This small infill subdivision in south San Antonio provides compact and connected homes with beautiful rain gardens to help prevent stormwater runoff pollution and flooding.

Compact development reduces runoff – mitigating floods and preventing water pollution.

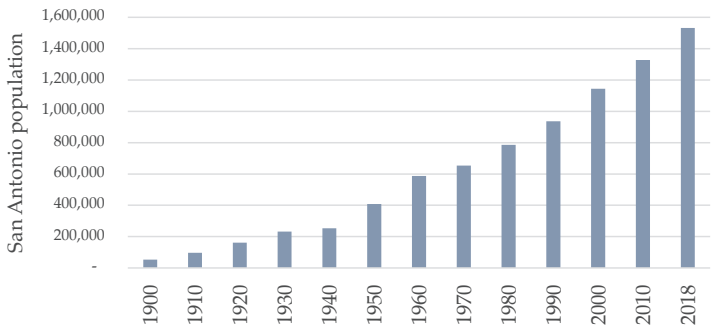
Growing Greener

The Environmental Benefits of a Compact and Connected San Antonio

Compact development can deliver tangible benefits for the environment – reducing energy use and greenhouse gas emissions, curbing the flow of polluted runoff into streams and lakes, and protecting natural areas and agricultural lands. By adopting strong policies to address any local impacts of greater density, such as encouraging the use of green infrastructure to manage stormwater, San Antonio can develop in a way that will bring lasting environmental benefits.

Growth and Sprawl in San Antonio

The city of San Antonio is experiencing explosive population growth, which has brought both dynamism and environmental problems. Compact development is a greener way for San Antonio to grow.



Data: U.S. Census Bureau and Erik Steiner, Spatial History Project, Center for Spatial and Textual Analysis, Stanford University

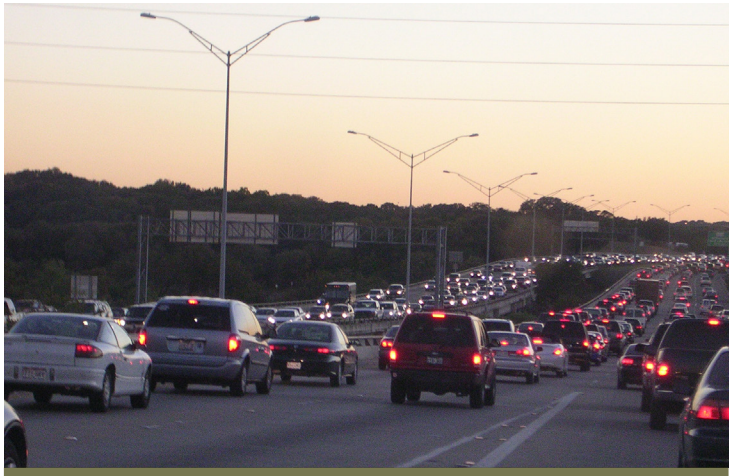
What Is Compact Development?

Compact development focuses regional growth in population and jobs within mixed-use neighborhoods that feature a variety of types of housing, ranging from single-family homes and townhomes to apartment buildings. Compact development enables growth while minimizing conversion of natural land. Successful compact development can yield a high quality of life, creating walkable neighborhoods with open spaces, interconnected streets, access to public transit, and the ability to walk or bike safely and enjoyably.

Compact Development Delivers Environmental Benefits

Compact development benefits the environment in numerous ways:

- **Water quality:** Compact development reduces the total amount of land required for development and produces less runoff to the watershed than sprawl for the same amount of housing capacity.
- **Energy use and greenhouse gas emissions:** People living in compact neighborhoods drive 20 to 40 percent less than those living in sprawling neighborhoods, using less energy and reducing air pollution. Duplexes and low-rise apartments also use half as much energy as single-family homes.
- **Water use:** Reducing lot sizes can reduce demand for watering and other outdoor uses, which accounts for more than a fifth of Austin's annual water consumption.
- **Flood risk:** Taller buildings accommodate more people while covering less land. Compact urban development minimizes the amount of paved land at the watershed scale, which decreases runoff and combats flood risks.
- **Air quality:** Compact cities experience up to 62 percent fewer high ozone days than sprawling cities. Ozone pollution causes approximately 2,100 premature deaths in Texas each year.



Car dependence in San Antonio is driven by sprawling development patterns and lack of access to public transportation.

Smart Policy Can Reduce Local Impacts of Compact Development

Compact forms of development deliver environmental benefits at the regional level, but may create localized impacts. Through smart public policy, San Antonio can address many of the local impacts of compact development.

- **Reducing local flood risks and protecting groundwater:** Green stormwater infrastructure (GSI) can help compensate for the increase of impervious cover in densely developed areas by using natural drainage processes to capture and cleanse rainwater on-site. GSI features can reduce water pollution and make floods less severe.
- **Improving urban air quality:** Compact development improves regional air quality, but may cause traffic congestion and air pollution on a local level. Improving public transportation, increasing the use of tailpipe emission-free electric vehicles, providing "mobility as a service" that reduces the need for car ownership, and improving conditions for walking and biking can all help improve urban air quality.
- **Fighting the urban heat island effect:** Developed areas tend to have higher temperatures than their surroundings, as buildings and sidewalks absorb and radiate heat. One study focused on development in Houston found that placing shade trees near buildings and using light-colored roofing and paving materials that reflect sunlight could save energy, decrease peak power demand, and cut carbon emissions by an amount equivalent to taking more than 199,000 passenger vehicles off the road.

Well-designed compact development can limit the environmental impacts of urban growth, while creating a wider range of housing options and improving quality of life close to the city center.

The UDC Amendment Provides an Opportunity to Shift Away From Sprawl

Every 5 years, the city of San Antonio accepts proposals to amend its Unified Development Code (UDC), the regulations that govern how the city develops. This process gives the city a golden opportunity to incorporate compact and connected infill development and nature-based stormwater infrastructure to create an environmentally friendly San Antonio for coming generations.

Expanding the areas within San Antonio where compact and walkable neighborhoods can be built would reduce the pressure for further sprawl, protect our environment, and enhance our quality of life. San Antonio should adopt amendments that increase neighborhood walkability, provide affordable "missing middle" housing such as townhomes and small single-family houses, and reduce the considerable environmental damage caused by sprawl.

To ensure that San Antonio remains an environmentally friendly city as it grows, compact development should be accompanied by sustainable public transit, nature-based infrastructure, low impact development, and other policy measures and technologies.

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environmenttexascenter.org