Planning, Designing, and Building Healthy Communities

H-GAC Livable Centers 2025 three-part series

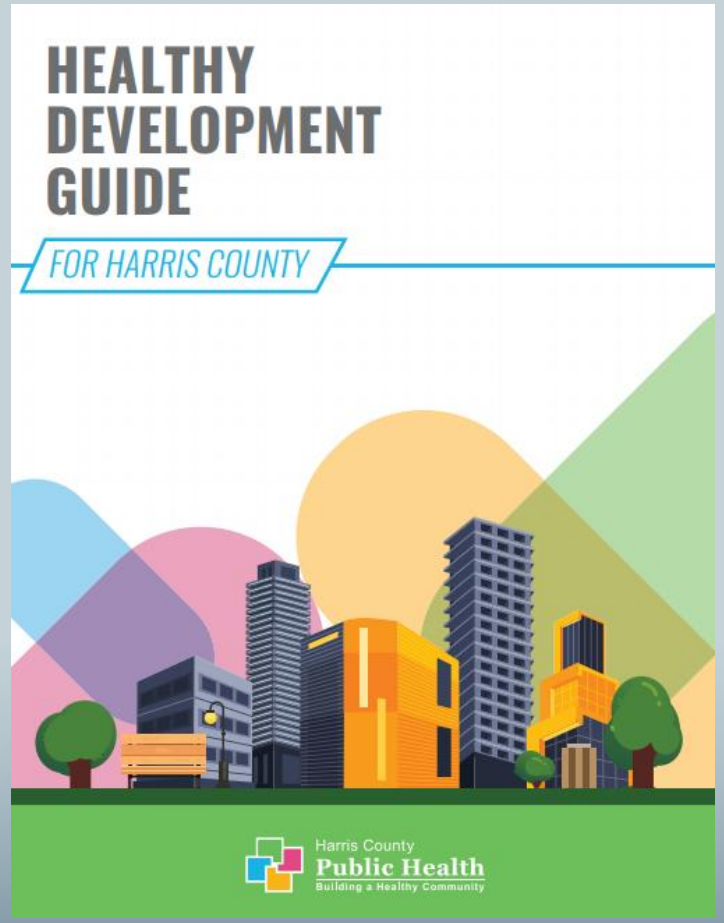
RT 1 Recap: Healthy Community Considerations

Challenges/Opportunities for urban, suburban, and rural places:

Active Living	Healthy Food	Environmental Exposure	Emergency Preparedness	Social Cohesion
• Active Transportation • Recreation • Traffic Safety	• Access • Production	• Air Quality • Water Quality • Soil Contamination	• Natural Hazards • Climate Change • Infectious Disease	• Infrastructure • Housing and Community Development • Public Safety

Metrics for Planning Healthy Communities
American Planning Association

RT 1 Recap: Featured Tool



- Non-regulatory guide intended to prompt conversations and critical thinking regarding health and development

Healthy Development Guide

RT 2 Recap: From Theory to Practice

What Did You Carry Forward?

This roundtable was a space for:

- Creative, low-stakes experimentation
- Systems-level reflection on stress and well-being
- Cross-sector dialogue around shared challenges

Building Health-Conscious Communities

Part 3: Livable Centers Annual Land-use and Transportation Workshop

Today's Event

Opening Remarks

KC Coyne, AICP

RESILIENT FUTURE STUDIO

halff 1950 - 2025

Emily Barker, AICP

Brandie Lockett, AIA LEED AP ND
Natalia Beard, LEED AP ND
Ashton Williams, PLA

METRO

swa

Grab a snack and refresh your coffee!

BREAK

Dr. Laura Solitare

TSU
TEXAS SOUTHERN UNIVERSITY

THE UNIVERSITY OF TEXAS MD Anderson Cancer Center
Making Cancer History®

Dr. Ruth Rechis

Closing Remarks

The Ecology of Us: Connecting Health Design and Place

KC Coyne, AICP, Certified Ecologist

Founder and Managing Principal at Resilient Future Studio

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THE ECOLOGY OF US

CONNECTING HEALTH, DESIGN, AND PLACE

H-GAC'S HEALTH-CONSCIOUS COMMUNITIES WORKSHOP

Sept. 18th, 2025

RESILIENT FUTURE STUDIO

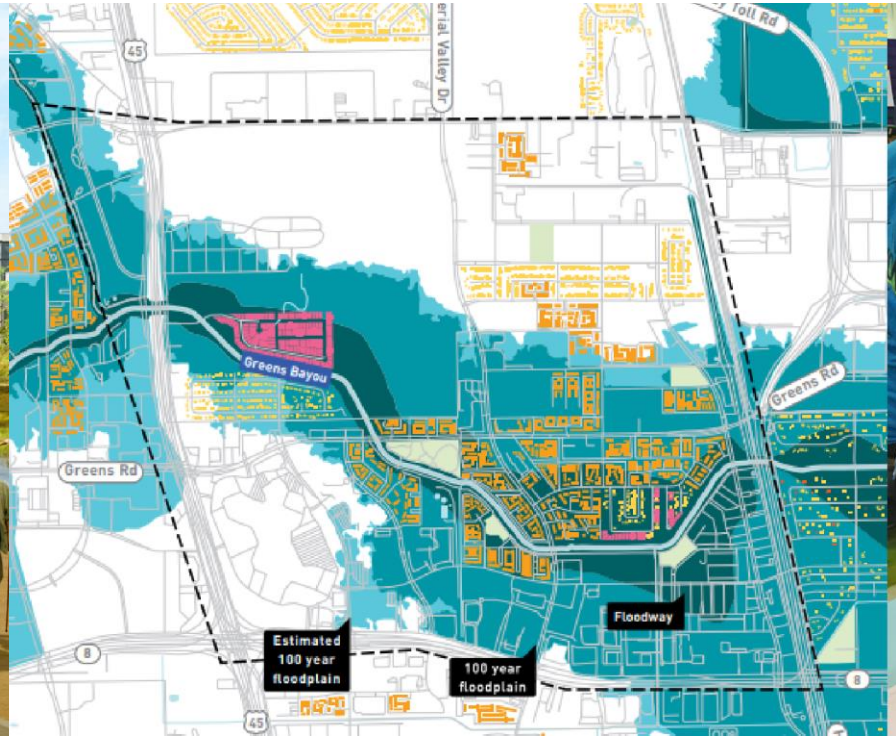
RESILIENT FUTURE STUDIO

WE ARE A RELATIONSHIPS-FIRST PLANNING AND DESIGN PRACTICE FOCUSED ON CREATING MORE RESILIENT AND JUST COMMUNITIES FOR PEOPLE AND ECOSYSTEMS.

We cultivate trusting and deeply collaborative relationships with clients and communities as the starting point for innovative and systemic change.

DESIGN

PLANNING +POLICY



FACILITATION

Girl Scouts

College: University of Florida

Outward Bound

Mote Marine Laboratory

Peace Corps Fiji

Bartending

Teaching High School

UT Austin: Graduate School

Asakura Robinson: Urban Ecology Studio

Public Service

City of Austin Environmental Officer

2024: Founding Resilient Future Studio

WHAT'S MY STORY?

RESILIENT FUTURE STUDIO

WHY IS IT CRITICAL TO THINK ABOUT HEALTH?

1. **Health is more than healthcare:** it's shaped by where we live, work, and play.

2. **Planning and design are preventative care:** streets, parks, and policies can reduce health issues and improve well-being.

BY THE NUMBERS

$117B cost of physical inactivity in U.S. health care each year (CDC, 2019)

2.4× more likely to meet activity goals in walkable neighborhoods (Kent & Thompson, 2012)

30% higher respiratory illness risk in poor housing conditions (Thomson et al., 2019)

33M more Americans could meet aerobic activity guidelines if neighborhoods were as walkable as top U.S. cities (Yang et al., 2024)

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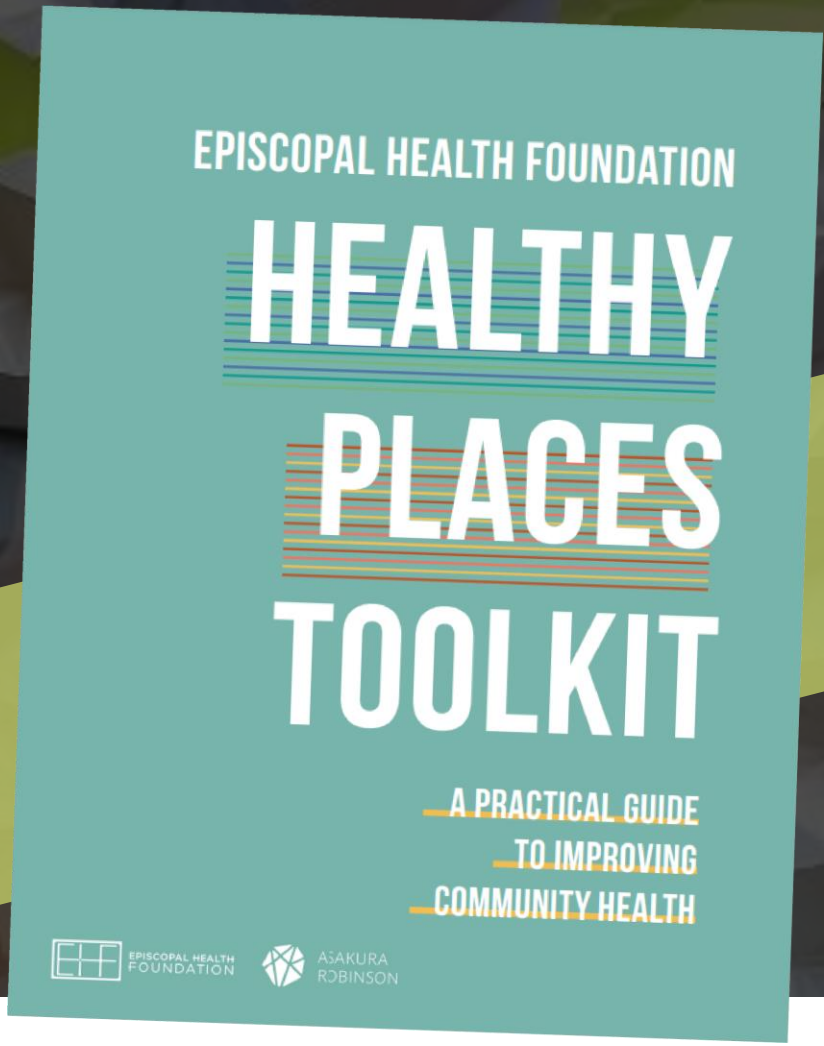
HOW WE GET THERE

1. **Ditch the silos:** collaboration across public health, planning, and design is essential.
2. **Think across scales:** from a shaded bus stop to a resilient watershed, every level impacts health.
3. **Center equity:** place-based inequities mirror health disparities; justice must drive design.
4. **Balance data with lived experience:** community voice is health data.
5. **Design for multifunctionality:** one intervention should solve for climate, mobility, and human health together.

DITCH THE SILOS



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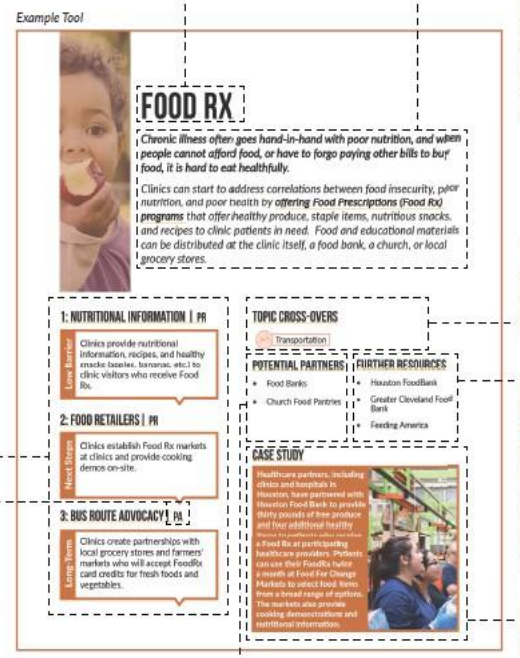
Toolkit Structure

This Toolkit is separated into nine social determinants of health (Food, Safety, Home, Community, Transportation, Nature, Air + Soil, Water, and Heat). Each section begins with an introduction to the topic and is accompanied by four to six tool ideas for improving health. See below for an example on how to interpret each tool.

Each tool has **Three Points of Entry** at which it can be implemented based on clinic capacity. The capacity building table on the left-hand page explains each in further detail.



Each Point of Entry falls into one of **Three Categories**:

(PR) = Program Recommendation
(PO) = Project
(PA) = Policy Advocacy

Title of the tool

The **Introduction** provides background on the health issue that the tool addresses and a short description of the tool.

Topic Cross-Overs shows what other SDOH relate to this tool.

Further Resources provides names of nonprofits, government agencies, or other institutions that can be searched for online to find resources.

The **Case Study** provides an example of how this tool can be applied.

Potential Partners provides ideas of local organizations that may be valuable partners on initiating this effort.

AIR+SOIL

Goal: Reduced exposure to pollution in the air and soil and improved environmental quality.

The release of particulate matter (PM), nitrogen dioxide, and the creation of ozone from a combination of pollutants released by industry and automobiles into the atmosphere all negatively affect physical health, especially respiratory and heart health. Past and current industrial activity discharges dangerous chemicals and toxic metals into soil, water, and air. Brownfields, which are parcels of land that were formerly industrialized, often have highly contaminated soils that threaten the health of communities that live on or around the brownfield.

HEALTH IMPACT

- The range of health impacts varies due to the type of formerly polluting or presently polluting industry. [39]
- Some side effects of chemical or toxic heavy metal soil or groundwater contamination can include gastrointestinal illness, reproductive problems, neurological disorders, liver, kidney, and intestinal damage, anemia, and cancer.[40]
- PM exposure has been linked to a variety of problems, including premature death in people with heart or lung disease, heart attacks, and aggravated asthma. Breathing ozone and nitrogen oxide can trigger health problems including chest pain, coughing, airway inflammation, and reduced lung function.[41]

URBAN CONTEXT

In urban contexts, air quality is heavily influenced by proximity to high capacity roadways as well as manufacturing and industrial facilities. Exposure can be consistent if the source is stationary like a facility, or it can be temporary in the case of mobile sources of pollution, such as automobiles. Exposure to contaminated soil may come from proximity to active or abandoned sites as well as living on land that previously had a polluting use.

NON-URBAN CONTEXT

Most oil and gas refineries are located in non-urban locations, which means that residents in these areas are at increased risk of respiratory-related illnesses.[42]

TREE PLANTING

The number of trees in a neighborhood can impact the health of people in that neighborhood.

Trees provide a variety of services, including air and soil remediation. This means that tree plantings can contribute to improving local air and soil quality. ***Trees remove carbon dioxide and other particulates from the air, and some trees can remove toxins from the soil.*** *In addition to these two major features, trees can help reduce flooding, support evaporative cooling, provide shade, and improve emotional well-being through stress reduction. Clinics can coordinate tree plantings outside their clinic and in the surrounding neighborhoods to help provide the of health benefits of trees.*

1: PLANT TREES | PO

Low Barrier

Plant trees at clinic property, and calculate how much pollution is removed by those trees using the online i-Tree tool.

2: NEIGHBORHOOD TREES | PO

Next Steps

Plant trees in the neighborhood that surrounds the clinic, especially along pedestrian-heavy roads, to provide shade and filter air pollutants.

3: ARBOR DAY EVENTS | PO

Long-Term

Clinics can partner with universities, student groups, or corporations to host large Arbor Day events.

TOPIC CROSS-OVERS

Community · Heat · Nature

POTENTIAL PARTNERS

- Universities
- Student Groups
- Corporations

FURTHER RESOURCES

- Practice Greenhealth
- Arbor Day Foundation
- i-Tree
- Trees Foundation

CASE STUDY

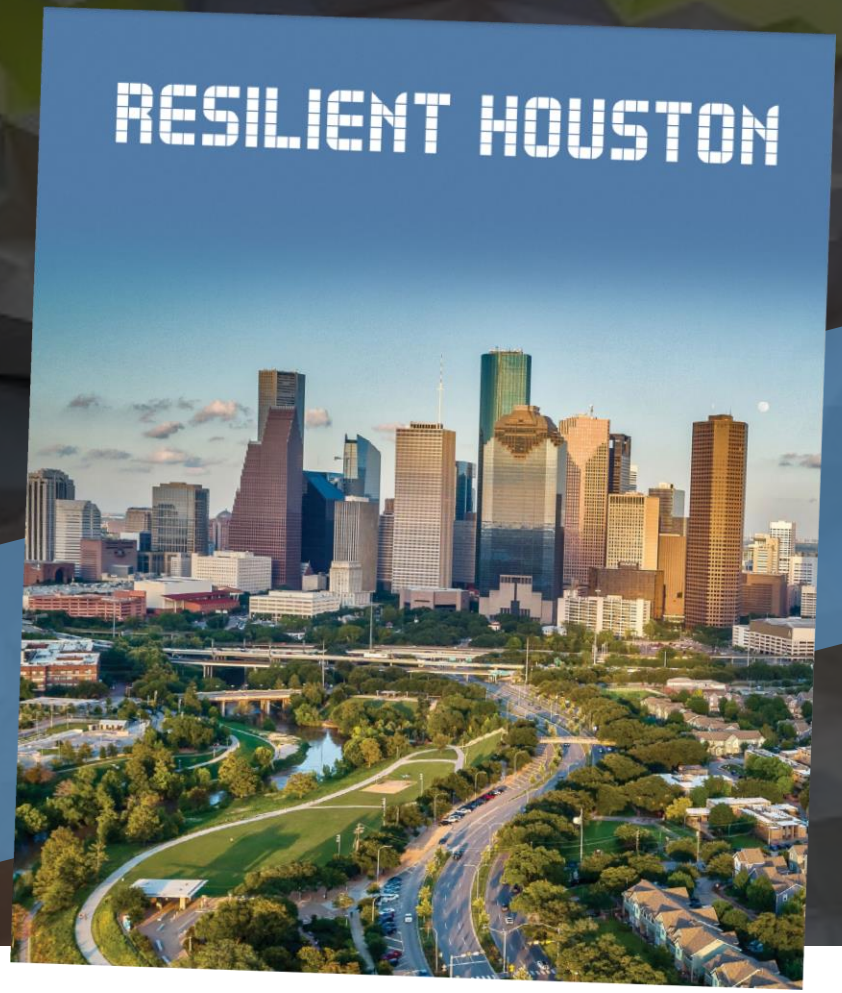
The Clarinda Chapter of Trees Forever, a nonprofit environmental group, received a $35,000 grant from Alliant Energy to purchase trees for placement at the Clarinda Regional Health Center. Trees Forever helped to pool resources together in order to support tree planting efforts.

Image: Clarinda Regional Health Center

HEALTHY PLACES TOOLKIT: *EPISCOPAL HEALTH FOUNDATION*

RESILIENT FUTURE STUDIO

THINK ACROSS SCALES



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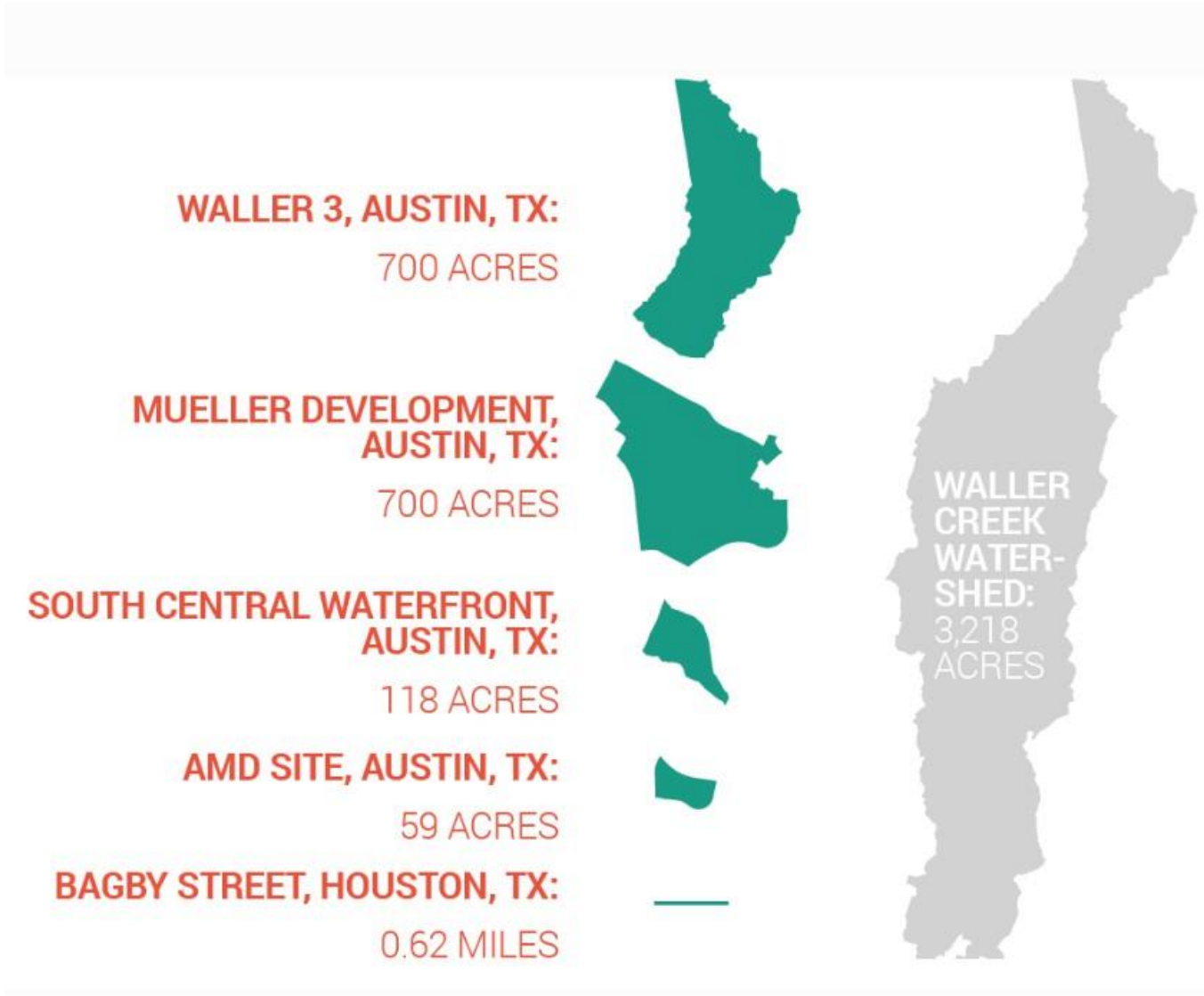
DISCIPLINES HAVE TO WORK TOGETHER ACROSS SCALES



RESILIENT FUTURE STUDIO

BUILDING RESILIENCE AT EVERY SCALE

Only when our people, our neighborhoods, our bayous, our city, and our region truly integrate the value of resilience into everything we do, will we truly be resilient. *Resilient Houston* is organized by Scale, to encourage every Houstonian, every neighborhood, every steward of our bayous and watersheds, the City of Houston, and all the cities and counties in Greater Houston to use this framework as we continue to work together to advance resilience at every scale.

CHAPTER 1
PREPARED & THRIVING HOUSTONIANS

CHAPTER 2
SAFE & EQUITABLE NEIGHBORHOODS

CHAPTER 3
HEALTHY & CONNECTED BAYOUS

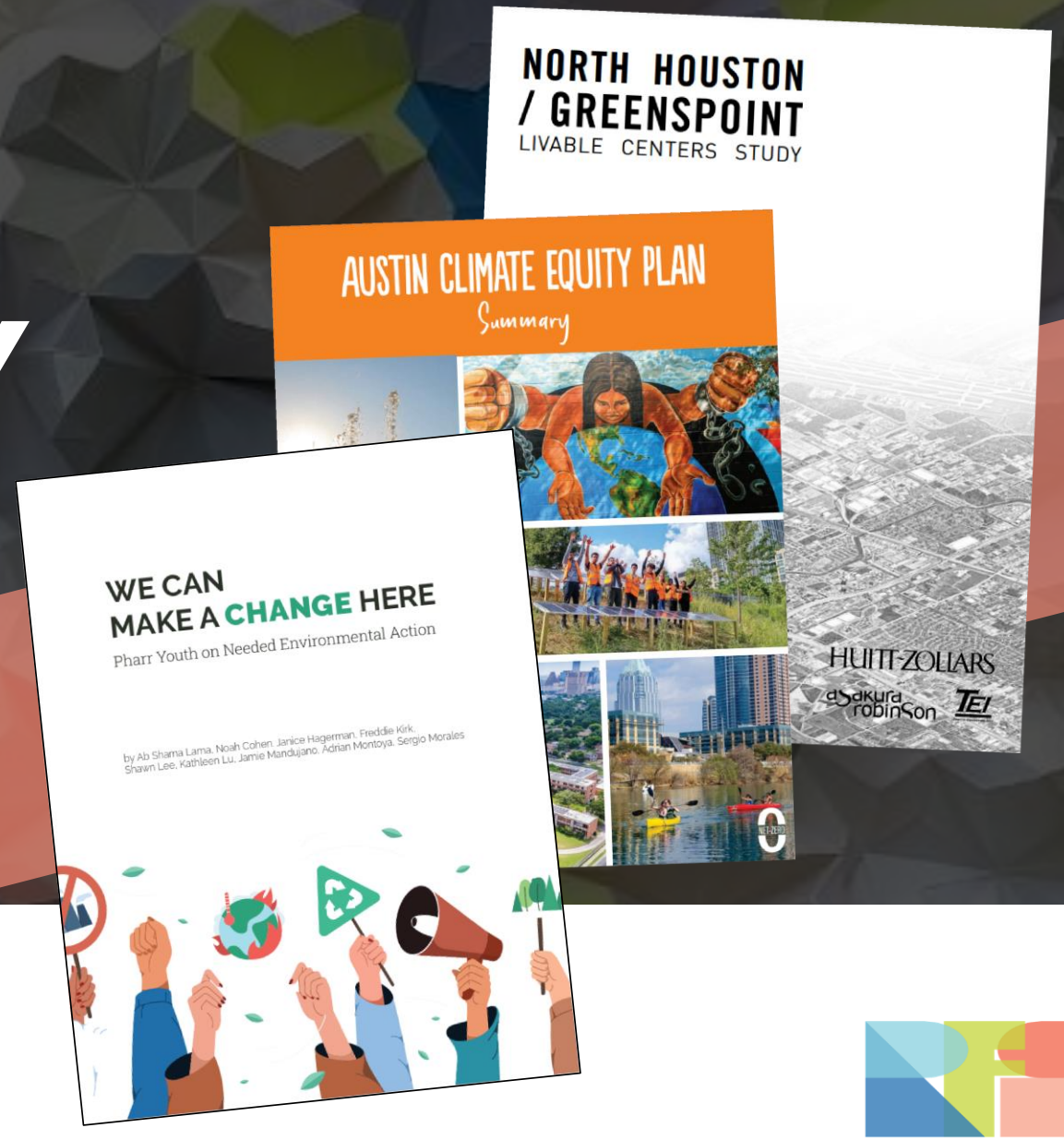
CHAPTER 4
ACCESSIBLE & ADAPTIVE CITY

CHAPTER 5
INNOVATIVE & INTEGRATED REGION

RESILIENT HOUSTON: *CITY OF HOUSTON*

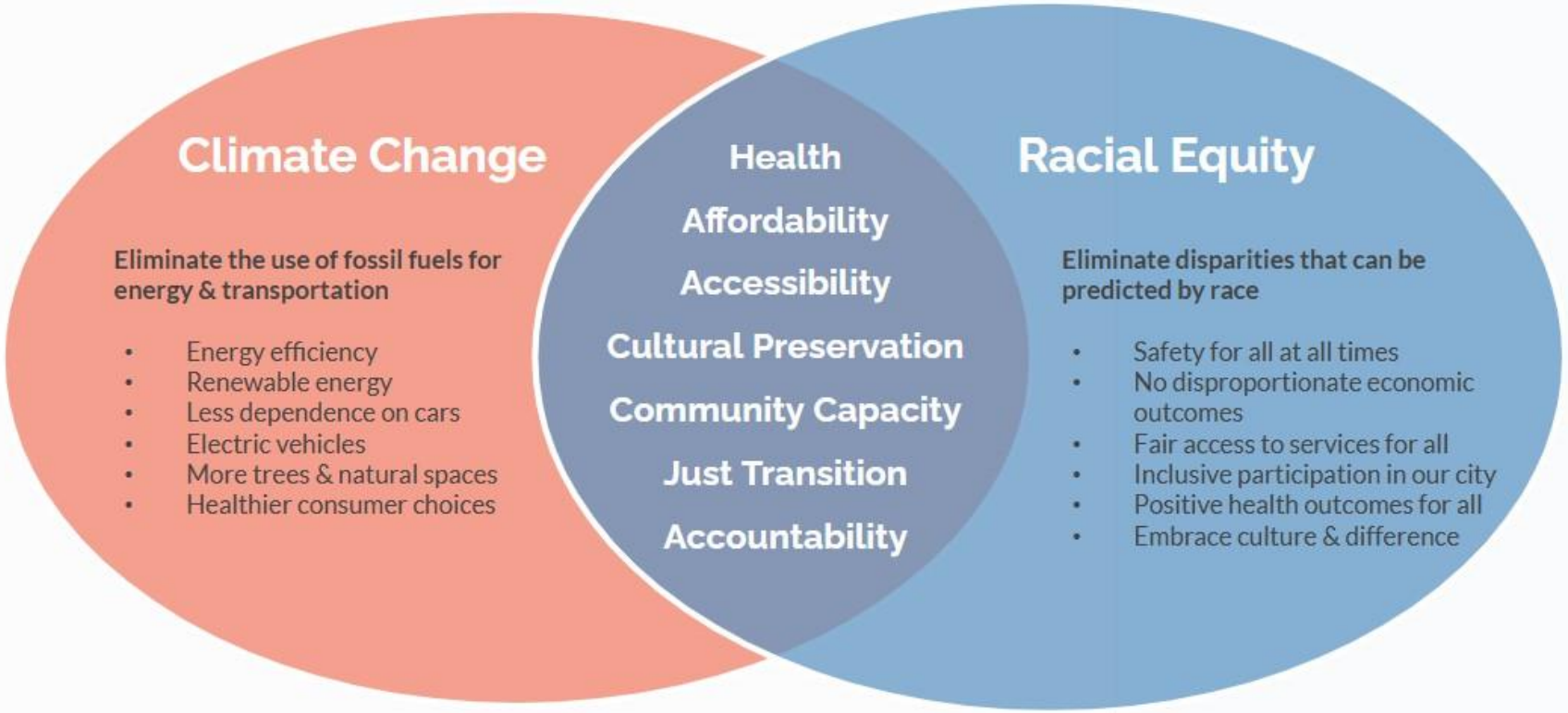
RESILIENT FUTURE STUDIO

CENTER EQUITY



RESILIENT FUTURE STUDIO

Net-zero by 2040, equitably



If we're not proactively addressing equity, we're perpetuating injustice

AUSTIN CLIMATE EQUITY PLAN: *CITY OF AUSTIN*

RESILIENT FUTURE STUDIO

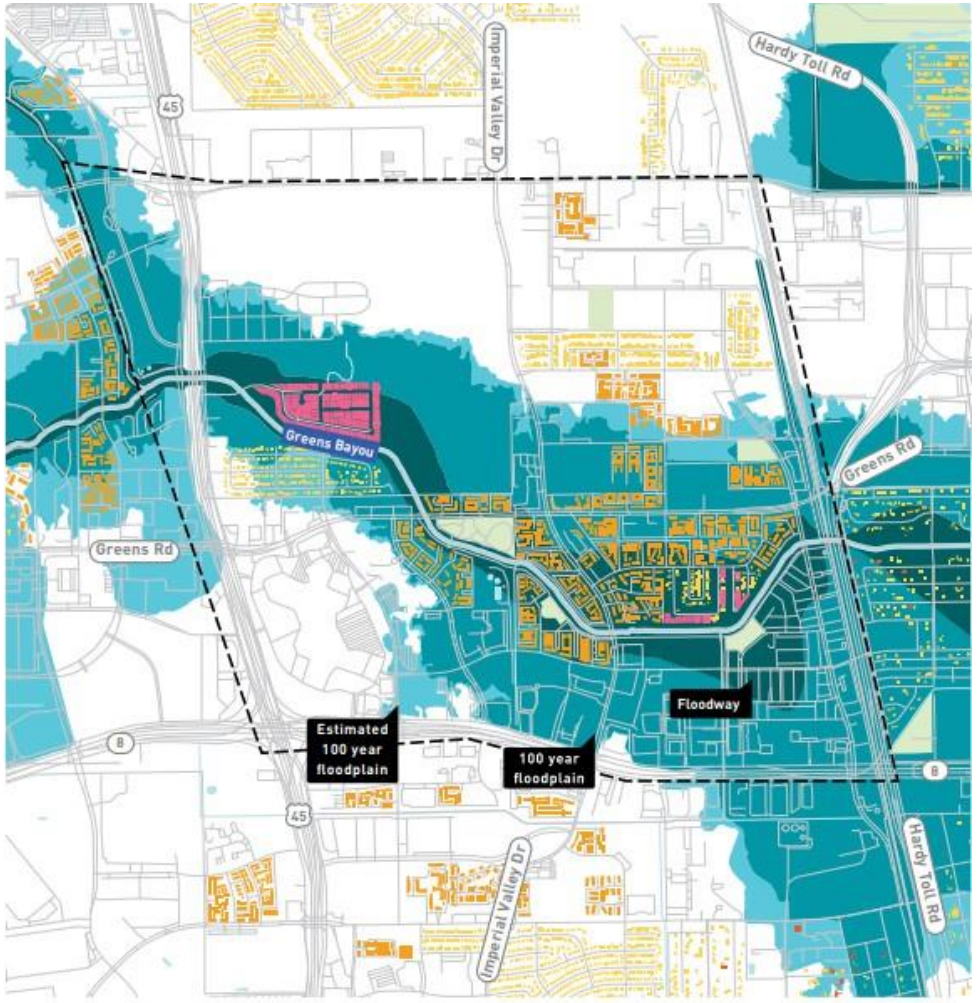


Figure 3.5 Past, Current, and Future Housing in Danger

Single and multi-family homes that fall within the floodway, 100-year floodplain, and estimated 100-year floodplain.

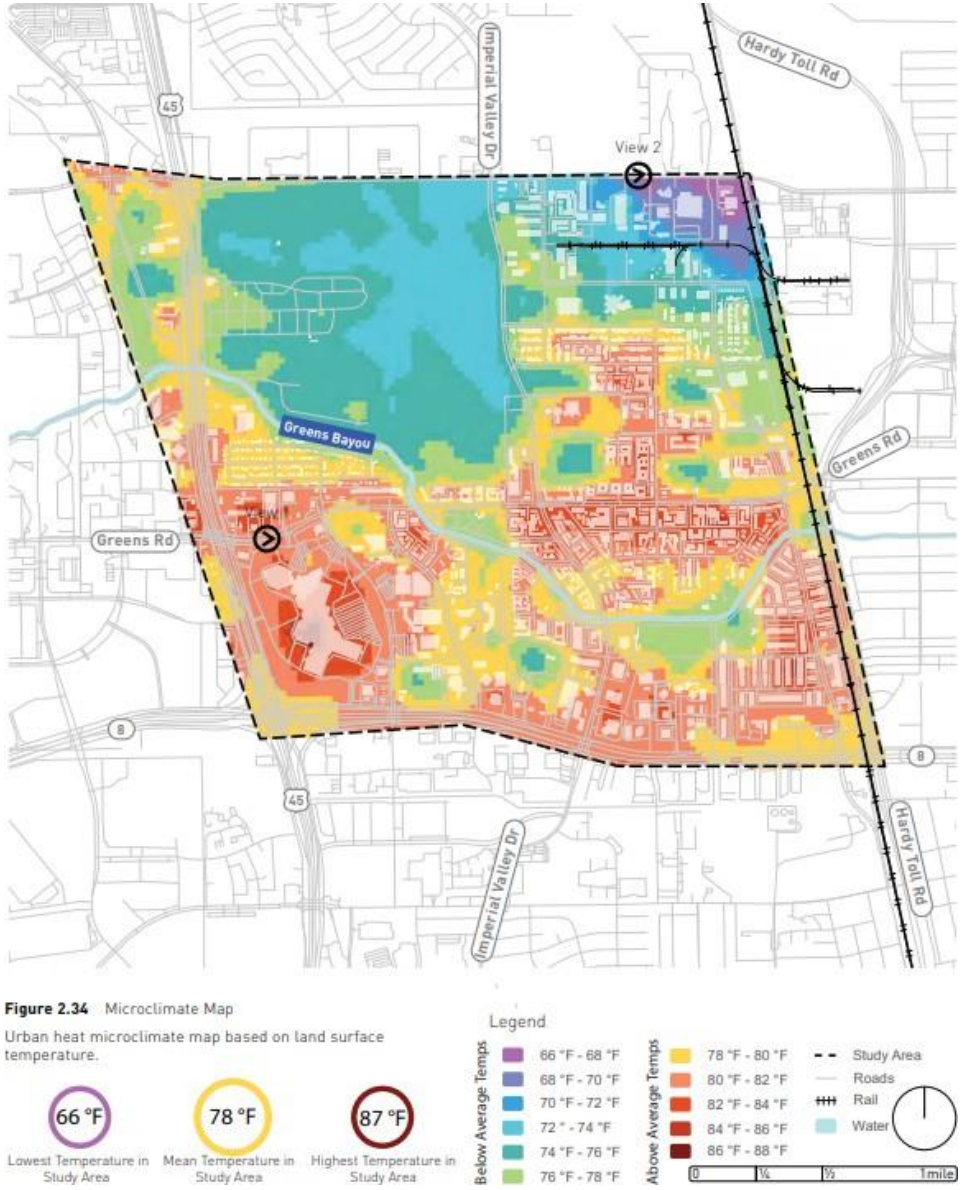
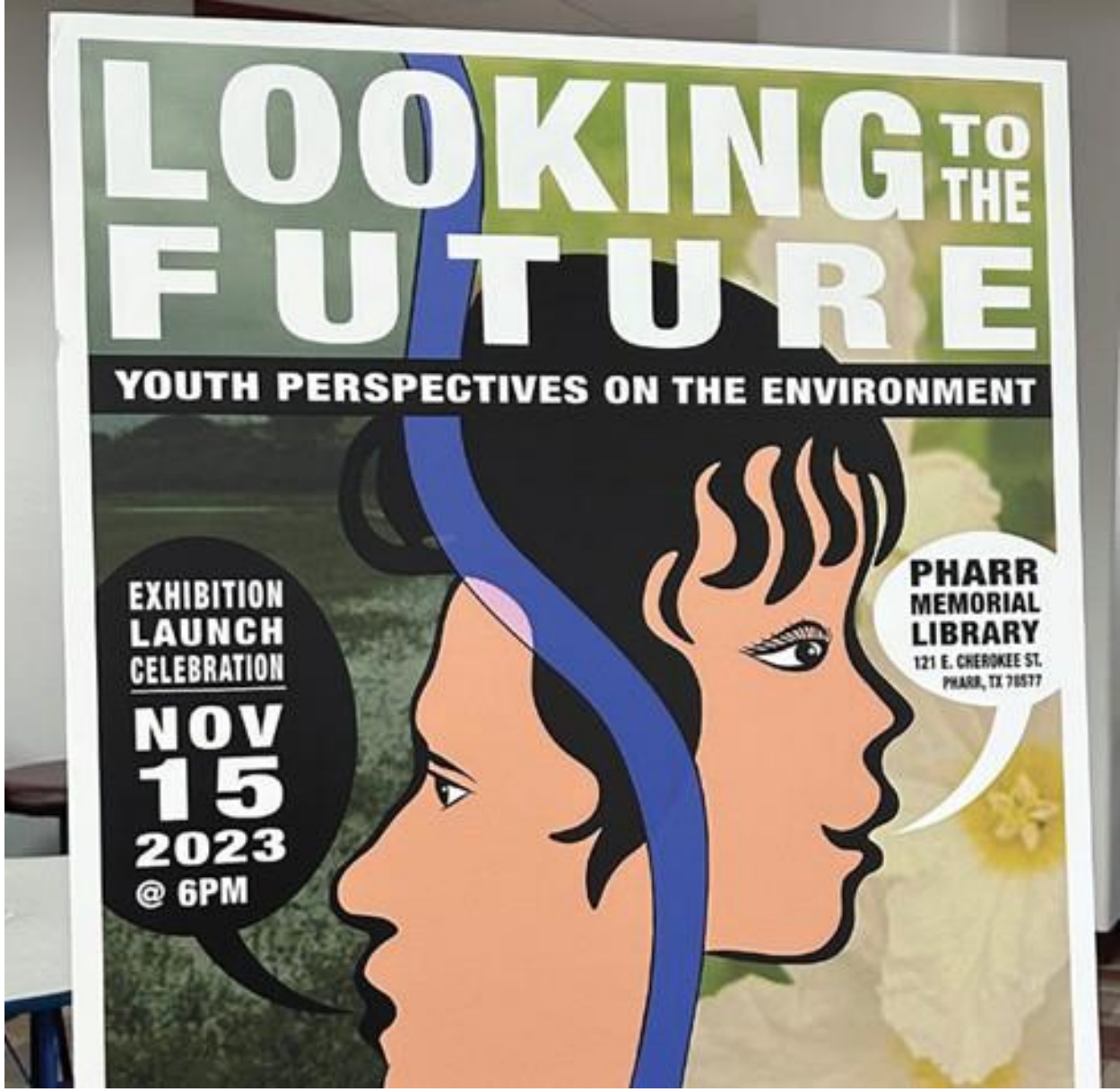


Figure 2.34 Microclimate Map

Urban heat microclimate map based on land surface temperature.

NORTH HOUSTON LIVABLE CENTERS: *HGAC + NORTH HOUSTON DISTRICT*

RESILIENT FUTURE STUDIO



PHARR, TX YOUTH CLIMATE COUNCIL: *PLANET TEXAS 2050*

RESILIENT FUTURE STUDIO

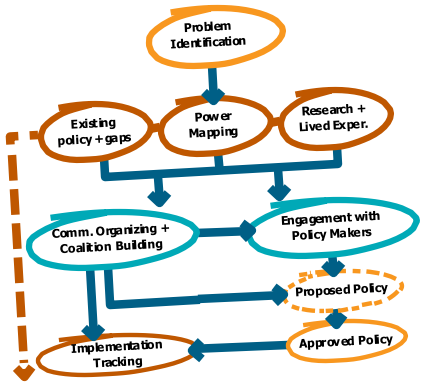
PLANET TEXAS 2050
POLICY WORKSHOP

TAKE HOME + WORKSHEET

STEPS IN THE ADVOCACY PROCESS

1. **PROBLEM IDENTIFICATION:** This is the starting point for advocacy. It involves clearly defining the issue at hand—whether it's a gap in services, an unjust policy, or a community-identified need. It sets the direction for the entire strategy.

2. **BUILDING THE CASE:** After identifying the problem, three critical types of analysis help build the case and strategy.
   - **Existing Policy + Gaps:** Reviewing current policies, laws, and regulations to spot weaknesses or areas for change.
   - **Power Mapping:** Understanding who holds decision-making power and influence, and how they connect to your issue.
   - **Research + Lived Experience:** Combining academic research with on-the-ground knowledge from affected communities ensures the issue is both evidence-based and rooted in reality.



3. **STRATEGIC ACTION PATHWAYS:** These are the engagement and organizing strategies that drive momentum:
   - **Community Organizing + Coalition Building:** Mobilizing stakeholders, building partnerships, and aligning with allied organizations to amplify collective power.
   - **Engagement with Policy Makers:** Communicating with elected officials, government staff, or agencies through meetings, briefings, and public testimony.

4. **POLICY DEVELOPMENT:** As a result of coordinated organizing and policymaker engagement, a Proposed Policy is developed. This draft might undergo multiple revisions, incorporating input from advocates and policymakers alike prior to becoming an approved policy.

5. **ACCOUNTABILITY:** Advocacy doesn't stop here. Implementation Tracking ensures that the policy is enacted as intended and holds institutions accountable. This is crucial for realizing the desired community impact.

Ongoing Cycle: The dotted arrow looping back signals that advocacy is iterative. Issues evolve, new gaps emerge, and the cycle often restarts with deeper insights and stronger coalitions.

RESILIENT FUTURE STUDIO

DEFINITIONS

1. **POLICY:** A formal plan, rule, or course of action adopted by governments or institutions.
2. **ADVOCACY:** Strategic action to influence public policy, funding, or decision-making on behalf
community
3. **LEGISLATION:** Laws that are proposed, debated, and enacted by elected bodies (e.g., city cou
legislatures).
4. **ORDINANCE:** A local law passed by a city or county government.
5. **RESOLUTION:** A formal expression of opinion or intention by a legislative body — often sym
to action
6. **STAKEHOLDER:** Any person or group affected by or able to influence a policy decision (e.g.,
advocates, officials, businesses).
7. **CONSTITUENT:** A person who lives in an elected official's district and is represented by ther
8. **LOBBYING:** Direct communication with policymakers to influence specific legislation or dec
9. **GRASSROOTS ORGANIZING:** Community-driven efforts to build power and advocate for c
bottom up.
10. **COALITION:** A group of organizations or individuals who come together around a shared a
11. **TESTIMONY:** A formal statement or story shared (often in public meetings or hearings) to i
decisions.
12. **POLICY ASK:** A clear, specific request made to a decision-maker (e.g., "We ask that you vot
ordinance").
13. **POWER MAPPING:** A tool to identify who has power over a decision and how to influenc
14. **CAMPAIGN:** A coordinated effort to achieve a specific advocacy or policy goal.

STATE POLICY CHANGE PROCESS: *TEXAS*

1. **Issue Raised:** Community members, City Council members, or staff identify a need.
2. **Draft Policy or Resolution:** A council member or staff may draft a resolution or ordinance.
3. **Council Committee Review (if applicable):** Sent to a council committee or work session for initial discussion.
4. **Public Input:** Public hearings and community engagement (testimony, letters, advocacy).
5. **City Council Vote:** Requires majority vote during a regular City Council meeting.
6. **Implementation by City Departments:** If passed, relevant city departments begin enforcement or rollout.

1. **Bill Drafted:** Filed by a Texas Ho
or Senator at the start of the leg
numbered years).
2. **Committee Assignment:** Sent to
hearings and debate.
3. **Public Testimony + Amendmen**
citizens testify; legislators can c
4. **Chamber Votes:** Must pass the
majority vote.
5. **Governor's Desk:** Governor can
it, or allow it to become law wi
6. **Rulemaking + Implementation**
TxDOT, or TEA interpret and e

MAKING THE CASE: POLICY DEVELOPMENT WORKSHEET

PROBLEM IDENTIFICATION

This is the starting point for advocacy. It involves clearly defining the issue at hand—w
policy, or a community-identified need. It sets the direction for the entire strategy.

WHAT MAKES A GOOD PROBLEM?

1. Do people notice/agree it's a problem?
2. Is it compelling to some and a concern for all?
3. Does it affect people tangibly in their daily lives?
4. Does everyone see it as a social problem and see it the same way?
5. Can social policy help solve the problem?
6. Political and public climate and trust

DEFINING THE PROBLEM

WHAT'S YOUR POLICY HANDLE?

WHAT PROBLEMS EXIST IN YOUR COMMUNITY OR PLACES WHERE YOU WORK?
DEFINE 1-3 PROBLEMS HERE, AND DECIDE ON POTENTIAL POLICY HANDLES.

WHAT'S YOUR FORUM?

BRAINSTORM AND DECIDE WHAT FORUM YOU WILL PURS

BUILDING THE CASE

After identifying the problem, three critical types of analysis help build the case and strategy: **Existing Pol**
Reviewing current policies, laws, and regulations to spot weaknesses or areas for change; **Power Mapping**
who holds decision-making power and influence, and how they connect to your issue; and, **Research + Liv**
- Combining academic research with on-the-ground knowledge from affected communities ensures the iss
evidence-based and rooted in reality.

EXISTING POLICY AND GAPS

DO A POLICY SCAN

- Review current laws, regulations, ordinances, and resolutions at the relevant level (local, state, federal).
- Focus on policies already on the books related to your issue area.

Tools: Municipal and state legislative websites, Policy databases (e.g., Municode, Ballotpedia, Open States), Freedom of Information Act (FOIA) requests if needed

RESEARCH OR CROWDSOURCE WHAT RELATED POLICY
AND WRITE A FEW EXAMPLES HERE.

UNDERSTAND POLICY INTENT

- Read the legislative history: what problem was the policy meant to address?
- Investigate: Was it implemented as intended? Is it enforced? Who benefits?
- Look for any sunset clauses, loopholes, or exceptions that limit effectiveness.

WHAT INFORMATION CAN YOU FIND ABOUT HOW THE ABO
POLICY HAS BEEN APPLIED IN THE PAST AND WHAT IMPACT

GAP ANALYSIS

- Are certain populations unprotected?
- Is the policy outdated or under-resourced?
- Does it fail to address root causes?

WHAT GAPS CAN YOU IDENTIFY IN EXISTING POLICY?

CAPACITY BUILDING FOR COMMUNITY ORGANIZERS: *PLANET TEXAS 2050*

RESILIENT FUTURE STUDIO

BALANCE DATA + LIVED EXPERIENCE

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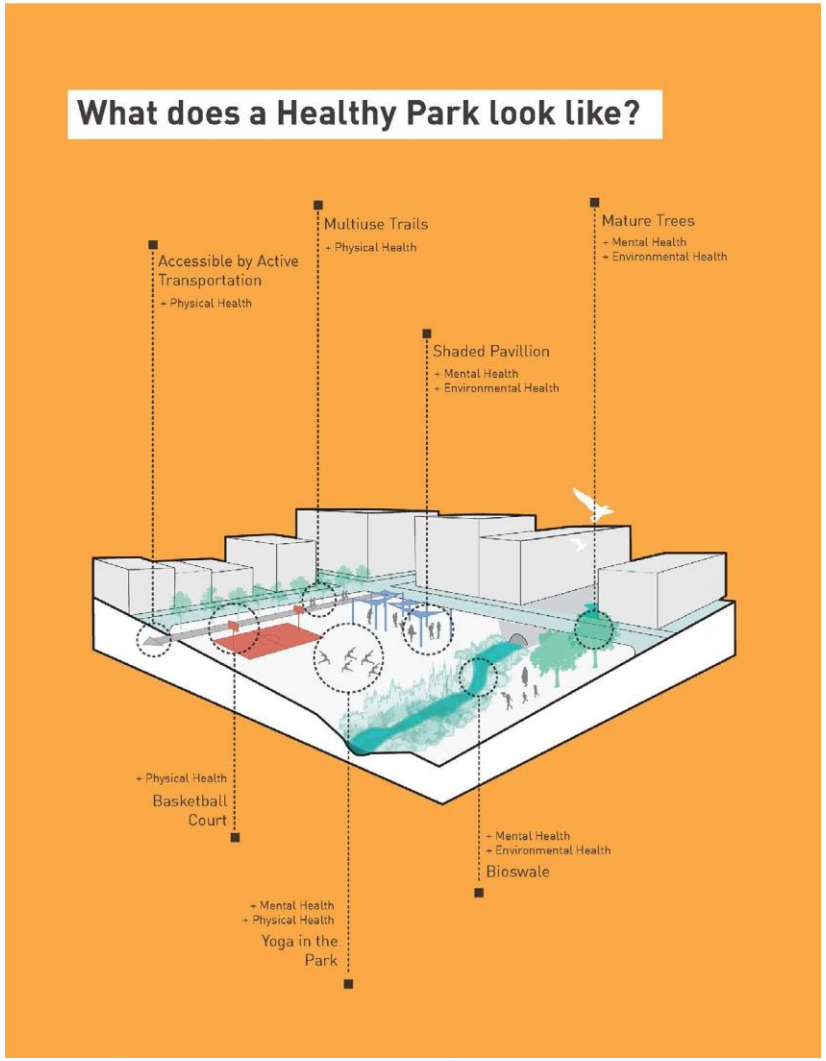
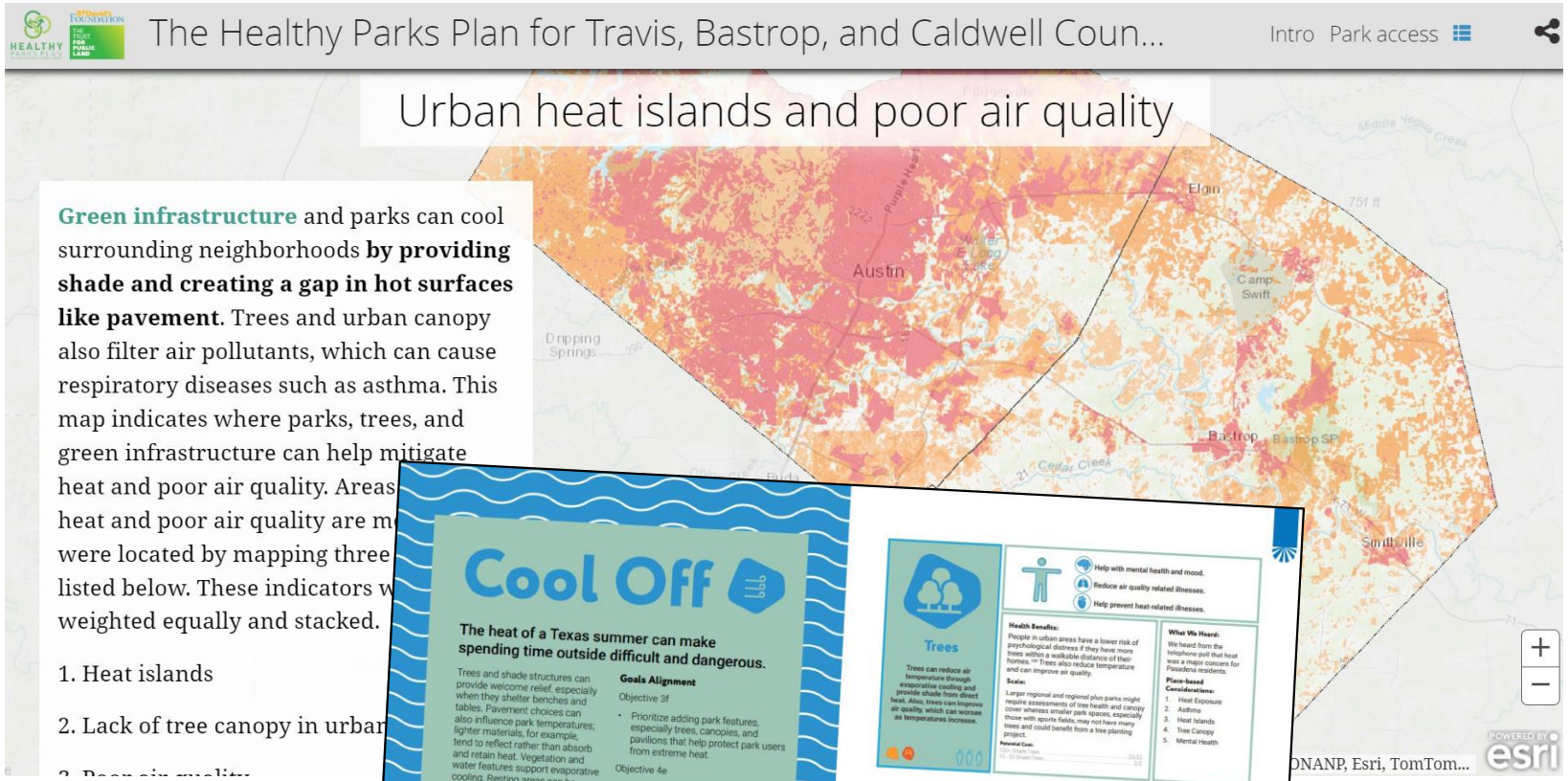
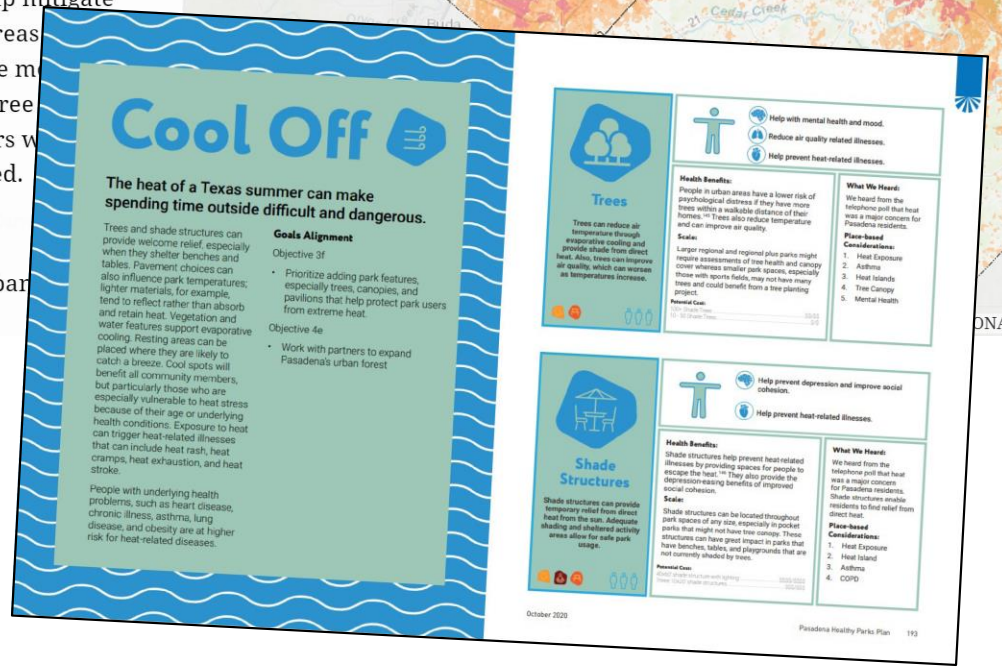






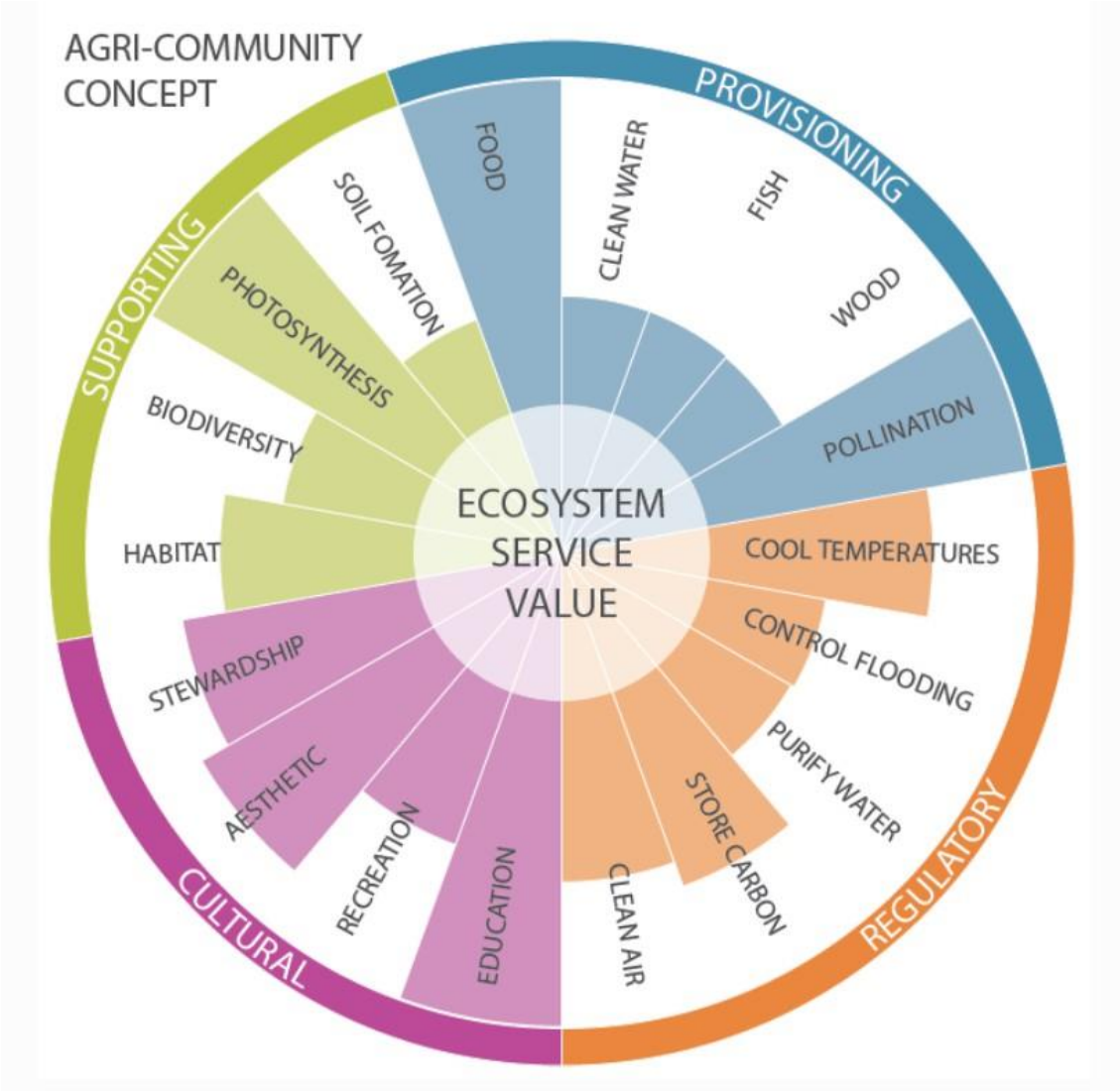
HEALTHY PARKS PLANS: *CITY OF PASADENA; TRAVIS, BASTROP, AND CALDWELL COUNTIES*

RESILIENT FUTURE STUDIO

DESIGN FOR MULTIFUNCTIONALITY

RESILIENT FUTURE STUDIO

ECOSYSTEM SERVICES AS A MULTI-FUNCTIONAL FRAMEWORK



RESILIENT FUTURE STUDIO

4 | SHAPING THE AUSTIN WE IMAGINE

functional green
TARGET SCORE

Projects eligible for Functional Green will be required to meet a specified target score that represents the ecological function of a site relative to the total site area. A draft target score of 0.3 has been established based on multiple case studies of built and planned projects across the city. To meet the target score, developers can choose from a suite of Landscape Elements that are common in urban environments. Case studies show that a target score of 0.3 is achievable and provides high ecological performance and human health benefits.

Note: Numbers refer to Landscape Elements listed on the opposite page.

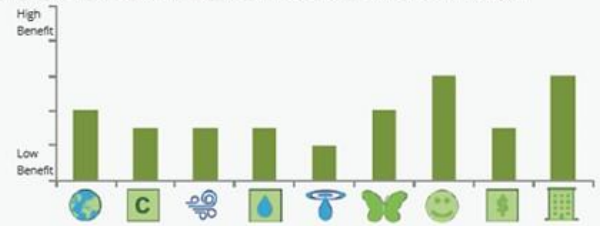
6 | SHAPING THE AUSTIN WE IMAGINE

maximize target score
LAYERING LANDSCAPE ELEMENTS

Landscape Elements can be layered to optimize ecological function within a small area. By creatively stacking multiple elements, a site can enhance the benefits it provides and boost its Functional Green score.

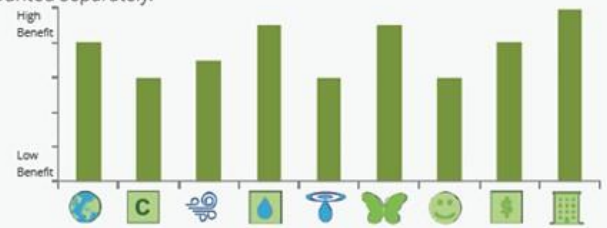
SHRUBS, ORNAMENTAL GRASSES, LARGE PERENNIALS, OR GROUND COVER
Factor: 0.2 - 0.3
Cost: $

Shrubs are woody vegetation over 2 feet in height with a mature width of 9 feet or less. Ornamental grasses and perennials have a mature height of at least 2 feet and must be evergreen or have year round structure. Ground cover is low spreading vegetation less than 24 inches in height.



EXTENSIVE AND INTENSIVE GREEN ROOF
Factor: 0.5 - 0.6
Cost: $$$ - $$$$

Green roofs cover buildings, parking garages, and other elevated surfaces with a vegetated surface and growing media. Projects can use both extensive (media less than 7" deep) and intensive (media 7" deep or greater) green roofs. Additional credit for the plantings in the green roof is counted separately.



FUNCTIONAL GREEN: *CITY OF AUSTIN (PROPOSED)*

RESILIENT FUTURE STUDIO

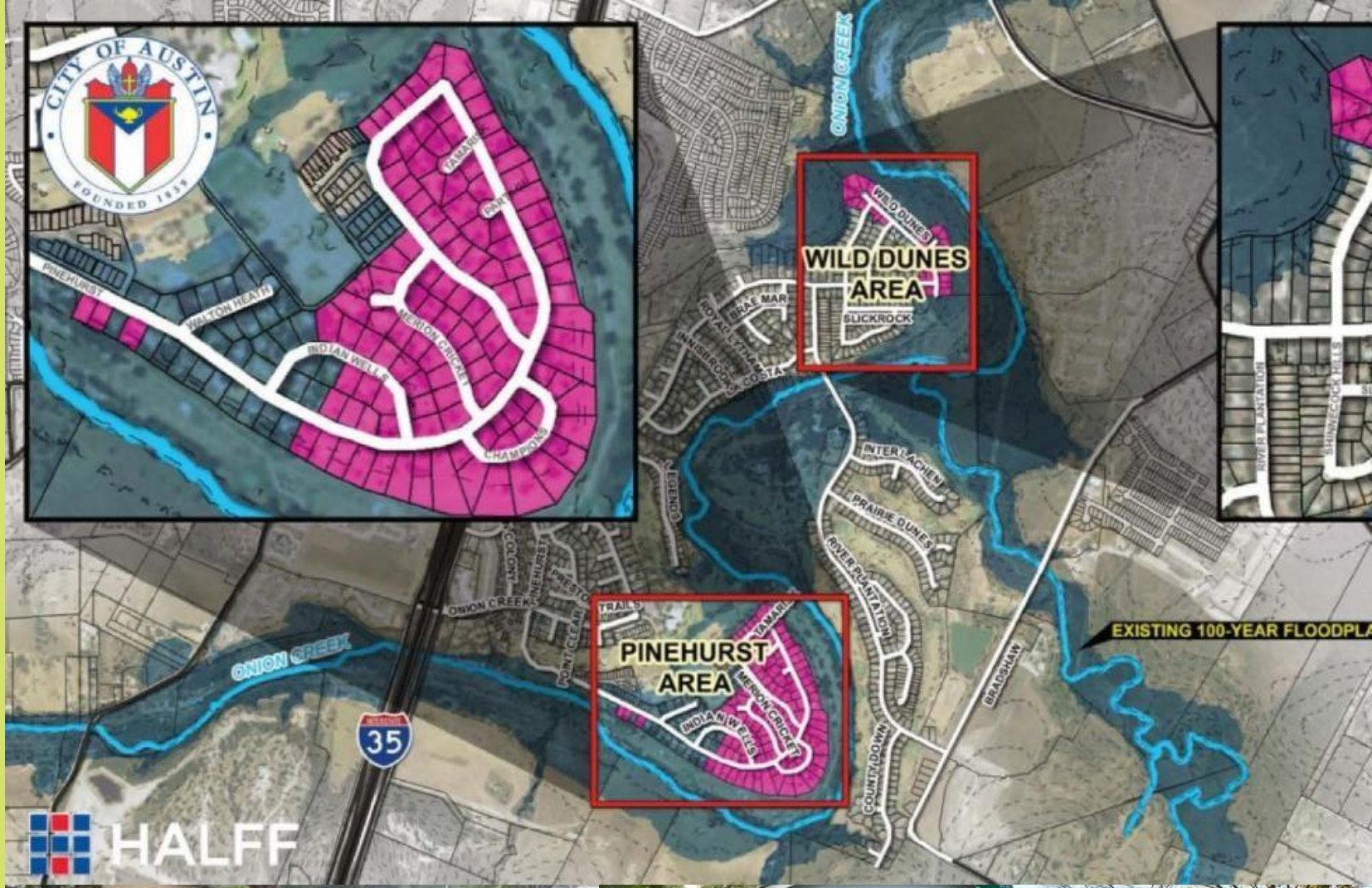
CLOSING THOUGHTS

CHANGE IS INEVITABLE

"What a predicament! We seem doomed to suffer simply because we have a deep-seated fear of how things really are. Our attempts to find lasting pleasure, lasting security, are at odds with the fact that we're part of a dynamic system in which everything and everyone is in process."

-Ani Pema Chödrön

CHANGE IS TRAUMATIC REGARDLESS OF HOW SUCCESSFUL PLANNING AND DESIGN IS



BEYOND THE BEAST NEW MONSTER STORIES FOR A RESILIENT FUTURE

In every culture, monsters reflect what societies fear—and what they might become. In partnership with the University of Texas' Planet Texas 2050 research initiative, the Norman Lear Center at USC Annenberg School, and Resilient Future Studio, we're seeking scriptwriters interested in flipping the script on the dominant climate narratives of apocalypse and collapse. The "Beyond the Beast" scriptwriting competition challenges writers to create new mythologies and monster stories grounded in the lived wisdom of ancient communities: from Indigenous cultures in Texas looking to the future, to stories of resilience from Roman and Mayan times.

Inspired by the Stories of Ancient Resilience project from Planet Texas 2050, this competition seeks scripts that blend environmental research, Indigenous knowledge, and speculative imagination to confront and challenge dominant but inaccurate narratives in existing media that further ideas of collapse and apocalypse. Writers are invited to dig into the archaeological, ecological, and oral histories of the regions studied with support from academic researchers and other experts, reinterpreting themes of drought, migration, collapse, and renewal through genre storytelling. Your monster may emerge from the deep past, the near future, or an uncanny version of now—but it must carry with it the truths of resilience, warning, and wonder. **And, as we've seen time and time again, making friends with our fears and learning to live in harmony with our "monsters," is often the path toward the most resilient outcomes.**

DRAFT

Table of Contents

SYSTEMS CHANGE ISTOO ABSTRACT FOR MOST TO COPE WITH

THANK YOU!

KATIE@RESILIENTFUTURESTUDIO.COM

RESILIENT FUTURE STUDIO

Health on the Move: The Role of Data in the Bay Area Bicycle and Pedestrian Safety Plan

Emily Barker, AICP

Planner at Halff

halff
1950 - 2025

halff

Health on the Move

The Role of Public Health Data in the Bay Area Bicycle and Pedestrian Safety Plan

September 18, 2025

PROJECT OVERVIEW

Purpose: Examine the conditions of pedestrian and bicycle facilities and provide data-driven, implementable strategies to promote safe active transportation in the Bay Area

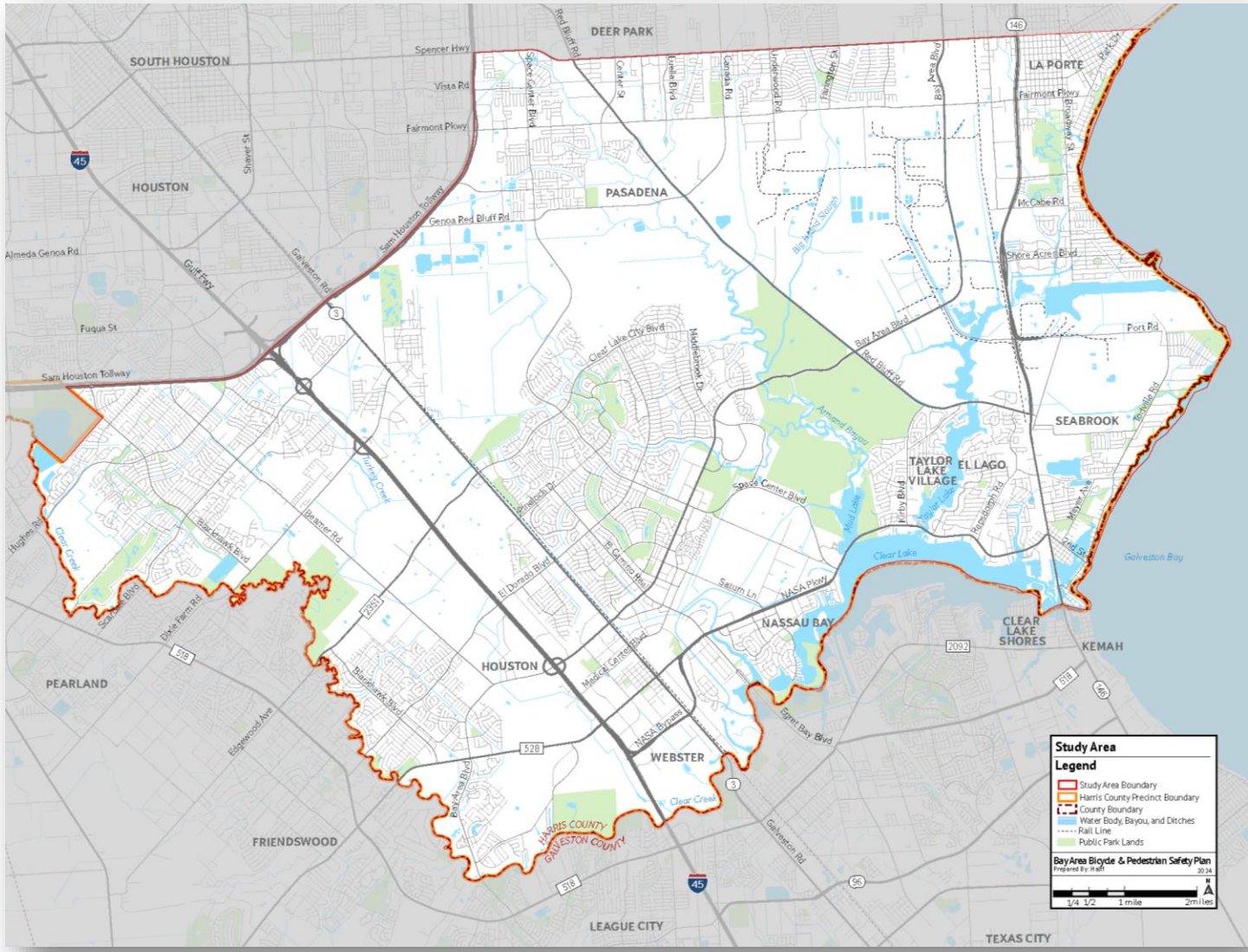
Houston-Galveston Area Council

HARRIS COUNTY PRECINCT 2 — Engage ★ Educate ★ Empower

halff

TRANSCEND engineers + planners

TOOLE DESIGN



EXISTING CONDITIONS

38.6 MILES

OF DEDICATED BICYCLE LANES

37.5 MILES

OF RECREATIONAL TRAILS

22.1 MILES

OF SHARED-USE PATHS

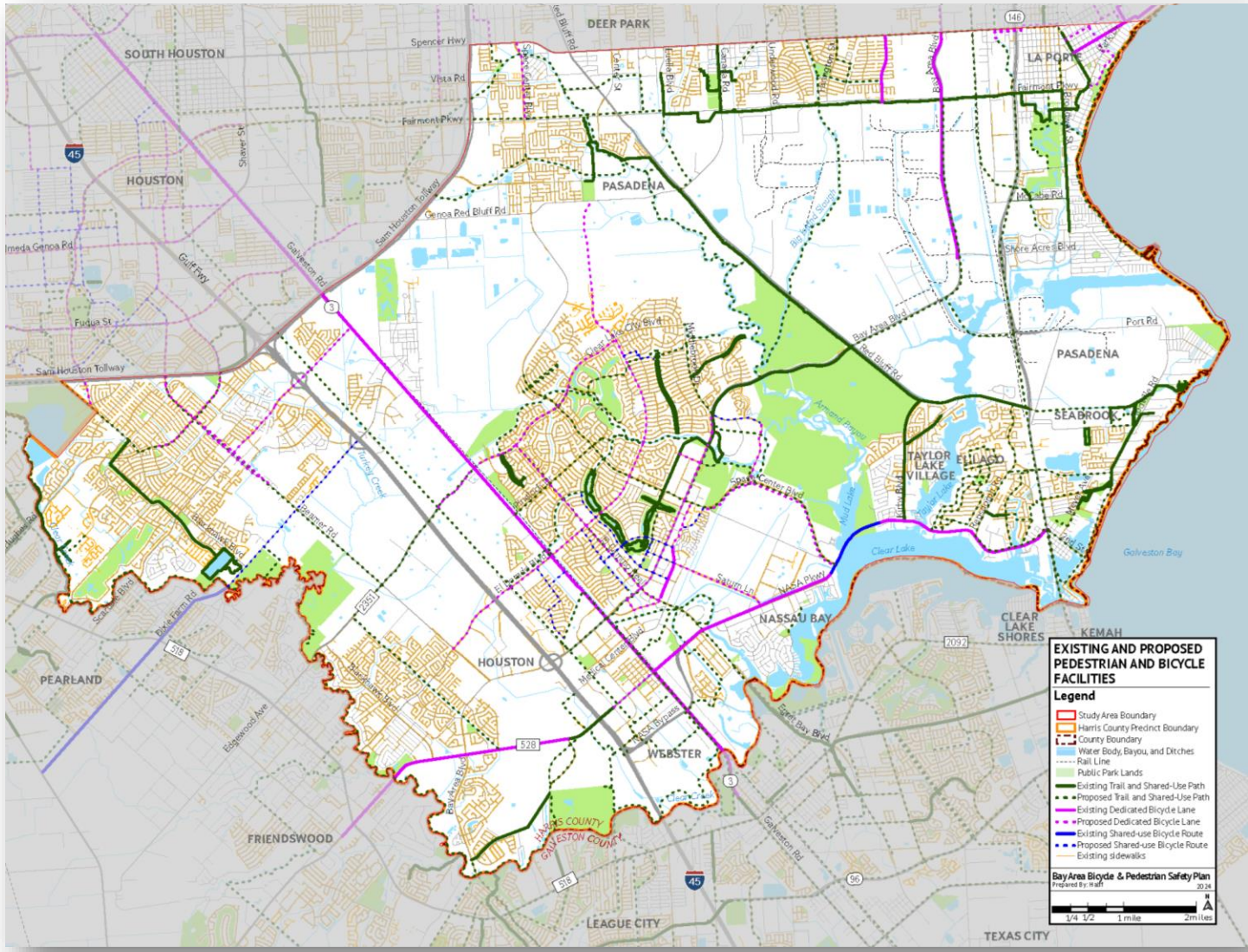
1,001+ MILES

OF SIDEWALKS

80% of study area residents travel to work by single occupancy vehicle outside of the study area

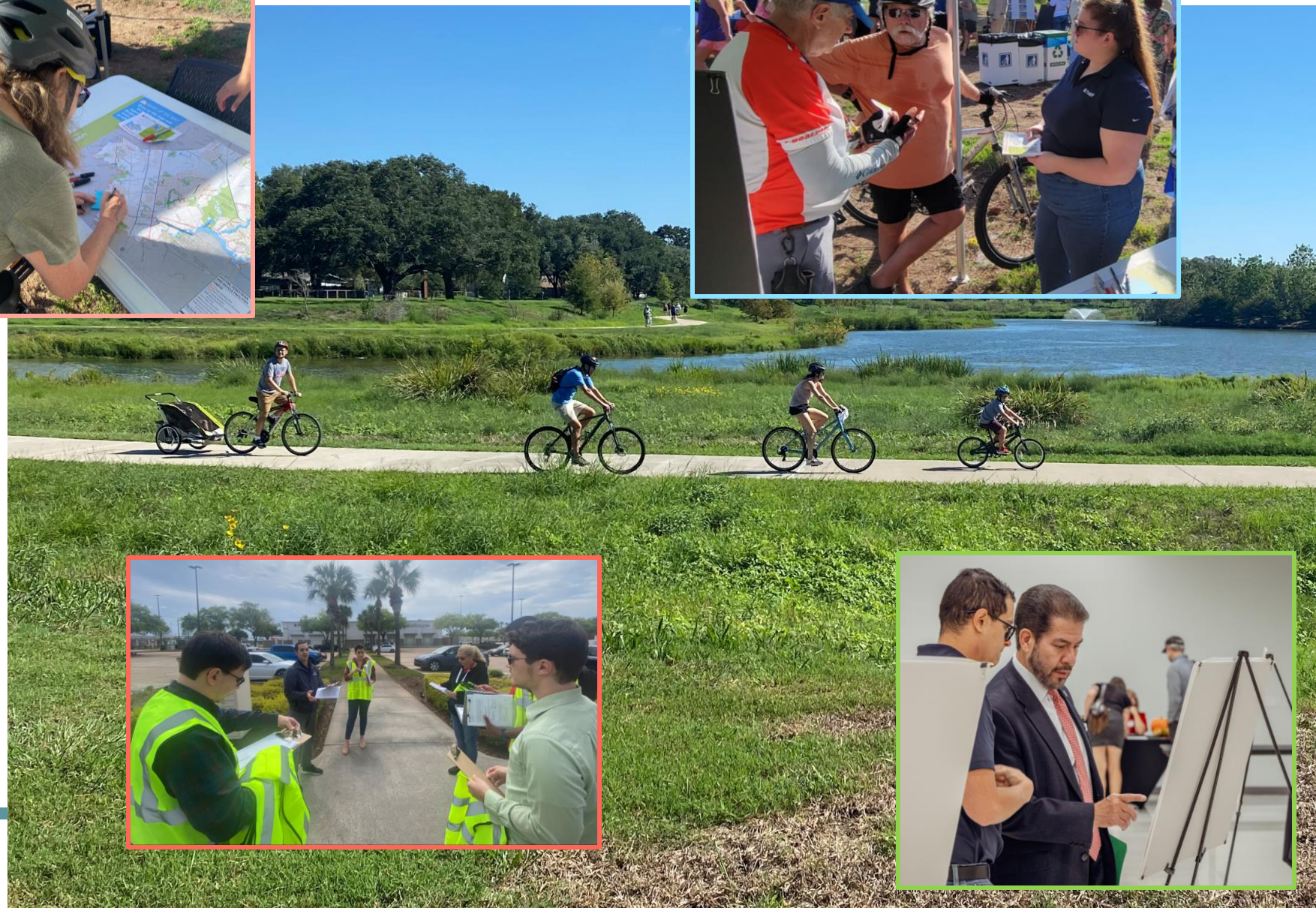
1.2% commute to work by foot or bike

40% of commutes are less than 10 miles



COMMUNITY PERSPECTIVES

Multiple engagement methods used to gauge opinions of pedestrian and bicycle infrastructure and behaviors



WHAT WE LEARNED:

- Existing off-street facilities are great – more connections needed
- High vehicle speeds make non-motorized users uncomfortable on sidewalks & bike lanes
- Walking & biking would increase if safe access to destinations increased

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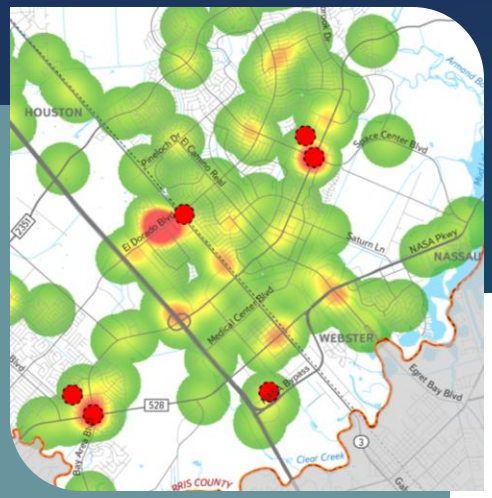
DATA-DRIVEN ANALYSES

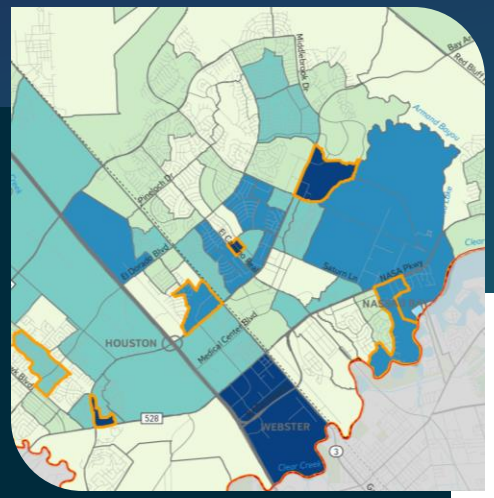
The planning process included the following analyses to gain a deeper understanding of the community and its potential stressors and help identify possible strategies and recommendations.

1



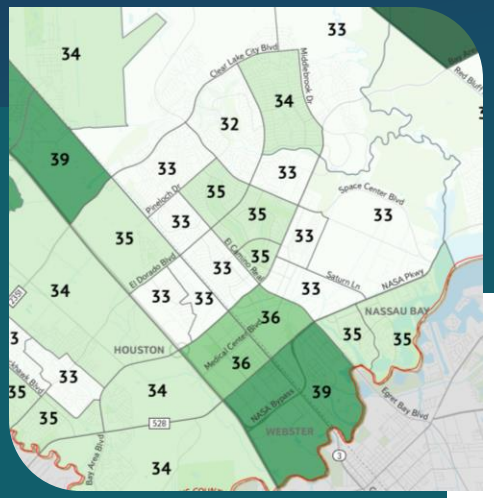
CRASH HISTORY
Analyzed crash data from the last 5 years to identify problem areas for non-motorized road users

2



H-GAC VPI
Utilized regional social equity datasets to pinpoint potential barriers for community members

3



CDC HEALTH DATA
Applied PLACES data to guide active transportation improvements in high-need areas

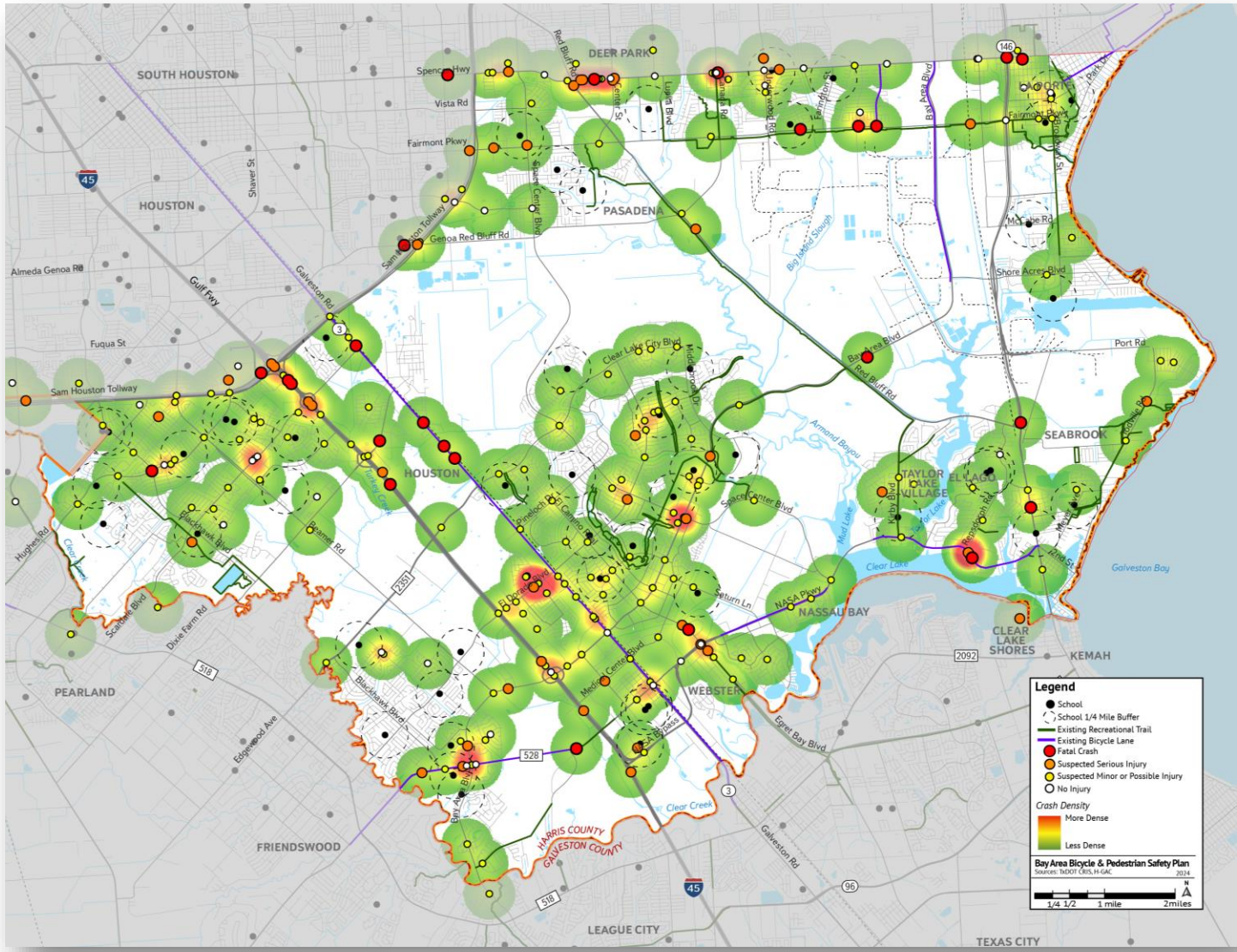
CRASH ANALYSIS

Utilized TxDOT CRIS crash data to identify Study Area crash hotspots over 5 years

15,500 crashes reported on non-interstate roadways between 2018-2022

233 crashes involving a pedestrian or bicyclist – **20 of which resulted in fatalities**

Analyzed non-motorized crashes within ¼-mile of schools

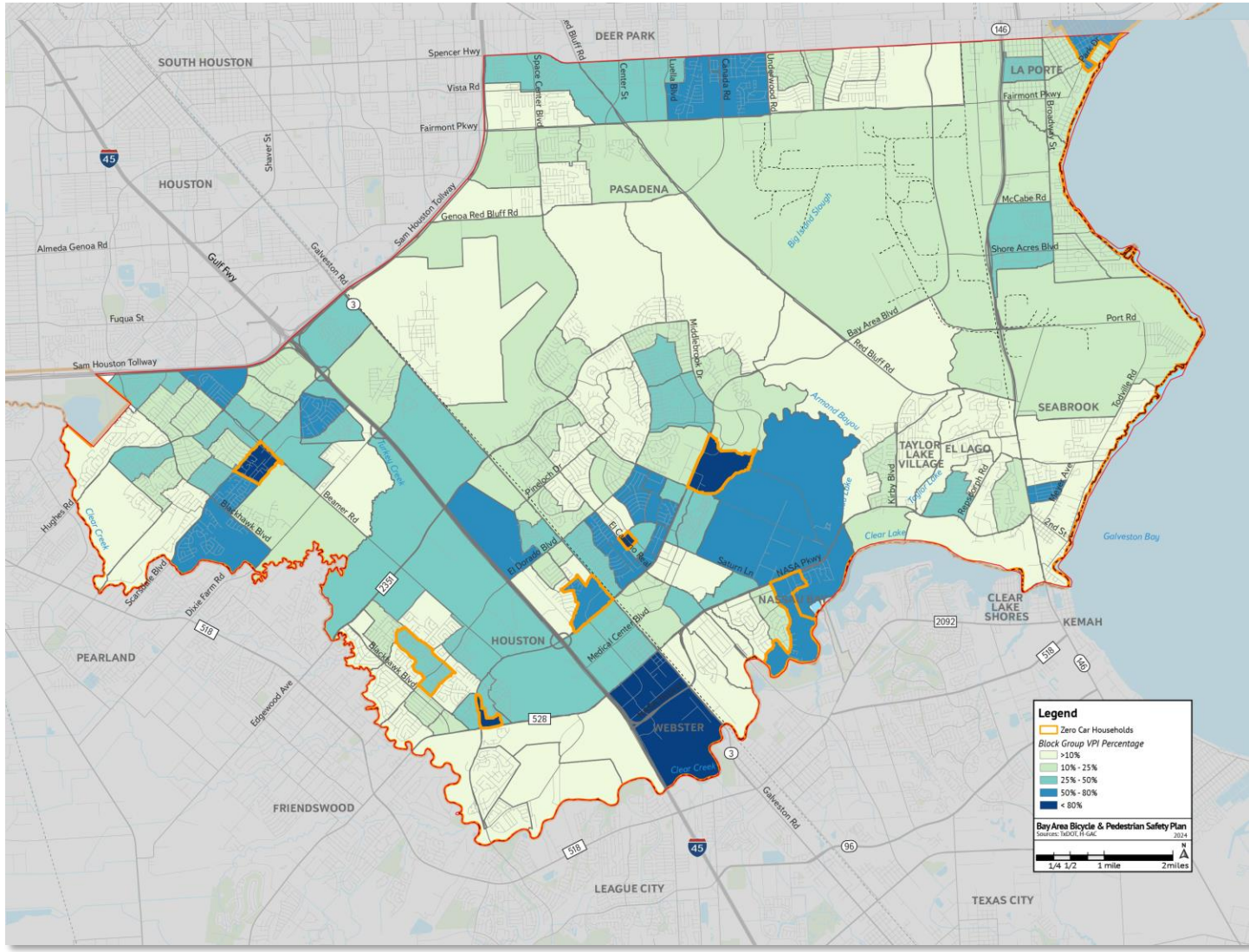


VULNERABLE POPULATION INDEX

H-GAC Vulnerable Population Index (VPI) uses Census data at the block group level to identify areas with high concentrations of disadvantaged or “vulnerable” populations.

8 population types identified in VPI:

- Poverty
- Non-Hispanic, non-white
- Hispanic
- Limited English Proficiency
- Disabled households
- Elderly
- Zero car households
- Single female householder w/ child or children

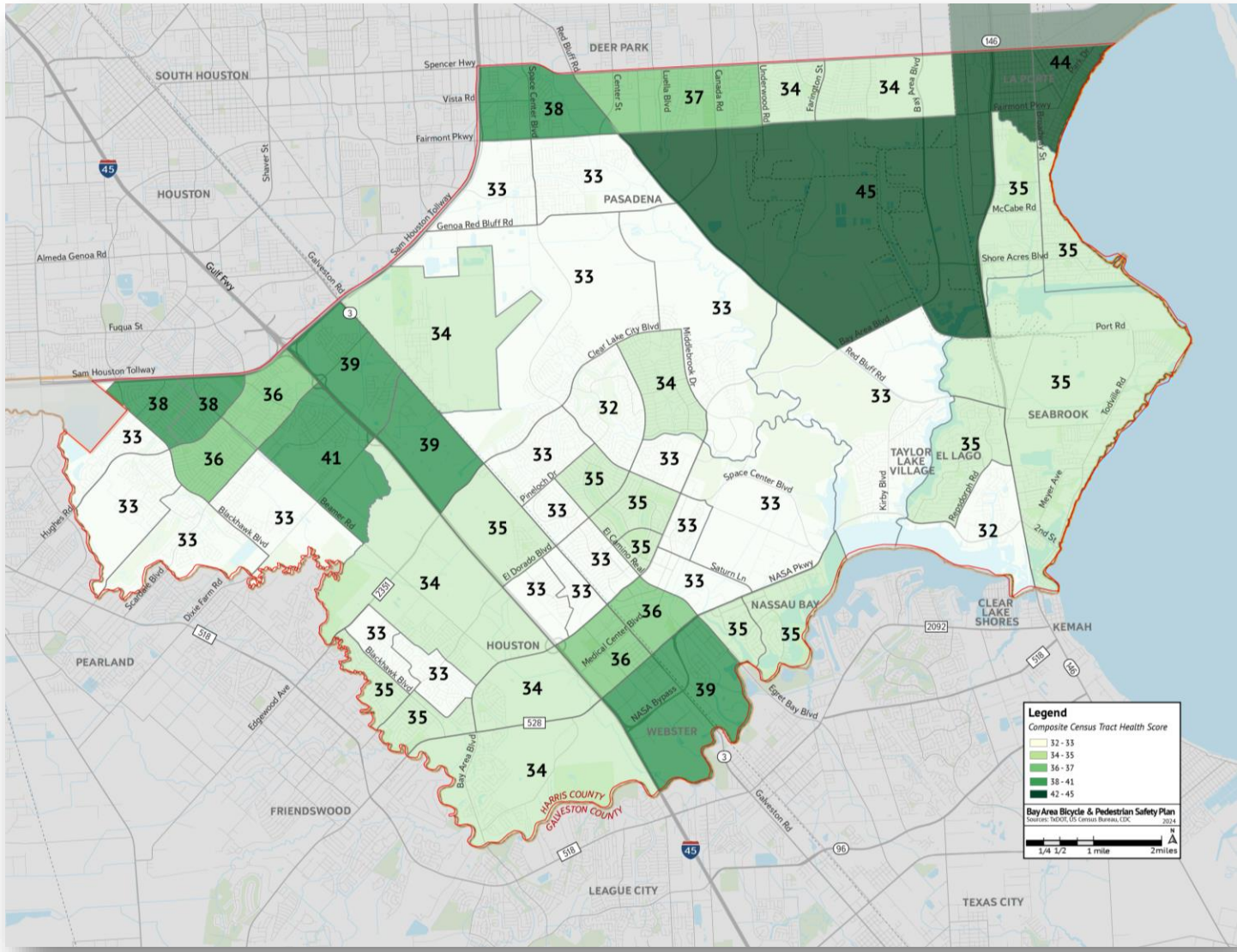


HEALTH ANALYSIS

CDC PLACES provides data related to chronic disease and other health-related conditions for the U.S.

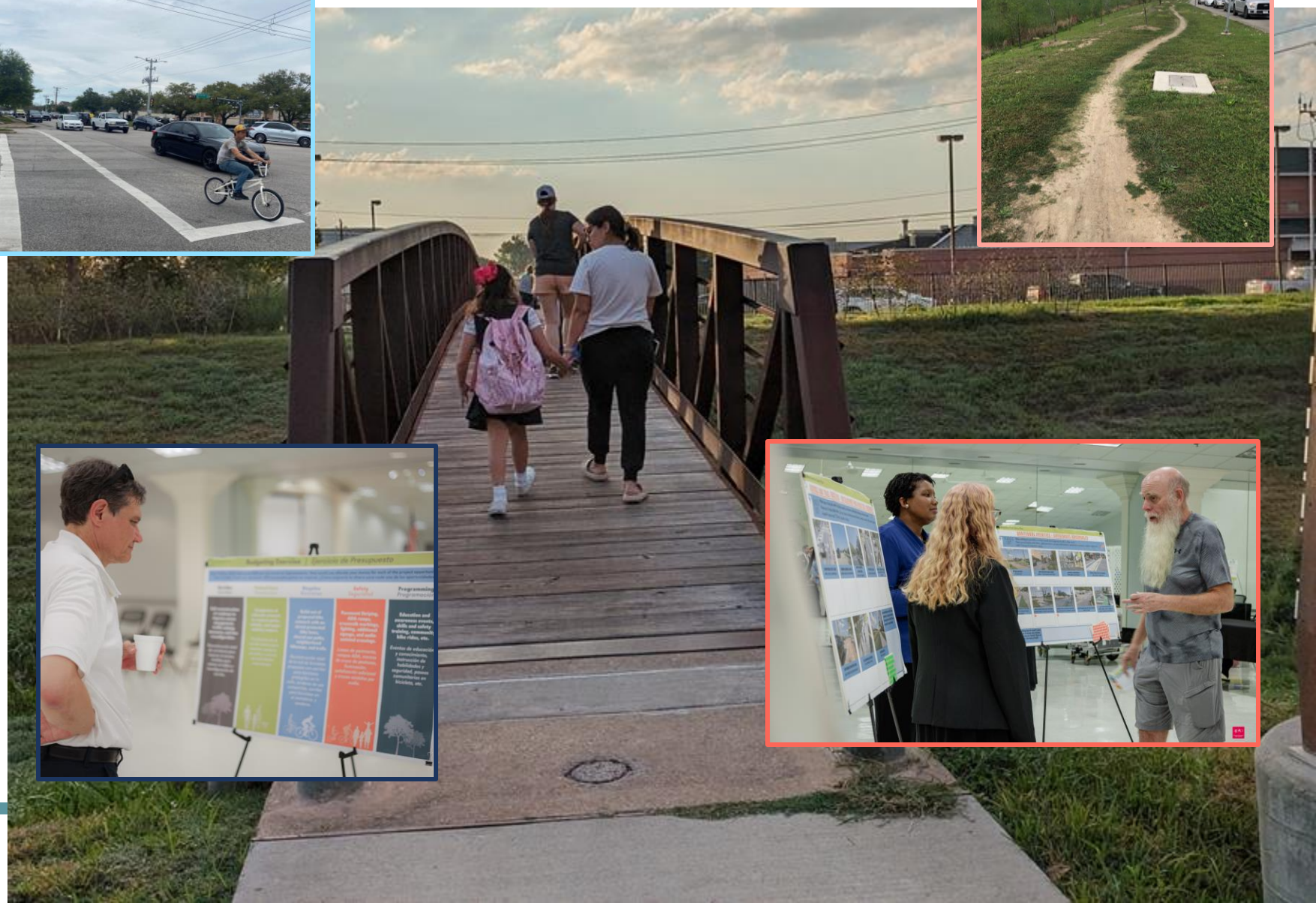
11 health indicators analyzed:

- Mental health
- Physical health
- Disability
- Mobility disability
- No leisure-time activity
- Asthma
- High blood pressure
- Obesity
- Cancer
- Diabetes
- All teeth lost



DATA → RECOMMENDATIONS

Layered community feedback, health, vulnerability, and crash data to identify areas of high need / greatest benefit from active transportation



WHAT WE LEARNED:

- Back of curb facilities (i.e., sidepaths, trails, etc.) are preferred by majority
- Varying degrees of accessibility and connectivity
- Maintenance of facilities high priority

VISION NETWORK

EXISTING FACILITIES

38.6 MILES
OF DEDICATED BICYCLE LANES

37.5 MILES
OF MULTI-USE TRAILS

22.1 MILES
OF SHARED-USE PATHS

50%
OF RESIDENCES WITHIN ½ MILE OF A BIKE FACILITY

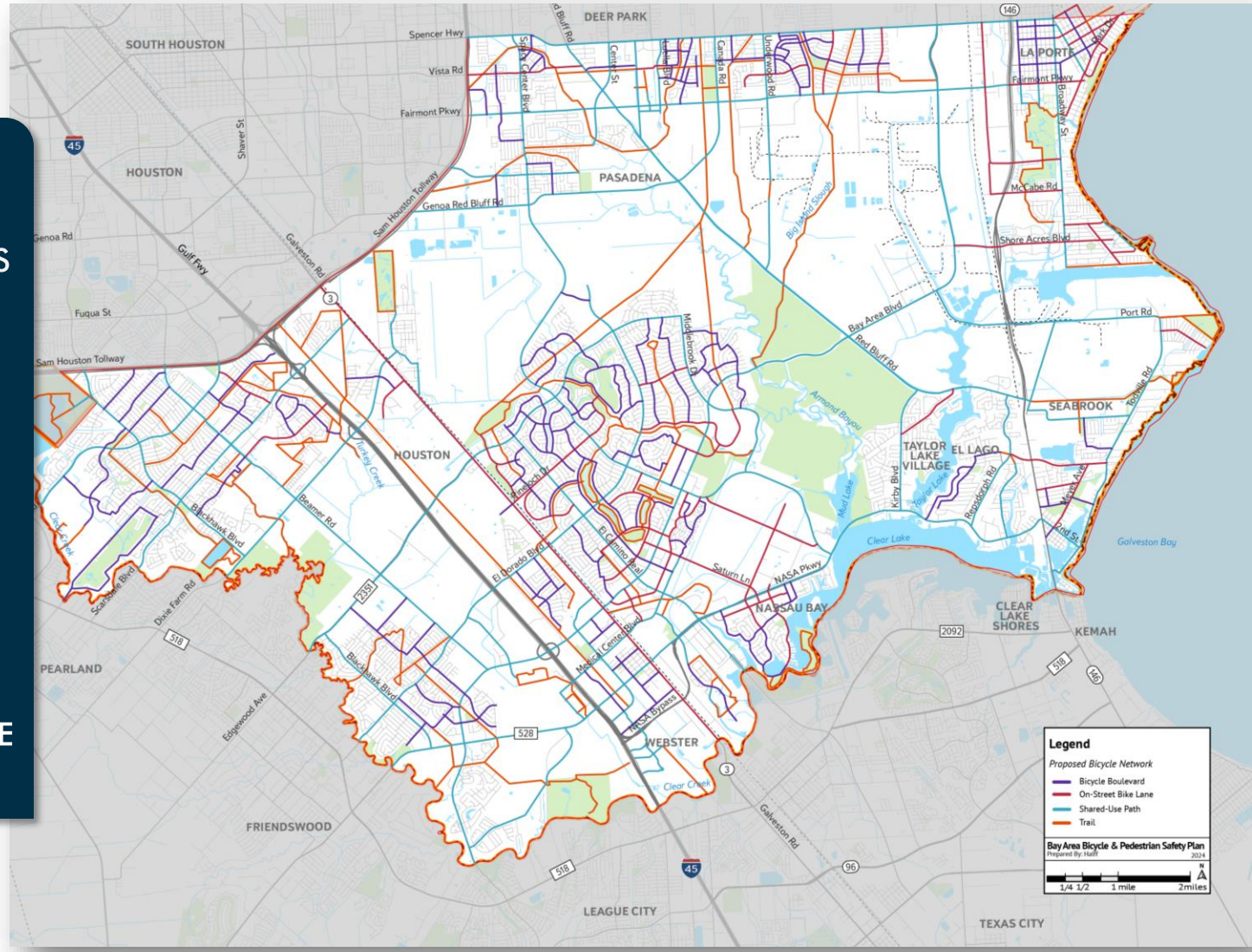
PROPOSED FACILITIES

56.7 MILES
OF DEDICATED BICYCLE LANES

116 MILES
OF MULTI-USE TRAILS

164 MILES
OF SHARED-USE PATHS

99%
OF RESIDENCES WITHIN ½ MILE OF A BIKE FACILITY



KEY TAKEAWAYS

1

ACCESS = HEALTH

Community health and transportation are deeply connected – healthy communities rely on systems that support active transportation for all members of the community

2

SAFETY DISPARITIES

Infrastructure design directly impacts the health and safety of users – when their design is unsafe, people avoid using them

3

EQUITY IN PLANNING

Prioritizing infrastructure enhancements in areas disproportionately affected by poor design can improve quality of life

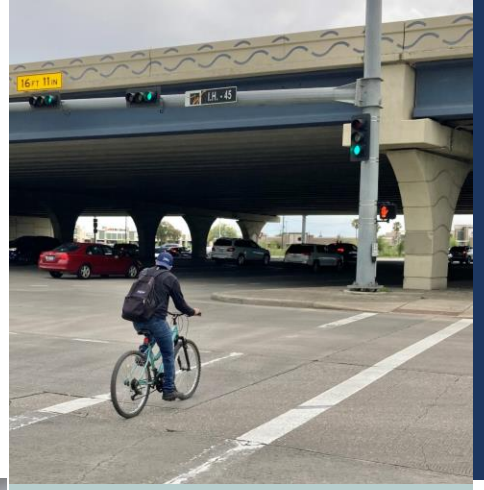
4

COMMUNITY INPUT IS KEY

Community feedback regarding safety and infrastructure needs helped inform recommendations for transportation investments

LET'S TALK!

Emily Barker, AICP
ebarker@halff.com



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METRO Urban Design Manual

Brandie Lockett, Assoc. AIA, Leed AP ND

Urban Design Lead at METRO

Natalia Beard, LEED AP ND

Principal at SWA

Ashton Williams, PLA

Associate at SWA

Urban Design Manual

METROPOLITAN TRANSIT AUTHORITY OF HARRIS COUNTY

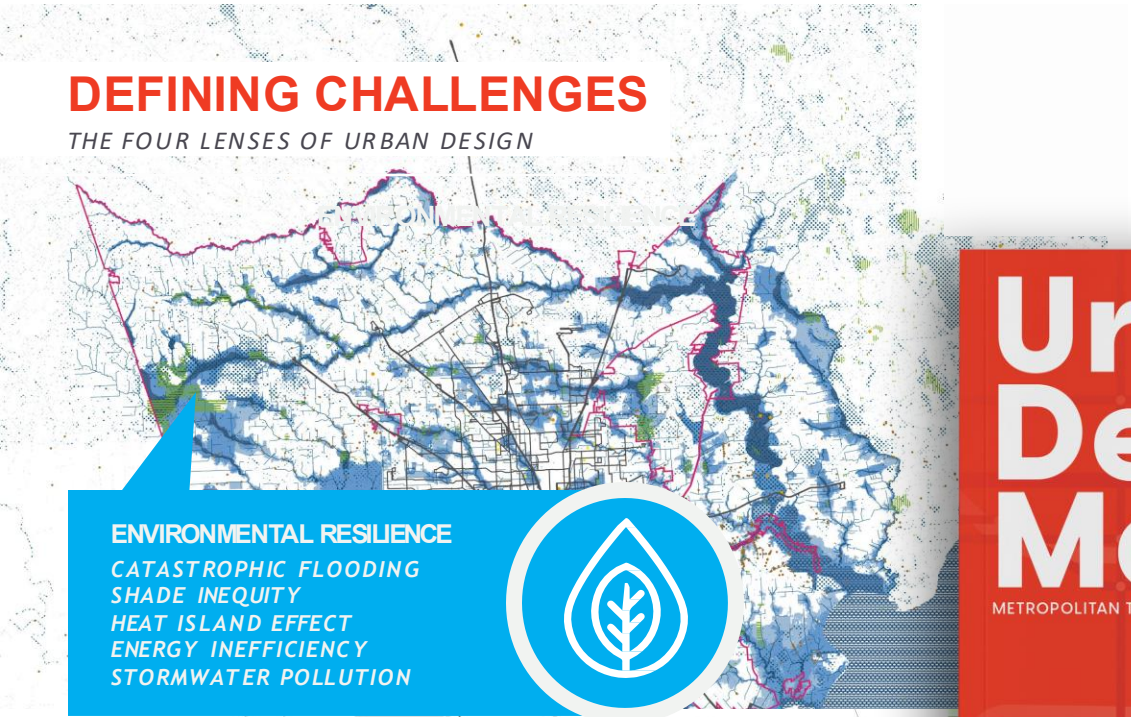
Brandie Lockett, LEED AP ND, Urban Design Director, METRO
Natalia Beard, LEED AP ND, Principal, SWA
Ashton Williams, PLA, ASLA, Associate, SWA


Urban Design is an interdisciplinary approach to creating the look, the feel, and the function of public spaces.
Urban Design defines what makes transit facilities and their surroundings feel safe, comfortable, convenient, and enjoyable.


For Transit Environments,
urban design reveals multi-use
opportunities for constructing
and transforming transit
infrastructure into iconic city
markers.

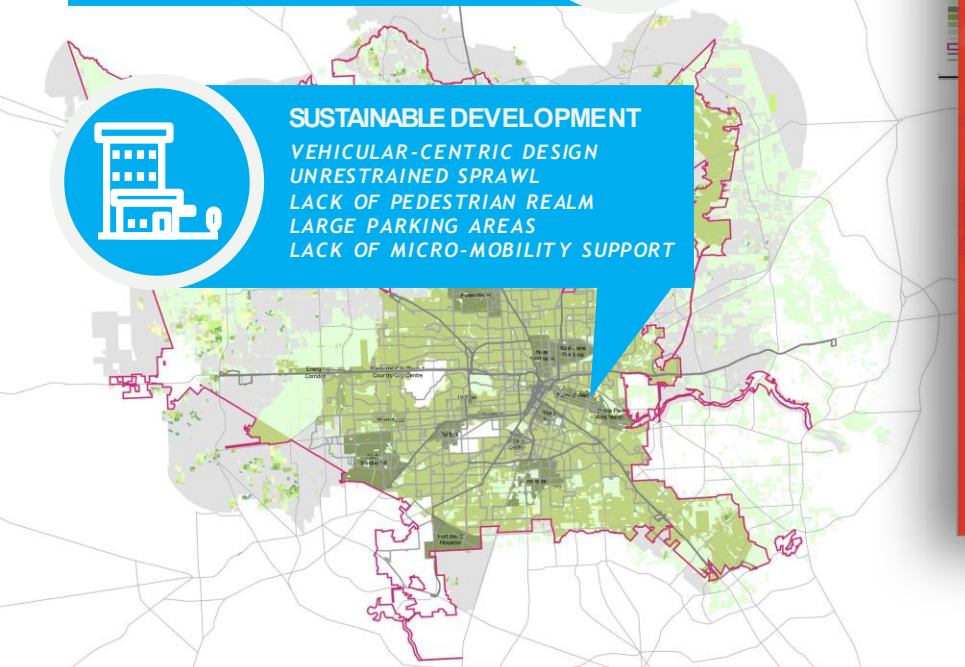
DEFINING CHALLENGES

THE FOUR LENSES OF URBAN DESIGN



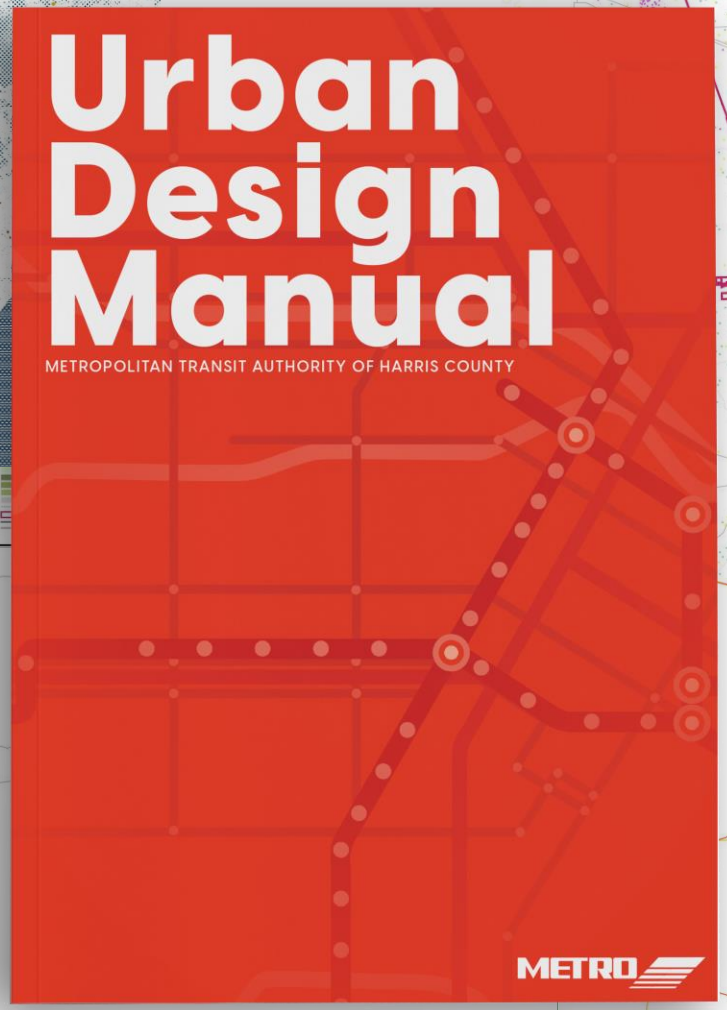
ENVIRONMENTAL RESILIENCE

CATASTROPHIC FLOODING
SHADE INEQUITY
HEAT ISLAND EFFECT
ENERGY INEFFICIENCY
STORMWATER POLLUTION



SUSTAINABLE DEVELOPMENT

VEHICULAR-CENTRIC DESIGN
UNRESTRAINED SPRAWL
LACK OF PEDESTRIAN REALM
LARGE PARKING AREAS
LACK OF MICRO-MOBILITY SUPPORT



DIVERSE COMMUNITIES

ACCESSIBILITY OBSTRUCTIONS
LANGUAGE BARRIERS
GENTRIFICATION
INEQUITY

CUSTOMER SERVICE

VISIBILITY / SAFETY ISSUES
POOR LIGHTING CONDITIONS
UTILITY CONFLICTS
COORDINATION MISTAKES
CONNECTIVITY DIVISIONS

The Case for Urban Design Coordination

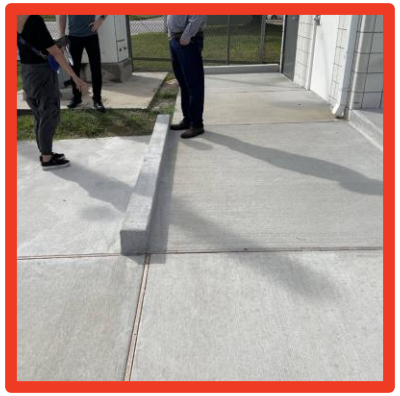
PARNERSHIPS FOR COHESION IN A DISJOINTED TRANSIT ENVIRONMENT

CONFLICTS ALONG EDGE OF OWNERSHIP BOUNDARIES, LEADING TO UNSIGHTLY COMPROMISES

LIMITED ROW AND LACK OF UTILITIES CONSOLIDATION LEADS TO INACCESSIBLE ROUTES LEADING TO TRANSIT FACILITIES

"SHORT CUT" REPAIRS LIMIT LONGEVITY OF MATERIALS AND HINDER ACCESSIBILITY

LACK OF TREE COVER IN PARK & RIDES CONTRIBUTE TO URBAN HEAT ISLAND EFFECT IN NEIGHBORING COMMUNITIES



ACCESSIBILITY "DEAD-ZONES" IN THE ABSENCE OF TIRZ OR MANAGEMENT DISTRICTS TO PROVIDE MANAGEMENT OVERSIGHT

PEDESTRIAN TRAVELWAY IS OFTEN CLUTTERED WITH UNCORDINATED UTILITIES

HOSTILE DIVISIONS BETWEEN OWNERSHIP ZONES CREATE EYESORES FOR ADJACENT COMMUNITIES

Mobility & Public Health*

Beyond Aesthetics, Convenience, & Efficiency

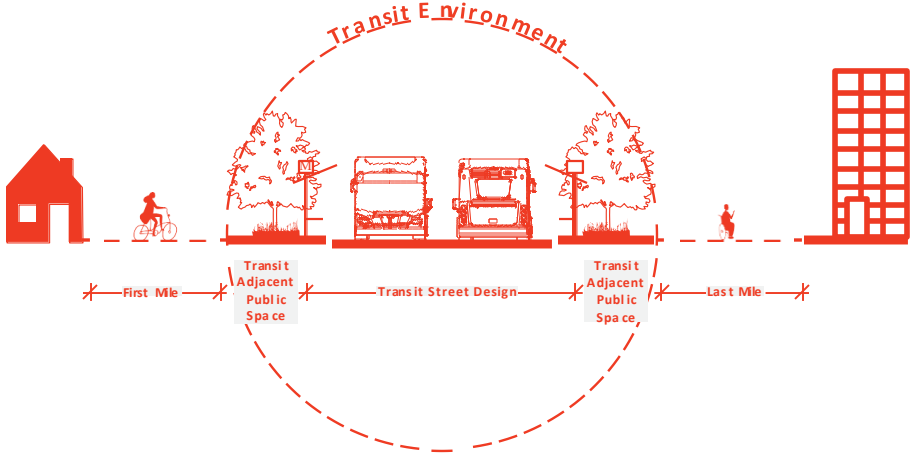
In 2020, less than 5% of commuters in the Houston metro area walked, biked, or took public transportation to work (HCED, 2020). The low utilization rates of multimodal transportation contribute to the area's heavy traffic and Houston's ranking as the eighth most congested metro area in the United States (Pishue, 2020). The demand for multi-modal transportation options is growing across the U.S. and disrupting traditional travel and development patterns. The resulting change in travel patterns requires safe infrastructure for pedestrians, bicyclists and other wheeled users, like strollers and wheelchairs.

Residents want to be able to walk, bike, or use public transportation to get to restaurants, parks, schools, and businesses, but the supply of multimodal transportation options in Houston does not meet demand. According to the Houston Area Survey (HAS), 50% of residents consistently say they would prefer to live in a smaller home in a more walkable neighborhood, but fewer than 50% of neighborhoods in the greater Houston area are considered walkable (Olin, 2021).

Multi-modal transportation is a key component of a healthy built environment. Car dependency has known negative health and environmental consequences. People living in car-dependent communities are less likely to meet recommended physical activity levels (NSW, 2020) and, in areas where vehicle travel is prioritized, pedestrians often do not feel safe. Vehicle-centric planning and design also leads to residents with higher rates of mobility disabilities and higher likelihoods of being overweight (Berry et al. 2010; Clarke et al. 2009).

Land use, design, and density impact a community's mobility options. Communities with greater density and diversity of land uses encourage walking and cycling and support the use of public transportation (NSW, 2020). These forms of active transportation can improve health outcomes by integrating physical activity into daily life. Research shows that people who use public transportation are more likely to meet recommended physical activity levels by walking and / or biking to and from public transportation stops (Rissel et al. 2012). Overall, people are more likely to be physically active in well-connected, walkable neighborhoods with safe sidewalks and intersections, high intersection density, and physically enticing designs (Forsyth, 2015; Rahman et al. 2011; King et al. 2011; Lin & Moudon, 2010).

Active commuters are also the most vulnerable road users, so investing in robust safety infrastructure to reduce vehicle speeds, improve visibility, and protect pedestrians is critical (Giles-Corti et al. 2016). Focused investments in safe design features can encourage more people to walk, bike, and take public transportation.



DESIGNING TRANSIT ENVIRONMENTS TO SUPPORT ACTIVE TRANSPORTATION

The Houston-Galveston Area Council, which covers Harris County and seven adjacent counties, projects the daily vehicle miles traveled (VMT) to increase by 50% to nearly 300 million miles traveled daily by 2045 (H-GAC, 2019). As VMT increases, daily vehicle hours traveled increase and the speed of traffic declines. Without serious investments in alternative modes of transportation, the amount of time spent traveling in serious or severe traffic will go up from 15% of daily travel in 2020 to 52% in 2045 (H-GAC, 2019).

Urban heat is one of the most serious health hazards that results from the built environment. Densely built urban areas with few trees and large amounts of impervious surfaces not only radiate the sun's heat during the day, but also absorb heat and release it at night. This creates an urban heat island. These urban heat islands can be substantially hotter than communities with shade trees and more green space. Effects of urban heat include increased mortality and morbidity from cardio-pulmonary diseases, kidney disease, and mental illness. The health risks related to urban heat are likely to intensify over the coming decade, as climate change proceeds and urbanization increases. Changes to the built environment, buildings, and urban design are urgently required to cope with and prevent the harms of extreme heat (Tong, et al., 2021). Access to safe and robust pedestrian infrastructure is also an equity issue. Walking, biking, and public transportation are less expensive alternatives to vehicle ownership, and low-income households tend to have limited vehicle access. In a Brookings study, Houston was found to underperform in its provision of public transportation and job access for low-income, zero-vehicle households (Tomer, 2011).

Increasing access to multi-modal transportation options, particularly in underserved communities with higher percentages of zero-vehicle households, improves social equity by creating connections to job centers, health services, and other essential goods and services. A fully integrated light rail and bus system can significantly improve job access, particularly for low-wage workers (Fan et al., 2012).

Developing more densely can reduce emissions, developing outside of the floodplains or elevating buildings to prevent flooding can save money long-term, and integrating native plants and trees as much as possible can sequester carbon, reduce urban heat, and protect against flooding.

**Contributed by Harris County Public Health, Environmental Public Health Division*

Adjacent Planning Coordination

ENGAGING EXTERNAL STAKEHOLDERS

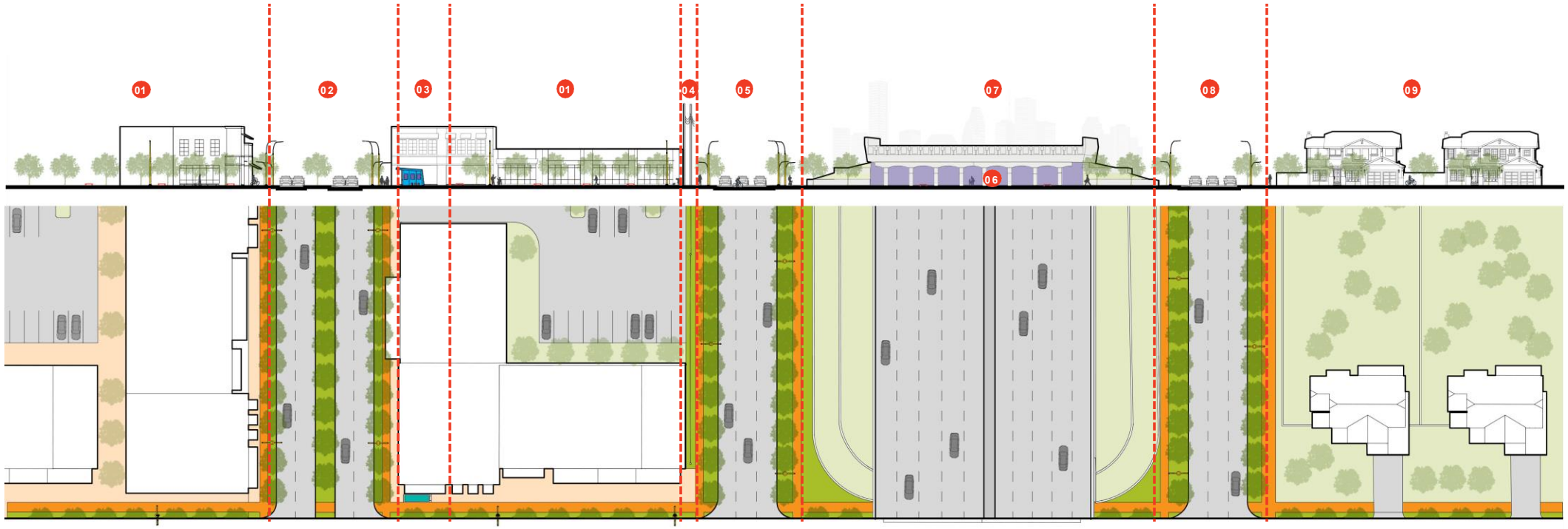
Before customers arrive to a METRO facility, they must take another form of transit—by foot, bicycle, or car. This means that the transit experience is not only influenced by the look, feel, and function of METRO facilities themselves, but also the environment customers must transverse to get there.

Different geographic areas will have additional potential partners such as local management districts and Tax-Increment Reinvestment Zones (TIRZs). There are more than 65 of these organizations in the METRO service area that are organized to allow commercial property owners to work together to supplement City and County services and improvements. As such, they may be able to assist in project planning or implementation and may also have their own capital investment projects in the vicinity of METRO service corridors and facilities.

Early and ongoing coordination with these groups will allow METRO to identify relevant plans, projects, and partnership opportunities.

In addition, there are a variety of other private sector stakeholders, non-profits, and neighborhood organizations, civic organizations, academic institutions, and healthcare and other community service providers that should be consulted early in the process to incorporate input and identify opportunities for coordination or collaboration.

01 Private Developer
02 TIRZ Street Project
03 METRO Bus Stop
04 Centerpoint Utility Corridor
05 City of Houston Capital Improvement Project
06 Non-Profit Mural Project
07 TXDOT
08 City Roadway
09 Neighborhood Association



Urban Design Lenses

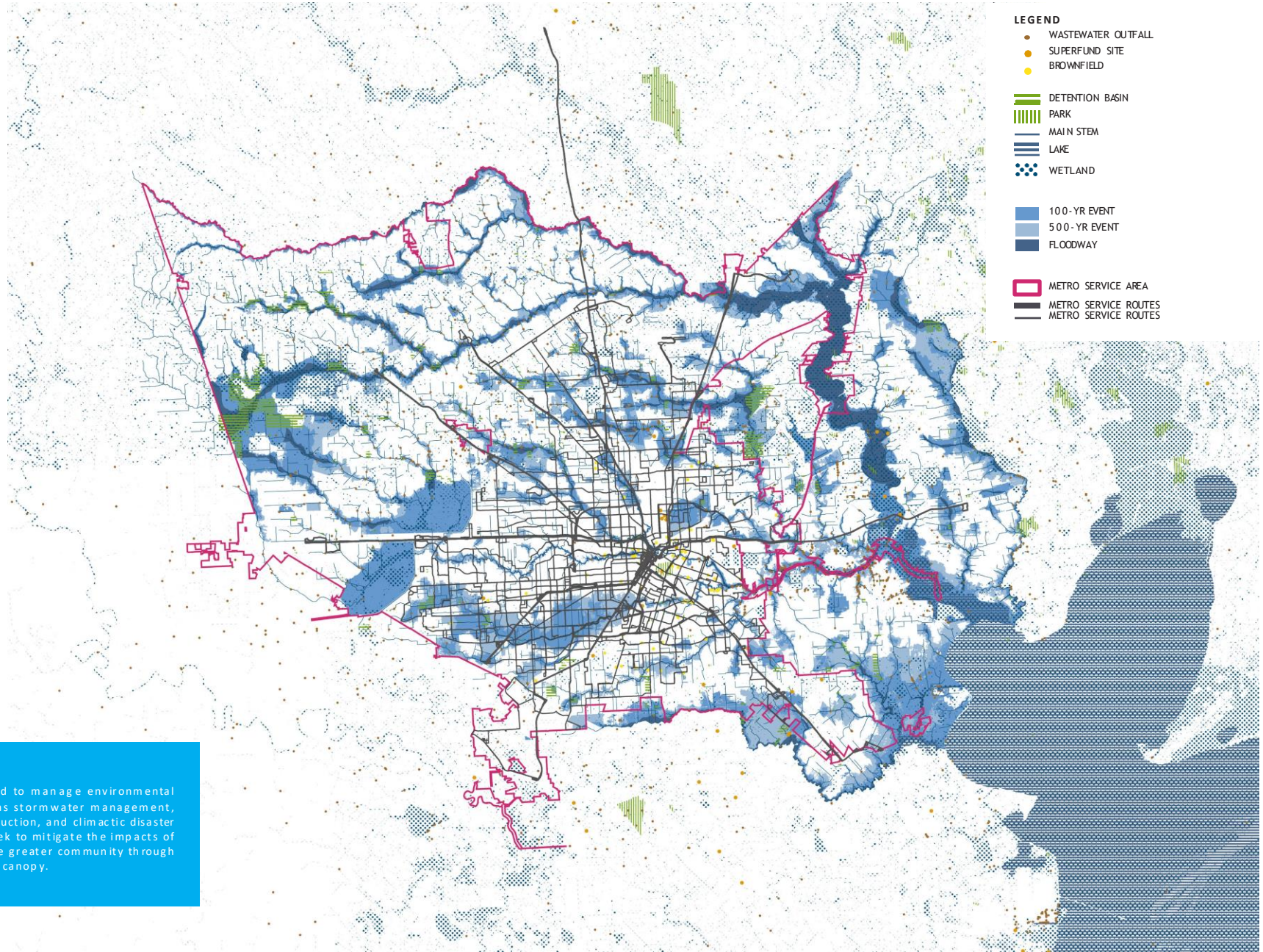
Environmental Resilience

The region has unique features that impact environmental design considerations from its bayous to soil conditions, weather, climate, native vegetation, ecological zones, and aesthetic character. These considerations vary throughout the service network. METRO's large service footprint creates a unique opportunity to positively impact the region through sustainable and resilient design solutions applied holistically.

Lausanne-Flon Station
Lausanne, Switzerland

72 South Bus Stop,
Tempe, Arizona

mkt Heights
Houston, TX



METRO Impact

Urban design strategies can be deployed to manage environmental considerations at METRO facilities, such as stormwater management, energy consumption and light pollution reduction, and climactic disaster response. In addition, these strategies seek to mitigate the impacts of heat island effect on METRO riders and the greater community through green infrastructure, shelters, and shade canopy.

Urban Design Lenses

Diverse Communities

The greater Houston region is diverse and rich with culture both in terms of its population and its institutions. The vast ethnic, cultural, and demographic variabilities of communities of the region add a unique set of identities and challenges. Shaped by unique vernacular aesthetics, community connectors, and cultural amenities, METRO facilities and transit corridors can reflect and enhance the communities they serve.

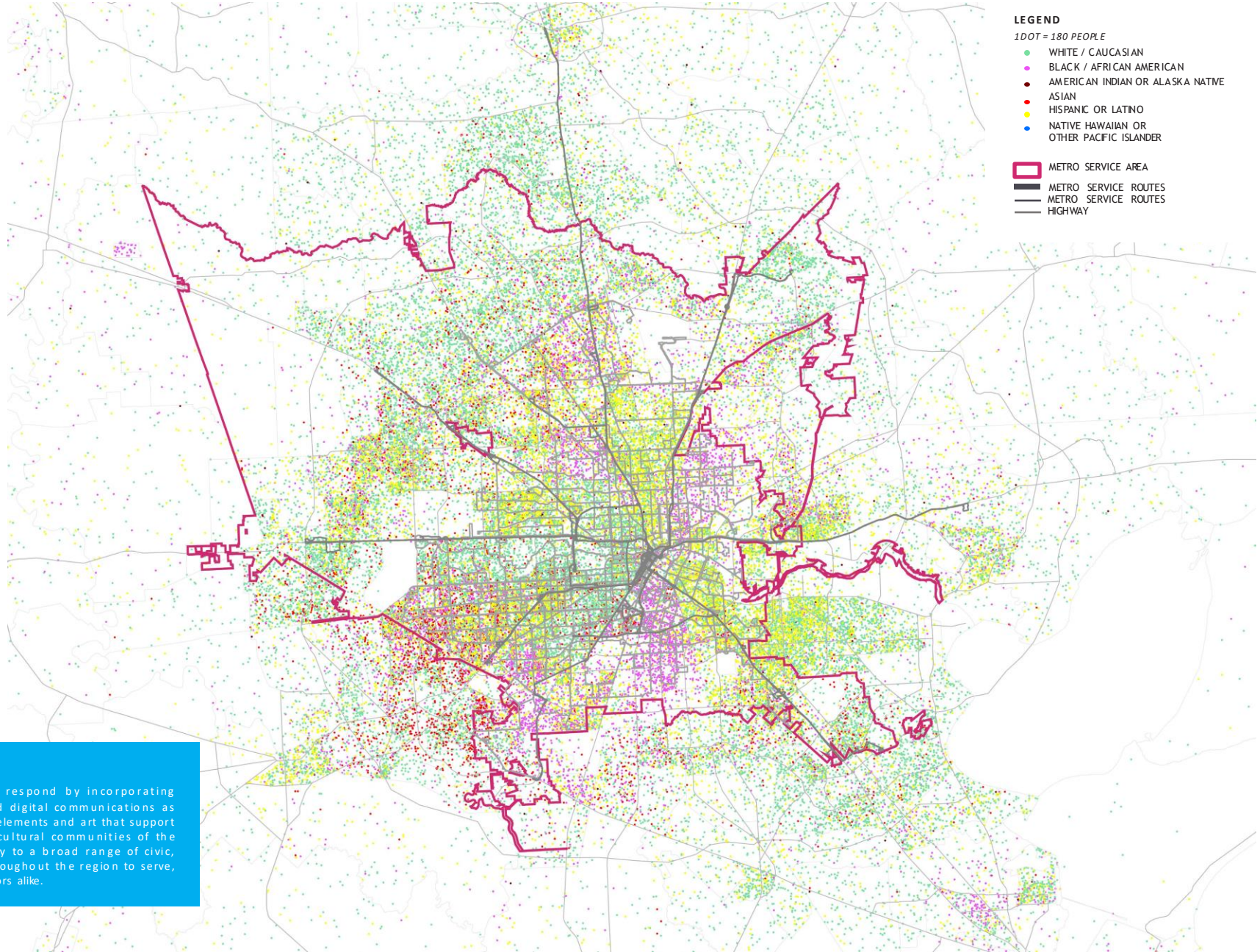
Bus Shelter Mural Program
Seattle, Washington

Fresh MARTA Market
Atlanta, Georgia

Northside Transit Center
Cincinnati, Ohio

METRO Impact

METRO's facilities and operations can respond by incorporating language accessibility into physical and digital communications as well as by branding facilities with design elements and art that support and celebrate the diverse ethnic and cultural communities of the region. METRO also provides connectivity to a broad range of civic, educational, and cultural institutions throughout the region to serve, entertain, and inspire residents and visitors alike.



Urban Design Lenses

Sustainable Development

Increased ridership of transit services promotes more sustainable patterns of development within the service area through the prioritization of multi-modal use. Transit Oriented Developments, through joint partnership opportunities, influence the urban design environment directly through the thoughtful consideration of building setbacks, parking orientation / footprint, and micromobility.

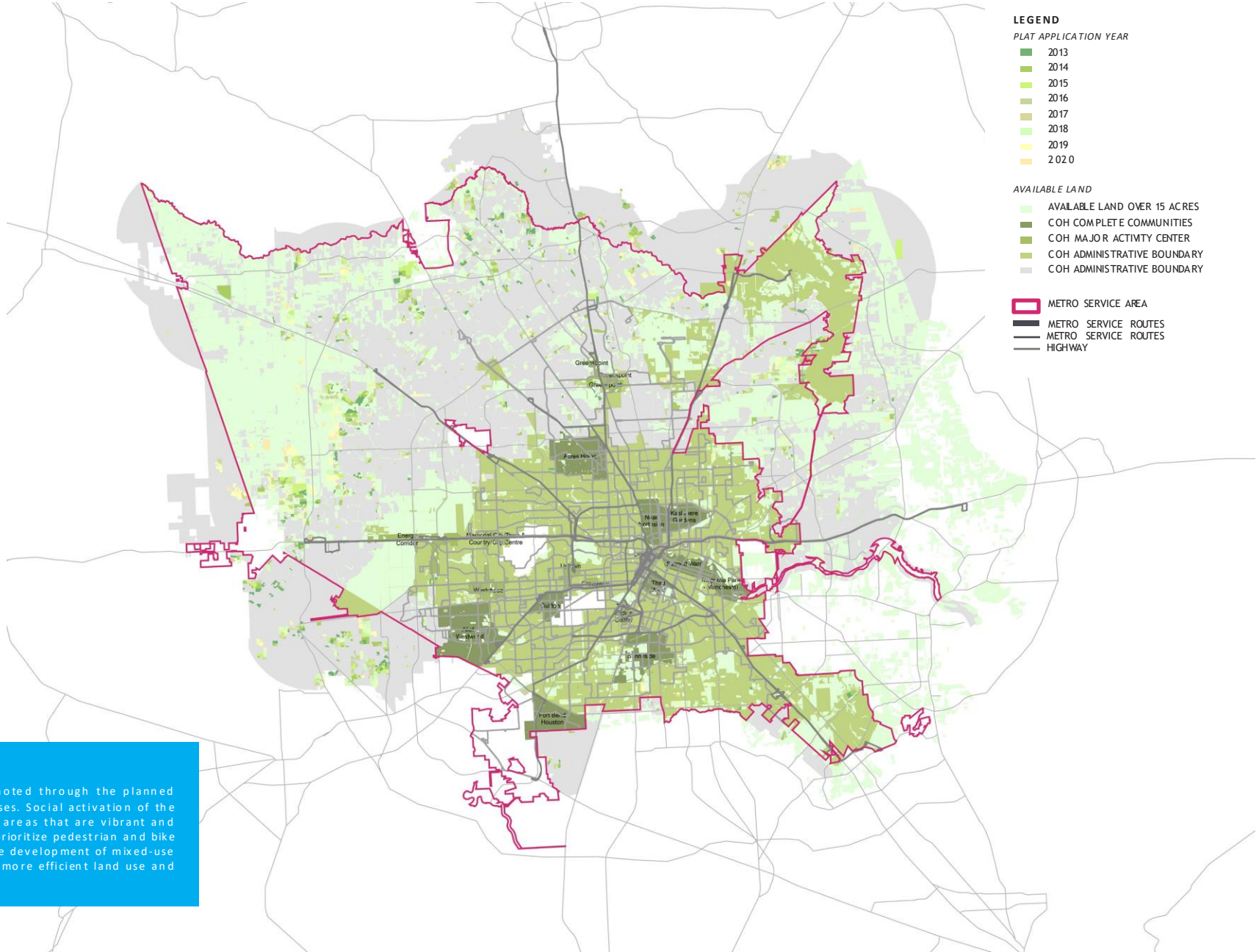
Fruitvale Village
Oakland, California

Willowbrook Rosa Parks Station
Los Angeles, California

Adelaide Street
Adelaide, Australia

METRO Impact

Sustainable development can be promoted through the planned phasing of METRO facilities for future uses. Social activation of the pedestrian realm encourages walkable areas that are vibrant and experiential. Traffic calming techniques prioritize pedestrian and bike access to and within METRO facilities. The development of mixed-use centers within METRO facilities provides more efficient land use and draws customers to facilities.



Urban Design Lenses

Customer Experience

The type, location, and design of transit stops affects reliability, travel time, safe crossings, transfers to other routes, access to local destinations, and integration with the surrounding community. Connectivity is the relative location of origins and destination centers. A multi-modal transportation network includes integrated systems for pedestrian, bicycle, and vehicles with transit to promote flexibility, choice, mobility, and connectivity.

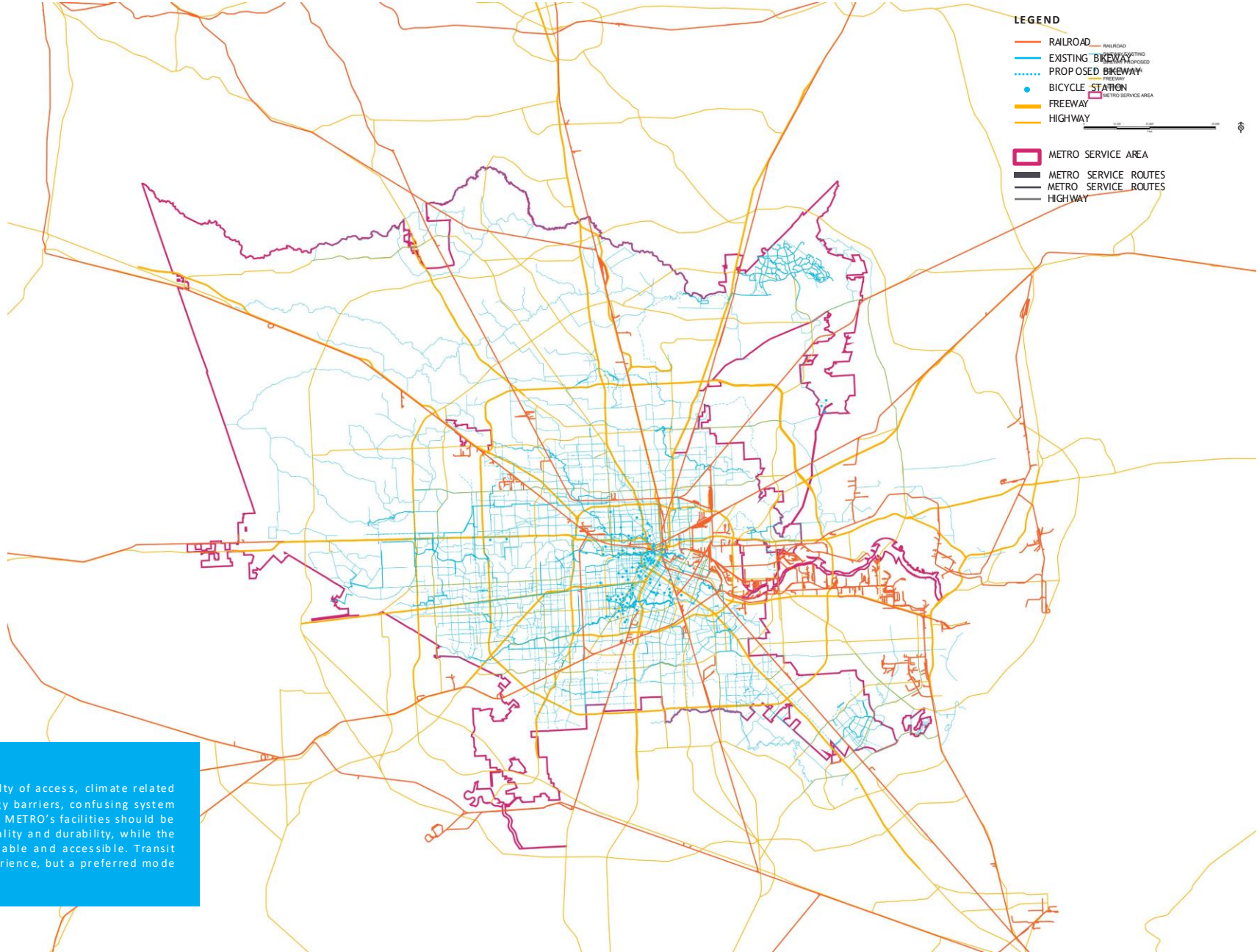
Umeå Vasaplan
Umea, Sweden

ARTIC Transit Center
Anaheim, California

Portland Pedestrian Mall
Portland, Oregon

METRO Impact

Barriers to transit use often include difficulty of access, climate related discomfort, visibility concerns, technology barriers, confusing system navigation, and poor brand consistency. METRO's facilities should be inspiring to the METRO brand in visual quality and durability, while the journey to the facility should be comfortable and accessible. Transit should not only be seen as a positive experience, but a preferred mode of travel within the city.



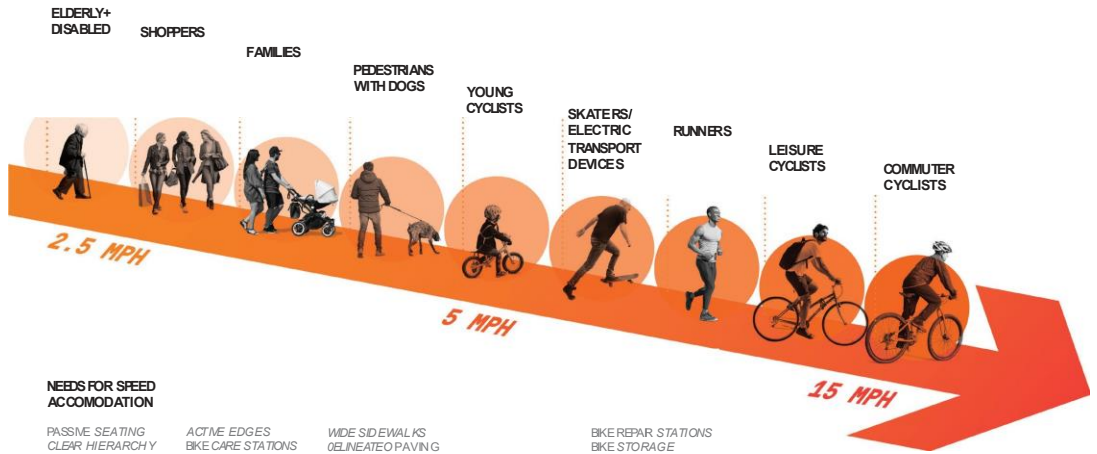
NEEDS FOR DENSITY

WIDE SIDEWALKS
BIKE LANES
LEGIBLE *DRIVEWAYS*

LIGHTING
SHADE CANOPY
LIMITED *ROW SETBACK*

PEDESTRIAN CROSSINGS
STREETSCAPE AMENITIES
WAYFINDING / *ART*

TRANSIT STREETS
PROGRAMMED SPACES
PARKS



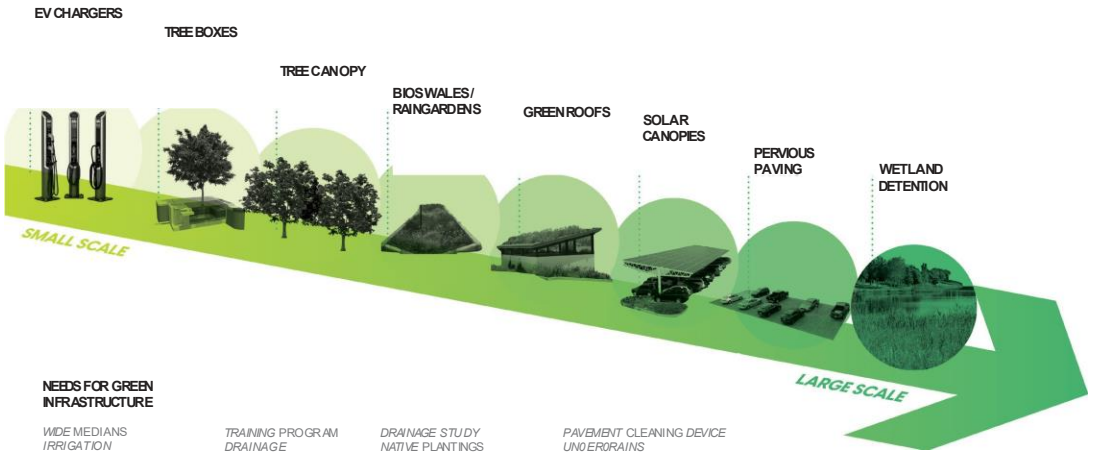
NEEDS FOR SPEED ACCOMODATION

PASSIVE *SEATING*
CLEAR HIERARCHY
SCALED WAYFINDING

ACTIVE EDGES
BIKE *CARE STATIONS*
SAFETY BARRIERS

WIDE SIDEWALKS
DELINEATED PAVING
DEDICATED BIKE LANE

BIKE REPAIR *STATIONS*
BIKE *STORAGE*
SHADE STRUCTURES



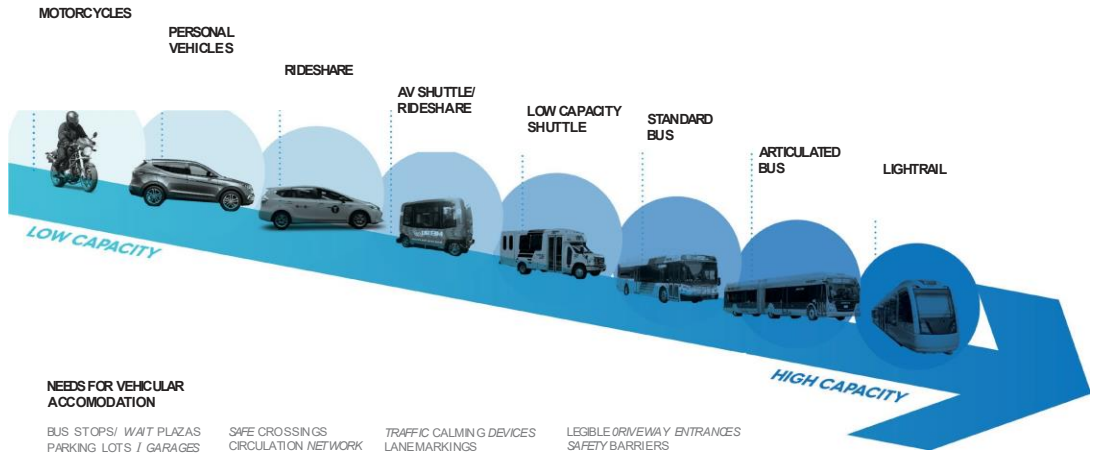
NEEDS FOR GREEN INFRASTRUCTURE

WIDE MEDIANS
IRRIGATION
MAINTENANCE SCHEDULE

TRAINING PROGRAM
DRAINAGE
NATURAL BARRIERS

DRAINAGE STUDY
NATIVE PLANTINGS
ELECTRIC *INFRASTRUCTURE*

PAVEMENT CLEANING *DEVICE*
UNDERDRAINS
SPECIALIZED SOIL MIXES



NEEDS FOR VEHICULAR ACCOMODATION

BUS STOPS/ *WAIT* PLAZAS
PARKING LOTS / *GARAGES*
VEHICULAR *WAYFINDING*

SAFE CROSSINGS
CIRCULATION *NETWORK*
DEDICATED LANES

TRAFFIC CALMING *DEVICES*
LANE MARKINGS
CLEAR PEDESTRIAN *PATHS*

LEGIBLE *DRIVEWAY ENTRANCES*
SAFETY BARRIERS
SAFE ANDBRANDED LIGHTING

Universal Accessibility Principles

DIVERSE INDIVIDUALS

Users of the transit system vary in age, size, abilities, and situational hinderances that may affect how they navigate the urban design environment. There are seven commonly accepted principles of Universal Accessibility (*Center for Universal Design at North Carolina State*) that can inform the urban design environment: ***equitable use, flexibility in use, simple & intuitive use, perceptible information, tolerance for error, low physical effort, and size & space for approach / use.***

Equitable use ensures spaces are accessible and enjoyable for everyone. ***Flexibility in use*** accommodates a wide range of preferences and abilities.

Simple & intuitive use ensures that spaces that are easy to understand regardless of knowledge, linguistic preferences, or concentration levels. Communicating ***perceptible information*** allows facilities, streetscapes, and amenities to be easily understandable regardless of sensory abilities. Allowing ***tolerance for error*** minimizes hazards from unintentional actions. Designing for ***low physical effort*** can increase the comfort for users to access with minimal fatigue. Designing for ***size & space for approach / use*** ensures greater flexibility for all users regardless of size or hand-preference.

PHYSICAL

Many transit users vary in mobility. Wheelchair users, walker users, elderly patrons, and parents with strollers need adequate space in the travelway for both passing and resting. Designing beyond minimum requirements enables a higher level of comfort for all users and their proximate interactions.

VISUAL

The use of tactile paving, detectable warning strips, tactile and high contrast signage, and auditory signals / real-time arrival announcements enhances the safety and perception of those with visual impairments.

AUDITORY

Users with hearing impairments can benefit from the use of digital signage that communicates real time arrival information. Additionally, those with hearing aids can benefit from audio announcements through the inclusion of designated hearing loop areas in larger facilities.

LINGUISTIC / LITERACY

Differing linguistic or literacy abilities can be accommodated through the use of bilingual translations and iconography to denote key station functions and processes.

COGNITIVE

The creation of legible, hierarchical, and intuitive spaces enhances safety and perception for users with differing cognitive abilities and memory retention. Designing designated quiet spaces can aid users with sensory sensitivities.

SIZE

Spaces are typically designed for adults of average size. Users of transit vary greatly in both height and width. Passing widths, vertical head clearances, and heights of amenities should be designed or selected to offer greater flexibility.

Diverse Communities

DIVERSE GROUPS

HOUSTON IS ONE OF THE MOST DIVERSE CITIES IN THE USA.

Houston is consistently ranked as the most or one of the most ethnically and culturally diverse cities in the United States. While many areas in the city have a wide distribution of multi-ethnic and cultural groups, others have unique identities that can be expressed in the urban design environment.

CULTURAL TOWNS

Cultural towns are areas with high concentrations of a particular cultural or ethnic group. These areas reflect popular cuisine, language, shopping, and civic destinations of singular or multiple cultures. These form important nodes of activity that can be celebrated. Several cultural towns reflect bilingual signage that can be integrated into neighboring transit facilities.

LINGUISTICALLY SIGNIFICANT

Many communities within Houston have pockets within communities that speak a primary language other than English. Wayfinding & art can be reflective of these linguistic distinctions in the urban design environment. Common languages spoken in Houston other than English include Spanish, Vietnamese, Chinese (Mandarin & Cantonese), West African languages, and French Cajun.

ETHNICALLY SIGNIFICANT

Communities throughout Houston have unique histories and stories shaped by ethnic communities. These are historic identities that are often reflected in demographic population, architectural style, food and culture, as well as community art. Preservation of identity is an important priority of these communities. Community engagement is vital in these communities to fully capture the identity of ethnically significant neighborhoods.

CULTURALLY SIGNIFICANT

Over time, many cultural groups have settled in areas throughout the city. These character settlements may be historic or contemporary in nature. These culturally significant communities have a prominent culture expressed within the community. Community markets and art are important features of culturally significant communities. In many cases, communities are both diverse in terms of ethnicity and culture.

MULTI-ETHNIC

Much of Houston is multi-ethnic in nature and does not have one significant ethnic or cultural identity. This means that every facility should be navigable and welcoming to all Houstonians. Art, wayfinding, and materiality can reflect the service area as a whole while highlighting individual community character.

An Organizational Framework

LENSES, SCALES, FACILITIES, TOOLS, & OUTCOMES

How to Use this Manual

ESTABLISHING A CLEAR URBAN DESIGN FRAMEWORK

A LOGICAL AND FLEXIBLE FRAMEWORK

There are no singular design solutions that will work in all contexts given such a vast and diverse service area. METRO invites staff, partners, stakeholders, and consultants to become familiar with the carefully crafted framework for transit urban design and to utilize the recommendations and resources included in this Urban Design Manual (UDM).

FOUR LENSES

The UDM's four lenses of ***environmental resilience, diverse communities, sustainable development,*** and ***customer experience*** make up the organizational framework and design principles for the UDM. These lenses guide objectives to confront the defining challenges of Houston's unique regional context.

THREE SCALES

This UDM aspires to inspire planning and design excellence at three scales of urban design–***regional scale, neighborhood scale***, and ***site scale***.

The ***regional scale*** encompasses METRO's entire service area and is focused on the efficiency and connectivity of the transit network overall, broad objectives that apply across the network, and the regional transit identity. The ***neighborhood scale*** of urban design promotes accessibility of facilities, enhances community identity, and provides amenities that benefit both transit and the local community. The ***site scale*** is specific to individual facilities and focuses on internal connections, site amenities, and the anticipation of future needs.

Each scale leverages coordination and partnerships amongst regional, neighborhood, and internal METRO stakeholders to achieve high quality urban design.

FIVE FACILITY TYPES

The UDM seeks to promote creative thinking by providing design resources for the ***retrofit***, ***redevelopment***, or ***new construction*** of METRO facilities that capture the vision and mission of METRO as well as goals and aspirations of residents and stakeholders as expressed in recently published plans from across the region. ***Bus Stops***, ***Light Rail Transit (LRT)***, ***Bus Rapid Transit (BRT)***, ***Park & Rides***, and ***Transit Centers*** reflect the METRO brand and are by nature an extension of the public urban design environment.

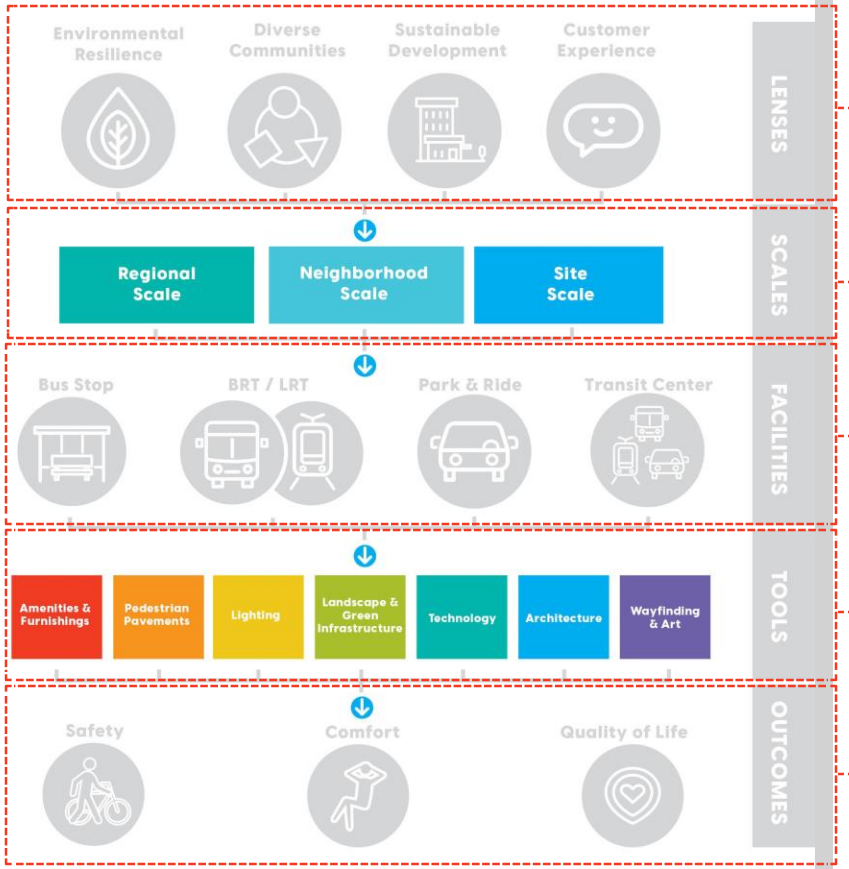
SEVEN TOOLS

Designing safe, secure, accessible, and comfortable facilities with amenities including shelter, places to sit or lean, shade trees, and nearby business activity can create a positive pedestrian realm and improve both the experience and perceptions of transit service. Branding and distinctive stations can serve to advertise service and support a sense of place. Clear information saves people time. High quality facilities enhance the rider experience and can further bolster ridership. All seven tools–***amenities & furnishings, pedestrian pavements, lighting, landscape & green infrastructure, wayfinding & art,*** and ***architecture***–are diagrammatically illustrated as color-coded systems within the UDM.

THREE OUTCOMES

The ultimate objective of the UDM is the delivery and maintenance of a high standard for development contributing to ***safety, comfort,*** and ***quality of life*** throughout the METRO transit service area.

Read on to learn how to transform the look, feel, and function of transit in the region's public realm.



FOUR LENSES
guide objectives to confront the defining challenges of Houston's unique regional context

THREE SCALES
leverage coordination and partnerships amongst regional, neighborhood, and internal METRO stakeholders to achieve high quality urban design

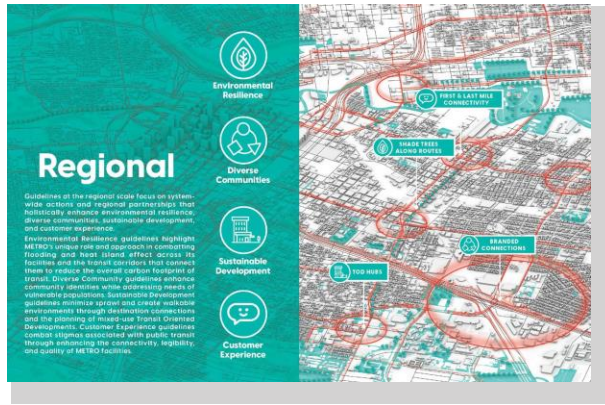
FIVE FACILITY TYPES
reflect the quality of transit and are by nature an extension of the public urban design environment

SEVEN TOOLS
influence the look and feel of the urban design realm, and attribute to safe, secure, engaging, and comfortable spaces

THREE OUTCOMES
drive decision-making for the coordination, design, delivery, and maintenance of the public realm

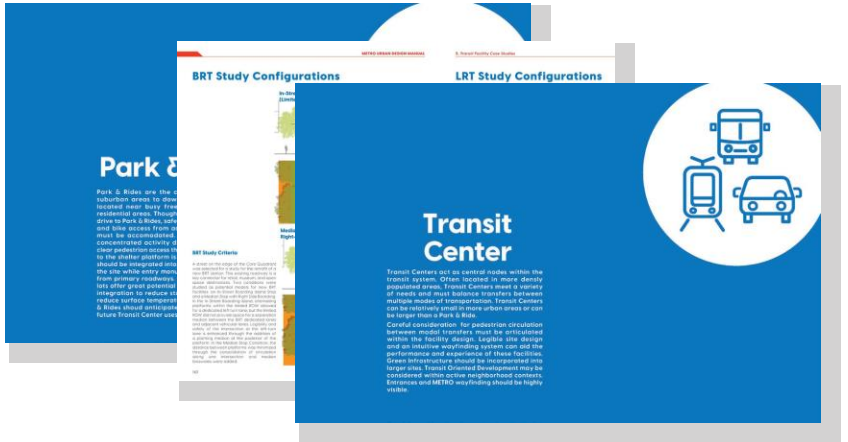
Scales of Urban Design

REGIONAL, NEIGHBORHOOD, & SITE



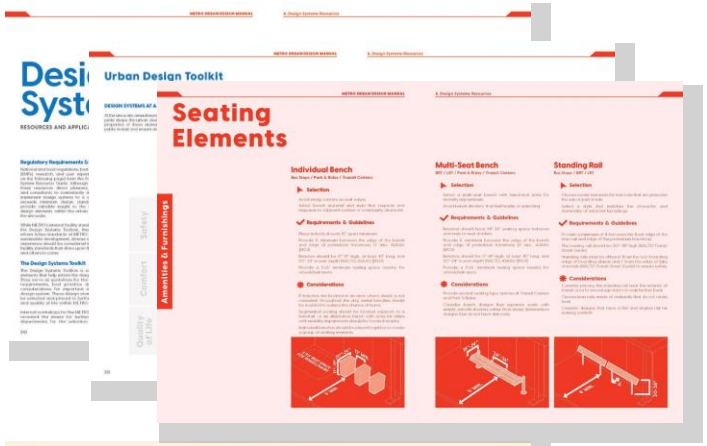
Facilities: A Case Study

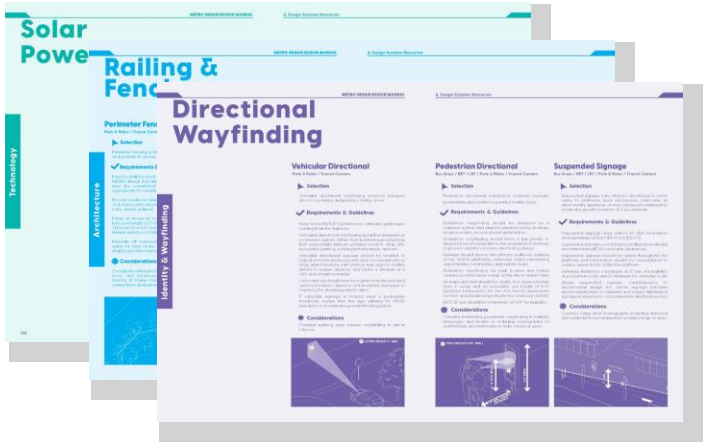
BUS, BRT/LRT, PARK & RIDE, TRANSIT CENTER



Urban Design Toolkit

THE DESIGN SYSTEMS RESOURCE GUIDE





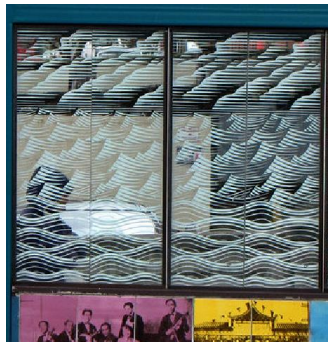
Urban Design Toolkit

DESIGN SYSTEMS AT A SITE SCALE

At the site scale, amenities related to safety, comfort and civic pride shape the urban design environment. The qualitative properties of these elements enhance the perception of public transit and ensure an enjoyable experience.

	Amenities & Furnishings	Pedestrian Pavements	Lighting	Landscape	Technology	Architecture	Wayfinding & Art
Safety		Detectable Strips ADA Ramps Bike Access Bus Loading / Unloading Transit Network Drop-off Parking Access Path Crosswalks / Crossings Islands / Bulbouts / Refuge	Pedestrian Lighting Bollards Parking Lighting Platform Lighting	Landscape Buffers Stormwater Detention Utility Integration	Security Cameras Centralized Control Smart Infrastructure Crossing Signals / HAWK Emergency Assistance	Fences / Walls Security Booth Railing Utility Building Utility Integration Employee Break Rooms Employee Offices Employee Rest Areas Police Office	Vehicular Wayfinding Traffic Control Signage Regulatory Signage
Comfort	Shelter Seating Bike Storage / Repair Litter	Platform Bays Waiting Areas Permeable Pavements	LED Lighting Luminaries Smart Lighting	Bioretention Rain Gardens Tree Canopy	Ticket Machines Solar Panels / Canopies ICM (Integrated Corridor Management) Real Time Arrival Signs EV Charging Electronic Info Systems	Shade Canopy Materiality Wind / Rain Screens End of Trip Facilities for Employees and Patrons (Card Access)	Trip Planning Kiosk Flagpoles Pedestrian Wayfinding Branded Entry Signs Info Systems Vending
Quality of Life	Planters Event / Flexible Use Space Recycling	Branded Finishes Cohesive Materials Programmed Plaza Space	Supplemental Lighting (Color, Accents, etc.) Branded Luminaries Selection Style	Entry Garden Urban Ecology Green Roofs Reclaimed Irrigation Habitat Planting	Mobile Charging Stations Conduit for Future Capacity	Branded Material Composition (Structural System, Metals, etc.) Architectural Expression Style	Public Art Advertisement Kiosk Visual Articulation of Entrances

Amenities & Furnishings



Glass
Tempered

Glass is beneficial to use as a solid and transparent barrier for bus shelters and windscreens but is easily vandalized.

Resilience

Durability
Corrosion Resistance
Vandal Resistance
Sustainability
UV Resistance

Comfort

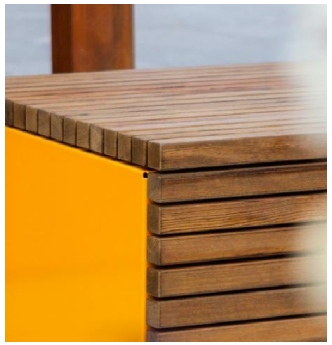
Heat Dissipation
Low Reflectivity
Freeze Resistance

Character

Color Branding
Art Integration

Cost

Low Life-cycle Cost
Low Initial Cost
Low Maintenance Cost



Tropical Hardwood
FSC Certification Only

Tropical hardwoods (various species) are durable but must be FSC certified for all furnishings to ensure they are sourced ethically.

Resilience

Durability
Corrosion Resistance
Vandal Resistance
Sustainability
UV Resistance

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Low Reflectivity
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Art Integration

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Low Initial Cost
Low Maintenance Cost

Accoya
Hardwood Alternative

Accoya is a fast-growing and more sustainable alternative to tropical hardwoods. It is just as durable as tropical hardwoods and has low embodied carbon.

Resilience

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Vandal Resistance
Sustainability
UV Resistance

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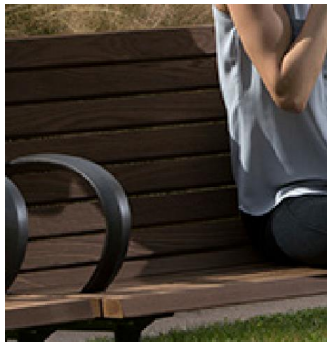
Low Reflectivity
Freeze Resistance

Character

Color Branding
Art Integration

Cost

Low Life-cycle Cost
Low Initial Cost
Low Maintenance Cost



Thermo-Wood
Thermally Modified

Ash, oak, pine, or other species are thermally treated for pest resistance and decay without the use of harsh chemicals. Kebony is similar and slightly more durable.

Resilience

Durability
Corrosion Resistance
Vandal Resistance
Sustainability
UV Resistance

Comfort

Heat Dissipation
Low Reflectivity
Freeze Resistance

Character

Color Branding
Art Integration

Cost

Low Life-cycle Cost
Low Initial Cost
Low Maintenance Cost

Resysta
Wood Alternative

Resysta is a sustainable wood alternative made from rice husks. It is salt, moisture, pest, and decay resistant and can be stained like wood. It can be recycled at the end of its life.

Resilience

Durability
Corrosion Resistance
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Sustainability
UV Resistance

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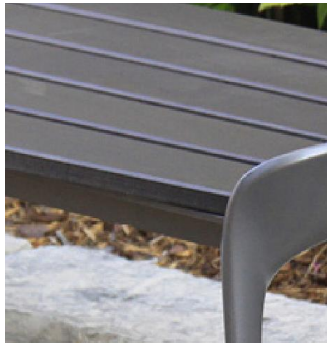
Low Life-cycle Cost
Low Initial Cost
Low Maintenance Cost



Composite
High Density Paper (HDPC)

High density paper composites are made from recycled paper and can be harder than wood. It comes in limited options but is insect and rot resistant. It is prone to vandalism and scratches.

Resilience

Durability
Corrosion Resistance
Vandal Resistance
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UV Resistance

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Low Life-cycle Cost
Low Initial Cost
Low Maintenance Cost

20

Seating Elements

Individual Bench

Bus Stops / Park & Rides / Transit Centers

Selection

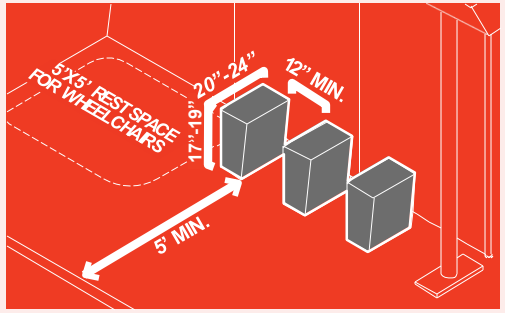
- Avoid sharp corners on seat edges
- Select bench material and style that respects and responds to adjacent context or community character

Requirements & Guidelines

- Place individual seats 12" apart minimum
- Provide 5' minimum between the edge of the bench and edge of pedestrian travelway (3' min., *ADAAG §403*)
- Benches should be 17"-19" high, at least 43" long, and 20"-24" in seat depth (*NACTO, ADAAG §903*)
- Provide a 5'x5' minimum resting space nearby for wheelchair users

Considerations

- If benches are located in an area where shade is not consistent throughout the day, metal benches should be avoided to reduce the chance of burns
- Segmented seating should be located adjacent to a handrail or an alternative bench with arms for riders with mobility impairments should be located nearby
- Individual benches should be placed together to create a group of seating elements



Multi-Seat Bench

BRT / LRT / Park & Rides / Transit Centers

Selection

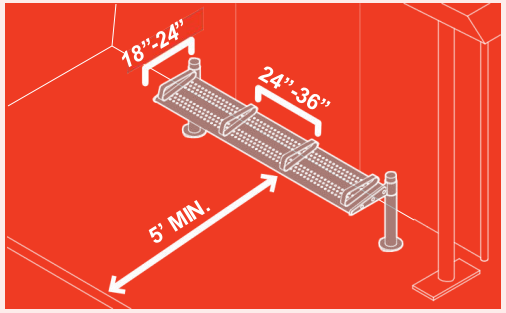
- Select a multi-seat bench with functional arms for mobility impairments
- Avoid bench dividers that feel hostile or uninviting

Requirements & Guidelines

- Benches should have 24"-36" seating space between arm rests or seat dividers
- Provide 5' minimum between the edge of the bench and edge of pedestrian travelway (3' min., *ADAAG §403*)
- Benches should be 17"-19" high, at least 43" long, and 20"-24" in seat depth (*NACTO, ADAAG §903*)
- Provide a 5'x5' minimum resting space nearby for wheelchair users

Considerations

- Provide several seating type options at Transit Centers and Park & Rides
- Consider bench designs that separate seats with simple, smooth dividers rather than sharp deterrents in designs that do not have arm rests



Standing Rail

Bus Stops / BRT / LRT

Selection

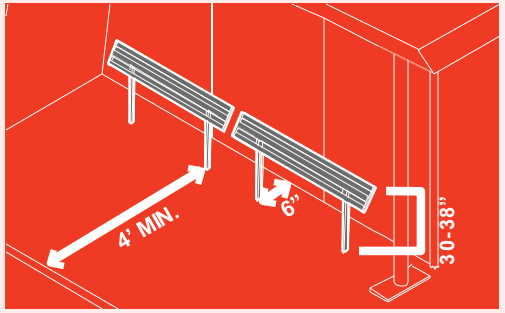
- Choose cooler materials for lean rails that are placed in the sun or part shade
- Select a style that matches the character and materiality of adjacent furnishings

Requirements & Guidelines

- Provide a minimum of 4' between the front edge of the lean rail and edge of the pedestrian travelway
- The standing rail should be 30"-38" high (*NACTO Transit Street Guide*)
- Standing rails must be offset 6" from the non-boarding edge of boarding islands and 1' from the edge of bike channels (*NACTO Transit Street Guide*) to ensure safety

Considerations

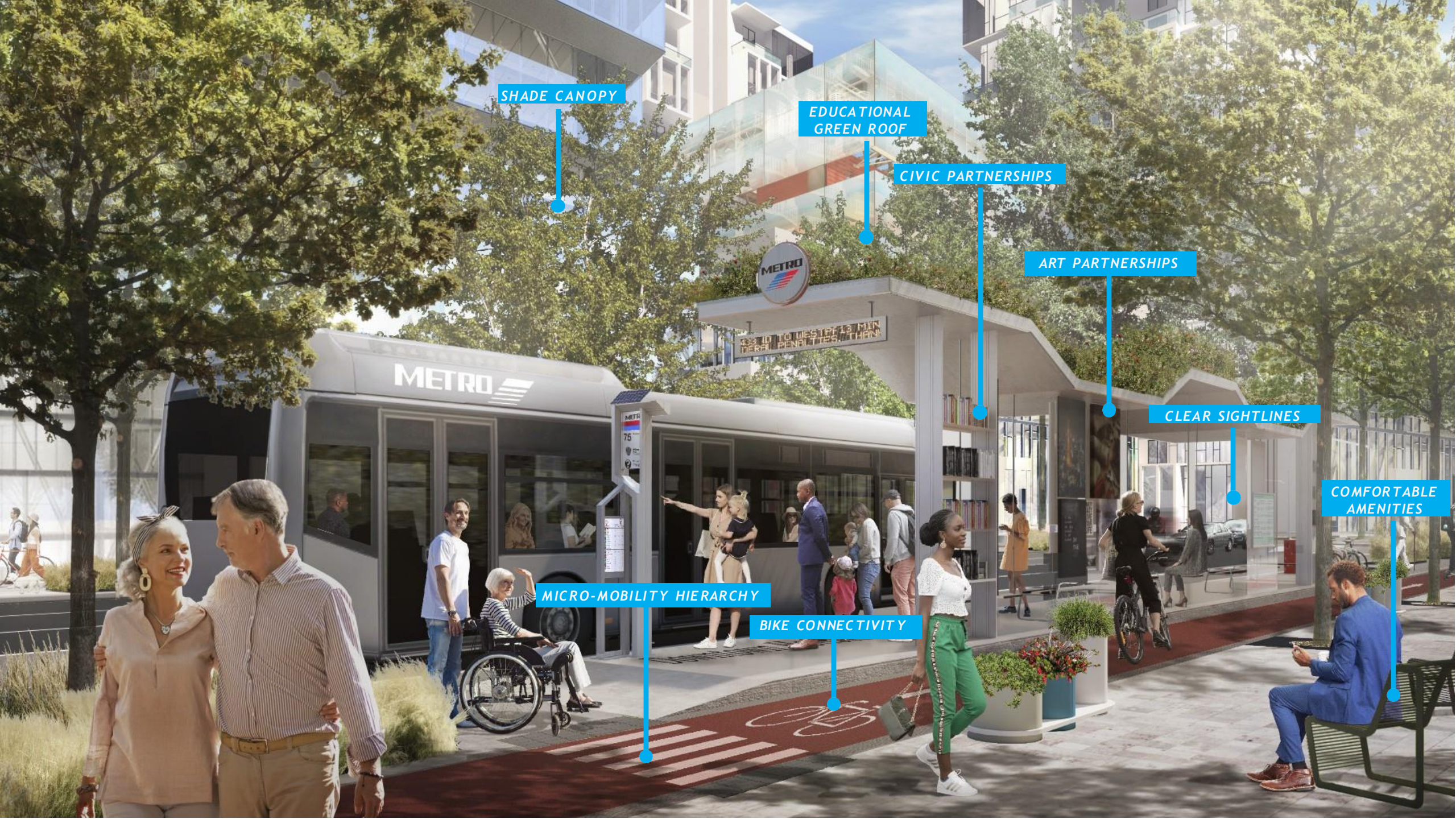
- Consider placing the standing rail near the exterior of transit area to encourage riders to wait further back
- Choose standing rails made of materials that do not retain heat
- Consider designs that have a flat and angled rail for leaning comfort

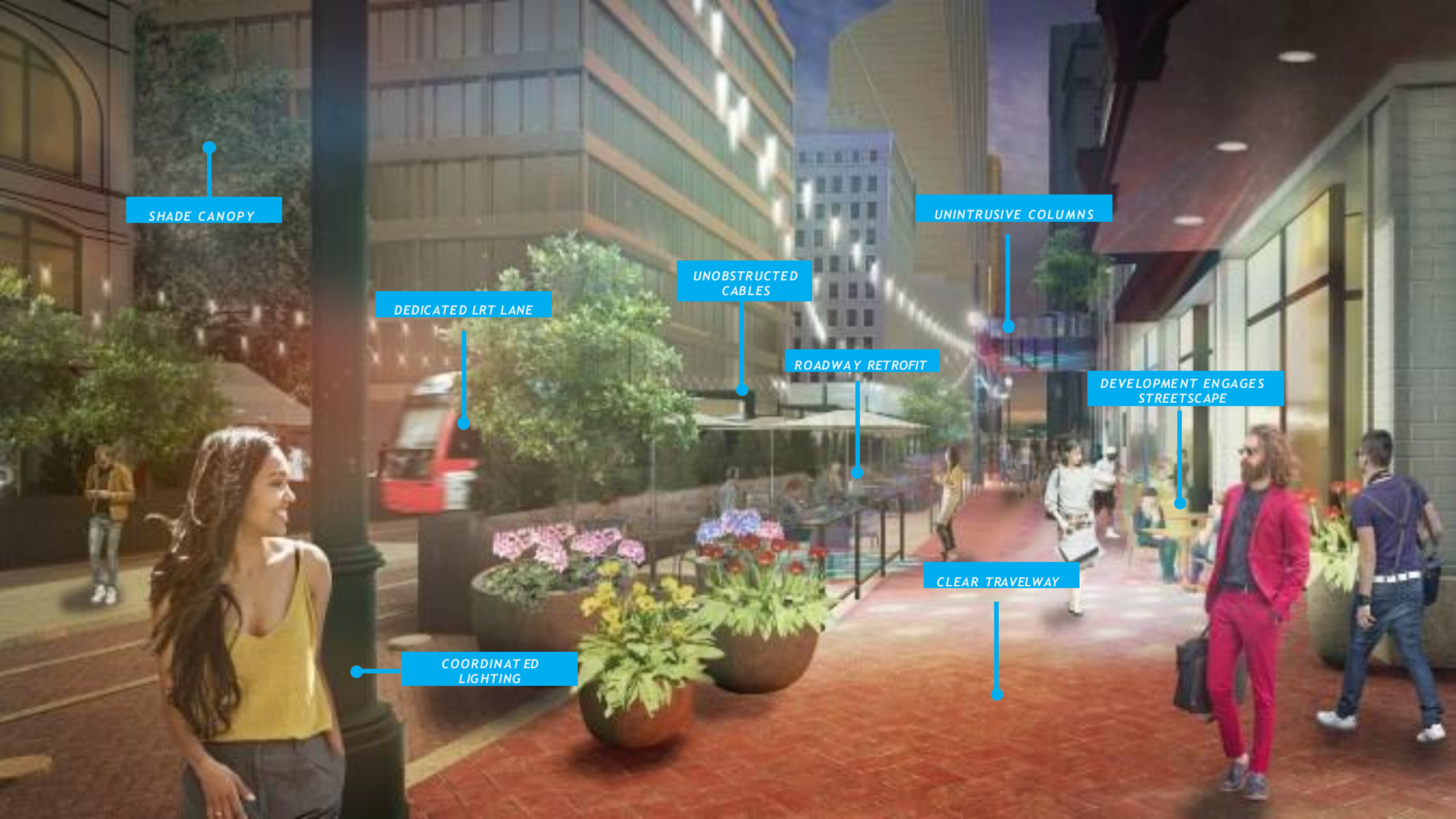



EVAPORATIVE COOLING
NOISE BARRIER
ELECTRIC BUS CHARGING
SHADE CANOPY
ENERGY PRODUCTION
LEGIBLE CIRCULATION
BIKE CONNECTIVITY
STORMWATER INFILTRATION
NATIVE HABITAT
PHYTOREMEDIATION
METRO


ROBUST TREE CANOPY SHADE
REAL-TIME ARRIVAL
MULTI-LINGUAL INFORMATION
LEGIBLE SIGNAGE
COORDINATED UTILITIES
CIVIC ART
WALKABLE STREETSCAPE
NEIGHBORHOOD CHARACTER
UNIVERSAL ACCESSIBILITY
NATIVE PLANTING
METRO
METRO


WEATHER PROTECTION
WAYFINDING MONUMENT
FLEXIBLE COMMUNITY SPACE
CLEAR TRAVELWAY
DIGITAL APP NAVIGATION
COHESIVE WAYFINDING
BIKE AMENITIES
METRO
metrobus


SHADE CANOPY
EDUCATIONAL GREEN ROOF
CIVIC PARTNERSHIPS
ART PARTNERSHIPS
CLEAR SIGHTLINES
COMFORTABLE AMENITIES
MICRO-MOBILITY HIERARCHY
BIKE CONNECTIVITY
METRO

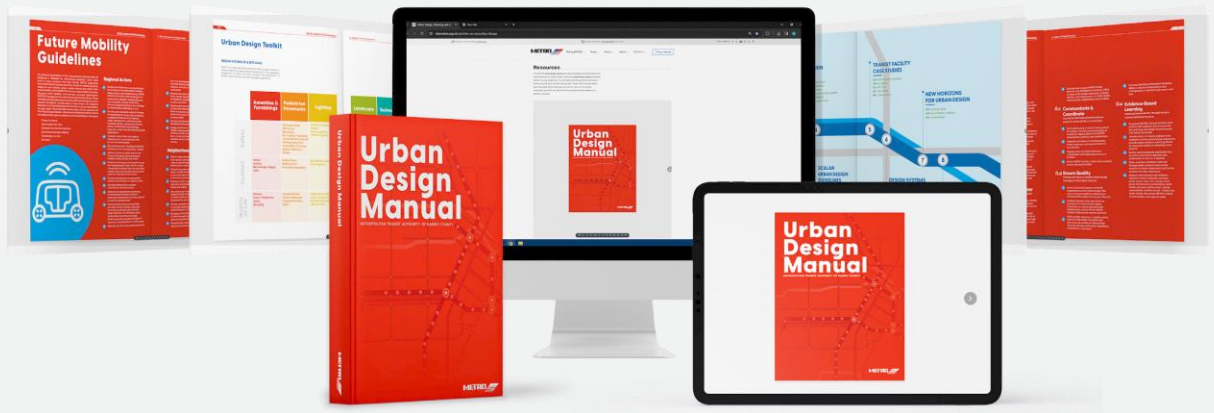

SHADE CANOPY
DEDICATED LRT LANE
UNOBSTRUCTED CABLES
ROADWAY RETROFIT
UNINTRUSIVE COLUMNS
DEVELOPMENT ENGAGES STREETSCAPE
CLEAR TRAVELWAY
COORDINATED LIGHTING

METRO Urban Design Manual

COMPREHENSIVE SUITE FOR INTERNAL & EXTERNAL COMMUNICATIONS

WEB-BASED BOOK

WEBSITE



HARDCOVER PRINT

APP-BASED BOOK

The **Urban Design Manual** is a simple and engaging tool to challenge planning and design excellence at regional, neighborhood, and site scales.

Planning for Quiet: Transportation Policy, Noise Pollution, and Public Health in Rail-Adjacent Neighborhoods

Dr. Laura Solitare

Associate Professor of Urban Planning and Environmental Policy at Texas Southern University

Founder and Associate Director of the Center of Excellence for Housing and Community Development Policy Research

TSU
Texas Southern University

Planning for Quiet:
Transportation Policy, Noise Pollution, and Public Health in Rail-Adjacent Neighborhoods

Laura Solitare, Ph.D

Texas Southern University

Center for Housing and Community Development Policy Research

Department of Urban Planning & Environmental Policy

Train Horn Noise: The Hidden Hazard

Noise pollution is a **public health issue**—linked to sleep disruption, stress, hypertension, heart disease.

Train horns reach 96–110 decibels—comparable to a jackhammer.

Disproportionately impacts low-income and BIPOC neighborhoods near rail corridors.

Unlike air or water pollution, noise **leaves no visible trace**, but its effects are profound and chronic.

Quiet Zones: Where Infrastructure Meets Power

Established via **FRA's 2005 Quiet Zone Rule**—requires local action + infrastructure upgrades.

Technical process, but **politically and financially demanding**.

Communities with more resources and political capital more likely to succeed.

Quiet zones function as **land-based claims to peace, quiet, and environmental control**.

Soundscapes, Spatial Justice, and Redevelopment Outcomes

- Quiet zones can **increase property values** (~10%) → implications for gentrification & redevelopment.
- They reshape urban desirability, **influencing where reinvestment happens**.

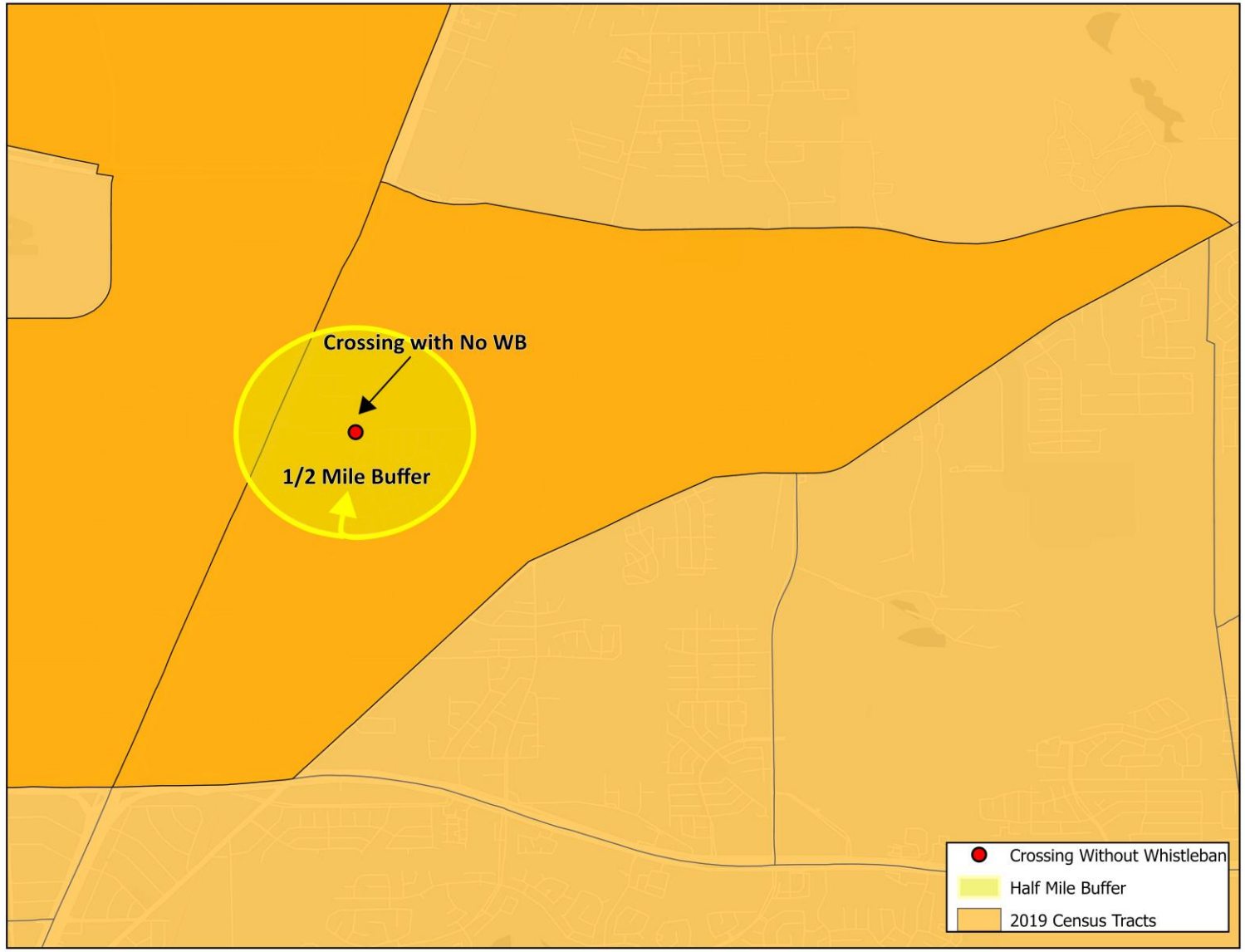
Our study asks:

- Who gets a quiet zone?
- Who lives with persistent noise?

D’Lo, Miss.


QUIET ZONE
TRAIN WILL NOT
SOUND HORN
ONLY

Method Diagram of Buffered Crossing



Who lives near rail - six largest Texas cities – Census tracts without crossings vs Census tracts with crossings

Variable	No crossing in tract (n=1606)	Crossing in tract (n =453)	p
White alone, Non-Hispanic (%)	33.53 (25.78)	29.49 (24.55)	***
Black or African American, Non-Hispanic(%)	15.53 (18.33)	15.48 (18.28)	ns
Asian, (%)	5.57 (7.37)	4.03 (6.10)	***
Hispanic or Latino, (%)	43.71 (26.85)	49.51 (28.37)	***
Single family detached housing, (%)	59.76 (30.40)	63.19 (25.88)	**
Mobile Home, (%)	2.14 (6.56)	3.95 (9.66)	***
Bachelor's or higher, (%)	34.16 (23.94)	27.40 (21.71)	***
Below Poverty (%)	16.11 (12.24)	18.38 (12.54)	ns
Median Household Income, $	69,120 (40,108)	60,852 (31,303)	***
Owner-occupied, (%)	54.24 (25.65)	54.68 (22.83)	***
HUD projects (n)	3.49 (10.65)	8.00 (18.05)	***
EJ Exceed 80	5.34 (4.55)	6.31 (4.78)	***

Houston Neighborhoods (Census Tracts): with vs those without Quiet Zones

Variable	With Quiet Zones (n=35)	No Quiet Zone (n =278)	P
White alone, Non-Hispanic (%)	45.67 (27.33)	23.05 (22.74)	***
Black or African American, Non-Hispanic(%)	12.39 (13.74)	22.33 (22.88)	***
Hispanic or Latino, (%)	33.36 (22.46)	48.51(26.86)	***
Linguistically Isolated, (%)	35.78 (17.78)	46.35 (22.49)	***
Units in building, 20 or more, (%)	20.11 (22.5)	11.01(15.32)	*
Bachelor's or higher, (%)	49.01 (28.47)	24.64 (21.33)	***
Below Poverty (%)	11.74 (10.87)	19.36 (12.99)	***
Uninsured, (%)	15.03 (13.62)	21.72 (11.04)	**
Median Household Income, $	$101,311 (68,039)	$61,751(34,183)	***
HUD projects (n)	1.43 (2.5)	3.02 (5.67)	**
EJ Exceed 80	4.06 (4.9)	8.04 (4.8)	***

6 largest Texas cities: Neighborhoods with vs those without Quiet Zones

Variable	With Quiet Zones (n=155)	No Quiet Zone (n =143)	p
White alone, Non-Hispanic (%)	43.39 (23.24)	29.97 (24.78)	.000***
Black or African American, Non-Hispanic(%)	11.53 (12.31)	19.68 (20.62)	.000***
Hispanic or Latino, (%)	37.26 (23.12)	43.37 (25.44)	.015*
Households with Children, (%)	29.02 (9.31)	33.40 (8.11)	.000***
Single family detached housing, (%)	61.81 (28.49)	59.98 (29.84)	.294
Bachelor's or higher, (%)	41.25 (23.26)	27.63 (20.42)	.000***
Below Poverty (%)	13.81 (10.72)	17.65 (12.32)	.002**
Uninsured, (%)	15.20 (9.96)	19.94 (9.85)	.000***
Unemployed (%)	2.97 (1.96)	3.85 (2.11)	.000***
Median Household Income, $	74,589 (42,132)	62,235 (35,689)	.000***
Owner-occupied, (%)	55.74 (23.46)	52.10 (25.65)	.101
HUD projects (n)	5.39 (16.68)	3.41 (7.15)	.088
EJ Exceed 80	3.63 (4.23)	5.97 (4.34)	.000***

6 largest Texas cities: Extreme Burden vs Quiet

Variable	Quiet Zone Neighborhoods (n=155)	Extreme Train Horn Neighborhoods (n=231)	p
Age: Under 18 (%)	22.55 (7.48)	25.55 (7.79)	***
White alone, Non-Hispanic (%)	43.39 (23.24)	19.57 (20.21)	***
Black or African American, Non-Hispanic(%)	11.53 (12.31)	15.41 (19.84)	**
Asian, (%)	5.20 (6.29)	2.86 (6.22)	***
Hispanic or Latino, (%)	37.26 (23.12)	60.84 (27.34)	***
Bachelor's or higher, (%)	41.25 (23.26)	19.35 (17.63)	***
Below Poverty (%)	13.81 (10.72)	22.75 (12.38)	***
Median Household Income, $	74,589 (42,132)	49,914 (23,298)	***
HUD projects (n)	5.39 (16.68)	11.54 (21.32)	***
EJ Exceed 80	3.63 (4.23)	8.36 (4.22)	***

Neighborhood factors behind unequal noise protection

Factor	Key Variables	Interpretation
Factor 1: Socioeconomic & Environmental Disadvantage	% Population Under 18, % Non-Hispanic White, % Hispanic/Latino, % Linguistically Isolated % Bachelor's Degree or Higher, % Below Poverty, Median Household Income, EJ Exceedance Count	Captures economic vulnerability and environmental burden
Factor 2: Housing & Homeownership Stability	% Single Family Detached Housing, % Owner-Occupied Housing, % Population Under 18	Represents homeownership patterns and housing stability
Factor 3: Racial & Ethnic Composition	% Non-Hispanic Black, % Hispanic/Latino	Captures racial and ethnic diversity (segregation)
Factor 4: Quiet Zones and HUD projects	HUD projects and No Quiet Zones	Captures exposure to noise pollution and HUD service areas

Predictors of the absence of quiet zones

Predictor	Odds Ratio (Exp(B))	Effect on Quiet Zone Absence
Older Housing (Pre-1960)	3.41	Increases likelihood of no quiet zone
HUD-Assisted Housing	1.018	Increases likelihood of no quiet zone
Mobile Homes	1.039	Increases likelihood of no quiet zone
Higher Education (Bachelor's+)	0.982	Decreases likelihood of no quiet zone
Homeownership Rate	0.980	Decreases likelihood of no quiet zone

Policy Implications

Political Capacity: How do variations in local political shape which neighborhoods succeed in securing FRA Quiet Zone status?

Redevelopment Dynamics: To what extent are Quiet Zones pursued as strategic amenities in redevelopment or growth districts, and how do real-estate coalitions influence the decision to silence train horns?

Access to opt-in framework: Does the current opt-in, locally funded structure for Quiet Zone designation systematically disadvantage lower-capacity or historically marginalized communities—and, if so, what state or federal interventions could correct this imbalance?

Acknowledgements

Madison Swayne and Adriana Rios – San Diego State University

HUD – Policy Development and Research – HBCU Center of Excellence Grant

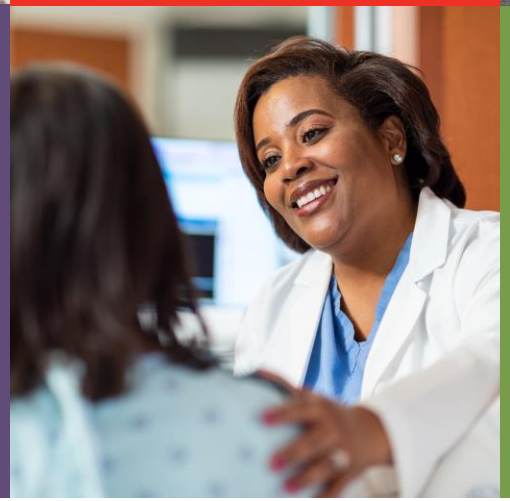
Fostering Cross-Sector Collaboration to Build Active Living Environments and Create Healthier Communities Together

Dr. Ruth Rechis

Executive Director of Cancer Prevention & Control Platform at The University of Texas MD Anderson Cancer Center

THE UNIVERSITY OF TEXAS
MD Anderson Cancer Center
Making Cancer History®

Cancer Prevention and Control Platform



Health-Conscious Communities: Cancer Prevention and Control Platform

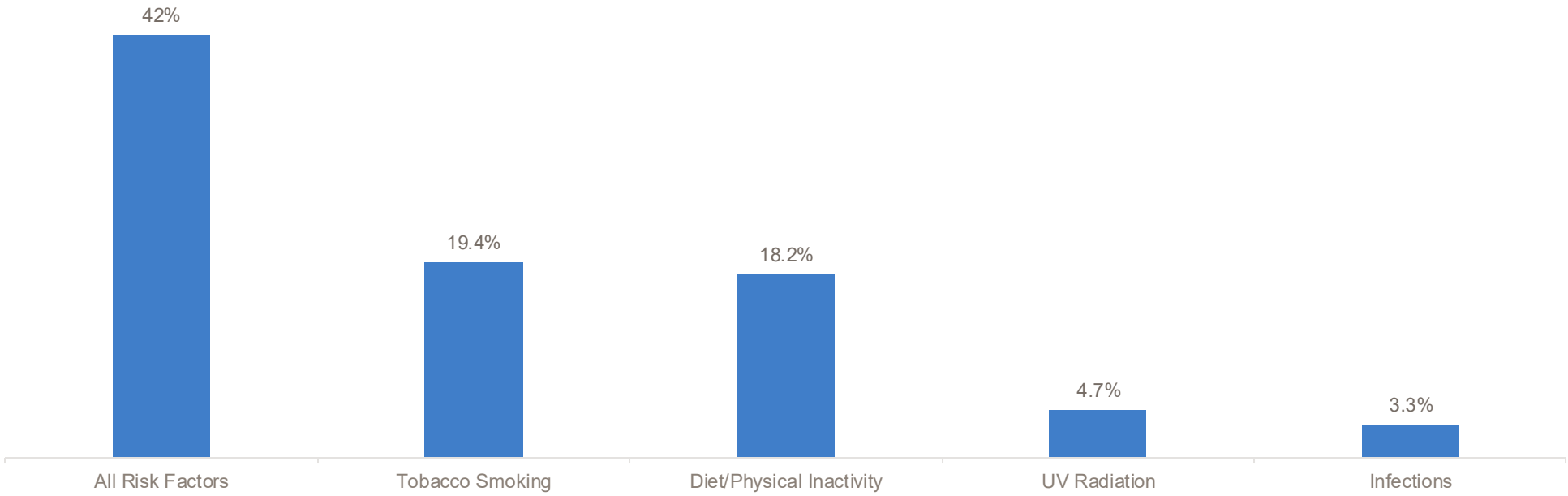
Ruth Rechis, PhD
Executive Director, Cancer Prevention and Control Platform

September 18, 2025

THE UNIVERSITY OF TEXAS
MD Anderson Cancer Center
Making Cancer History®

The Case for Cancer Prevention and Control

Up to half of cancer cases in the United States could be prevented through the reduction of modifiable risk factors for cancer at the population level.



Estimated Proportion of Incident Care Cases Attributable to Evaluated Risk Factors in Adults Aged 30 Years or Older

Source: Islami, F., Goding Sauer, A., Miller, K.D., Siegel, R.L., et al (2018). Proportion and Number of Cancer Cases and Deaths Attributable to Potentially Modifiable Risk Factors in the United States. CA Cancer J Clin; 68:31-54.

Cancer Prevention and Control Platform (CPCP)

The Platform works with community-based organizations and clinics to create initiatives that can create and sustain a culture of health.

Building the capacity of local organizations to deliver and measure EBIs ensures effective strategies for cancer risk reduction are available for all.

Focus areas

Place-based investments in health

Investments in high-asset, high-need communities address upstream social drivers of health, key risk factors and gaps for medically underserved populations.

- Be Well Communities™

Health system strengthening for cancer control

Initiatives focused on a range of evidence-based actions critical to cancer prevention, early detection and access to health care services.

- HPV Vaccination Initiative
- Texas Health Equity Alliance for Breast Cancer (THEAL)

Impact evaluation and public health intelligence

Data and research best practices inform all aspects of the Platform's cancer control initiatives, from delivery to governance to sustainability.

Be Well Communities™

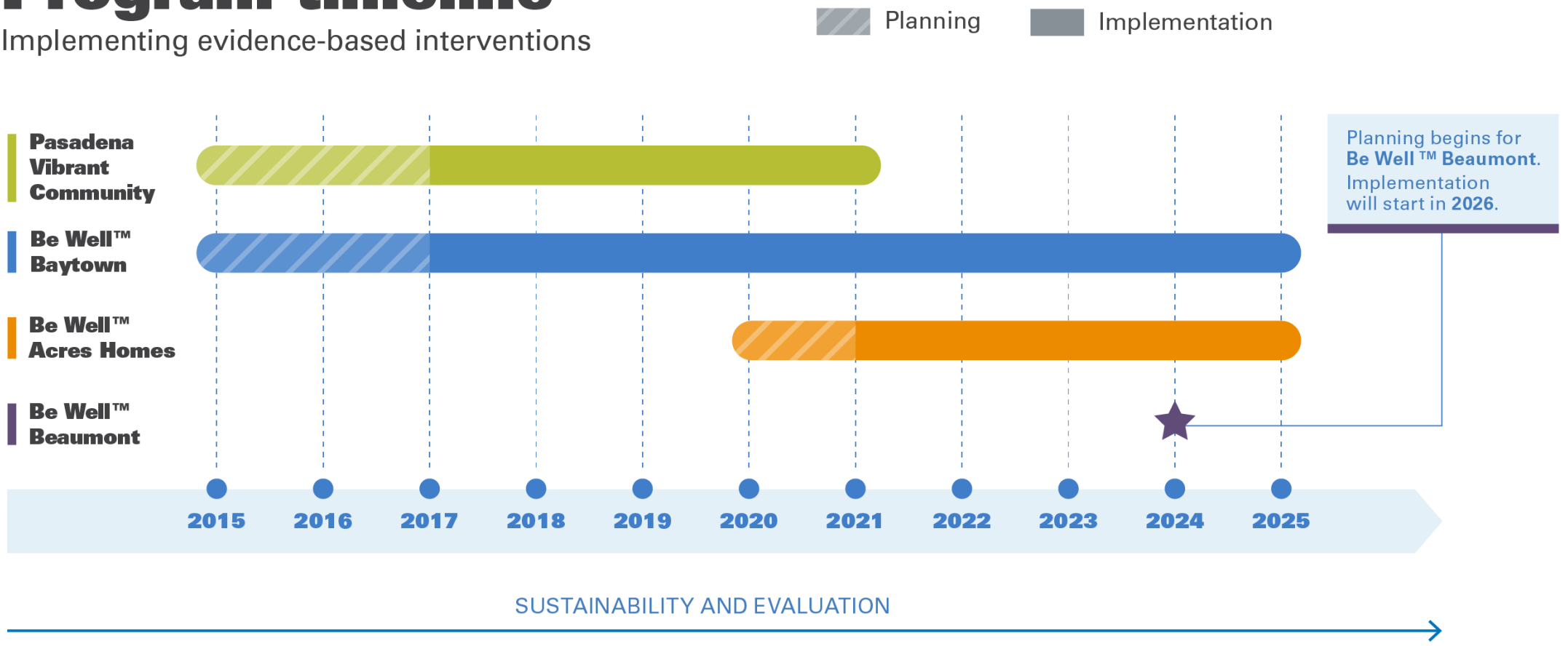
Built on nearly 100 years of healthy community initiatives best practices, scientific literature, and direct experience in dissemination and public health practice.

- Be Well Communities is MD Anderson's place-based strategy for cancer prevention and control, working with communities to promote wellness and stop cancer before it starts.
- Our goals are to:
  - Engage communities in an ongoing dialogue about the importance of healthy behaviors
  - Foster multi-sector community collaboration to promote health and wellness
  - Build capacity of community-based organizations to implement evidence-based strategies that can have a direct impact on cancer risk reduction in five areas:

Rechis, R, Oestman, KB, Caballero, E, Brewster, A, Walsh Jr., MT, Basen-Engquist, K, Gershenwald, J, Tektiridis, JH, Moreno, M, Williams, PA, Treiman, K, Garza, PD, Hawk, E. *Be Well Communities™: mobilizing communities to promote wellness and stop cancer before it starts.* Cancer Causes Control 32, 859–870 (2021). https://doi.org/10.1007/s10552-021-01439-9

Program timeline

Implementing evidence-based interventions



Be Well Communities™

Building a healthier community together

MD Anderson's place-based strategy for comprehensive cancer prevention and control, working with communities to promote wellness and reduce modifiable risk factors for cancer.

We work with more than **50 local, regional and state organizations are actively engaged** guiding the implementation of each action plan in partnership with residents in four communities.

Our Communities

- Acres Homes
- Baytown
- Beaumont
- Pasadena

Areas of Focus:

Health in Schools

89,000+

students educated with research-based coordinated school health programs leading to a significant increase in activity time

Built Environment

400+

infrastructure improvements including sunshades, gardens, crosswalks, and walking trails across communities in greater Houston

Access to Healthy Food

19M+

pounds of fresh produce served aligned to an integrated approach to increase food access led by the community

Engaging Communities in Healthy Behaviors

Be Well™ Baytown

Building a healthier community together

Be Well Baytown is an initiative of MD Anderson sponsored by ExxonMobil. United together with 17 community organizations and residents of Baytown, we aim to mobilize the community to promote wellness and stop cancer before it starts.

Collaborating Organizations

Chambers Health

CITY OF BAYTOWN PARKS and RECREATION

HEARTS & HANDS OF BAYTOWN

GOOSE CREEK CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

93% of the community impacted

Primary Health Outcomes Measured

- Increased physical activity
- Improved weight outcomes
- Increased access to healthy food
- Increased healthy food consumption
- Increased food security
- Increased use of sun safety behaviors (e.g., sunscreen, sun protective clothing, avoidance of sun exposure)
- Decreased ultraviolet exposure
- Decreased tobacco-related use
- Increased use of cessation treatments
- Increased cancer screenings (breast, cervical, colorectal)
- Increased immunizations among adolescents

Activating Parks for Community Health

- **Public neighborhood parks can offer free, accessible opportunities for physical activity.**
- Individuals who use parks are **three times more likely** to achieve the recommended levels of physical activity.
- **Every additional supervised activity in a park was associated with 48 percent more park users and 37 percent more MVPA time**

- Cohen DA, Leuschner KJ. How Can Neighborhood Parks Be Used to Increase Physical Activity? Rand Health Q. 2019 May 16;8(3):4. PMID: 31205804; PMCID: PMC6557046.
- Huston SL, Evenson KR, Bors P, Gizlice Z. Neighborhood Environment, Access to Places for Activity, and Leisure-time Physical Activity in a Diverse North Carolina Population. Am J Health Promotion. 2003;19(1):58-69.

PARKS & RECREATION PROGRAMS

1. Baytown Community Center ●●
2. Baytown Nature Center ●
3. Baytown Soccer Park ●
4. Bergeron Park ●
5. Calypso Cove ●
6. Eddie V. Gray Wetlands Center ●
7. Jenkins Park ●
8. McElroy Park ●●
9. N.C. Foote Park ●
10. Pelly Park ●
11. Pirates Bay ●
12. Roseland Park ●●
13. Unidad Park ●●

EDUCATION & YOUTH PROGRAMS

14. Church Women United Child Care Center ●●●
15. Footprints Child Care & Learning ●●●
16. Goose Creek Consolidated Independent School District
    - Alamo Elementary ●●●
    - Ashbel Smith Elementary ●●●
    - Baytown Junior School ●●●●●
    - Bonnie P. Hopper Primary School ●●●
    - Cedar Bayou Junior High School ●●●●●
    - David Crockett Elementary ●●●
    - Dr. Antonio Banuelos Elementary ●●●
    - Dr. Johnny T. Clark, Jr. Elementary ●●●
    - Edward "EF" Green Junior School ●●●●●
    - George H. Gentry Junior School ●●●●●
    - George Washington Carver Elementary ●●●
    - Goose Creek Memorial High School ●●●●●
    - Harlem Elementary ●●●
    - Highlands Elementary ●●●
    - Highlands Junior School ●●●●●
    - Horace Mann Junior School ●●●●●
    - IMPACT Early College High School ●●●●●
    - James Bowie Elementary ●●●
    - Jessie Lee Pumphrey Elementary ●●●
    - Lee High School ●●●●●
    - Lorenzo De Zavala Elementary ●●●
    - Mirabeau B. Lamar Elementary ●●●
    - Peter E. Hyland Center ●●●●●
    - POINT Alternative Center ●●●●●
    - Ross S. Sterling High School ●●●●●
    - San Jacinto Elementary ●●●
    - Stephen F. Austin Elementary ●●●
    - Stuart Career High School ●●●●●
    - Victoria Walker Elementary ●●●
    - William B. Travis Elementary ●●●
17. Lee College ●●●●
18. Peter E. Hyland Childcare Center ●●●
19. Stream of Life Christian Academy ●●●

ACTIVITIES SUPPORTED BY BE WELL BAYTOWN

- HEALTHY EATING
- ACTIVE LIVING
- SUN SAFETY
- TOBACCO-FREE LIVING
- PREVENTIVE CARE

FOOD DISTRIBUTION SITES

20. Hearts and Hands of Baytown
21. Bay Terrace Apartments ●
22. Birdsong Place Villas ●
23. Cedar Bayou Baptist Church ●
24. Edison Courts ●
25. Faith Family Church ●
26. First Church Baytown ●
27. Garth Road Baptist Church ●
28. Living Hope Church ●
29. Memorial Baptist Church ●
30. Missouri St. Church of Christ ●
31. Piedmont Apartments ●
32. St. Mark's Methodist Church Baytown ●
33. St. Paul's Lutheran Church ●
34. The Mission at Baytown Apartments ●
35. The Villas at Alexander Bay ●
36. Trinity Assembly ●
37. Wooster Baptist Church ●
38. Word Alive Ministries ●
39. Wyndham Park Apartments ●
— Hillside Church ●
— Holy Trinity Catholic Church ●
— MercyGate Church ●
— White's Park ●

*All food distribution sites work in association with **Hearts and Hands of Baytown**. Locations outside of Baytown are listed but not numbered on the map.*

HEALTH CARE

40. Chambers Health
    - Bayside Clinic ●●
    - Dayton Medical Center ●●
    - West Chambers Medical Center ●●
41. Harris Health
    - Baytown Community Health Center ●

Be Well™ Baytown

Be Well™ Baytown is an initiative of The University of Texas MD Anderson Cancer Center sponsored by ExxonMobil.

Baytown Moves

In collaboration with the Baytown Parks and Recreation Department and the UT Center for Health Communication, we designed a campaign that promoted utilization of Baytown parks and physical activity programs. The campaign included development of a Baytown Moves logo and several promotional materials, including a flyer and social media posts.

Infrastructure to Increase Physical Activity & UVR Exposure

Walking Audits
Parks
Pelly Park**
Roseland Park
Jenkins Park***
Bergeron Park
Unidad Park
McElroy Park**
Schools
James Bowie Elementary
William B. Travis Elementary
Ashbel Smith Elementary
Victoria Walker Elementary
Bañuelos Elementary
Mirabeau B. Lamar Elementary

Playground Improvements
Carver Elementary
Lamar Elementary
Alamo Elementary
Bañuelos Elementary
Bowie Elementary
Crockett Elementary
Highlands Elementary

Walking trails locations
Carver Elementary
Harlem Elementary
Bowie Elementary
Lamar Elementary

OLE! Texas sites
Church Women United
Peter E. Hylands
Footprints
Stream of Life

Sunscreen Dispensers and Sunshades		
Schools		**Parks**
Alamo Elementary	Austin Elementary	McElroy Park
Bonnie P. Hopper Primary (2)	Crockett Elementary	Roseland Park
Cedar Bayou Junior	Carver Elementary	Unidad Park (2)
IMPACT Early College High School (3)	Harlem Elementary	Pirates Bay*
Mirabeau B. Lamar Elementary	Bowie Elementary	Calypso Cove*
Point Alternative Center	Banuelos Elementary	NC Foote
Lee College (10)	Highlands Elementary	
Travis Elementary		

Pop Up Park Events

Building Community Capacity

Community Readiness for Public Health Activation

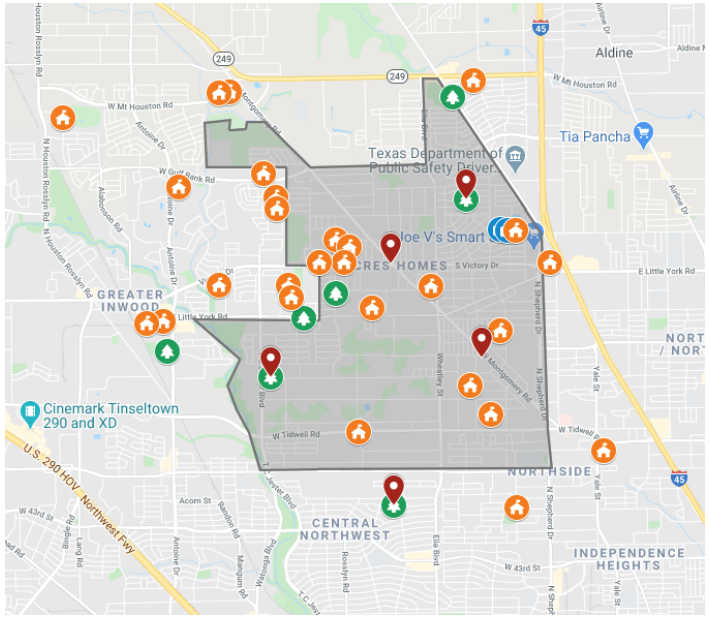
Community Need
Demographics
Health Behaviors
Clinical Care
Social and Economic Factors
Physical Environment
Health Outcomes

Community Capacity
Community Organizations and Services
Community Leadership and Engagement
Community Infrastructure (e.g., co-investors, coalitions, action plans for health)
Community Strengths and Resources

MD Anderson & Partner Priorities
MD Anderson & Partner Priority Areas and Assets

Acres Homes

Indicator	Acres Homes	Harris County	Texas
Total Population	54,736	4,697,957	28,862,581
Race/Ethnicity	Black: 45.7% Hispanic: 43.4%	Hispanic: 43.6% Black: 18.5%	Hispanic: 39.8% Black: 11.8%
Population Under Age 65	87%	89%	88%
% Uninsured	29.3%	24.7%	19.9%
% Living in Poverty	24.4%	15.6%	14.0%
Median Household Income	$41,294	$65,788	$67,321
Obesity	45.3%	36.1%	33.9%
Physical Inactivity	36.1%	27.5%	25.1%



- Schools
- Parks
- Healthcare
- Community Resources [20+ key partners activated with Complete Communities]

Be Well™ Acres Homes

Building a healthier community together

Be Well Acres Homes is an initiative of MD Anderson in collaboration with Harris Health, Memorial Hermann Community Benefit Corporation, UTHealth Houston School of Public Health, and more than 30 community organizations united together with residents of Acres Homes.

57% of the community impacted

Primary Health Outcomes Measured

- Increased physical activity
- Improved weight outcomes
- Increased access to healthy food
- Increased healthy food consumption
- Increased use of sun safety behaviors (e.g., sunscreen, sun protective clothing, avoidance of sun exposure)
- Decreased ultraviolet exposure
- Decreased tobacco-related disease and deaths

PARKS & RECREATION PROGRAMS

1. Acres Homes Multi-Service Center ●●●
2. Chelsea Senior Community ●
3. Garden City Apartments ●
4. Highland Park ●
5. Lincoln Park ●●
6. Palisades at Inwood Apartments ●
7. Pepper Tree Manor ●
8. Vogel Creek Greenway ●

EDUCATION & YOUTH PROGRAMS

9. ABC World Academy ●●●
10. Academy of Little Scholars ●●●
11. Aldine Independent School District
    - Anderson Academy ●●●
    - Caraway Elementary School ●●●
    - Carver High School ●●●●
    - Drew Academy ●●●●
    - Eisenhower High School ●●●●
    - Eisenhower Ninth Grade School ●●●●
    - Garcia Middle School ●●●●
    - Goodman Elementary School ●●●
    - Harris Elementary School ●●●
    - Hoffman Middle School ●●●●
    - Houston Academy ●●●
    - Reece Academy ●●●
    - Smith Elementary School ●●●
    - Stovall EC/PK/K School ●●●
    - Vines EC/PK/K ●●
12. Avance Head Start ●●●
13. Greater First Baptist Church ●
14. Harmony School of Endeavor ●
15. Houston Independent School District
    - Highland Heights Elementary ●
    - Osborne Elementary ●
    - Wesley Elementary ●
    - Williams Middle School ●
16. The Community of Faith Church ●●
17. Kollege 4 Kids Learning Center ●●●
18. Living Word Christian Academy ●●●
19. Lone Star College Houston North - Victory Campus ●

COMMUNITY GARDENS & FARMERS MARKETS

20. Acres Homes Chamber for Business & Economic Development ●
21. Acres Homes Multi-Service Center ●
22. Beauty's Community Garden ●
23. Pure Grace Missionary Baptist Church ●

HEALTH CARE

24. Harris Health
    - Acres Home Health Center ●●
    - Lyndon B. Johnson Hospital ●
25. UT Physicians
    - UT Physicians Multispecialty - Greens ●
    - UT Physicians Multispecialty - Victory ●

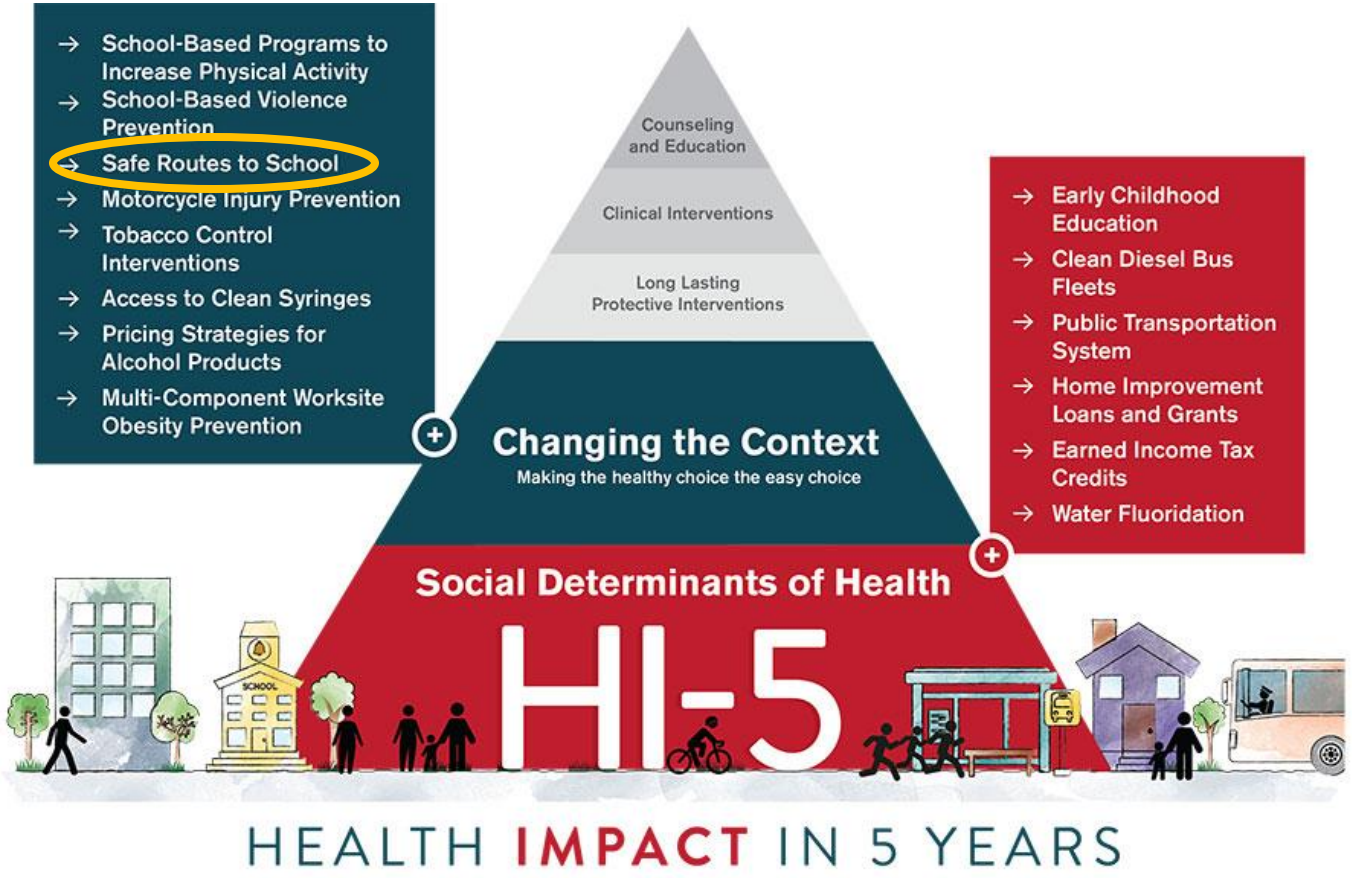
ACTIVITIES SUPPORTED BY BE WELL ACRES HOMES

- HEALTHY EATING
- ACTIVE LIVING
- SUN SAFETY
- TOBACCO-FREE LIVING

Be Well™ Acres Homes

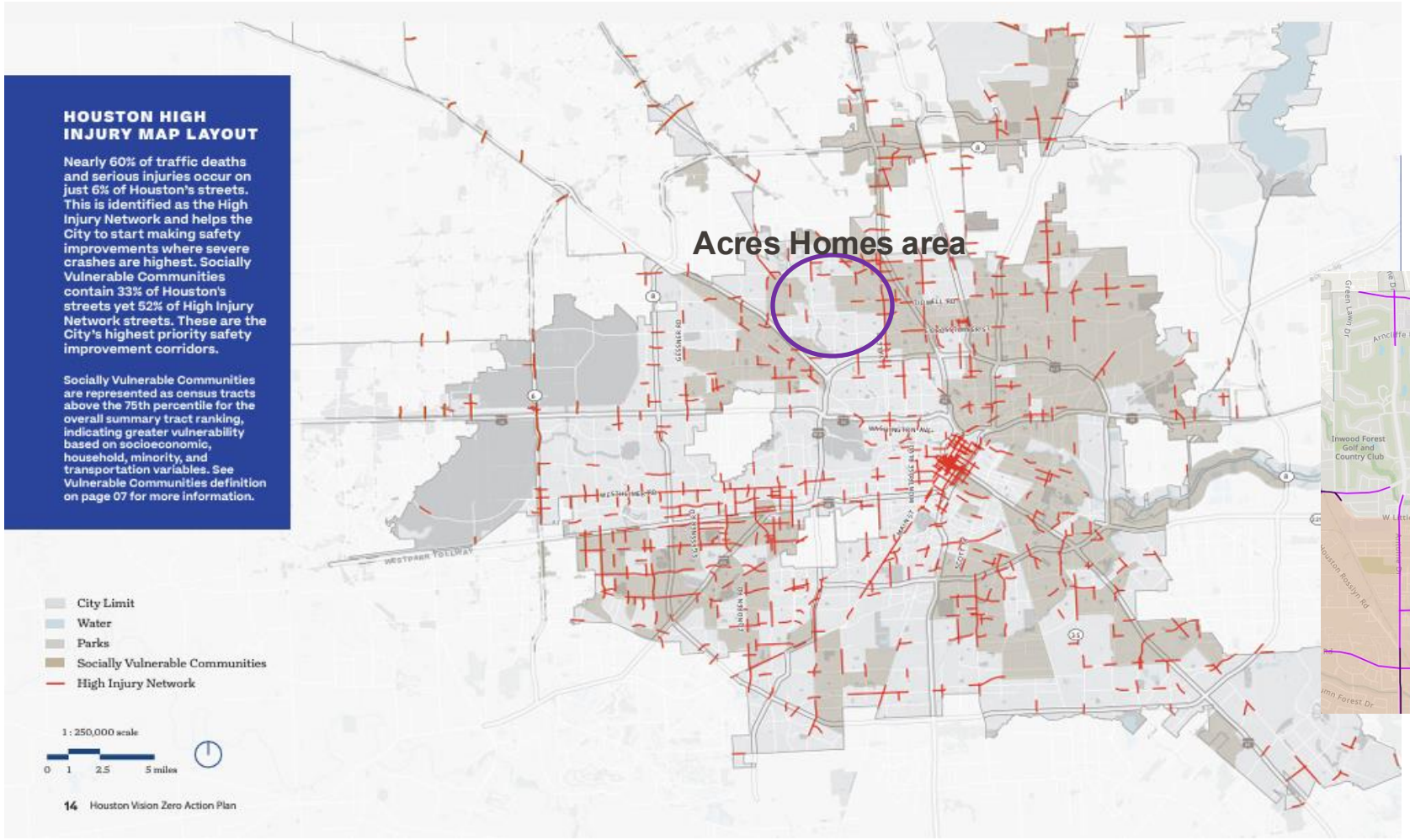
Be Well™ Acres Homes is an initiative of The University of Texas MD Anderson Cancer Center in collaboration with Harris Health System, Memorial Hermann Community Benefit Corporation, UTHealth School of Public Health, and more than 30 community organizations united together with residents of Acres Homes.

CDC Health Impact in 5 Years

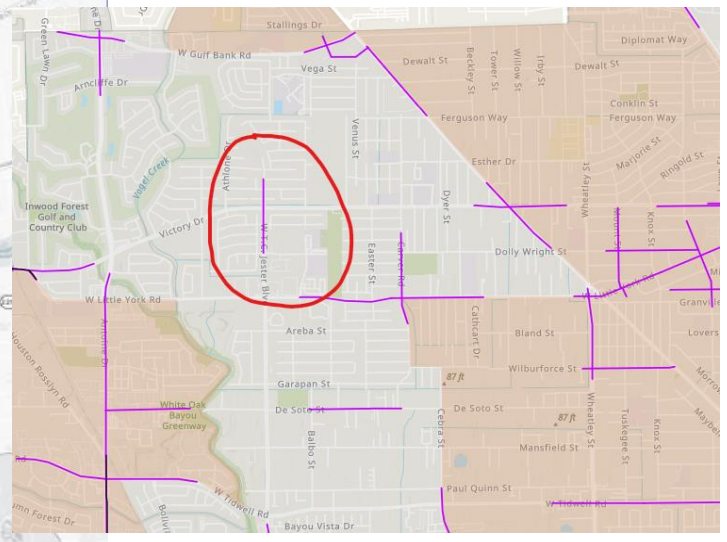


Source: https://www.cdc.gov/policy/hi-5/index.html

Houston High Injury Network



Harris Elementary School



City of Houston – Vision Zero Action Plan, 2020

60% of traffic deaths and serious injuries occur on just 6% of Houston's streets

SafeRoutes
ACRES HOMES

HARRIS ELEMENTARY

SAFE ROUTES TO SCHOOL PROGRAM

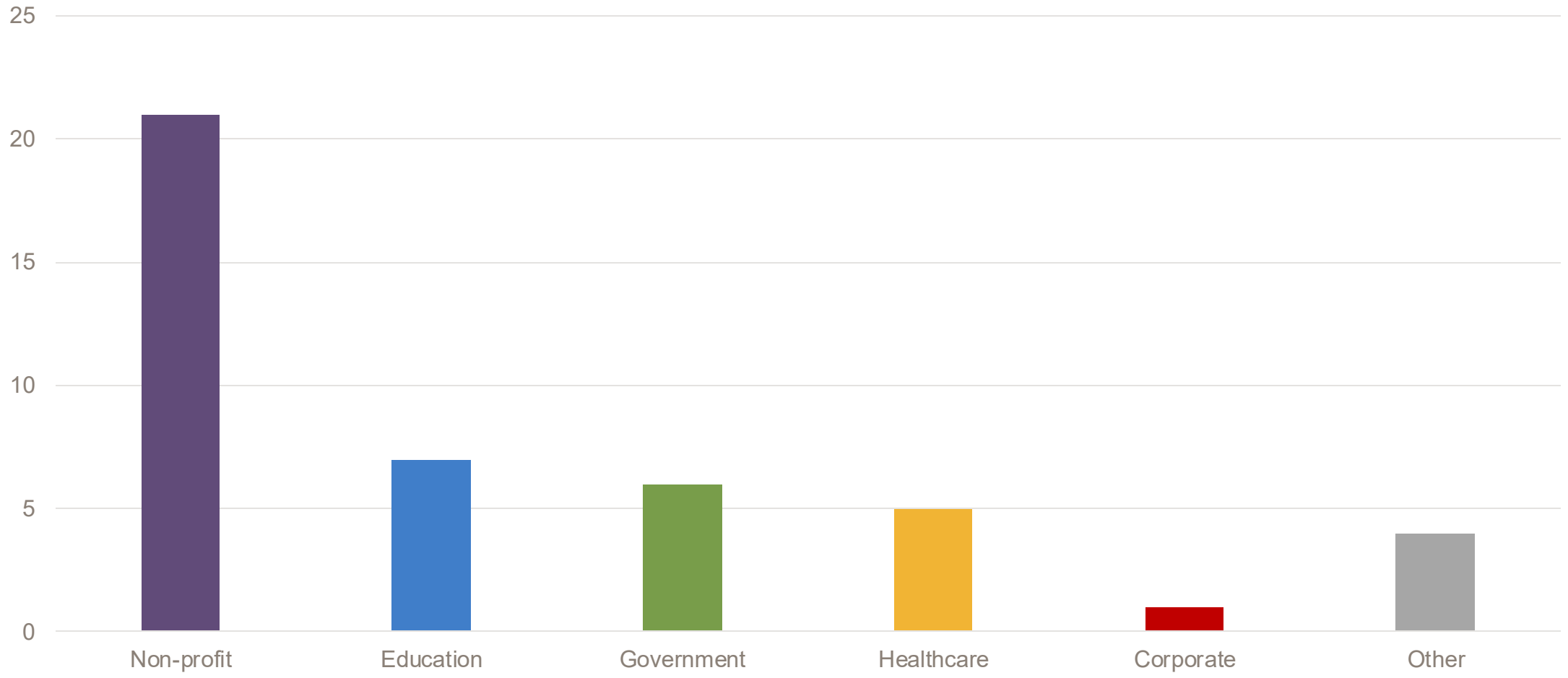

FINISH

Fostering Multi-Sector Collaboration

Be Well Communities Steering Committee Organizations

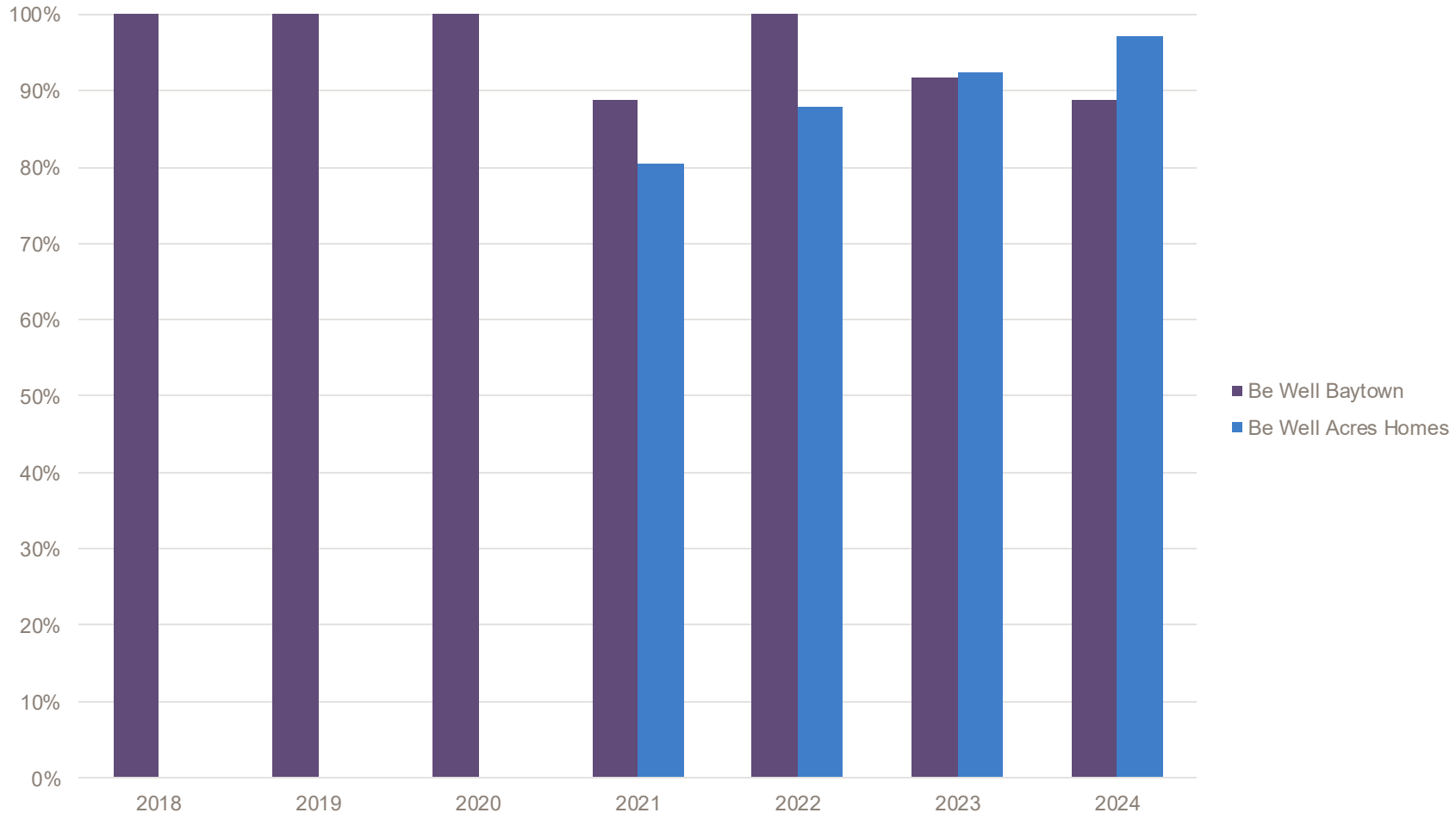
- 10th Fitness LLC
- Acres Homes Chamber for Business and Economic Development, Inc.
- Acres Homes Community Advocacy Group
- Acres Homes Super Neighborhood Council
- Acres of Angels
- Aldine ISD
- Back to Eden
- BakerRipley
- Beauty's Community Garden
- Brighter Bites
- Chambers County Public Health Department
- Chambers Health
- City of Baytown
- City of Houston
  - Health Department
  - Parks and Recreation Department
- Civic Heart Community Services
- Collaborating Voices Foundation
- ExxonMobil
- First3Years: Babies in Baytown
- Fred Aguilar Promise Center
- Goose Creek CISD
- Harris County Precinct 1
- Harris Health
- Healthy Outdoor Communities
- Hearts and Hands of Baytown
- Honor Humanity
- Houston Business Development, Inc.
- Houston Food Bank
- Houston Parks Board
- Houston Public Library
- Kings Bike and Hike Community
- Lee College
- Lone Star College - Houston North
- Memorial Hermann Community Benefit Corporation
- METRO
- Nature and Eclectic Outdoors
- Near Northwest Management District
- Prairie View A&M University
- Southeast Harris Community Coalition
- Talent Yield Coalition sponsor of Marcelous-Williams Resource Center
- Telos CDC
- The Community of Faith Church – Compassion in Action Program
- The Harris Center for Mental Health and IDD
- The University of Texas MD Anderson Cancer Center
- United Way of Greater Baytown Area and Chambers County
- University of Houston Health Research Institute
- UTPhysicians Multispecialty Victory and Greens
- UTHealth Houston School of Public Health

Steering Committee Organizations by Sector



Creating New Partnerships

Respondents that somewhat or strongly agree that they have developed new partnerships in the community through our participation in the Steering Committee



"The Steering Committee meeting process has helped us think about how to structure and implement other committee meetings…Participation in this initiative has also ***changed how we think about community engagement—we are thinking more holistically now."***

Lessons Learned

- Ensure the needs of the community guides all aspects of the work
- Build capacity of the organizations and people who will be in the community for the long term
- Meet community organizations where they are and engage authentically
- Invest in programs, people, and infrastructure
- Provide opportunities for organizations to work together
- Provide evaluation technical assistance at every step
- Be flexible
- Plan for sustainability

Community Outreach Programs

All programs are **FREE**

Topics include:

- Cancer prevention overview
- Healthy eating and staying active
- Breast cancer prevention
- Women's cancer symptoms
- Men's health tips
- Skin cancer prevention
- Vaping and smoking
- Colorectal cancer prevention
- HPV vaccine
- Careers in health care

THE UNIVERSITY OF TEXAS
MD Anderson Cancer Center
Making Cancer History®

MDAnderson.org/Community

Contact Us

Learn more at MDAnderson.org/BeWellCommunities

Email us at BeWellCommunities@MDAnderson.org

Platform Team & Supporters

Platform Team

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- Marcita Galindez, M.P.A.
- Blake Harper, M.P.H.
- Barbara Mahinda
- Lauren McDonald, M.P.H., CHES®
- Christina Nelson, M.H.A., PMP
- Martha Vieco-Garcia, M.S.

Institutional Partners

- Cause Alliances
- Clinical Research
- Community Alliances
- Corporate and Foundation Relations
- Government Relations
- Health Disparities Research
- Legal Services
- Office of Cancer Prevention and Population Sciences
- Office of the Chief Scientific Officer
- Office of Health Policy
- Philanthropy

Recent Publications

- Raber M, Oestman K, Rumfield L, et al. Be Well Baytown: Whole-Community Cancer Prevention Initiative Based on Multi-Sector Capacity and Partnership Building. *Cancer Control*. 2025;32. doi:10.1177/10732748251347584
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- Oestman, K., Rechis, R., Williams, P.A. et al. Reducing risk for chronic disease: evaluation of a collective community approach to sustainable evidence-based health programming. BMC Public Health 24, 240 (2024). https://doi.org/10.1186/s12889-024-17670-3
- Rechis R, Oestman KB, Walsh MT, Love B, Hawk EH. Be Well™ Acres Homes: a community-driven, evidence-based approach to reduce health inequities through sustained cross-sector partnership. Cancer Causes Control. 2023. https://doi.org/10.1007/s10552-023-01818-4

*Please see a full list of publications at MDAnderson.org/CPCP