Growing Texas:
a community handbook

TEXAS A&M
FOREST SERVICE

TexasEmerging COMMUNITIES

Community planning that preserves the natural environment, leading the path towards sustainability

Growth Happens...

Planning today ensures tomorrow's quality of life

As Texas continues to experience unprecedented population growth, communities must begin to consider alternatives to "business as usual" development, where urban sprawl is the norm, and focus on sustainable community planning that provides for the needs of today without jeopardizing benefits to future generations.

This booklet provides a toolkit to do just that. Each section introduces basic tools for Community Forestry, Environmental Health, Emergency Management, and Sustainable Planning.

In addition to economic benefits that community character adds to a growing community, Texans—now more than ever—demand more from the place they call home. Shaping growth to meet those demands without jeopardizing what drew newcomers to your community in the first place ensures a positive quality of life for all residents.

For assistance please contact your regional urban forester

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...is it **Bad or Good?**

Haphazard urbanization has been shown to reduce air quality due to increased vehicular traffic, impair streams and waterways, and reduce physical health of residents.

Yet growth has a positive effect on a city's economy and can keep it viable. Simply put, growth brings jobs and wealth to community.
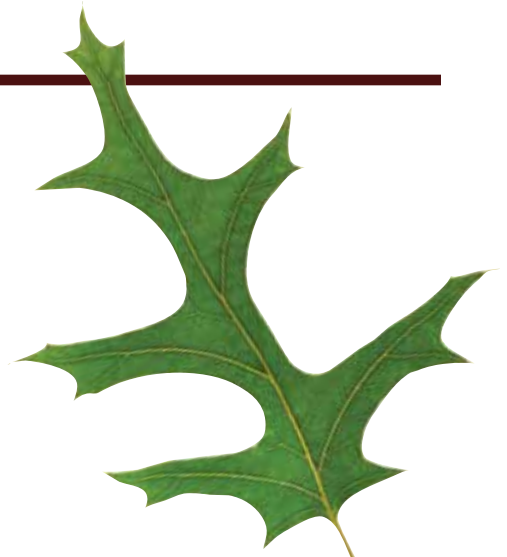
With smart, ecological approaches to planning, urban growth can encourage physical activity and promote health, well-being and a sense of community.

For example:
- Wooded tracts of open space effectively filter and reduce stormwater runoff while providing recreational opportunities.
- Shoppers pay more for goods and services in aesthetically pleasing, tree-lined shopping districts.
- Residents of treed neighborhoods spend more time outside connecting with neighbors compared to neighborhoods without trees, ultimately leading to reductions in crime and increased feelings of connectedness.

Let's get growing!

Which community will yours be?

Growing Healthy, Growing Well

What is your community's Sense of Place?

When we talk about ***Sense of Place*** we are referring to the perception of what is most salient in a specific locality. It is the perceptions people have of their environment and their conscious and subconscious feelings about that environment.

In short, Sense of Place is the combination of characteristics that gives a town a special feel or personality. It includes those qualities that even "insiders" may not be consciously aware of until they are threatened or lost.

Growth often brings homogenization—in the form of shopping malls, generic subdivisions, and "big box" stores—that can be perceived by residents as threatening to the local environment and character of the community.

Growth doesn't have to mean the loss of those defining characteristics, though. Once these qualities and characteristics are identified, steps can be taken to maintain them in the face of growth.

Your place is unique, with its own watershed, soils, climate, plants, animals, history, look, and feel. Understanding these factors can help to assure long-term health of your community, your place; not only its natural features but the social bonds of its people.

What is your community's Sense of Place?
What are those valued qualities of your community that could be threatened or lost with growth?

Treed neighborhoods encourage community and shared activities

Understanding Your Community

- Name a place in your community that is special to you.

  What makes this place unique?

  What are the natural and built components of your place?

  What do you do at this place? Or what have you done there?

  Do you think your place will change in the future? Why? How?

  Do you want it to change? Why or why not?

  How would you feel if your place disappeared?

  How does your place fit into the rest of your community?

- What are the assets in your community as a whole?

  Natural?

  Built?

  Historical?

  Scenic?

  Cultural?

- Choose five adjectives to describe the appearance of your community.

- List five things that add to your community's visual character.

- In 2-3 sentences, use your responses above to define your community's Sense of Place and why people want to live there.

"If you don't know where you are, you don't know who you are."

– Wendell Berry

Community Forestry

Research shows more shoppers and longer shopping trips occur in tree-lined business districts.

Which community will yours be?

Public Lands
What are your tree planting and management goals for parks and streets?

Private Lands
How are you going to address tree preservation and planting in new housing and commercial developments?

Open Space
What is your community's sense of place? What natural resources do you value and want to maintain?

TOOLS:

Tree City USA
Provides a framework for a community forestry program
More Information: www.arborday.org
                        www.TFSweb.tamu.edu

Community Forestry Master Plan
Plan writing tool helps define goals and approach
More Information: www.ufmptoolkit.com
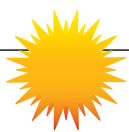   www.urbanforestrysouth.org

Tree Ordinances
Model public tree care and sample tree preservation ordinances
More Information: www.TFSweb.tamu.edu
                        www.isatexas.com

**Every year,
1 large tree**

Saves $32 in summertime air conditioning

Equals 10 room-size air conditions in net cooling effect

Saves $11 in winter heating costs

Removes **10 pounds** of air pollution

Cultural Services

- Trees reduce illness incidence and longevity and encourage student concentration
- Trees increase property values and draw visitors to shopping and recreation areas
- Treed neighborhoods encourage community and shared activities

CASE STUDY:

Proximity to Austin and Round Rock is the primary reason **Pflugerville, Texas** has seen explosive growth since 1990. Many people are attracted to Pflugerville for the small town feel and extensive trail system that meanders through forested floodplains.

In 1986 Pflugerville had only one park and trail extending two city blocks. Using grant funds, the City initiated a trail system along Gilleland Creek. Parkland was dedicated along other creeks and many trail connections are now in development. As subdivisions push outward, the City requires trails and parkland dedication according to the comprehensive plan.

Pflugerville sought Tree City USA status in 2000. They hired a forester who, assisted by numerous volunteers, played a large role in increasing the urban forest and participated in the development review process. The City formed a tree board, a public tree care ordinance, and revised the landscape and tree preservation ordinances to reflect the area's natural character. Accompanying the ordinance is the tree technical manual, used to visually show developers proper tree protection and planting techniques. The efforts have paid off in a short period of time, resulting in the preservation of trees during construction, as well as natural landscapes.

Green environments reduce stress, making people more productive at work and happier at home
Which community will yours be?

Generates
260 pounds
of oxygen

Absorbs the carbon dioxide of a car driven
500 miles

Retains
1000 gallons
of rainwater

Provides a home for
1-3 species of wildlife

Environmental Health

Watersheds often bear the brunt of increased impervious surfaces from development
Which community will yours be?

Water Resources
What are your protection and enhancement goals for valuable waterways?

Green Infrastructure – Low-Impact Design (LID)
How are you going to address increased impervious surfaces that come with development?

Green Infrastructure - Green Space
How does your community's sense of place encourage a healthy, active community?

TOOLS:

Water for Tomorrow
Conservation easements as a strategy
More Information: www.spnhf.org/pdf/watersupply.pdf
                      www.hillcountryalliance.org

Green vs. Gray
Natural designs for stormwater runoff reduction and treatment
More Information: www.forestsforwatersheds.org
                      www.sustainablecitiesinstitute.org

Water/Wastewater/Stormwater
Strategies, principles, and policies
More Information: www.epa.gov
                      www.americanrivers.org

Ecosystem Services

- Trees reduce stormwater runoff and help regulate stream flows
- Trees improve air quality and reduce noise pollution
- Trees conserve energy through direct shade as well as reducing ambient air and asphalt temperatures

CASE STUDY:

The Dallas-Fort Worth Metroplex is the largest metropolitan area in the southern United States. Cities around Dallas and Fort Worth became natural growth hubs as populations and highways expanded. In the 1990s, when the population sat just under 20,000, leaders in **Frisco, Texas** recognized growth was moving towards the city and proactively took steps towards creating a well-balanced community.

Taking an ecological approach to comprehensive plan development, the City performed environmental baseline surveys within its extraterritorial jurisdiction, including vegetation, soils, topography, tree coverage, wetland assessments, and even vistas. These initial surveys helped the City delineate which areas should be preserved and which are better suited for development. These comprehensive plans set the identity for Frisco and help establish it as an environmentally friendly community.

City plans include green infrastructure that increases walkability, including a 275-acre innovative mixed-use park that has drawn national attention. Building green infrastructure into development is just one way Frisco is looking ahead to meet the needs of a growing population.

Air temperatures in urban centers can be as much as twenty degrees hotter than rural areas
Which community will yours be?

Trees reduce stormwater runoff and help regulate stream flows

Emergency Management

Lower vehicular speeds and greater driver attention reduce total number and severity of crashes
Which community will yours be?

Storm Preparedness
Where are critical areas and their associated risks?

Wildfire Protection
How are you going to address wildfire risk?

Street Design and Connectivity
How can you enhance community's sense of place while encouraging public safety?

TOOLS:

Emergency Planning
Guide for All-Hazard Emergency Operations Planning
More Information: http://www.fema.gov/pdf/plan/ slg101.pdf

Community Wildfire Protection Plan
Addresses wildfire risk at the Wildland-Urban Interface
More Information: www.forestandrangelands.gov www.firewise.org

Emergency Response and Street Design
Costs, response times, and designs
More Information: www.contextsensitivesolutions.org www.cnu.org

Public Safety

- Tree lined streets reduce vehicular speed and encourage transportation alternatives
- Trees create safer walking environments
- Trees reduce crime and vandalism
- Trees provide structure for shaded fuel breaks

CASE STUDY:

Cedar Hill, Texas is conveniently located 20 miles south of Dallas, making it accessible to everyday commuters and seasonal visitors. Nearby are Joe Pool Lake and Cedar Hill State Park. Residential subdivisions have sprung up all around these features for perfect hilltop views and accessibility to recreation.

Cedar Hill State Park opened in 1991. The unique convergence of two diverse biomes, Blackland Prairie and White Rock Limestone Escarpment, makes the state park the most visited in Texas. Vegetation in the park is highly flammable and was unmanaged for the decade following the park's inception.

In the mid-2000s, Cedar Hill's fire chief recognized the high risk of subdivision encroachment onto highly flammable vegetation and searched for the tools and help necessary to reduce this risk. This included a Community Wildfire Protection Plan (CWPP) that helps communities determine the best strategies for protecting their homes and natural resources.

In February 2012 the first prescribed burn was performed in the state park with the help of state agencies. There is still a long road ahead to significantly reducing the risk of wildfires, but the City of Cedar Hill is well on its way to protecting the community and valuable assets from a disaster.

Feelings of security and community pride result in increased utilization and surveillance of public areas
Which community will yours be?

Tree lined streets reduce vehicular speed and encourage transportation alternatives

Sustainable Planning

Sense of Place
What is your community's sense of place? What natural resources do you value and want to maintain?

Walkable Communities
How are you going to encourage efficient, attractive transportation choices?

Comprehensive Planning
What does your community's future look like?

TOOLS:

Discovering a Sense of Place
Discussion guides for communities
More Information: www.nwei.org
www.epa.gov/care/library/
community_culture.pdf

Pedestrian and Bicycle Friendly Designs
Designing Walkable Urban Thoroughfares
More Information: www.contextsensitivesolutions.org
www.completestreets.org

Community Capacity Building
Growth planning workbooks and solutions
More Information: www.sustainable.org
www.aspeninstitute.org
www.smartgrowth.org

Knowing who you are helps you become who you want to be
Which community will yours be?

The numbers on trees

3-15	6-10	5-15	15-35%	85%	7%
reduction in mph on tree-lined streets	decibels lower highway noise behind a tree belt	degrees cooler under urban tree canopy	reduction in energy bills in shaded neighborhoods	reduction in windspeed from tree rows	reduction in runoff erosion from storms when trees are present

Cultural, Environmental & Economic Benefits

- Trees foster civic pride and promote healthy lifestyles
- Trees help conserve energy and provide clean air and water
- Treed landscaping is aesthetically pleasing and stimulates economic development

CASE STUDY:

Originally grasslands, the first trees of **League City, Texas** were planted in 1907 in what is now considered the Historic District. Decades later, League City anticipated future development as a result of nearby employment centers such as NASA, UTMB and petrochemical companies, as well as its proximity to downtown Houston and Galveston.

The City has a parks ordinance requiring one acre of parkland for every 90 residential units. Parks must be located within a half mile of all residential units and HOAs are responsible for maintenance costs. With the help of ordinances, grants, and a Capital Improvements Plan, the City has been able to acquire over 600 acres of parkland and add nearly 200 acres of HOA parks.

Tree and landscape ordinances focus on preserving tree canopy and establishing diversity. Trees planted in the Historical District are what make the city center stand out today. The oaks in this area are valued historic symbols within the community and bring public attention to trees. Overall, the City is seeing an increased interest from staff and citizens in preserving trees as part of League City's cultural heritage, so future generations may share in the history and benefits trees provide.

Communities can be shaped by chance or they can be shaped by choice
Which community will yours be?

12%	**5-20%**	**23%**	**42-52%**	**1 day**
more that shoppers are willing to pay in tree-lined shopping districts	increase in property values from trees	less incidence of illness in desk workers with views of nature	fewer crimes in apartment buildings with trees	faster recovery for hospital patients with views of trees

Urban Tree **Canopy**

Photo: Alex MacLean

Canopy Cover
The proportion of ground covered by the natural spread of tree foliage

There is no doubt that trees provide benefits to people and the environment. This is especially critical in our cities where concrete and pavement contribute to excessive stormwater runoff and air temperatures up to twenty degrees hotter than nearby rural areas.

Trees represent a major source for ecosystem services that cities deliver, and reduce the needs of traditional gray infrastructure, all while providing a better quality of life for residents.

Setting target goals for percent tree canopy cover is an effective management tool to help mitigate the effects of the built environment. A proactive approach to protection of existing tree canopy and planting of new trees ensures growing communities don't 'outgrow' the amenities that brought in residents and businesses in the first place.

Setting **Canopy Goals**

Reasonable canopy goals vary across eco-regions. But in all regions, knowing what you have helps determine how to get what you want. To this end, Texas A&M Forest Service has developed Urban Tree Canopy (UTC) spatial data of emerging communities across Texas. Check *TexasForestInfo.com* for available data.

Utilizing this data communities can:
- Identify critical natural areas
- Determine future tree planting focus areas or neighborhoods
- Project various outcomes of growth
- Effectively manage their urban forest

The time to smarter grow is now. Don't wait to plan the future until it is past.

Let's get growing!

Urban & Community Forestry
Creating healthy places where we live, work, and play

TexasEmerging
COMMUNITIES