USDA Forest Service

Urban Forest Connections

Second Wednesdays | 1:00 – 2:15 pm ET
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SMART GROWTH FOR DALLAS: LEVERAGING GIS AND LOCAL PARTNERSHIPS TO DRIVE URBAN FORESTRY INVESTMENTS TOWARD CLIMATE EQUITY

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Dallas, TX
WITH A GROWING POPULATION AND BOOMING ECONOMY, DALLAS STANDS ON THE CUSP OF A NEW ERA IN ITS HISTORY.
Through optimism and collaboration, our city is busy re-creating our public spaces in the most extraordinary ways imaginable.
BUT CHALLENGES STILL REMAIN…

The Dallas Morning News

Texas workers’ health insurance costs near highest in nation

Galloping U.S. health care costs
Cumulative increases in health insurance premiums, workers’ contributions to premiums, inflation, and workers’ earnings, 1999-2014

In DFW, Struggle to Save Water and Prepare for Growth
Portion of Loop 12 to be closed for a week after floods

Flooding in Dallas. Friday, May 29, 2015. (Photo: WFAA)
Dallas officials to get update on bike lanes, ‘complete streets’ efforts

Lowest Greenville was the site of one of the most notable “complete streets” redos. The number of lanes has dropped, parking has been added, sidewalks widened and crosswalks enhanced.
Texas Monthly

Boom With A View
THE PERIL AND PROMISE OF BEING ONE OF THE FASTEST-GROWING CITIES IN TEXAS.

The Dallas Morning News

Poverty is eating at Dallas’ core

Dallas Business Journal

$1B 'Plan for Growth' in South Dallas
Dallas’ green assets offer cost-effective and unique strategies for addressing the city’s biggest economic, social and ecological challenges of today.
Multi-benefit parks strengthen cities

• Retain stormwater runoff
• Cool neighborhoods in the summertime heat
• Provide buffer against flooding
• Safe routes to school and work
• Increase active recreation of nearby residents
• Grow the local economy through rejuvenating forgotten or overlooked areas of the city
• Diversify mobility options through walking and cycling paths
• Clean pollution from the air
• Create a sense of place and community for nearby neighbors
Introducing:

Smart Growth for Dallas

Using parks to connect communities, improve public health, and protect Dallas’s most important natural places
Our “Triple Bottom Line” Strategy

Parks about more than beauty and recreation. We’re using a “triple bottom line” strategy that evaluates potential parks sites in Dallas based on eleven different economic, social, and ecological objectives.
MAPPING PARK BENEFITS

Absorb & Protect // Cool
Connect // Equity // Health
As evidenced by the record-breaking spring rains of 2015, which came on the heels of the record-breaking drought of 2010-2013, North Texas precipitation is characterized by multi-year periods of drought and deluge. Additionally, with population growth and increase of impervious surface, the risk of flooding poses a serious threat to many neighborhoods in Dallas. Green asset investments, such as expanded greenway buffers along waterways or strategic park design and location can provide very cost-effective stormwater absorption, while also meeting other needs like urban heat island reduction or green space in underserved areas.

This map highlights areas that may be at risk due to flooding from storm events due to the natural and physical characteristics across the city.

This map was created using a weighted overlay analysis based on the following criteria:

- Estimated runoff potential
- Wetlands, waterbodies, streams buffer
- Floodways and flood zones
- Escarpment areas in southern Dallas
Dallas is no stranger to heat, with summer temperatures regularly soaring above 100°F. Well positioned green space and canopy cover can reduce ambient temperature by 3° to 10°F.

Elevated temperatures affect communities by increasing summer peak energy demand, air conditioning costs, air pollution, and greenhouse gas emissions. This can necessitate an extra 5 - 10% of energy use for cooling urban buildings during peak energy use periods. This has important climate change impacts, as extra energy use for cooling results in additional greenhouse gas emissions, a vicious cycle that will further increase global air temperatures and urban heat challenges.

This map was created using a weighted overlay analysis based on the following criteria:

- Tree canopy cover
- Impervious cover

Cool

CLIMATE-SMART CITIES: SMART GROWTH FOR DALLAS

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Connecting and expanding walk-bike corridors reduces transportation-related emissions by allowing urban residents to make trips by foot or bicycle that they would otherwise make by car. This has a direct, positive impact on greenhouse gas (GHG) emissions, as trip emissions are reduced by 100 percent. Research has demonstrated that increasing a neighborhood’s “walkability” by just 5% is correlated with driving 6.5% fewer miles per capita.

This map highlights areas that are particularly in need of new active transportation connections.

This map was created using a weighted overlay analysis based on the following criteria:

- Bikeway and trail gaps
- Safety concerns - bike/ped accidents
- Create connections to transit

Connect Priorities
- High
- Moderate to high
- Moderate
- Study Area
- Priority lands already under protection
- Parks and open space
- Existing trail
- Proposed/programmed trail
- County boundary
- Community boundary
Healthy and equitable cities have diverse greenspace available to all city residents, regardless of location or income. Parks and open space can support active and healthy lifestyles for all residents, and provided added health benefits to populations that may be at greater risk due to health factors such as asthma or diabetes.

This map highlights areas that could benefit from new parks and open space to promote a healthy and active lifestyle.

This map was created using a weighted overlay analysis based on the following criteria:

- Asthma and respiratory disease
- Diabetes
- Cardiovascular Disease
Delivering multi-benefit green infrastructure can help address longstanding inequalities of opportunity and risk in low-income areas. For example, carbon mitigation in cities requires reducing energy use, such as lessening reliance on motorized transportation and lowering home energy use required for cooling. The economic co-benefits of facilitating these changes will have particularly meaningful benefits in low-income neighborhoods where energy costs have a disproportionate impact on household budgets.

Further, the inequitable distribution of green infrastructure amenities within cities also exacerbates the climate vulnerability of low-income populations to threats such as extreme heat and flooding. For example, the strong correlation between urban tree cover and income level within cities means that low-income neighborhoods where residents are less likely to have air conditioning and more likely to face heat-related health risks also have the most intense urban heat islands.

This map was created using a weighted overlay analysis based on the following criteria:

- Low income households
- Seniors over 65
- Children under 5
- Less than a High School Education
- English as a Second Language
This map identifies high priority areas for strategic green infrastructure park investment that would help address stormwater challenges, connect and expand walk/bike corridors, and mitigate elevated urban temperatures, all with a focus on the people most at risk to these impacts.

This map was created using a weighted overlay analysis based on the following goals:

- Equity
- Health
- Connect
- Cool
- Absorb & Protect

Overall Priorities

CLIMATE-SMART CITIES: SMART GROWTH FOR DALLAS

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PUTTING OUR RESEARCH TO WORK
Building resilience in Cedar Crest

• High priority for:
  - Cool
  - Connect
  - Equity
  - Health
Building resilience in Cedar Crest

- New hike-bike trail to be built in 2017-2018
- Eight miles long
- Connects to light rail station / transit
Building resilience in Cedar Crest

- Trail to be built through electric utility easement
Building resilience in Cedar Crest

- Four public school campuses nearby
- All within half-mile walk of trail
- 10,000+ residents within walking distance of new parks
Building resilience in Cedar Crest

- Few sidewalks
- Opportunity to enhance walkability in neighborhood through trees, streetscape improvements, and signage