

USDA Forest Service

# URBAN FOREST CONNECTIONS

*webinar series*

Second Wednesdays | 1:00 – 2:15 pm ET

[www.fs.fed.us/research/urban-webinars](http://www.fs.fed.us/research/urban-webinars)



# SMART GROWTH FOR DALLAS: LEVERAGING GIS AND LOCAL PARTNERSHIPS TO DRIVE URBAN FORESTRY INVESTMENTS TOWARD CLIMATE EQUITY



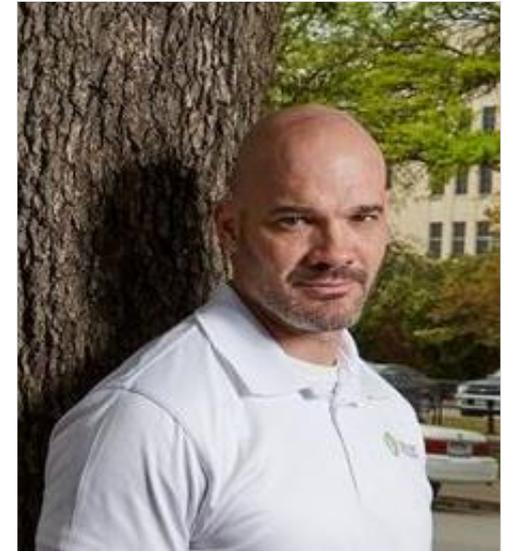
**Jad Daley**

*Vice President & Director of  
Program Development  
The Trust for Public Land*  
**[jad.daley@tpl.org](mailto:jad.daley@tpl.org)**



**Robert Kent**

*North Texas Area Director  
The Trust for Public Land*  
**[robert.kent@tpl.org](mailto:robert.kent@tpl.org)**



**Matt Grubisich**

*Director of Operations & Urban  
Forestry  
Texas Trees Foundation*  
**[matt@texastrees.org](mailto:matt@texastrees.org)**

# Smart Growth for Dallas

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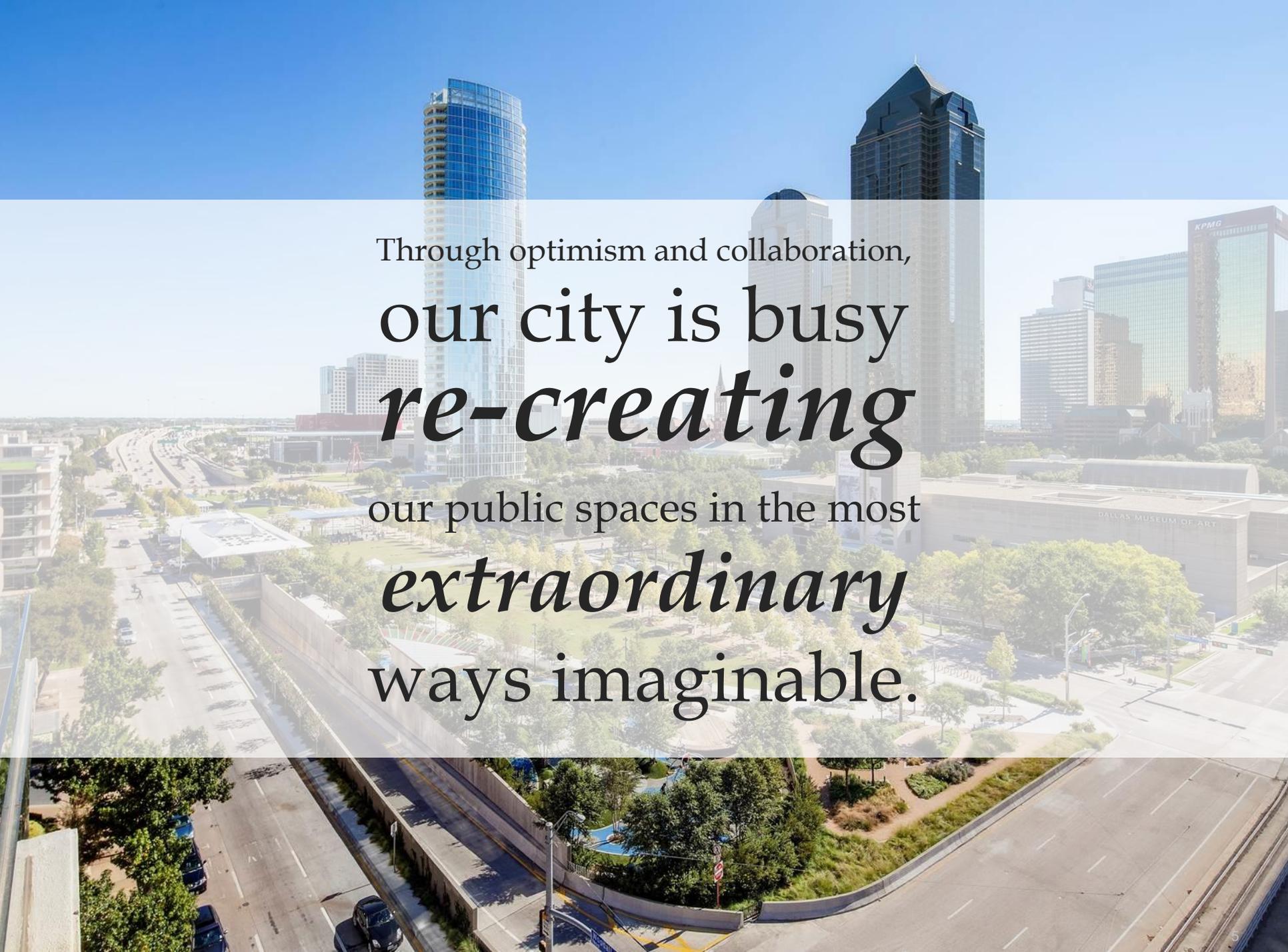


## **Robert Kent**

North Area Texas Director  
The Trust for Public Land

Dallas, TX

WITH A GROWING  
POPULATION AND  
BOOMING ECONOMY,  
DALLAS STANDS ON  
THE CUSP OF A NEW  
ERA IN ITS HISTORY.

An aerial photograph of a city skyline under a clear blue sky. In the foreground, a multi-lane highway curves through a landscaped area with trees and a small blue water feature. In the background, several prominent skyscrapers are visible, including one with a blue glass facade and another with a dark, stepped top. A large building with the text "DALLAS MUSEUM OF ART" is visible on the right side. The overall scene depicts a modern, urban environment.

Through optimism and collaboration,  
our city is busy  
*re-creating*  
our public spaces in the most  
*extraordinary*  
ways imaginable.

# BUT CHALLENGES STILL REMAIN...

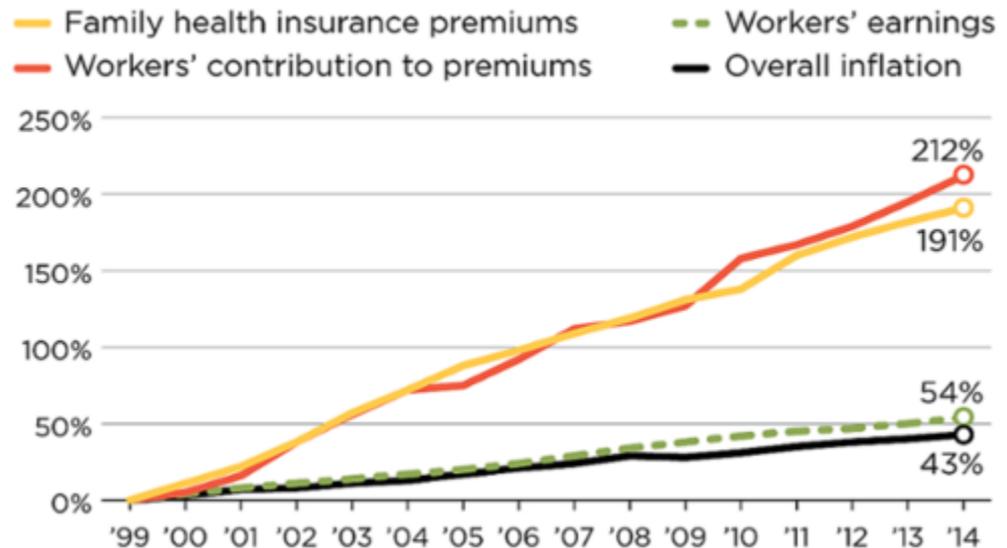
## The Dallas Morning News

### 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

SOURCE: Kaiser/HRET Survey of Employer-Sponsored Health Benefits, 1999-2014; Bureau of Labor Statistics, Consumer Price Index, U.S. City Average of Annual Inflation (April to April), 1999-2014; Bureau of Labor Statistics, Seasonally Adjusted Data from the Current Employment Statistics Survey, 1999-2014 (April to April)



# THE TEXAS TRIBUNE

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)

# The Dallas Morning News

## Dallas officials to get update on bike lanes, 'complete streets' efforts



2011 File Photo/David Woo

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

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- 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





Social  
Challenges

Environmental  
Challenges

Economic  
Challenges

*Introducing:*

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# Smart Growth *for* Dallas

*Using parks to connect communities, improve public health,  
and protect Dallas's most important natural places*



TEXAS TREES  
FOUNDATION

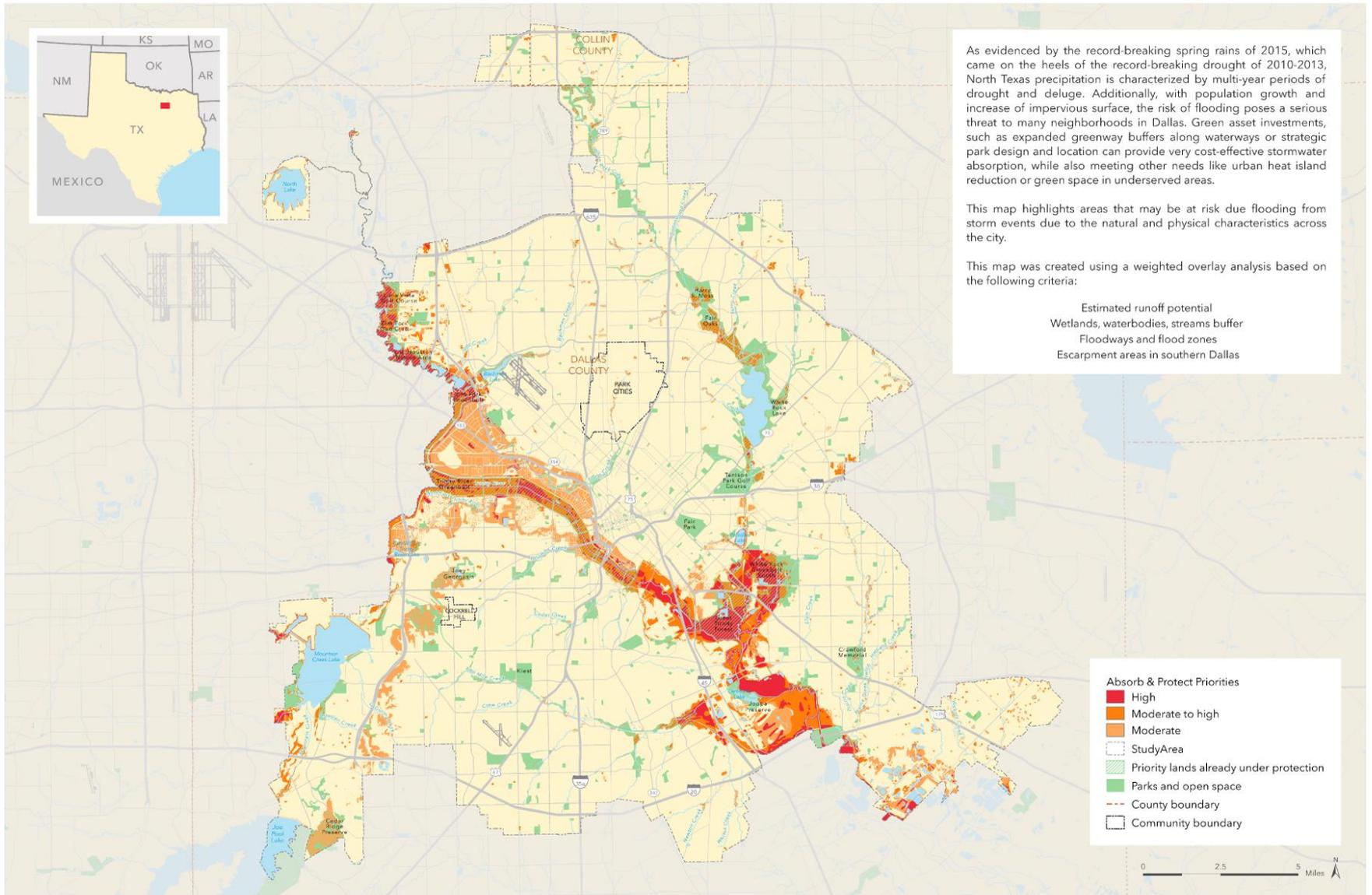
# Our “Triple Bottom Line” Strategy

*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 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

**Absorb & Protect Priorities**

- High
- Moderate to high
- Moderate
- Study Area
- Priority lands already under protection
- Parks and open space
- County boundary
- Community boundary



# Absorb & Protect

## CLIMATE-SMART CITIES: SMART GROWTH FOR DALLAS

August 17, 2016. Special thanks to the following data providers: SSURGO2.2 - Natural Resource Conservation Service, North Central TX Council of Govts, National Wetlands Inventory (US Fish and Wildlife Service), Flood Hazard Areas - FEMA, Escarpment Overlay - City of Dallas. Copyright © The Trust for Public Land. The Trust for Public Land and The Trust for Public Land logo are federally registered marks of The Trust for Public Land. Information on this map is provided for purposes of discussion and visualization only. [www.tpl.org](http://www.tpl.org)



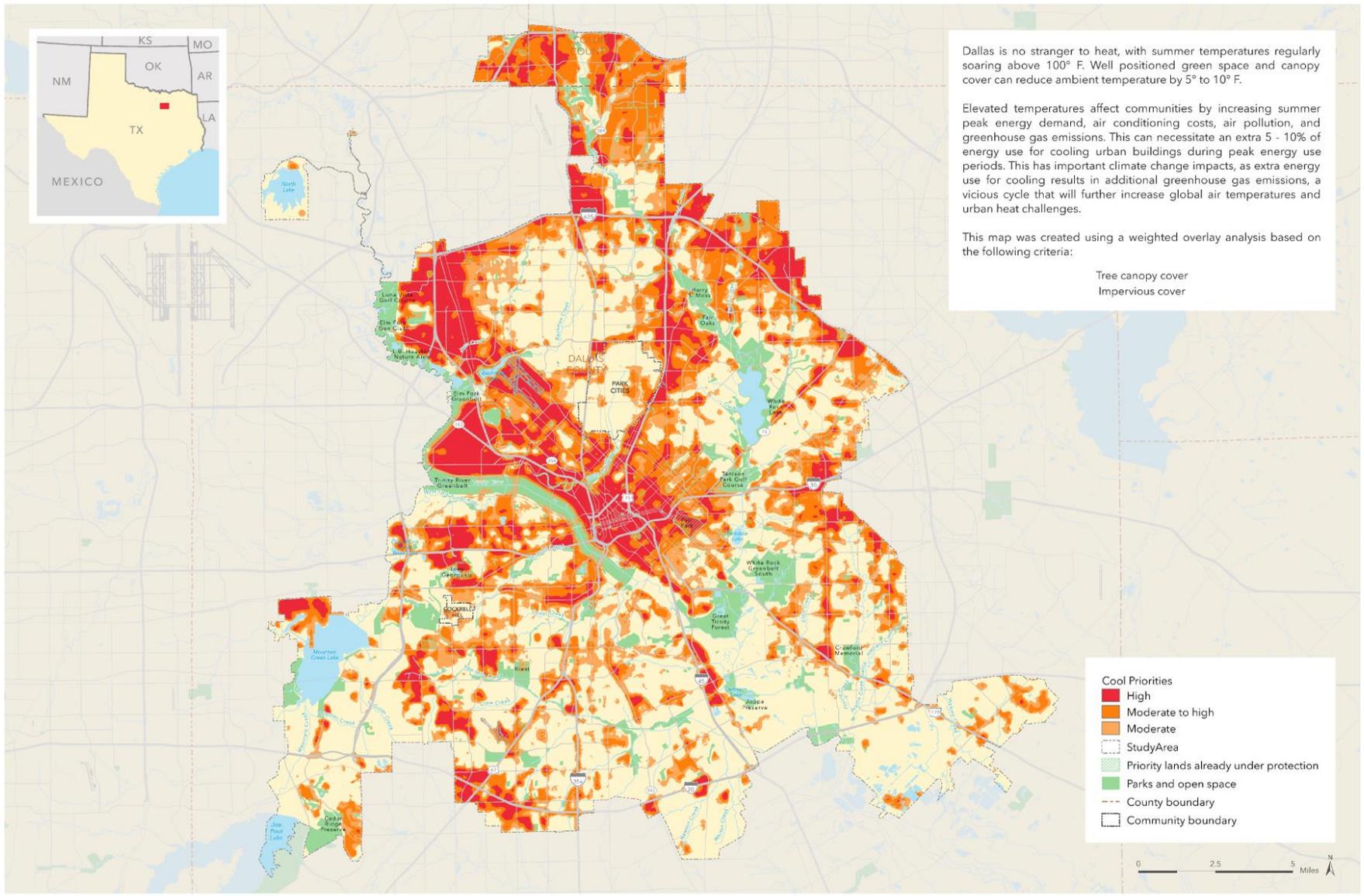


Dallas is no stranger to heat, with summer temperatures regularly soaring above 100° F. Well positioned green space and canopy cover can reduce ambient temperature by 5° to 10° F.

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 Priorities**

- High
- Moderate to high
- Moderate
- Study Area
- Priority lands already under protection
- Parks and open space
- County boundary
- Community boundary



# Cool

## CLIMATE-SMART CITIES: SMART GROWTH FOR DALLAS

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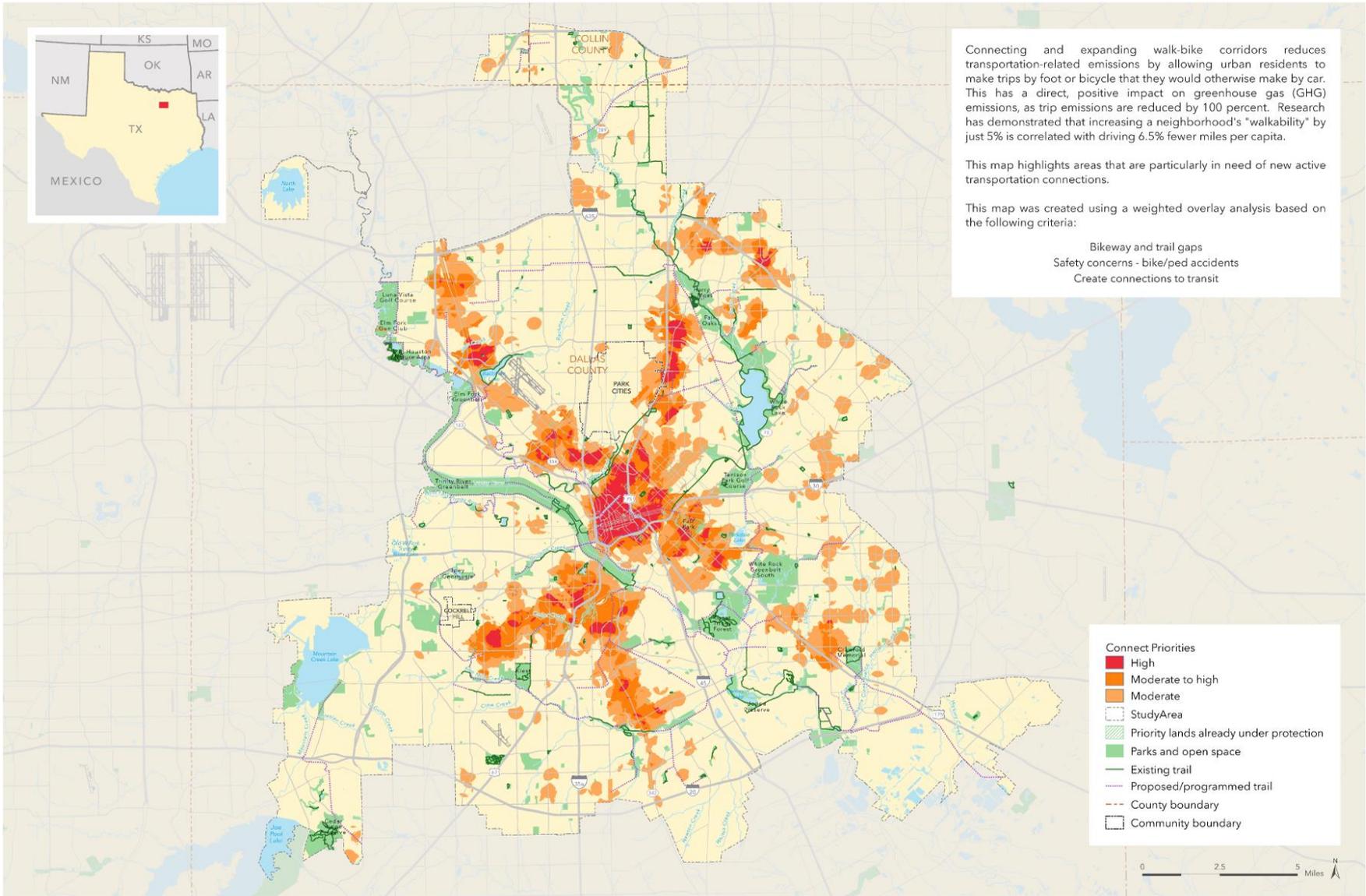


Connecting and expanding walk-bike corridors reduces transportation-related emissions by allowing urban residents to make trips by foot or bicycle that they would otherwise make by car. This has a direct, positive impact on greenhouse gas (GHG) emissions, as trip emissions are reduced by 100 percent. 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



# Connect

## CLIMATE-SMART CITIES: SMART GROWTH FOR DALLAS

August 17, 2016. Special thanks to the following data providers: City of Dallas Parks and Rec, Texas Crash Report Information System 2010-2015 - Texas Dept. of Transportation, Dallas Area Rapid Transit. Copyright © The Trust for Public Land. The Trust for Public Land and The Trust for Public Land logo are federally registered marks of The Trust for Public Land. Information on this map is provided for purposes of discussion and visualization only. [www.tpl.org](http://www.tpl.org)



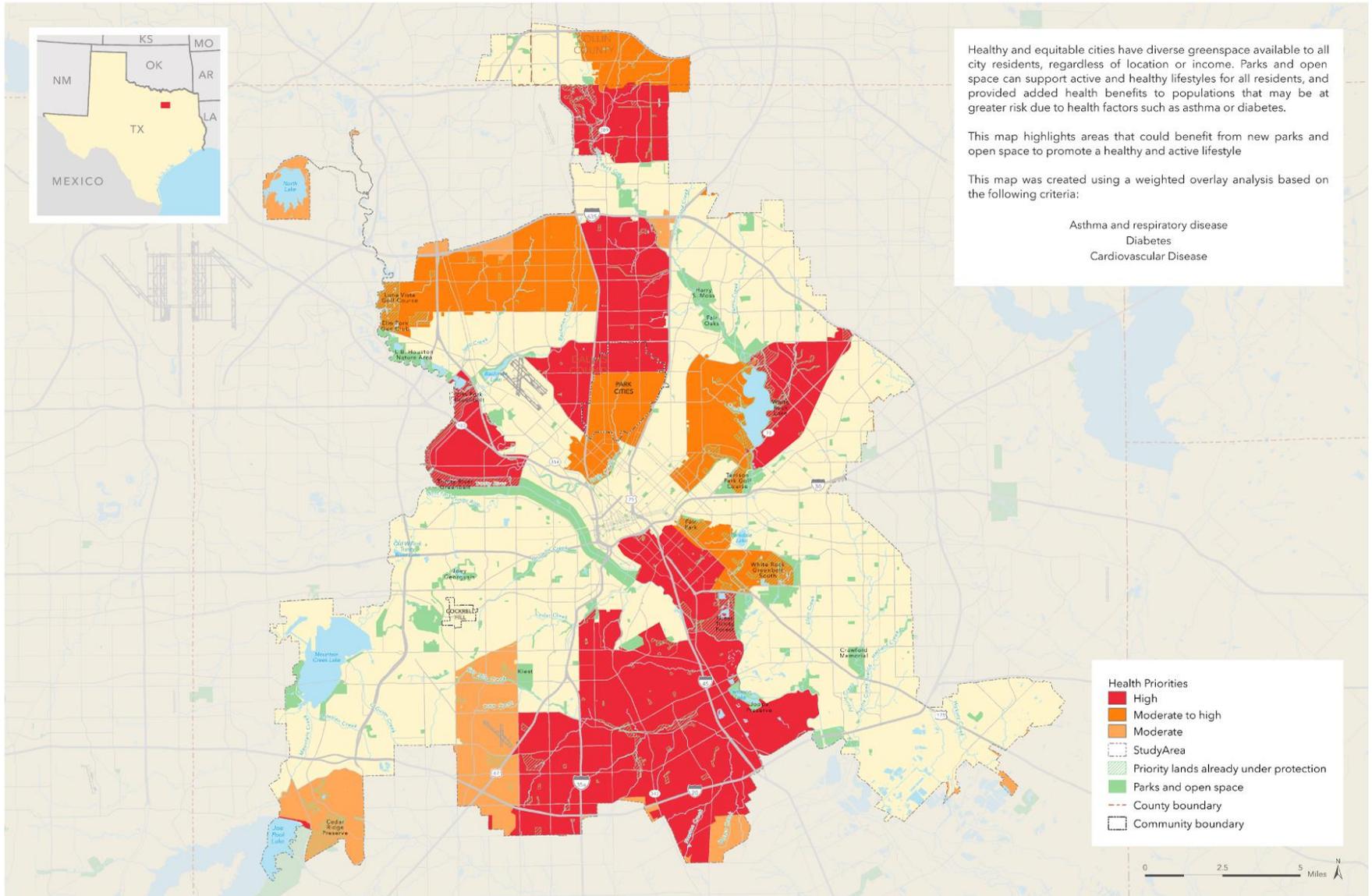


Healthy and equitable cities have diverse greenspace available to all city residents, regardless of location or income. Parks and open space can support active and healthy lifestyles for all residents, and provided added health benefits to populations that may be at greater risk due to health factors 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



**Health Priorities**

- High
- Moderate to high
- Moderate

Study Area

Priority lands already under protection

Parks and open space

County boundary

Community boundary



# Health

## CLIMATE-SMART CITIES: SMART GROWTH FOR DALLAS

August 17, 2016. Special thanks to the following data providers: City of Dallas, Truven Disease Prevalence by Zip Code - Parkland Hospital. Copyright © The Trust for Public Land. The Trust for Public Land and The Trust for Public Land logo are federally registered marks of The Trust for Public Land. Information on this map is provided for purposes of discussion and visualization only [www.tpl.org](http://www.tpl.org)



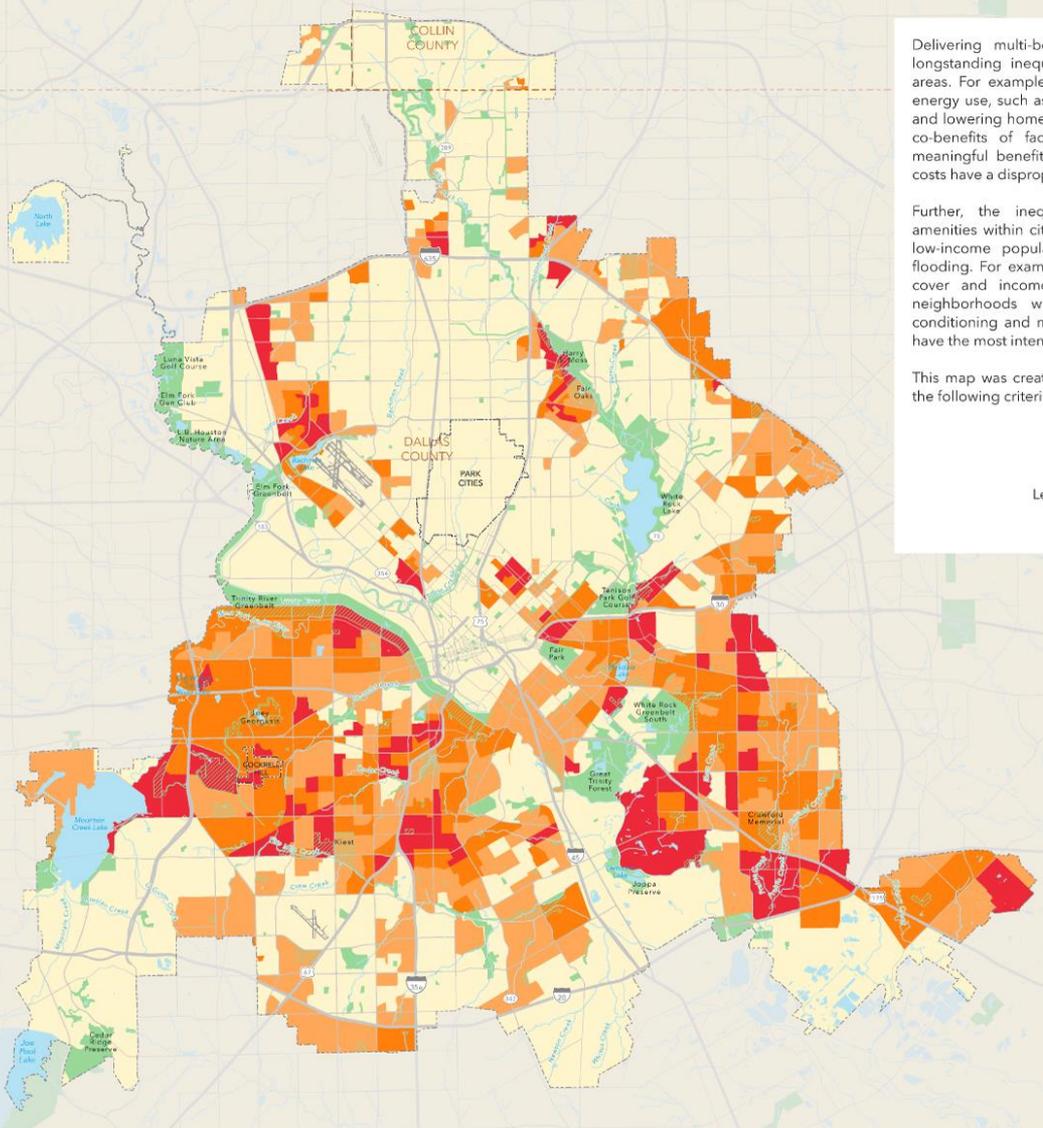


Delivering multi-benefit green infrastructure can help address longstanding inequalities of opportunity and risk in low-income areas. For example, carbon mitigation in cities requires reducing energy use, such as lessening reliance on motorized transportation and lowering home energy use required for 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



**Equity Priorities**

- High
- Moderate to high
- Moderate
- Study Area
- Priority lands already under protection
- Parks and open space
- County boundary
- Community boundary

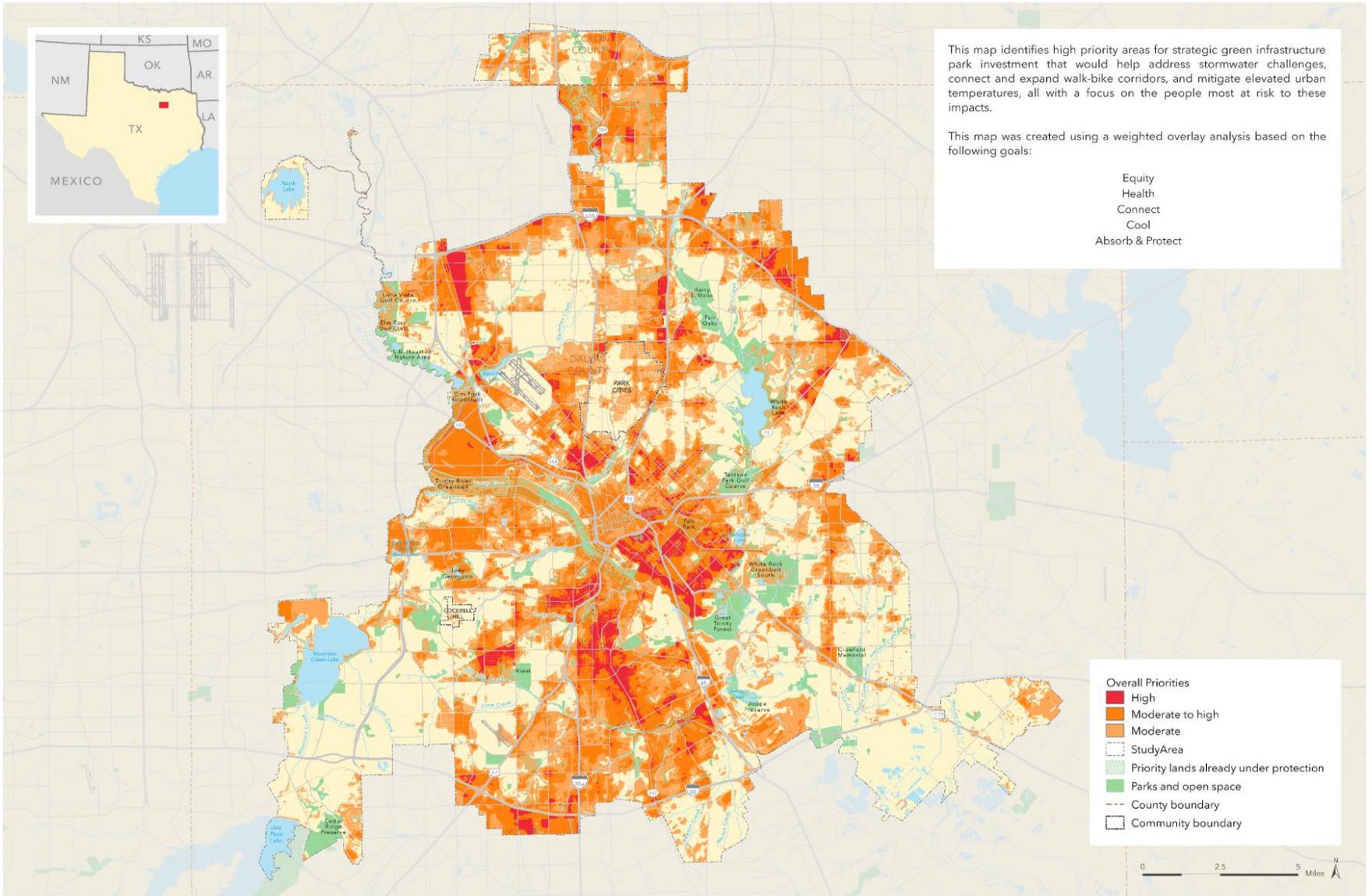


# Equity

## CLIMATE-SMART CITIES: SMART GROWTH FOR DALLAS

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# Overall Priorities

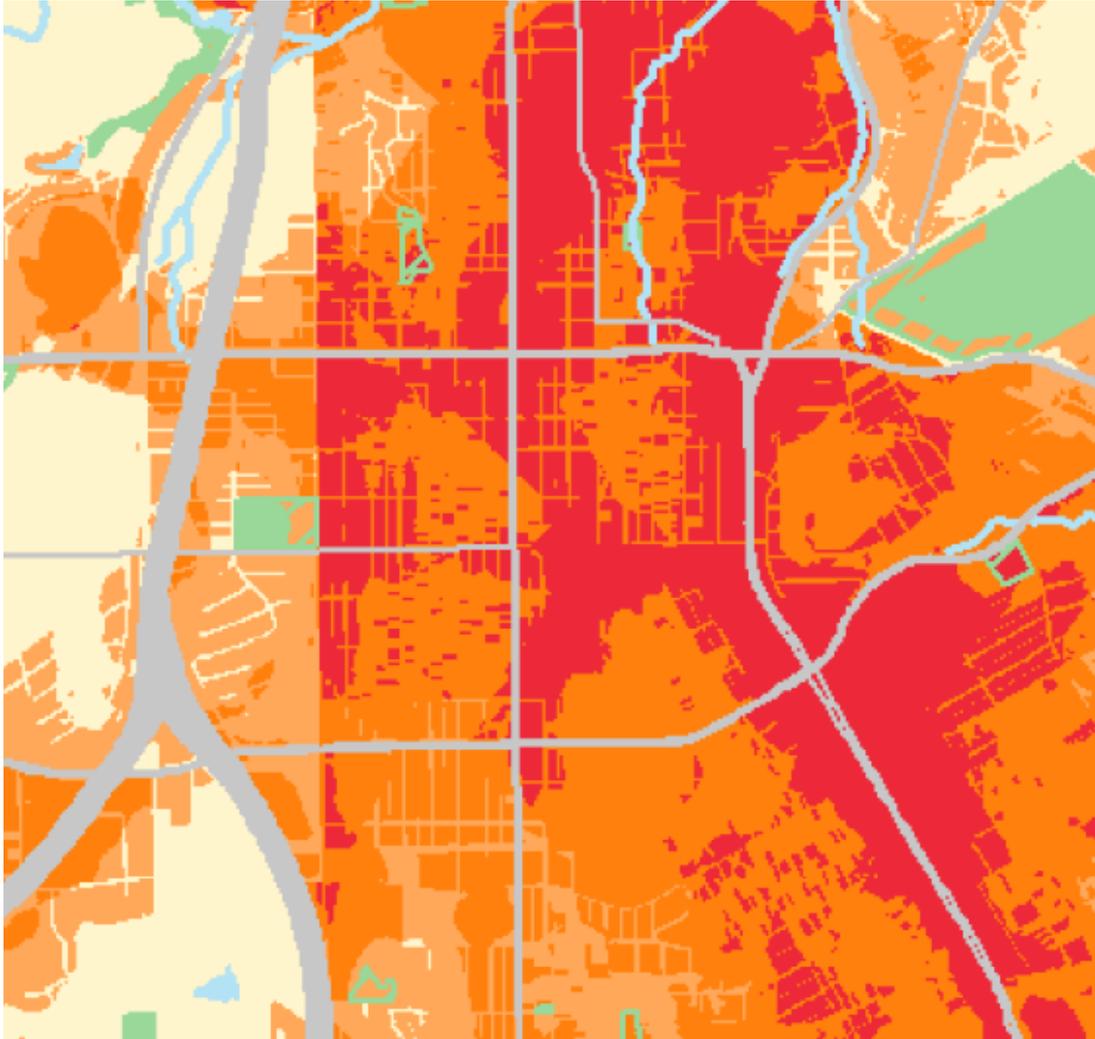
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August 17, 2016. Special thanks to the following data providers: US Bureau of the Census/ACS, Parkland Hospital, City of Dallas, Texas Dept. of Transportation, Dallas Area Rapid Transit, Natural Resource Conservation Service/SSURGO 2.2, USFWS, FEMA, Texas Trees Foundation. Copyright © The Trust for Public Land. The Trust for Public Land and The Trust for Public Land logo are federally registered marks of The Trust for Public Land. Information on this map is provided for purposes of discussion and visualization only. [www.tpl.org](http://www.tpl.org)

# PUTTING OUR RESEARCH TO WORK

# Building resilience in Cedar Crest

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- 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

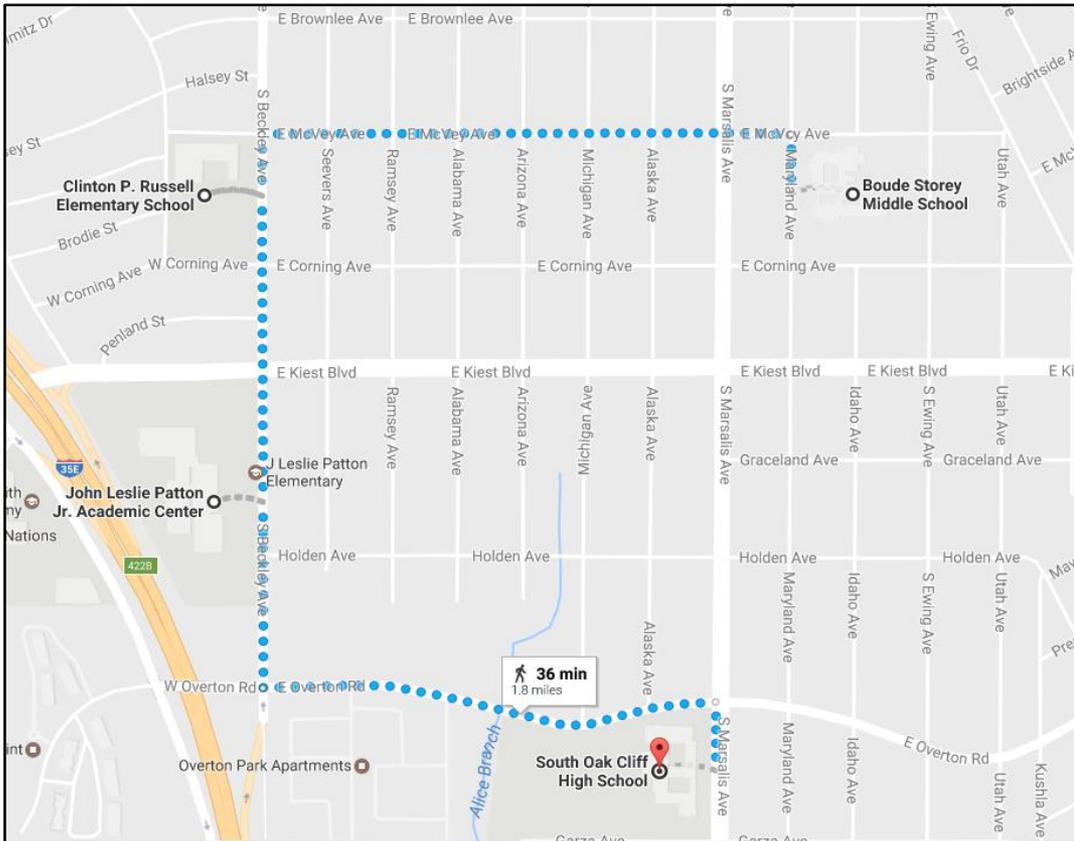
# Building resilience in Cedar Crest

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- 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

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