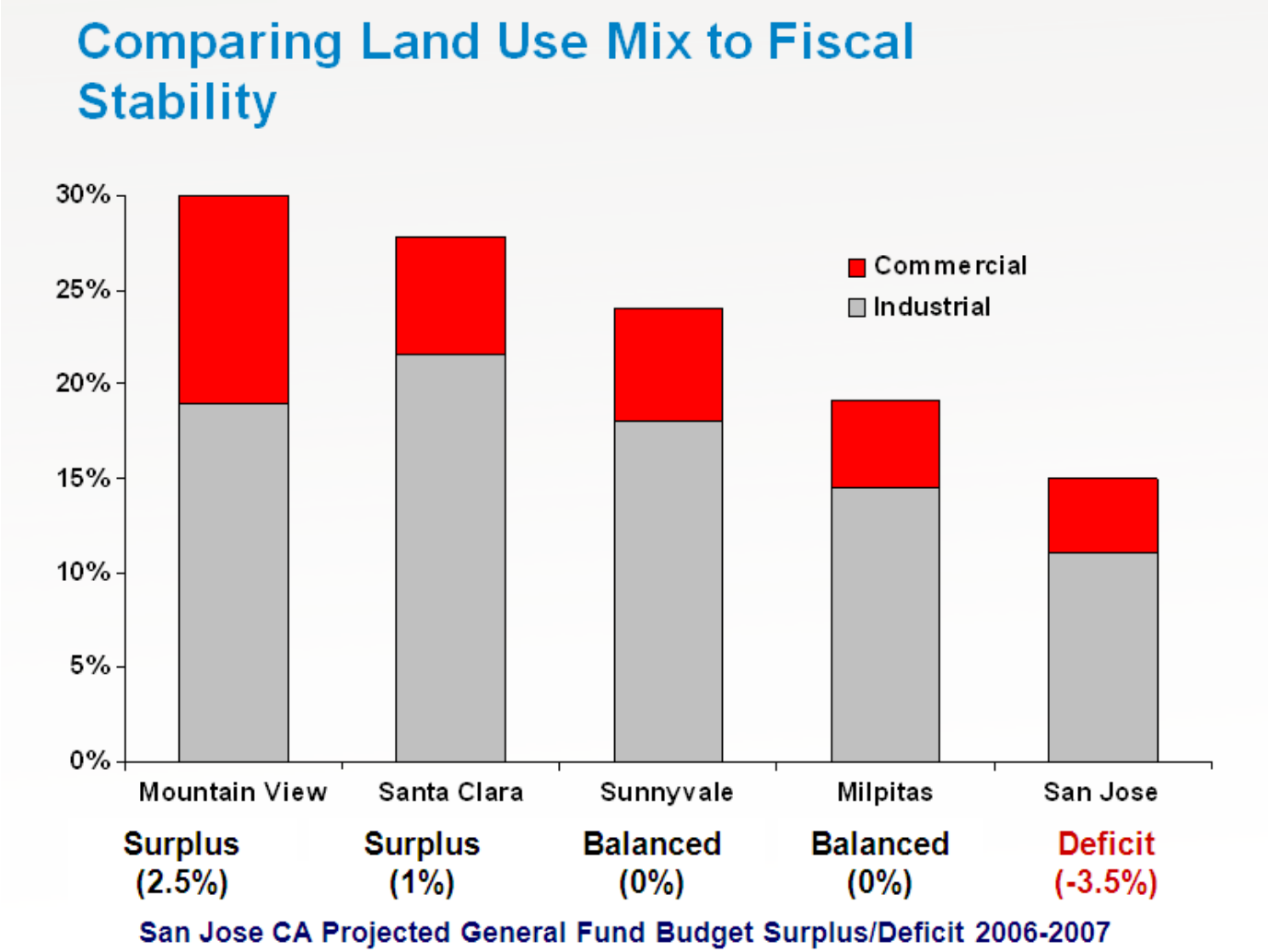
FORT&RRA

Smart Growth America
Making Neighborhoods Great Together

Small Town and Rural Planning



Economic and Fiscal Health



Linking Land Use to Water Quality

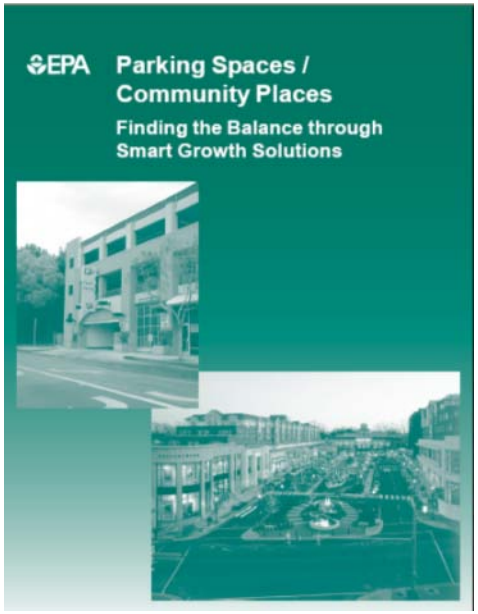
Walkability Audit

Sustainable Communities Building Blocks:
Walkability Workshop

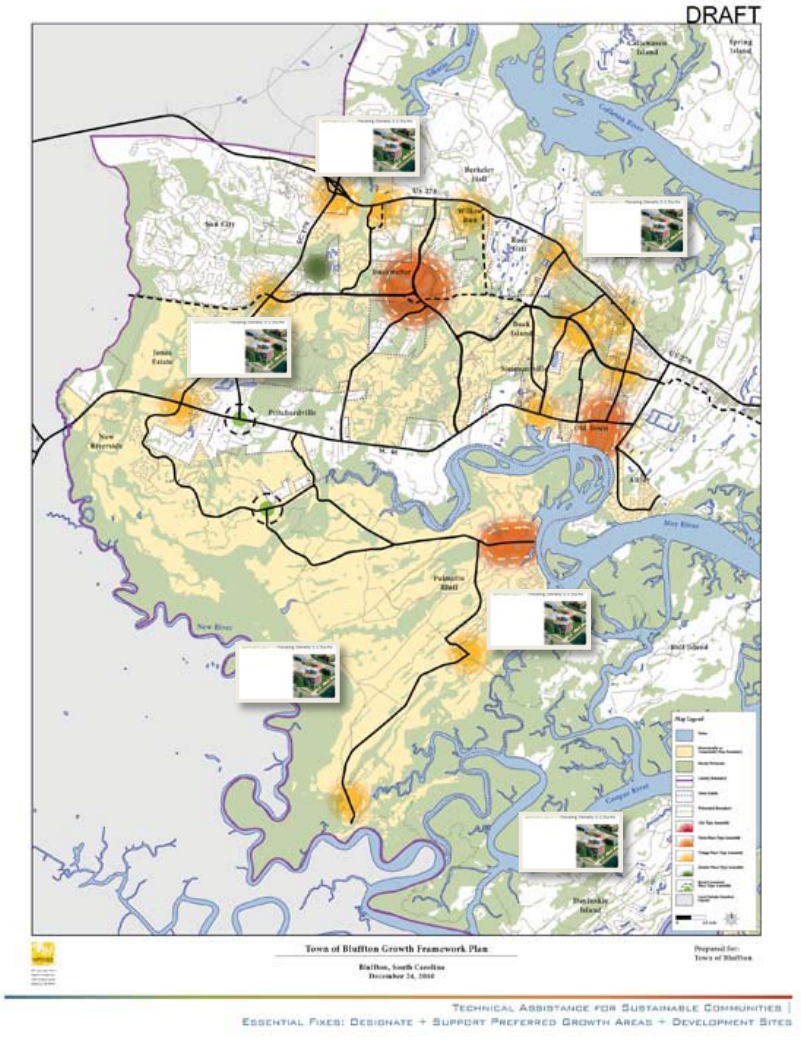
Parking Audits

- Tool addresses all five elements of parking
  - Demand, supply, economics, enforcement, and administration

- Audit helps local leaders and stakeholders see the issue in the context of overall growth management and economic strategies.



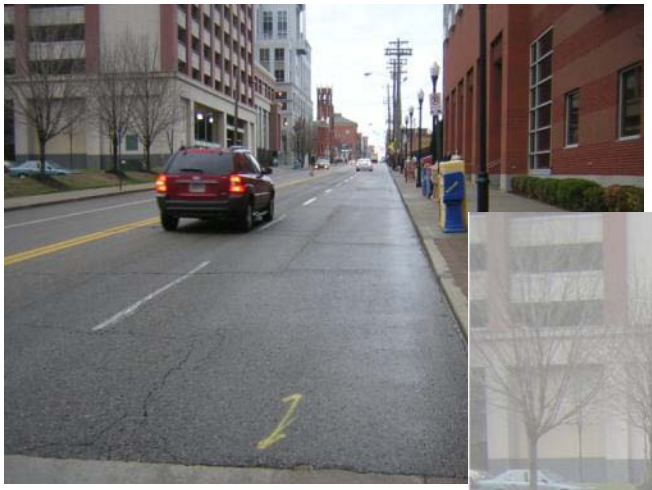
Preferred Growth Areas



Complete Streets

Complete Streets are safe, comfortable, and convenient for travel for everyone, regardless of age or ability – motorists, pedestrians, bicyclists, and public transportation riders.

Green Streets Strategy



BEFORE: Madison Avenue and Convention Center

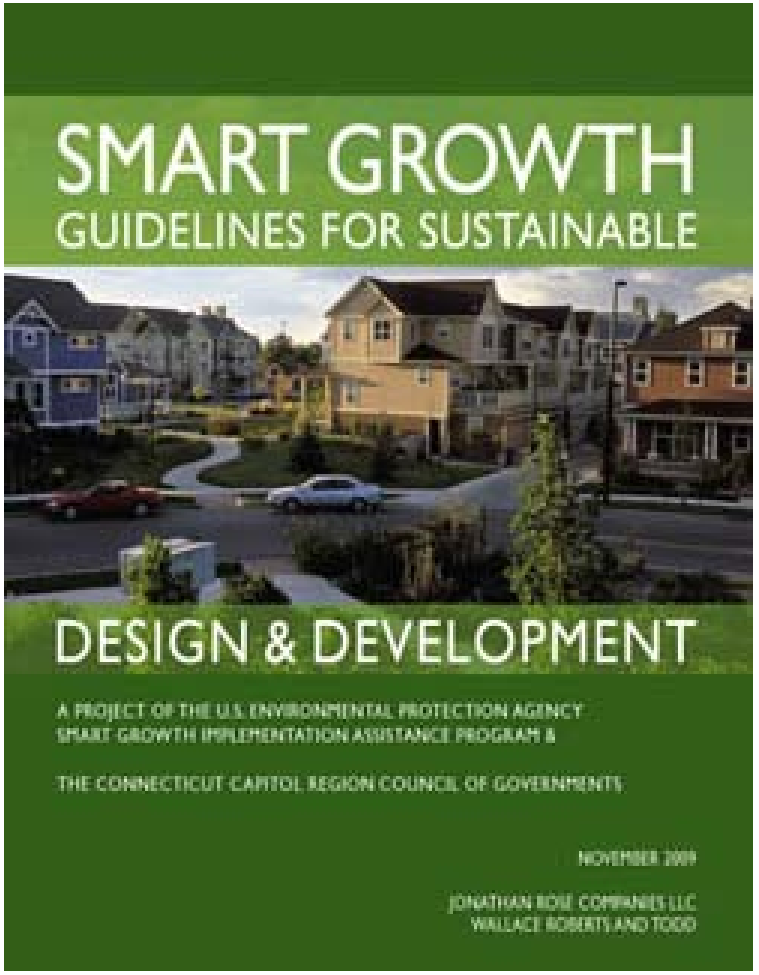
AFTER: Madison Avenue with Stormwater Swale

Drawn by: Kevin Perry

Sustainable Design and Development

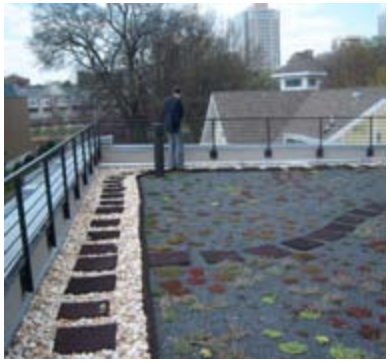
Site-specific Exercise

Developing a Design Concept



Green Building Toolkit

Sustainable Design and Green Building Toolkit
FOR LOCAL GOVERNMENTS



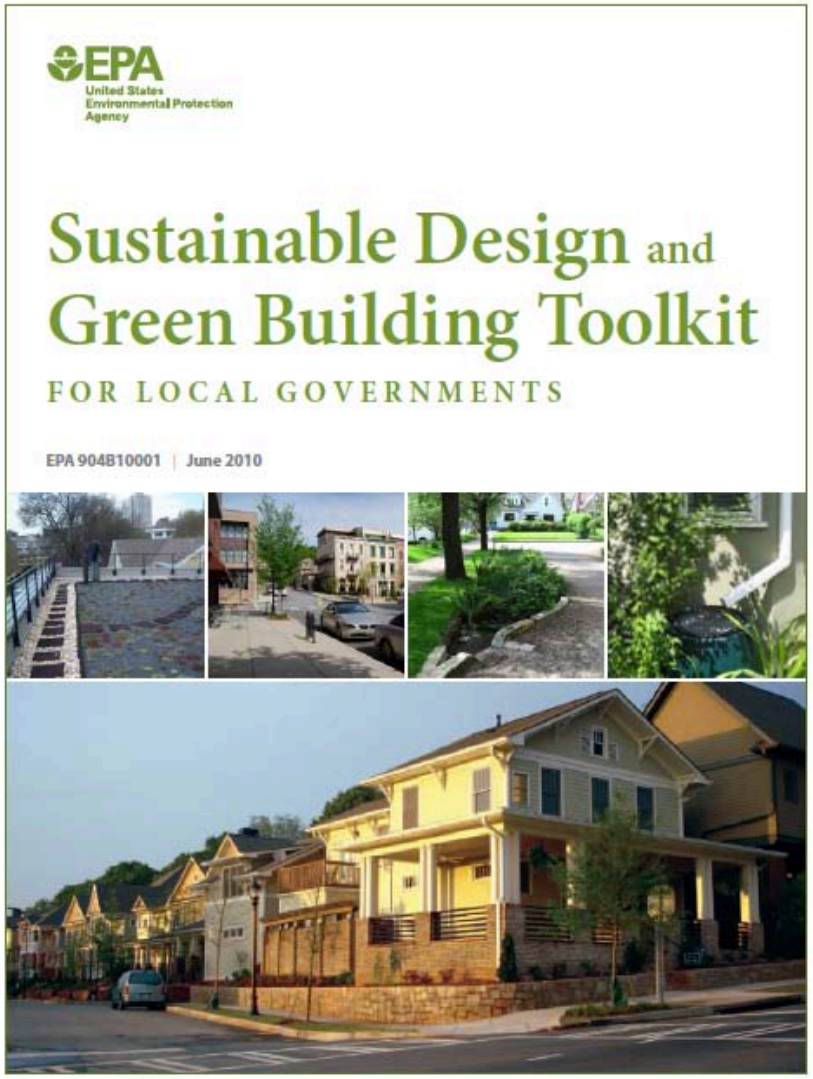

EPA 904B10001 | June 2010

Sustainable Communities Building Blocks

EPA Office of Sustainable Communities

SUSTAINABLE DESIGN AND GREEN BUILDING TOOLKIT

The Toolkit: History



Assessment

A. Sustainable Sites and Responsible Land Use Development

A.1 Site Development and Preservation of Natural Areas

Objective: To conserve or restore natural areas to reduce the impact of development on natural systems, including minimizing the built-upon area footprint.

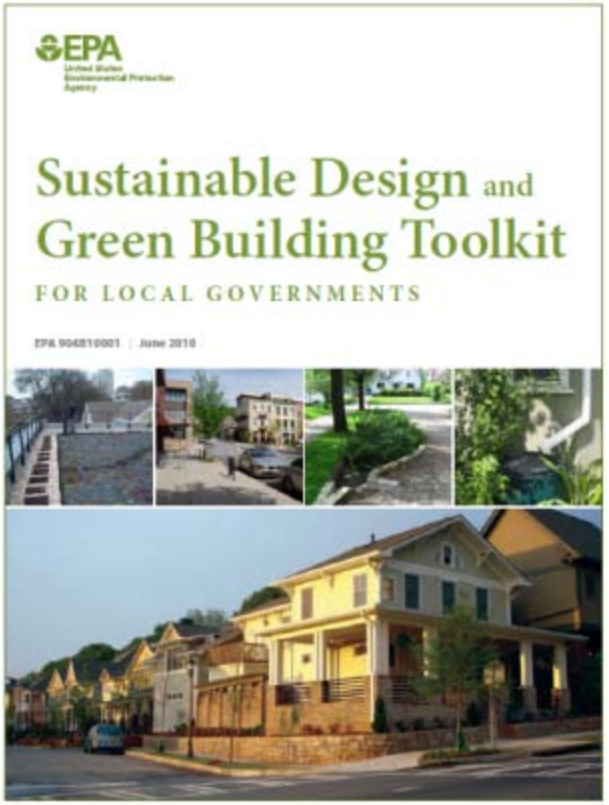
Rationale: Natural areas protect water and air quality, provide wildlife habitat and recreational areas, protect human health, and connect people to nature.

A.1.1 Do the codes/ordinances: Provide for preservation or protection of critical natural resources such as: streams, wetlands, floodplains, critical wildlife habitat, steep slopes, and drinking water sources?

Specific Question and Potential Tools and Techniques	Assessment of Specific Question
a) Do the codes/ordinances provide for a river and stream buffer to protect water quality and habitat in streams and rivers? POTENTIAL TOOLS AND TECHNIQUES: • *Buffer ordinances.* • *Buffer design requirements (width, vegetation, maintenance).* • *Stormwater credits.*	G ☐ Required by code/ordinance ☐ Incentivized Y ☐ Expressly allowed ☐ Code/ordinance silent, but typically allowed R ☐ Code/ordinance silent, but not typically approved ☐ Expressly prohibited
b) Do the codes/ordinances for the river and stream buffer include lakes, wetlands, and coastal waters to protect water quality and habitats in these waters? POTENTIAL TOOLS AND TECHNIQUES: • *Buffer ordinances.* • *Buffer design requirements (width, vegetation, maintenance).* • *Stormwater credits.*	G ☐ Required by code/ordinance ☐ Incentivized Y ☐ Expressly allowed ☐ Code/ordinance silent, but typically allowed R ☐ Code/ordinance silent, but not typically approved ☐ Expressly prohibited
c) Are there replacement or restoration requirements for buffer disturbances when it is absolutely necessary to disturb the vegetated buffer? POTENTIAL TOOLS AND TECHNIQUES: • *Buffer ordinances.* • *Buffer design requirements.* • *Restoration guidelines.*	G ☐ Required by code/ordinance ☐ Incentivized Y ☐ Expressly allowed ☐ Code/ordinance silent, but typically allowed R ☐ Code/ordinance silent, but not typically approved ☐ Expressly prohibited
d) Are there drinking water sources protection requirements to ensure the source of drinking water will not be adversely impacted by the project? POTENTIAL TOOLS AND TECHNIQUES: • *Source water protection ordinances.* • *Setback requirements.* • *Zoning approaches.* • *Protection practices (e.g., double wall underground storage tanks).*	G ☐ Required by code/ordinance ☐ Incentivized Y ☐ Expressly allowed ☐ Code/ordinance silent, but typically allowed R ☐ Code/ordinance silent, but not typically approved ☐ Expressly prohibited

Purpose of the Toolkit

- Apply best practices
- Provide a “do it yourself” resource
- Bring existing resources together and connect them to appropriate code barriers
- Eliminate time-consuming searches for credible data in multiple green building areas



The Toolkit is:

- A methodology
- A tool for promoting change in target areas
- A collection of policy and technical resource

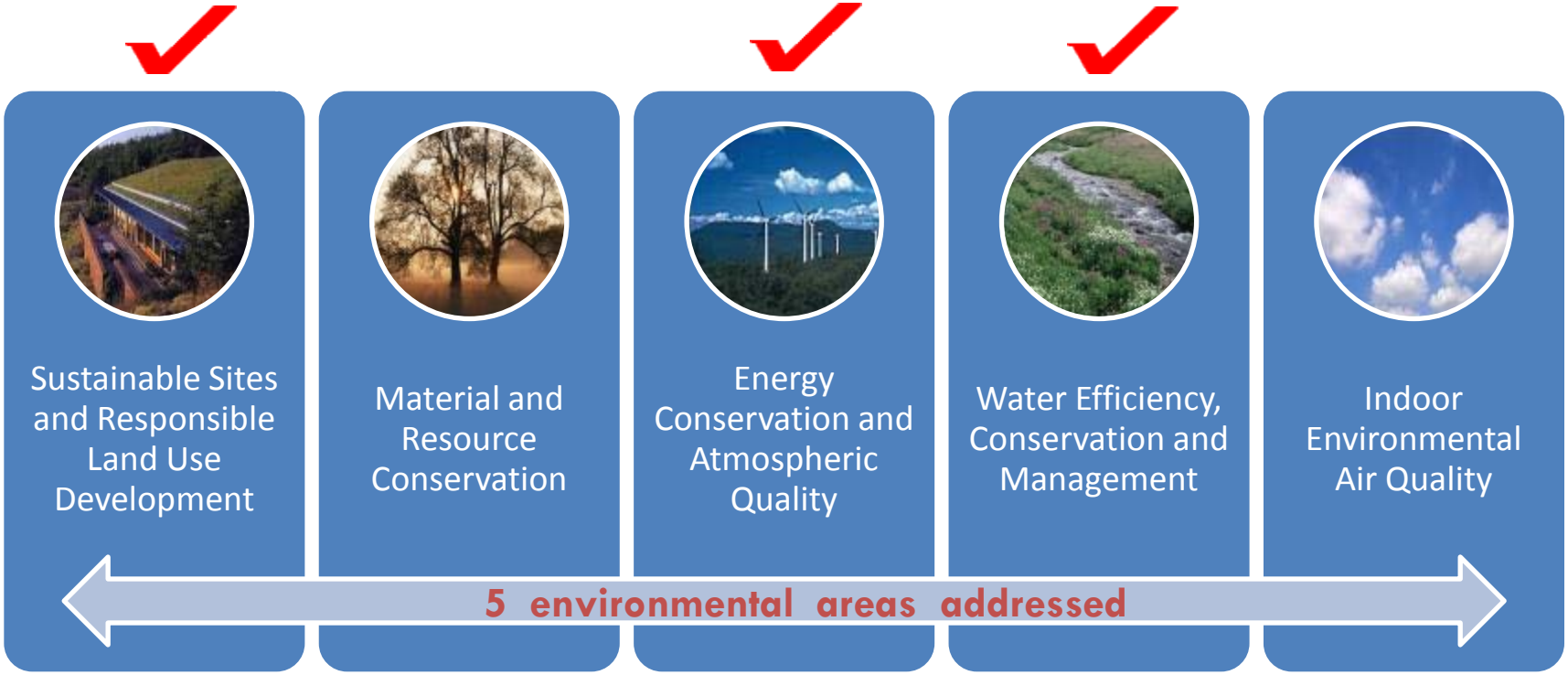
Questions the Toolkit Can Help Answer:

- What are your community's priorities?
- Are your ordinances supportive of your priorities?
- How can you promote sustainable design and green building in your community?

What the Toolkit is NOT:

- A model green building code or ordinance
- Prescriptive guidance
- A performance or leadership program
- An EPA position statement

Assessment Tool



Sample Page

A.2 Promote Infill and Redevelopment

Objective: To reduce development on natural lands by providing options for redevelopment and infill in areas with existing infrastructure.

Rationale: Communities can realize a significant reduction in regional stormwater runoff if they take advantage of underused properties such as abandoned or underutilized shopping centers. Redevelopment in these areas takes advantage of existing roads and utility infrastructure which can mean that the local government will not have to spend as much to maintain new infrastructure in the future. This leaves large areas of open space undeveloped.

*A.2.1 Do the codes/ordinances: **Differentiate requirements for infill and redevelopment versus new development to minimize natural resource destruction and provide energy economies?***

Specific Question and Potential Tools and Techniques	Assessment of Specific Question
a) Are there requirements in place to encourage infill or redevelopment in areas with existing infrastructure (i.e., provide expedited permit review, reduced fees, cost sharing) to reduce the need for new road and water infrastructure? POTENTIAL TOOLS AND TECHNIQUES: • *Density bonus incentives.* • *Streamline permitting.* • *Special tax zones or tax increment finance districts.* • *Mixed use development ordinances and criteria.*	G ❑ Required by code/ordinance ❑ Incentivized Y ❑ Expressly allowed ❑ Code/ordinance silent, but typically allowed R ❑ Code/ordinance silent, but not typically approved ❑ Expressly prohibited

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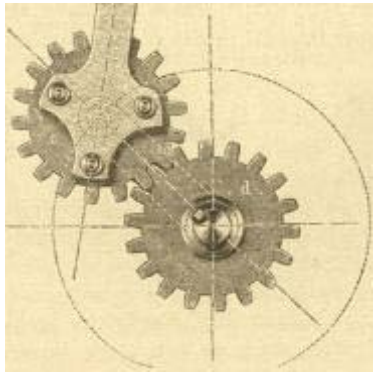
Resources

Technical

- Handbooks/Manuals
- Databases specific to barrier category
- Specifications



Policy

- Model ordinances/ regulations
- Government incentive programs
- Innovative city resolutions

Example: Heat Island Effect

Technical

- US EPA Reducing Heat Islands: Compendium of Strategies
- Heat Island Mitigation Impact Screening Tool (MIST)
- Green Grid Roof Systems guide and system specifications
- Cool Roofs Rating Council

Policy

- Chicago Building Code Section 18-13-303 “Urban Heat Islands” prohibits black roofs and establishes progressive SRI requirements
- Portland, OR City Resolution requires all new City-owned facilities to include a 70% coverage ecoroof AND 30% high reflectance materials

Workshop Goals

- Day One:
  - Overview of the Toolkit
  - Focus on Sustainable Sites and Responsible Land Use Development
  - Review Assessment, Discuss Barriers
  - Create Action Plan for This Focus Area

Workshop Goals

- Day Two:
  - Focus on a) Water Efficiency, Conservation, and Management, and b) Energy Conservation and Atmospheric Quality
  - Review Assessment, Discuss Barriers
  - Create Action Plan for These Focus Areas

- Public Presentation
  - Key Issues, Barriers
  - Action Plans for All Three Focus Areas

Action Plan

- Focused on realistic evaluation of existing regulations and barriers
- Based on self-assessment, discussion during workshop interactive exercises
- Intended to leave community with meaningful, detailed steps to take to reduce or eliminate barriers identified
- Connect community with appropriate technical resources
- Identify whether or not the community can make needed changes, or additional help is needed

Key Components

- Site Development and Preservation of Natural Areas
- Promote Infill and Redevelopment
- Construction Phase Pollution Control
- Post-Construction Stormwater Management
- Heat Island Effect
- Light Pollution Reduction

Post-Construction Stormwater Management

Provide for the maintenance of predevelopment hydrology for new and redevelopment projects

Photo: www.biologybiozine.com

Post-Construction Stormwater Management

Provide options for green streets or alleys which allow for reduced width streets, permeable pavements, substitution of curb and gutter with swales, reverse curbs, curb cuts, rain gardens

Photo: www.epa.gov

Post-Construction Stormwater Management

Provide options for green parking lots (permeable pavements, rain gardens, substitution of curb and gutter systems). Include maximum parking requirements and shared parking options.

Photo: www.otsego.orgv

Heat Island Effect

Create options for the reduction of the heat island effect in new and redevelopment projects

Photo: www.nellsdish.com

Niles Assessment Summary

A. Sustainable Sites & Responsible Land Use Development

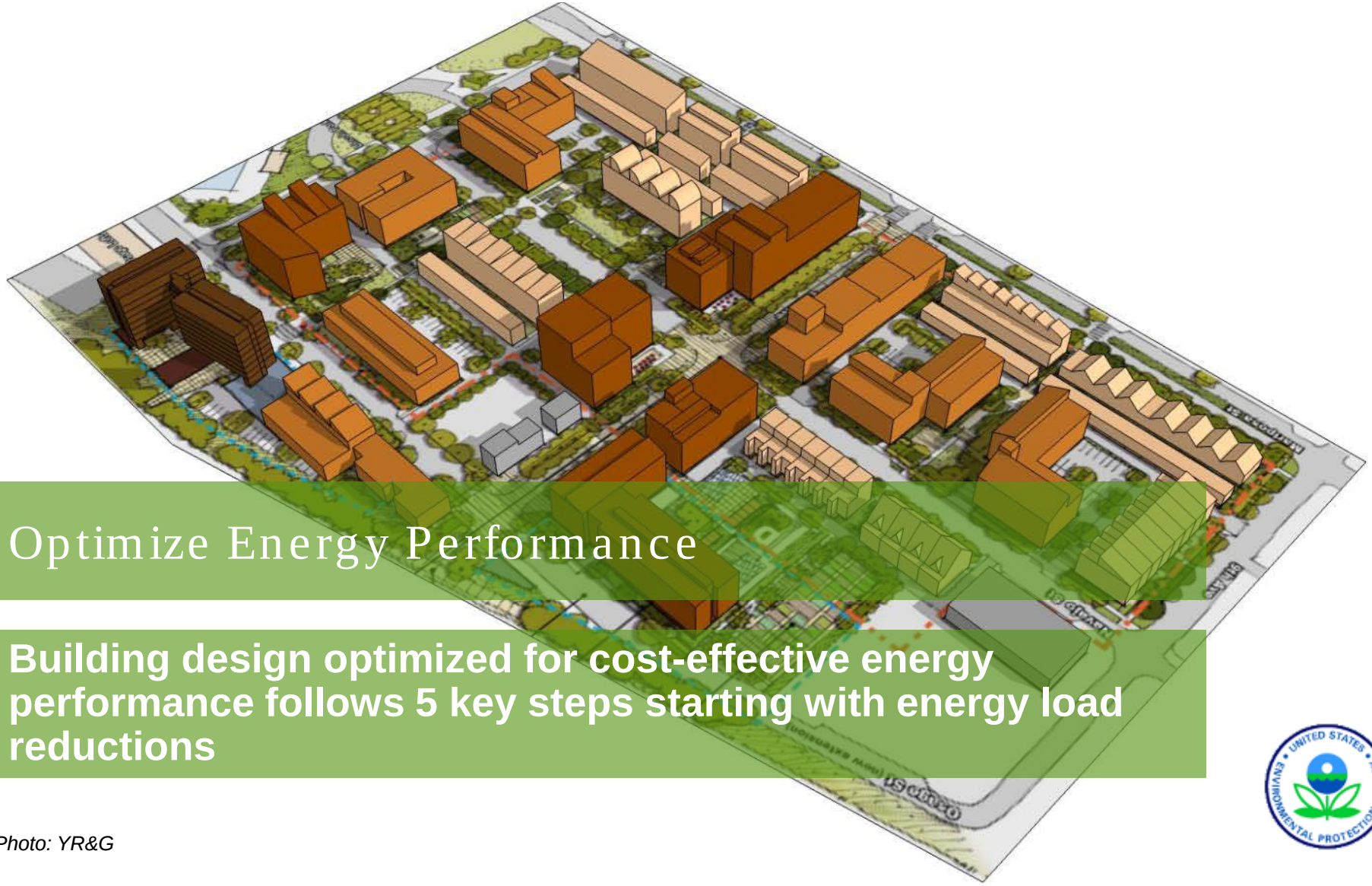
Category	G	Y	R
A.1: Site Development & Preservation of Natural Areas	2	9	2
A.2: Promote Infill & Redevelopment	0	1	0
A:3: Construction Phase Pollution Controls	1	3	1
A.4: Post-Construction Stormwater Management	0	4	2
A.5: Heat Island Effect	0	2	0
A:6: Light Pollution Reduction	1	1	0
SUBTOTAL	**4**	**20**	**5**

Assessment Summary

C. Energy Efficiency and Atmospheric Quality

Category	G	Y	R
C.1: Optimize Energy Performance	3	3	0
C.2: On-Site Renewable Energy	0	2	1
C:3: Atmospheric Quality Protection	0	3	0
SUBTOTAL	**3**	**8**	**1**

REDUCE LOADS | PASSIVE SYSTEMS | ACTIVE SYSTEMS | ON-SITE RENEWABLE | OFF-SITE RENEWABLE



Optimize Energy Performance

Building design optimized for cost-effective energy performance follows 5 key steps starting with energy load reductions

Photo: YR&G

Assessment Summary

D. Water Efficiency, Conservation, and Management

Category	G	Y	R
D.1: Water Use Reduction, Innovative Plumbing Systems	1	3	1
D.2: Innovative Wastewater Treatment	0	1	0
D:3: Water Efficient Landscaping & Landscape Irrigation	0	3	1
SUBTOTAL	**1**	**7**	**2**

Water Use Reduction & Innovative Plumbing Systems

Low-flow and waterless urinals can save water and reduce operational costs of maintained properly

Photo: Flickr (CC)

Water Use Reduction & Innovative Plumbing Systems

Dual-flush toilets are another effective strategy for reducing sanitary water use

Photo: Flickr (CC)

Innovative Wastewater Treatment

On-site wastewater treatment systems can be mechanical or natural. Typically mechanical systems use more energy and natural systems require more land.

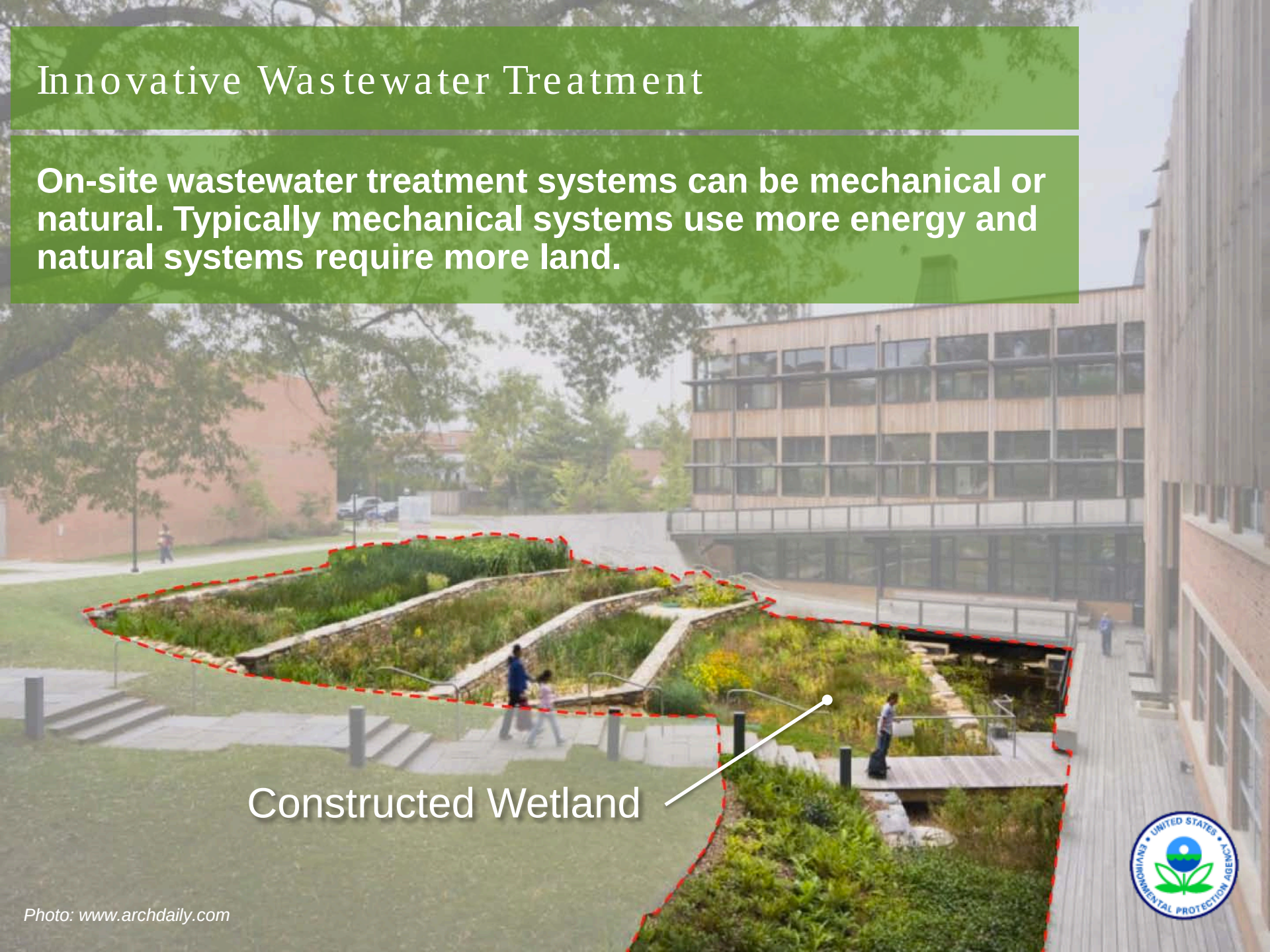


Photo: www.archdaily.com

Water Efficient Landscaping & Landscape Irrigation

Native and adaptive plants require little or no irrigation because and change with the seasons

Photo: Flickr (CC)