

HEALTHY STREETS, RESILIENT COMMUNITIES WORKING GROUP

STREETS BUILD CONNECTIONS

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Texas Resilient Streets and Greenways

Increasingly, cities around Texas are being designed to work with nature to solve complex environmental challenges. Community leaders are discovering that the most cost effective and impactful solutions to problems like flooding, heat stress, and community livability often involve efforts to maintain, enhance, and extend natural systems like green space and the rivers, creeks, and ponds through our communities. These green and blue infrastructure systems are being piloted in Texas communities and increasingly point to a new pathway forward for managing flooding, heat, and community livability.

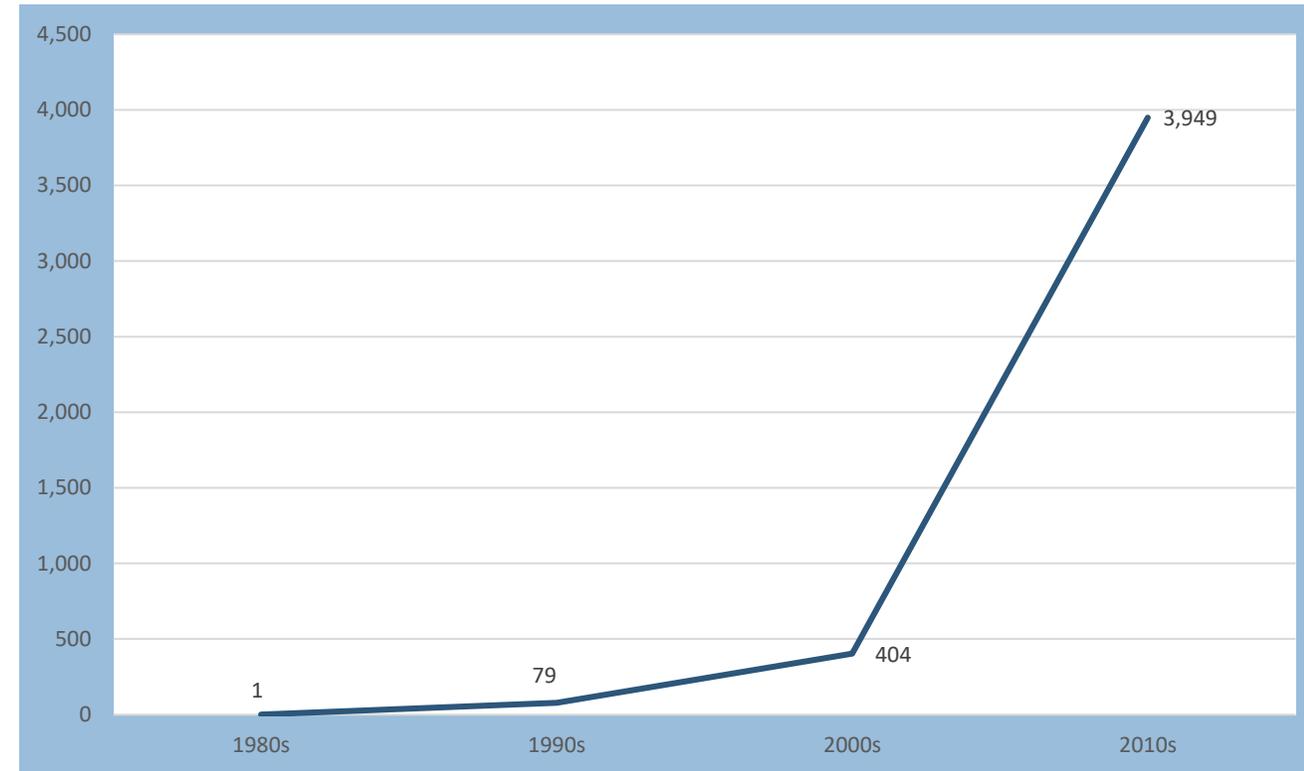
UPCOMING SCHEDULE

- **Wednesday Nov. 16: The Intersection of Public Health and Streets**
Dr. Angie Cradock Deputy Director, Harvard Prevention Research Center
- **Wednesday Dec. 14: Green Infrastructure and Streets**
Jordan Clarke of TBG in Dallas
- **Wednesday January 18: A Movement for Change: Reflections on Changing Street Design**
Active Towns founder John Simmerman
- **Wednesday February 22, Wednesday March 22, & Wednesday April 19: TBA**

BACKGROUND: URBAN RESILIENCE PLANNING

- Resilience: emerging lens for understanding planning in the age of climate change
- Urban climate resilience focuses on need for climate adaptation/climate mitigation & Improved safety/quality of life
- Tension at the core of urban resilience: bouncing back or bouncing forward?

Resilience Term Citations: 1980-2010

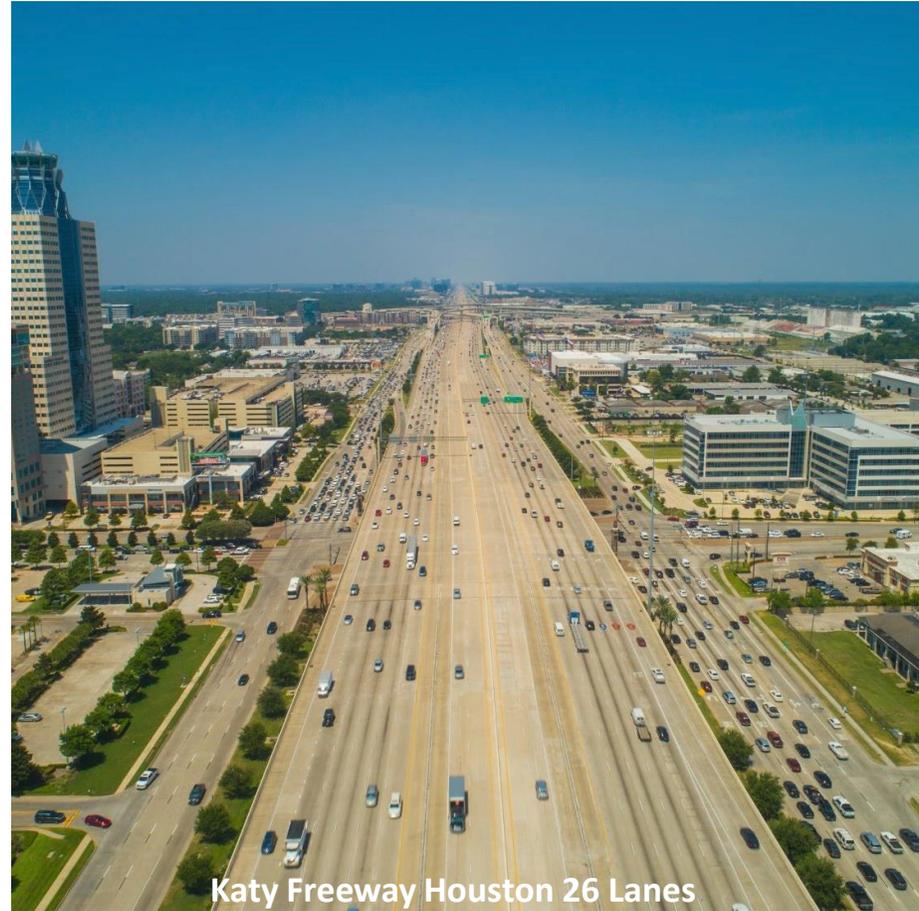


Web of Science citations in urban studies/planning/transportation-oriented journals

RESILIENCE: TENSIONS WITHIN AN EMERGING MOVEMENT

BOUNCING BACK

- Traditional view of resilience: maintaining systems & capacity to “bounce back”
- Strong status quo focus
- Bouncing back to high GHG emissions, crashes, & car-dominated cities



Katy Freeway Houston 26 Lanes

Image: <https://www.governing.com/now/why-the-concept-of-induced-demand-is-a-hard-sell>

BOUNCING FORWARD

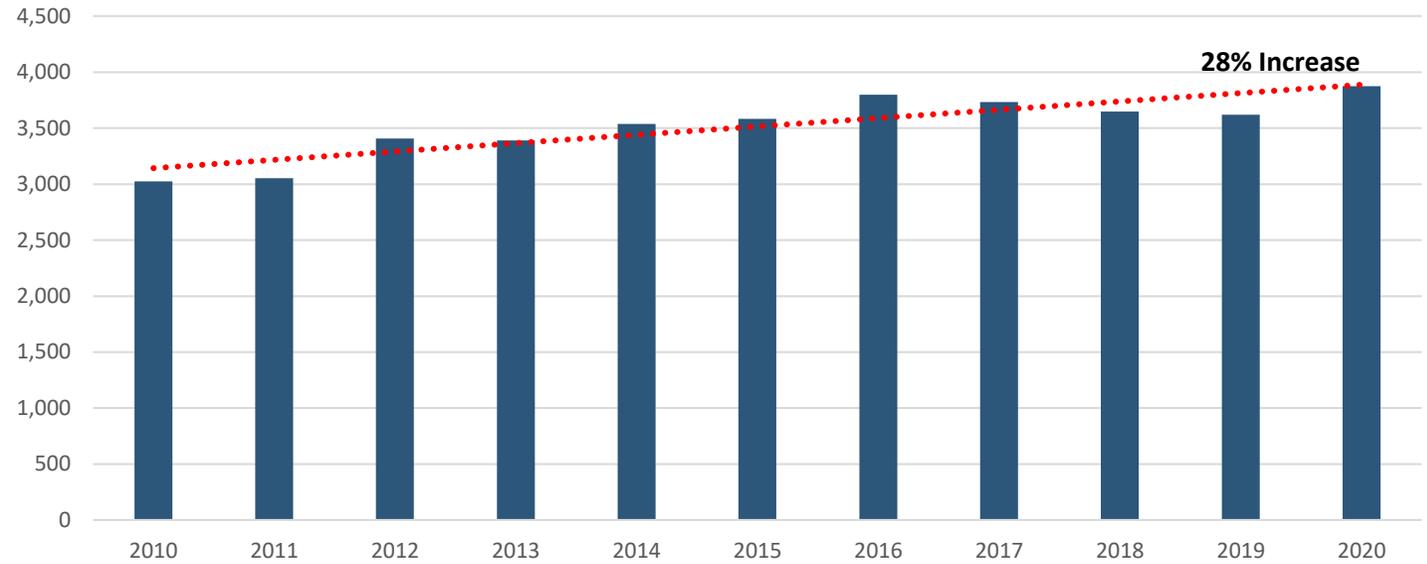
- Bouncing back is not enough in the face of failing systems
- Focus on systems changes to address underlying policy problems
- Bouncing forward to better places

TRANSPORTATION STATUS QUO: SYSTEM NOT RESILIENT

Transportation policy problem:

- **Crash fatalities rising**
- **Largest source of GHG emissions**
- **Largest land use category in cities**

TX Motor Vehicle Fatalities 2010-2020
(38,662 Total Fatalities)



Crashes and Injuries
Cities and Towns

2021

City	Fatal Crashes	Fatalities	Suspected Serious Crashes	Suspected Serious Injuries	Suspected Minor Crashes	Suspected Minor Injuries	Possible Injury Crashes	Possible Injuries	Non-Injury Crashes	Non-Injuries	Unknown Severity Crashes	Unknown Injuries	Total Crashes
SAN MARCOS	7	9	52	65	267	360	182	285	776	2,960	38	131	1,322

https://ftp.txdot.gov/pub/txdot-info/trf/crash_statistics/2021/14.pdf

Resilient streets =



+



Pathway to bouncing forward: resilient streets

Resilient streets = (A) + (B)

Safe System Design (Vision Zero)

- Street reform movement from Sweden & Netherlands
- Traffic fatalities preventable if systematic approaches to design & safety implemented
- Effective at significantly decreasing road injuries/fatalities
- Speed management core principle of Vision Zero



U.S. Department of Transportation
Federal Highway Administration

SUCCESSFUL SAFE SYSTEM ADOPTERS



Likelihood of death for people walking if hit at these speeds

Source: AAA Foundation, Tefft, B.C. (2011)

VISION ZERO NETWORK



8%



20%



46%



Resilient streets = (A) + (B)

Safe System Design in Practice

- Key to speed management is street design
- 2 main types of urban streets:
 1. Slow-speed neighborhood streets: traffic-calming
 2. Separated active transportation facilities on higher speed roads

Vancouver



1a. Traffic-Calming: Mini-Traffic Circle



1b. Traffic Calming: Bioswale



2. Cycle Tracks/Sidewalks

Resilient streets = (A) + (B)

Green/blue infrastructure

- Green and blue infrastructure: network of natural areas, open spaces, & water systems designed to provide multiple benefits (Benedict & McMahon 2006)
- Streets as connected network of “urban sponges”
- GI street benefits: both climate adaption & climate mitigation



Protected Bike
Lanes 2.0:
bioswale/
cycle track

Term from @Dale_Bracewell

UT Austin



Adaptation Urbanism

Transforming Streets to Address Climate Change | An I-STEP Project



VISUAL CASE STUDY COPENHAGEN: SANKT KJELDS PLADS

- CPH resilience goals: carbon neutral by 2025 & climate adapted to 30% more rainfall by 2040
- Involves physical changes to the city to improve active transport/transit/water management



2017



2019

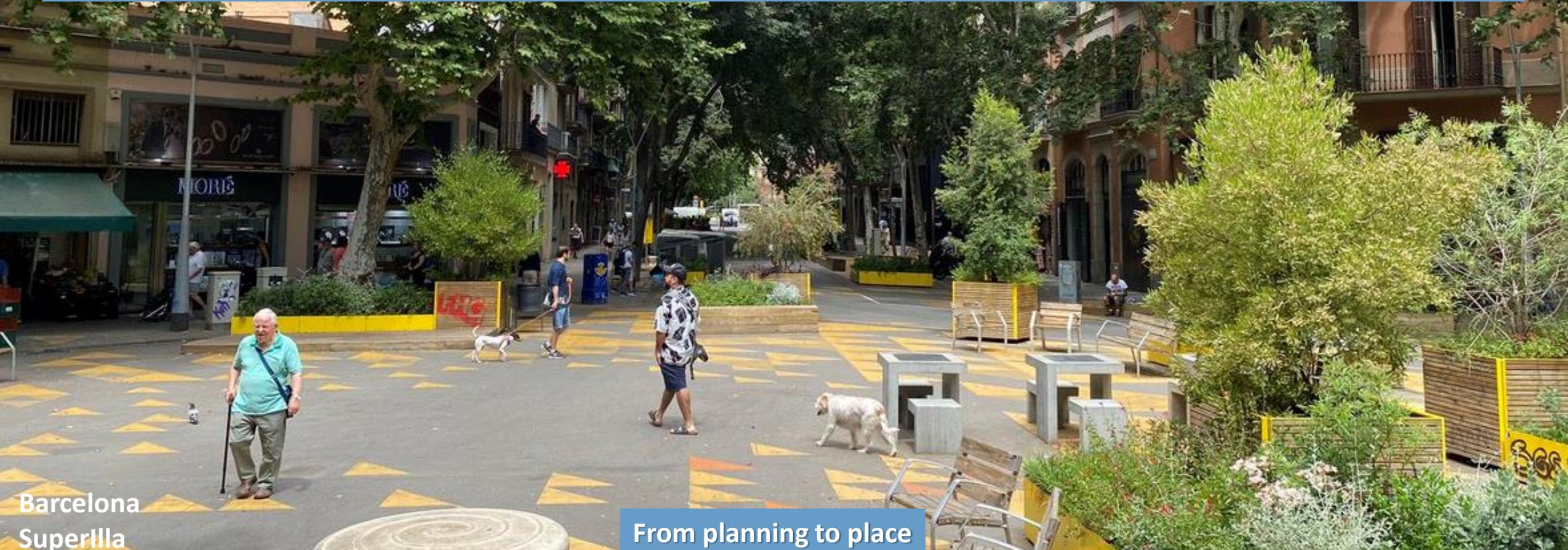
What If We...
Opened a Street to People,
Added Restaurant Seating,
Green Infrastructure, and...
a Piano?

Not A Rhetorical Question



What If We...

Opened a Street to People, Added a Plaza in the Middle of the Street with Green Infrastructure, Made it Safe/Inviting for People of All Ages... and Dogs?



Barcelona
Superilla

From planning to place



Dallas Katy Trail



River Walk San Antonio



Dallas Deep Ellum

Texas Resilient Streets and Greenways



Austin



San Marcos



San Antonio



San Antonio



Austin

Resilient Streets= foundation of great places



Re-envision streets as key element of community resilience

Link core outcomes to funding: safety, VMT/modeshare goals, access

Work towards multisectoral partnerships: transportation, water, community development, & public health

ADVANCES IN URBAN
SUSTAINABILITY

earthscan
from Routledge

Adaptation Urbanism and Resilient Communities

Transforming Streets to Address Climate Change

Billy Fields and John L. Renne



THANK YOU! QUESTIONS?

Dr. Billy Fields

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