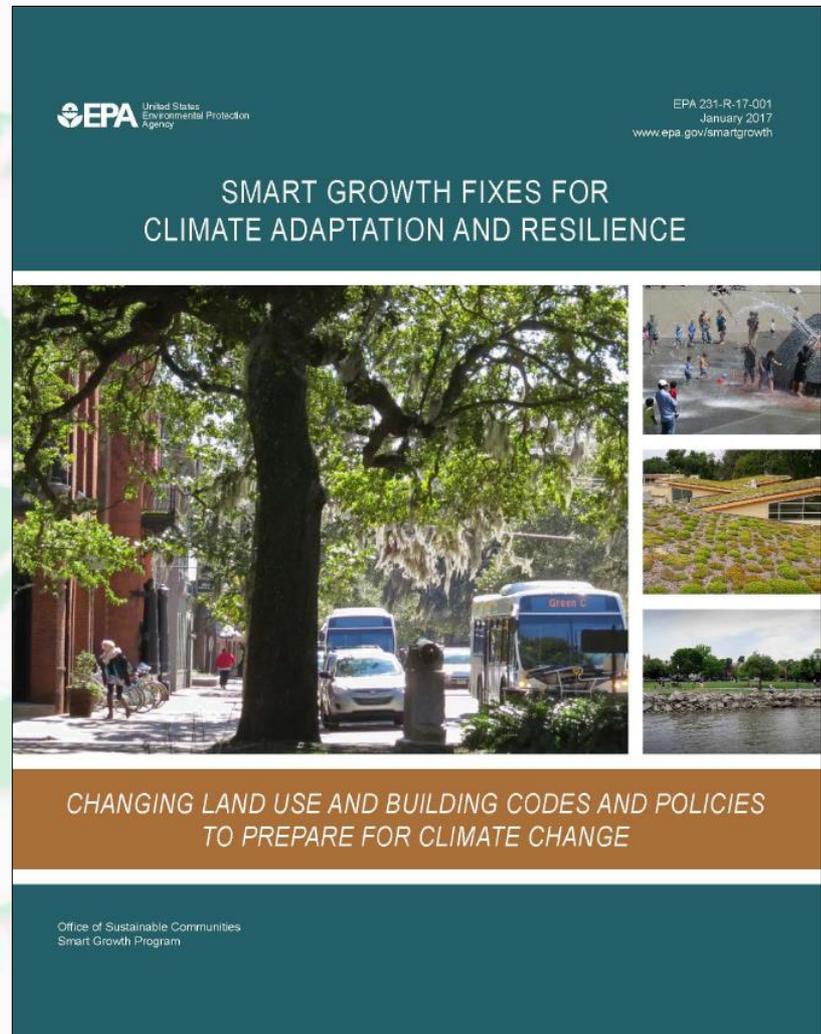


Smart Growth Fixes for Climate Adaptation and Resilience

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Why Smart Growth Strategies for Adaptation and Resilience?

- Development on the ground now will shape community's economy, health, quality of life, and resilience for decades to come.
- Can often both reduce GHG and prepare for climate change.
- Can be worked incrementally into municipality's regular processes and adjusted periodically
- Bring multiple short- and long-term benefits regardless of extent of climate impacts – improve everyday life.
 - Save people money on housing and transportation.
 - Fiscally responsible for governments.

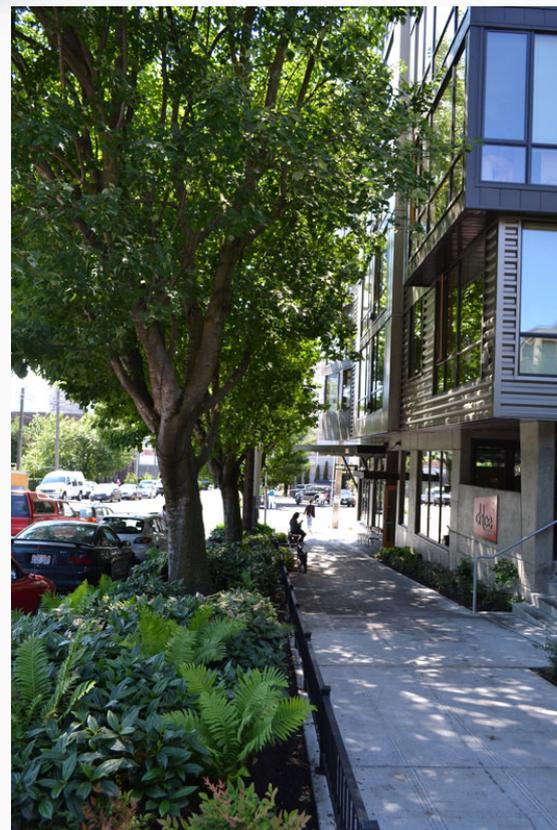


About the Publication

- Audience: local government officials, staff, boards
- Chapters: Overcoming Barriers, Overall Strategies, Flooding/Extreme Precipitation, Sea Level Rise, Extreme Heat, Drought, Wildfire
- Menu of modest adjustments, major modifications, and wholesale changes – more than 70 policies, total
- Examples of communities implementing these policies
- Relevant credit summary language from LEED-ND, STAR Community Rating System, and Living Community Challenge

Sample Strategy: Overall

Create list of desired development elements (e.g., green infrastructure features) in more-vulnerable areas and require/encourage developers to implement a certain number of them



Seattle Dept of Construction and Inspections

Seattle Green Factor Program requires developers to apply a certain level of landscaping. They can choose from several options to meet the requirement.

Sample Strategy: Flooding

If elevation is necessary, establish elevation requirements that include design guidelines to promote accessibility and street life

DESIGNING FOR FLOOD RISK URBAN DESIGN PRINCIPLES

FEMA and Building Code standards for flood-resistant construction require new or substantially improved buildings in flood zones to be elevated or flood proofed above projected flood levels. However, elevating buildings more than a few feet above the sidewalk can have negative effects on streetscape, building access, ground floor activity, architectural quality, and neighborhood character. The Department of City Planning has worked with representatives of the local design community to develop a set of urban design principles to guide the design of flood resilient buildings.

VISUAL CONNECTIVITY

Having the windows and front door of a building face the public street can create a sense of security and comfort for pedestrians. These architectural elements also provide visual interest, which in turn promotes a walkable neighborhood. Elevating the first floor of a building can limit this visual connectivity. In residential neighborhoods, porches, stoops, and generous access elements can be designed in order to help to mitigate this disconnection. On commercial streets, this visual connectivity is important to the viability of local retail. A common best practice is to dry-flood proof the commercial space so that it can be closer to sidewalk level and therefore maximize visual and physical connectivity.



FACADE ARTICULATION

Buildings often contribute to the character of a place by offering human-scale architectural elements, particularly on the first floor. Elevated buildings with crawl space, parking or storage can create blank walls at grade. Setting a building back from the property line slightly and using landscaping and/or other creative design solutions can help to buffer these voids in an active streetscape. If ground-level parking is the only feasible option, then garage doors and curb cuts should be designed to minimize their impact on the pedestrian realm.



INVITING ACCESS

Elevated buildings pose challenges for accessibility. Ramps can be difficult to accommodate, particularly on smaller lots. Even smaller buildings that are not required to meet ADA standards have the challenge of integrating longer runs of stairs into a building or landscape design. Introducing a 90-degree turn or landing, and paying careful attention to overall stair design can make a long run of stairs easier to climb and appear more inviting for people walking by.



NEIGHBORHOOD CHARACTER

Some neighborhoods exhibit a relative uniformity of building form. Elevating buildings will necessarily produce variations in building height and, in some cases, placement on the lot. Designers should respect a neighborhood's character by taking cues from existing context in building massing, fenestration, rooflines, and other architectural elements.



Adapting to higher standards of flood safety is both a challenge and an opportunity for architects to achieve higher standards of design. The opportunity exists now to innovate and produce architecture that contributes to the public realm and has a positive long-term effect on those neighborhoods recovering from Hurricane Sandy.

NYC Urban Design Principles were incorporated into the flood resilience amendment to the city's building code.

Sample Strategy: Sea Level Rise

Designate and protect working waterfronts to preserve sense of place and economic engine



Eric Salard, Flickr.com

Portland, Maine, adopted zoning to allow compatible non-marine uses on the working waterfront to help generate revenue for improvements to prepare for sea level rise.

Sample Strategy: Drought

Integrate water resources management with land use planning to ensure enough water for growth and to direct growth to places that make best use of community's water infrastructure investments

Policy L. Link Land Use Planning with Water Management

The Authority shall coordinate and cooperate with the City, County and all other entities with planning authority to integrate water management policies with land use decisions. The Authority recognizes that managing the use of groundwater while conserving and using existing water resources including maximizing the use of excess resources when available should significantly reduce acquisition of new supplies to serve future customers.

Key Sub-Policy:

1. The Authority should work with the City and County to update the Albuquerque/Bernalillo County Comprehensive Plan and/or other plans to ensure that system expansion is concurrent with infrastructure service levels and that the extension of facilities and services be phased in an efficient and orderly manner.

Albuquerque Bernalillo County
Water Utility Authority



Albuquerque Bernalillo County Water Utility Authority's *Water 2120* plan directs it to link land use planning with water management.

Overall water use in the area is about the same as in 1983, despite 70% growth in population.



Smart Growth Fixes for Climate Adaptation and Resilience is available at

<https://www.epa.gov/smartgrowth/smart-growth-fixes-climate-adaptation-and-resilience>

Or go to www.epa.gov/smartgrowth, click on the Publications link, and go to the Climate Change and Energy section.

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