Creating Resilient Communities by Communities

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Project Manager

MIG

How do you create sidewalks in disadvantaged neighborhoods

How do you create sidewalks in disadvantaged neighborhoods …while not impacting the drainage?


Existing
Roadway
Existing Open
Ditch

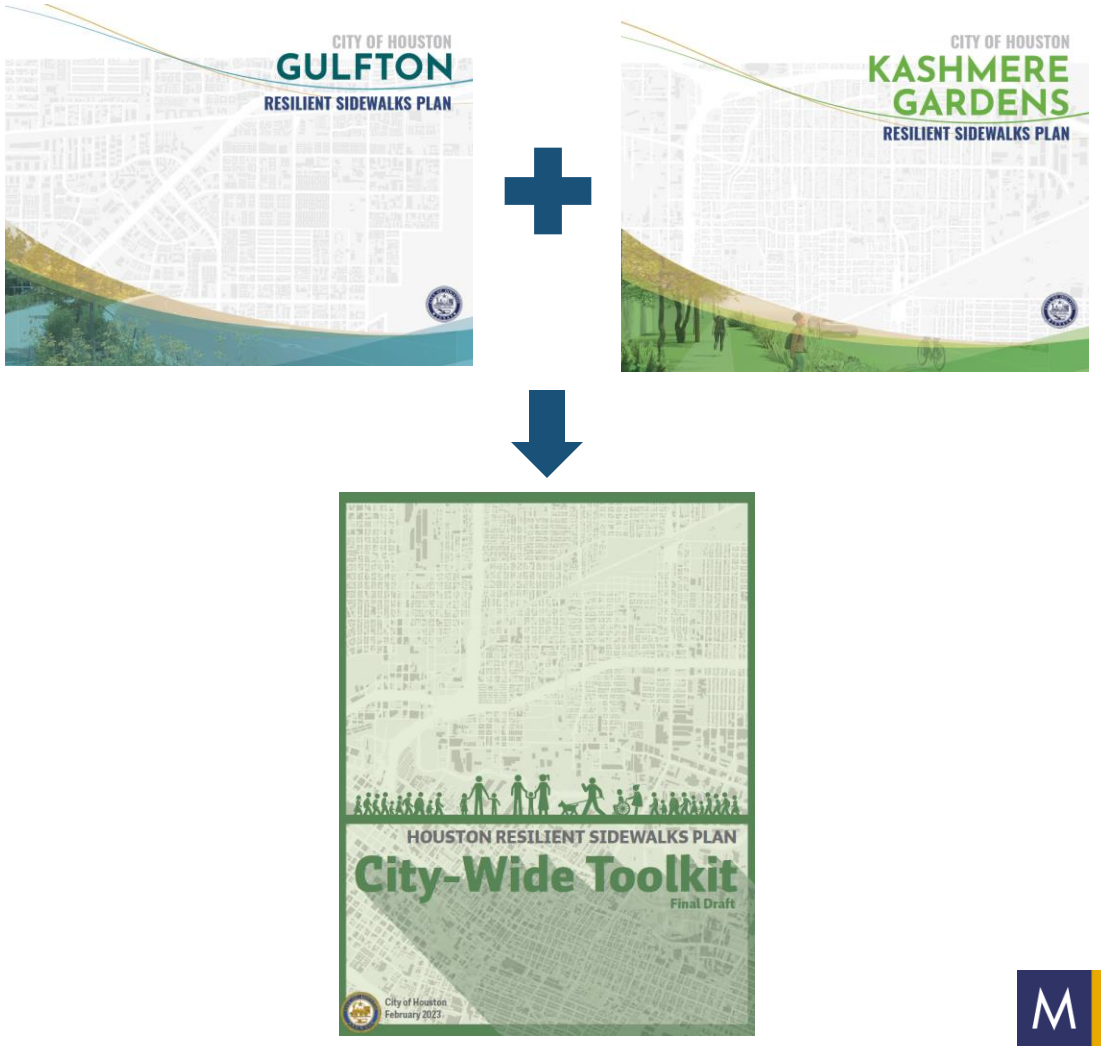

Existing
Sidewalk
Existing
Roadway

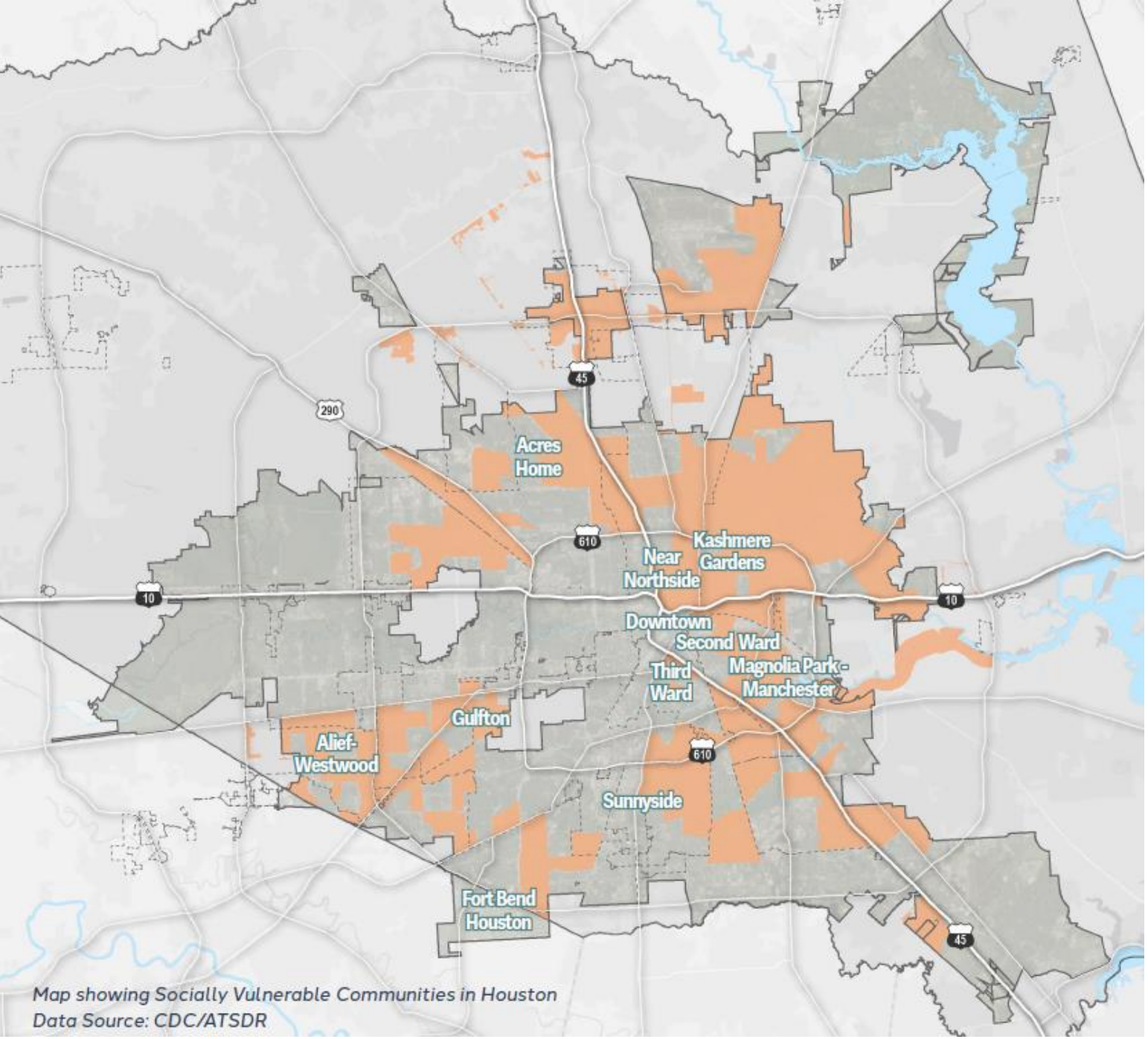

END
ROAD WOR


Houston Resilient Sidewalks Plan Components

Three Main Components

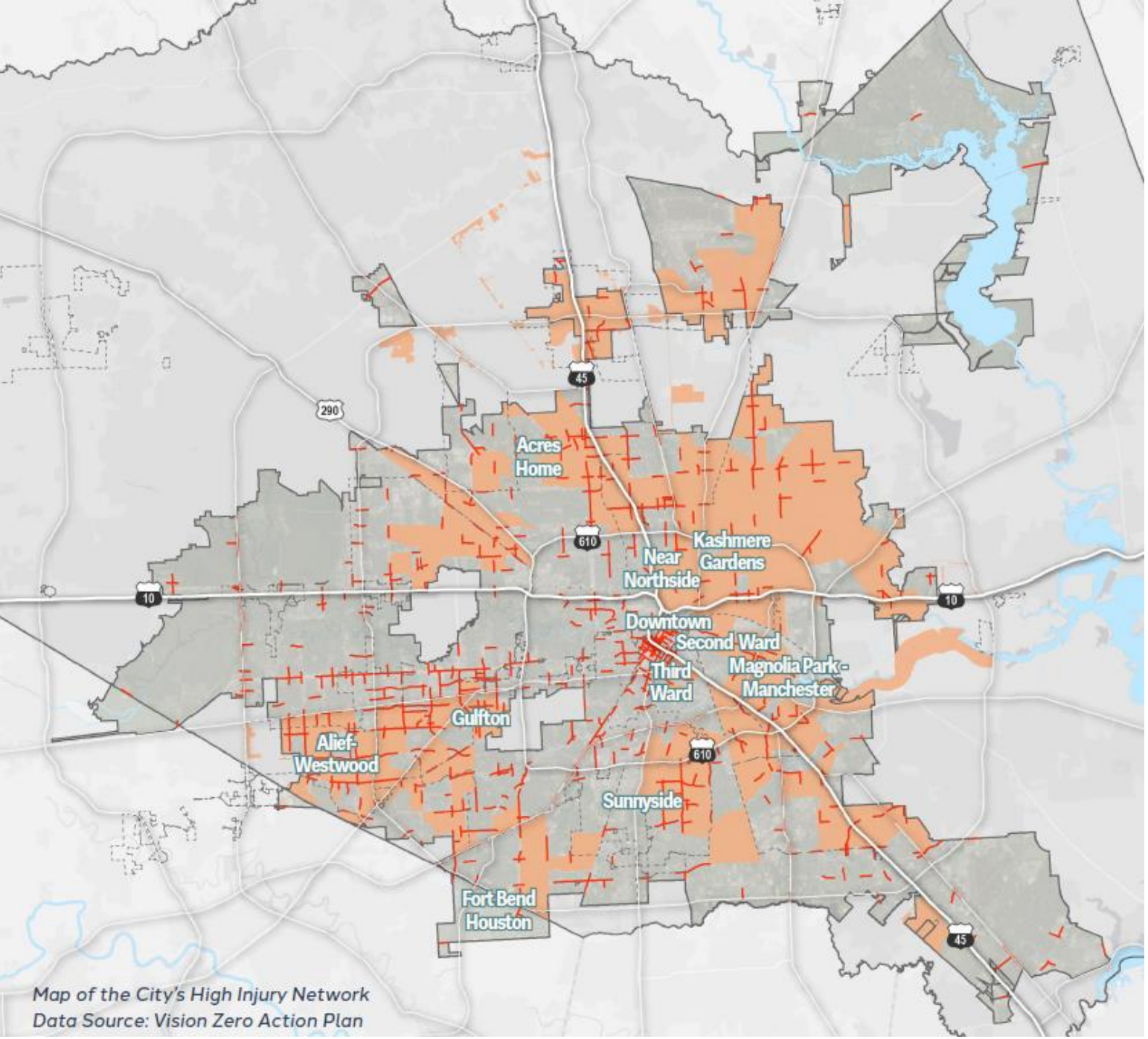
- Houston Resilient Sidewalks Plan City-Wide Toolkit
- Kashmere Gardens Resilient Sidewalks Plan
- Gulfton Resilient Sidewalks Plan





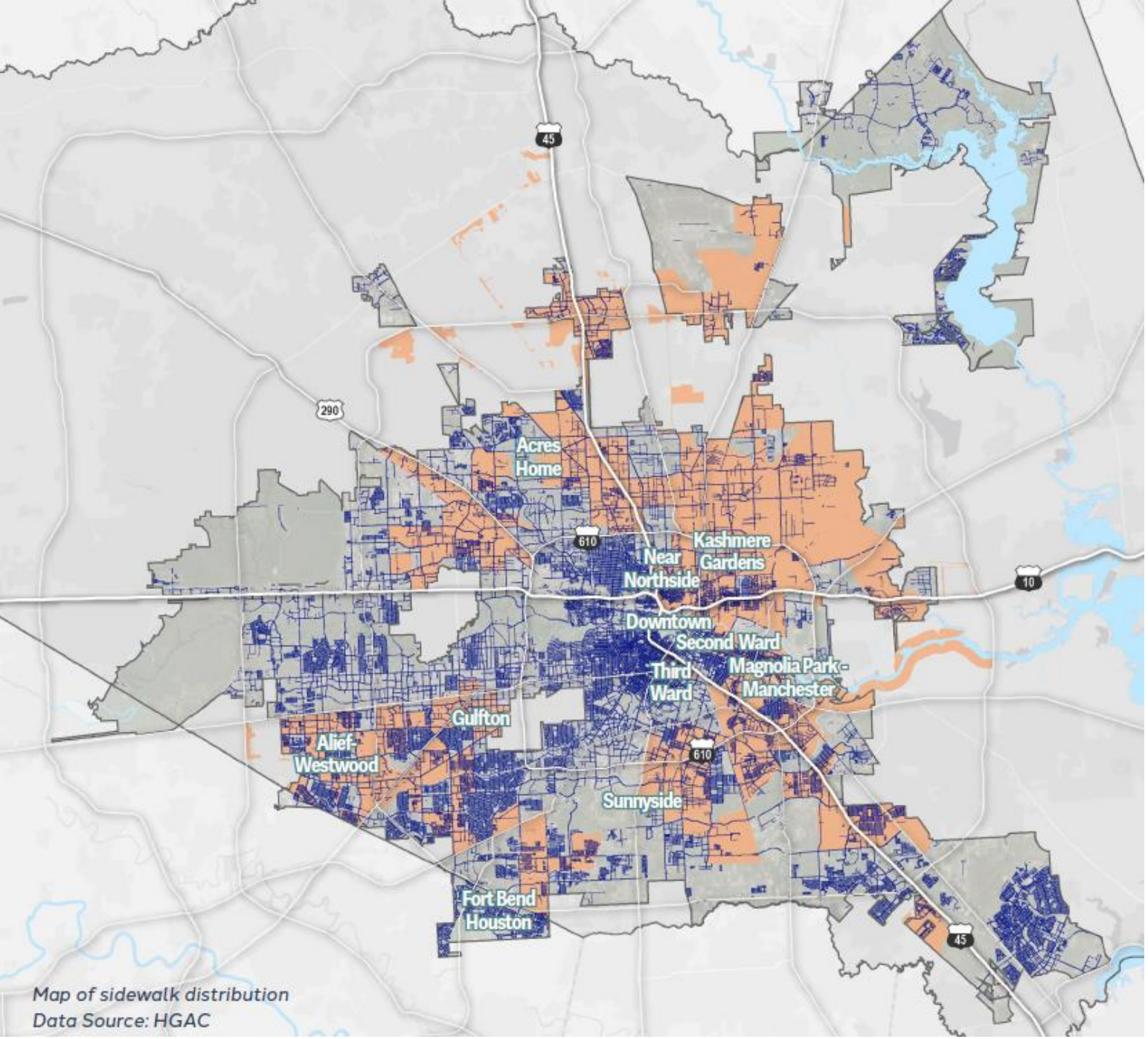
Map showing Socially Vulnerable Communities in Houston
Data Source: CDC/ATSDR

- Socially Vulnerable Communities



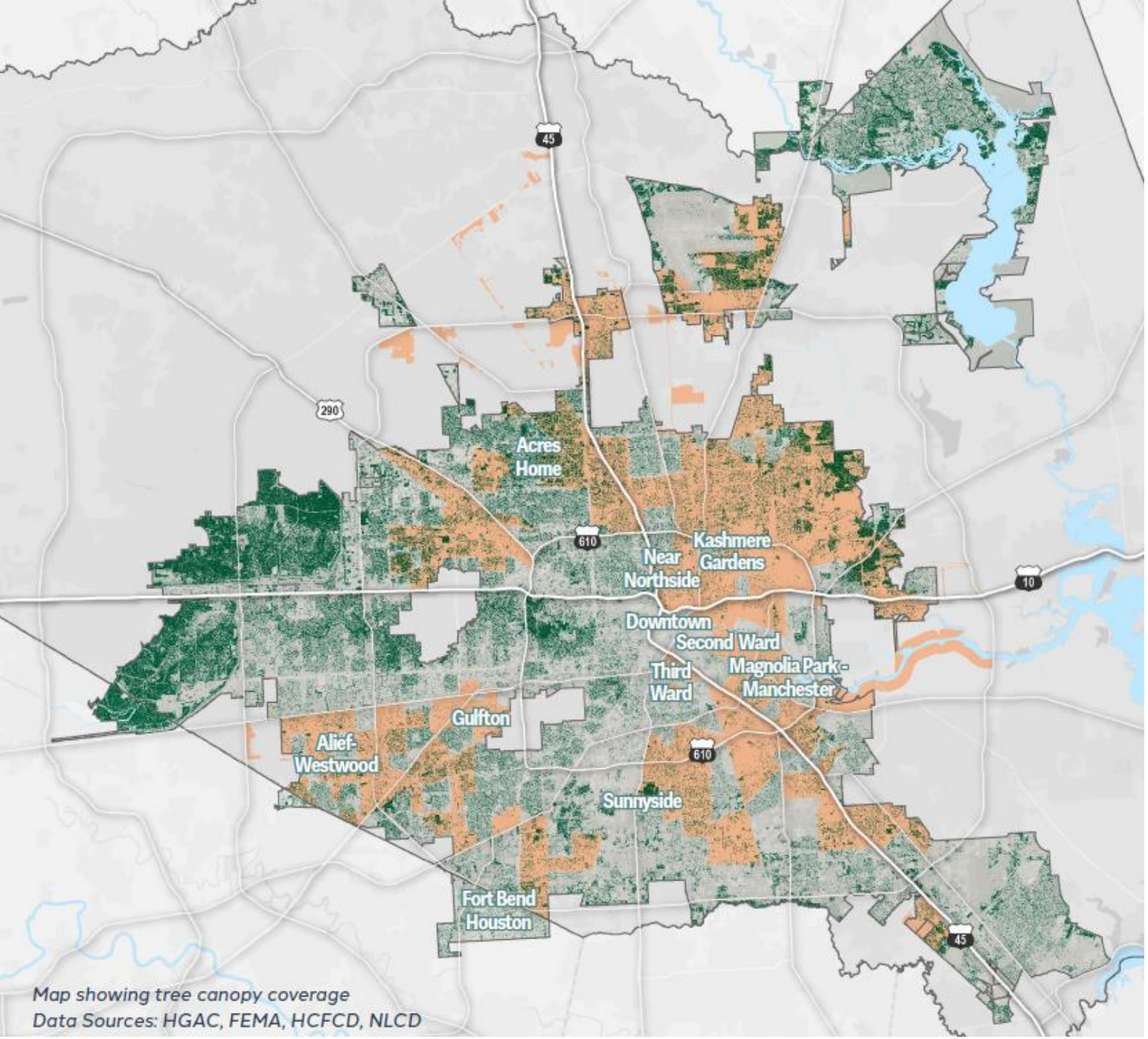
Map of the City's High Injury Network
Data Source: Vision Zero Action Plan

- Socially Vulnerable Communities
- High Injury Network



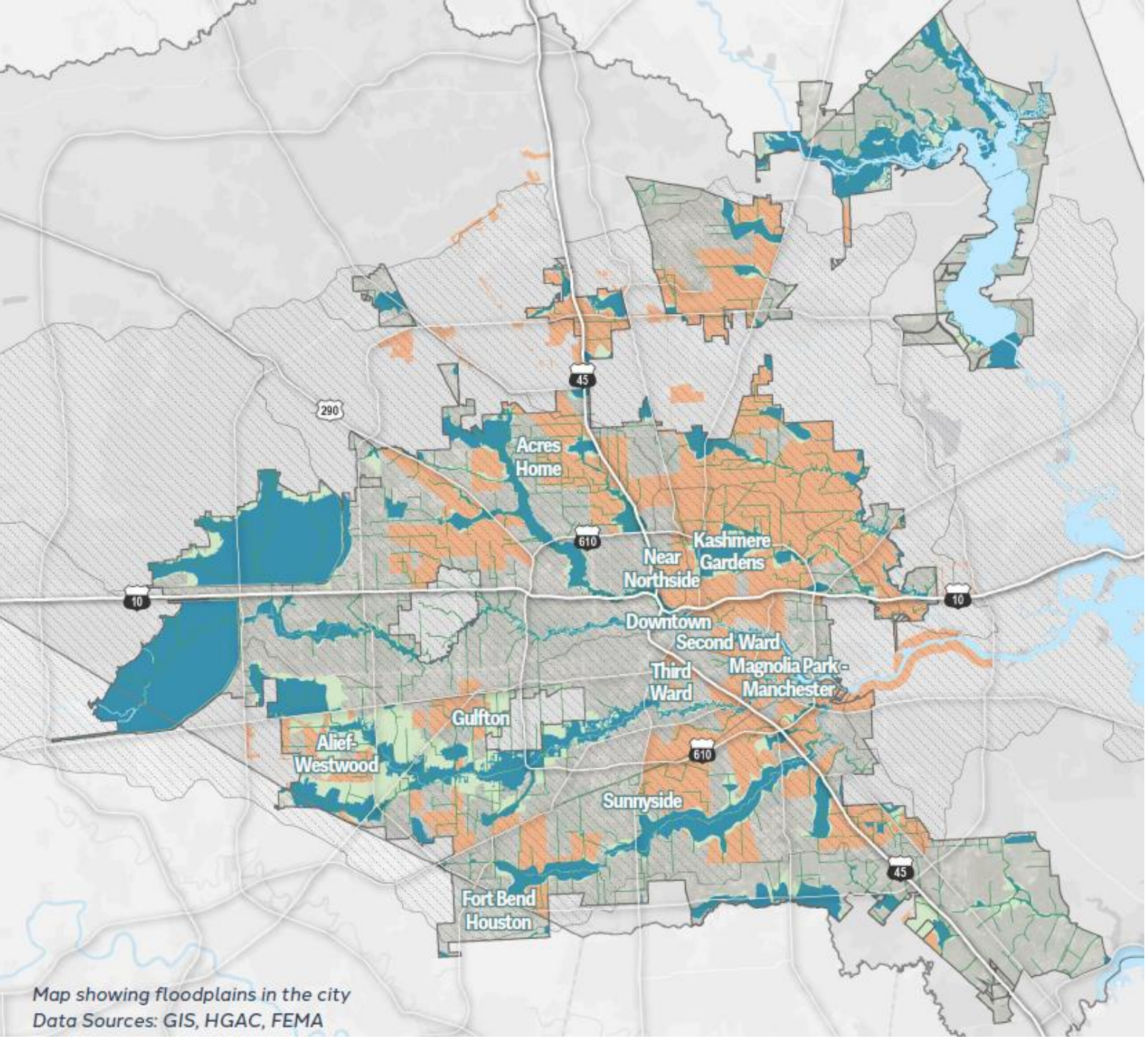
Map of sidewalk distribution
Data Source: HGAC

- Socially Vulnerable Communities
- High Injury Network
- Sidewalk Distribution



Map showing tree canopy coverage
Data Sources: HGAC, FEMA, HCFCD, NLCD

- Socially Vulnerable Communities
- High Injury Network
- Sidewalk Distribution
- Tree Distribution



Map showing floodplains in the city
Data Sources: GIS, HGAC, FEMA

- Socially Vulnerable Communities
- High Injury Network
- Sidewalk Distribution
- Tree Distribution
- Flooding

Meaningful Engagement

- Go to people
- Listen to people in a language that they feel comfortable speaking
- Trust people to make informed decisions






Meaningful Engagement

- Participants: 4000+
- Languages: 18+
- Events: 60+






Meaningful Engagement

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- Stand alone community meetings …. also known as the ‘gold standard of community engagement’: 0






Meaningful Engagement

- Participants: 4000+
- Languages: 18+
- Events: 60+
- Stand alone community meetings …. also known as the ‘gold standard of community engagement’: 0
- Awesome CBO partners: 4+





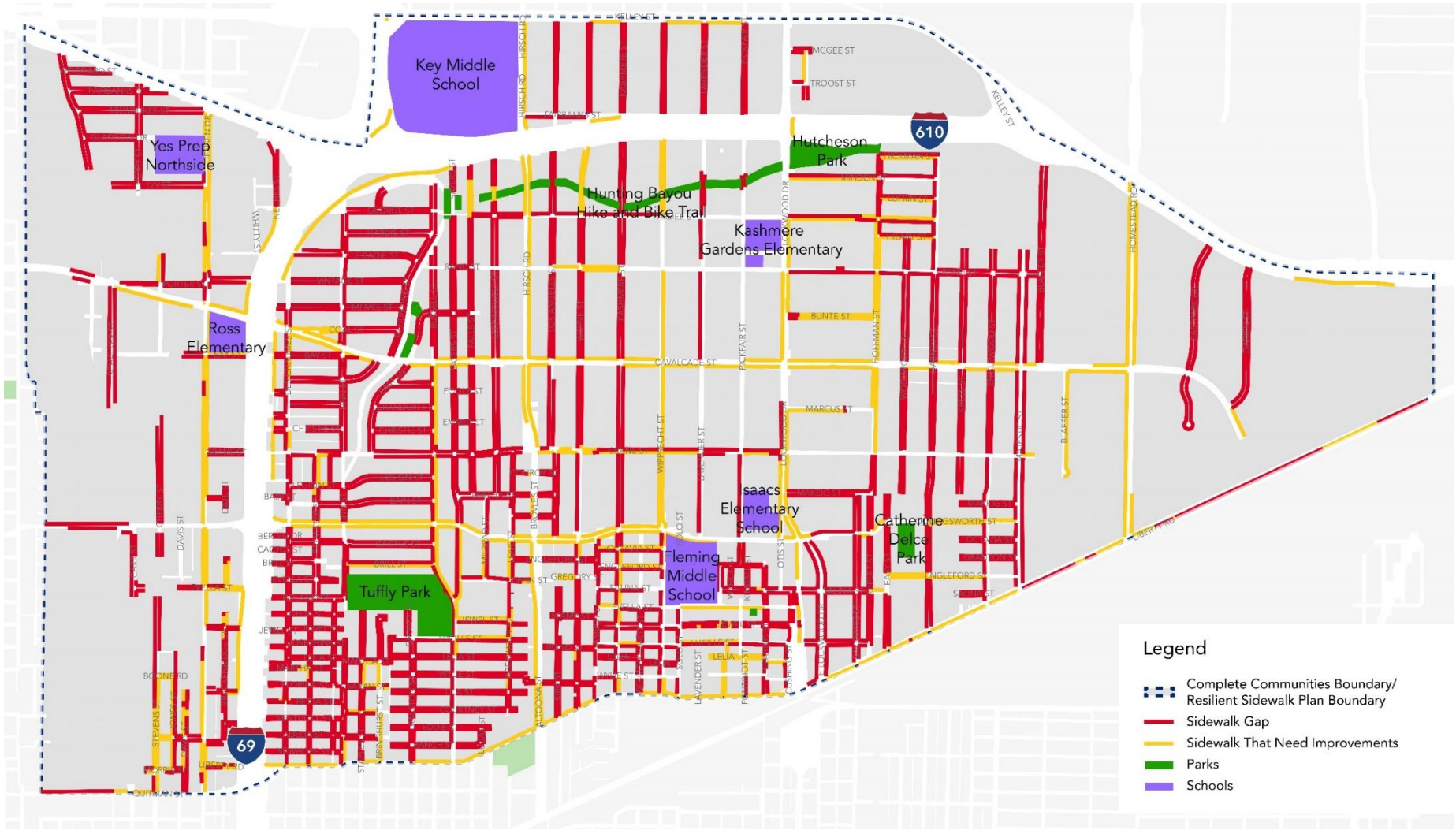


GULFTON NEIGHBORHOOD
SIDEWALK PLAN
PLACE A STICKER ON THE WALKING IMPROVEMENTS YOU WOULD LIKE TO SEE FOR GULFTON
GULFTON NEIGHBORHOOD
SIDEWALK PLAN
PLACE A STICKER ON THE IMPROVEMENT THAT CAPTURE STORMWATER THAT YOU WOULD LIKE TO SEE
GULFTON NEIGHBORHOOD
SIDEWALK PLAN
GULFTON NEIGHBORHOOD
SIDEWALK PLAN

How do you create sidewalks in disadvantaged neighborhoods …while not impacting the drainage…

How do you create sidewalks in disadvantaged neighborhoods …while not impacting the drainage… and have trees for shade and comfort?!

Existing Conditions - Kashmere Gardens



Scenario OD-1: Existing

Open Ditch Next to Roadway

Existing Context

Primarily observed in local residential streets, this existing condition involves an open ditch on at least one side, directly adjacent to the roadway. The space between the open ditch and property line may include a sidewalk or completely lack pedestrian infrastructure. The roadway may contain parking on one or both sides of the street. Overhead and at-grade utilities are generally located at the edge of the ROW.

Typical existing conditions on local residential streets

Scenario Applicability Criteria

Right-of-Way (ROW)	40' – 80'
Travel Lanes	Two minimum
Drainage	Open Ditch
Pedestrian Infrastructure	No sidewalks; sidewalk on one side; sidewalk on both sides in poor condition

Scenario OD-1: Proposed

Open Ditch Next to Roadway

Preferred Solution OD-1.0

The proposed improvements include adding a sidewalk on at least one side of the ROW. Additional improvements include converting the open ditch into a bioswale to mitigate potential flooding created by adding additional impervious pavement. No change is proposed to the existing roadway.

Scenario Improvement Criteria

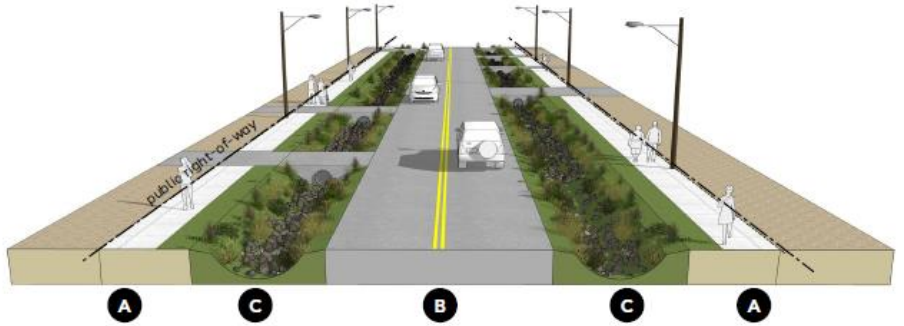
Sidewalk/ Pedestrian Zone*	5' minimum (6' preferred) standard concrete sidewalk	A
Vehicular and Bike Access*	18' minimum with two bi-directional lanes (20' preferred) Refer to the City of Houston Bike Plan	B
Drainage/ Amenity Zone	8' minimum open ditch repurposed as bioswale	C

Alternative Solutions

OD-1.1	Provide permeable sidewalk on at least side of the street. Maintain existing open ditches and roadway.
OD-1.2	Provide standard concrete sidewalk on at least one side of the street. Convert part or all of the roadway to porous asphalt to mitigate drainage issues. Maintain existing open ditches.
OD-1.3	Regrade entire street and provide one consolidated bioswale in middle of ROW. Provide standard concrete sidewalks (raised or with slotted curbs) on both sides of the street.

Cost Estimates

Construction: $3,300 per linear foot
Operation and Maintenance: $10 per linear foot



** Will require modification approval if located on a TOD Street, Major Thoroughfare, or within the Central Business District. May require modification approval if identified in the Walkable Places Plan.*

Scenario CG-1: Existing

Curb and Gutter on a Local Street

Existing Context

Generally observed on residential, commercial, industrial and mixed-use streets, the existing condition consists of a curb and gutter drainage system. This condition may have intermittent sidewalks on one or both sides, or completely lack pedestrian infrastructure. The roadway may contain bike and parking facilities on one or both sides of the street. Overhead and at-grade utilities are generally located at the edge of the ROW and along the curb.

Scenario Applicability Criteria

Right-of-Way (ROW)	30' – 80'
Travel Lanes	Two minimum
Drainage	Underground Drain
Pedestrian Infrastructure	No sidewalks; sidewalk on one side; sidewalk on both sides

Typical existing conditions on local streets

Scenario CG-1: Proposed

Curb and Gutter on a Local Street

Preferred Solution CG-1.0

Proposed improvements include adding a sidewalk with a landscaped bioretention planter on at least one side of the roadway. No change is proposed to the existing roadway.

Scenario Improvement Criteria

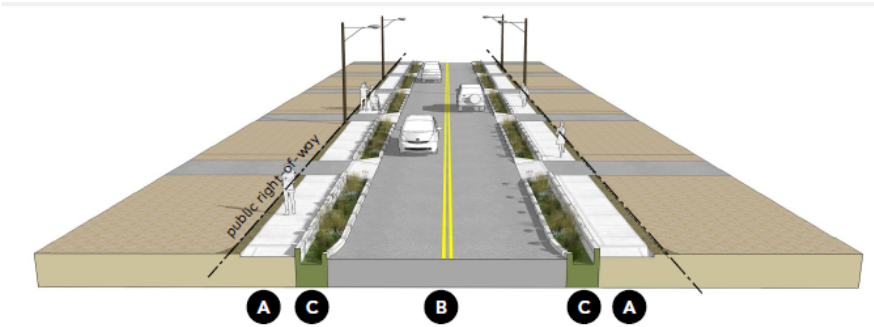
Sidewalk/ Pedestrian Zone*	5' minimum (6' preferred) standard concrete sidewalk	A
Vehicular and Bike Access	20' minimum with two bi-directional lanes Refer to the City of Houston Bike Plan	B
Drainage/ Amenity Zone**	4' minimum bioretention planter	C

Cost Estimates

Construction: $3,610 per linear foot
Operation and Maintenance: $10 per linear foot

Alternative Solutions

CG- 1.1	Provide landscape-buffered standard concrete sidewalk on at least one side of the street. Maintain underground drainage and roadway.
CG- 1.2	Provide multi-use pedestrian and bike pathway on one side of the street and a landscape-buffered standard concrete sidewalk on the other. Maintain underground drainage and roadway.
CG- 1.3	Provide landscape-buffered standard concrete sidewalk on at least one side of the street. Provide tree boxes next to stormwater inlets. Maintain underground drainage and roadway.



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***Will require modification approval.*

Scenario OD-1: Proposed

Open Ditch Next to Roadway

Proposed Conditions: Renderings and Built Examples

OD-1.3 Rendering of consolidated drainage in middle of street with sidewalks on both sides of ROW

OD-1.3 Built example of a central consolidated drainage with open space amenities in Copenhagen

OD-1.3 Built example of consolidated central bioswale in Paso Robles, CA

OD-1.3 Built example of a central consolidated drainage with open space amenities in Copenhagen

Chapter 4: Proposed Design Concepts

Scenario OD-3: Proposed

Open Ditch between Narrow Roadway and Property Line

Proposed Conditions: Renderings and Built Examples

OD- 3.0 Rendering of proposed sidewalk along one side of a one-way street

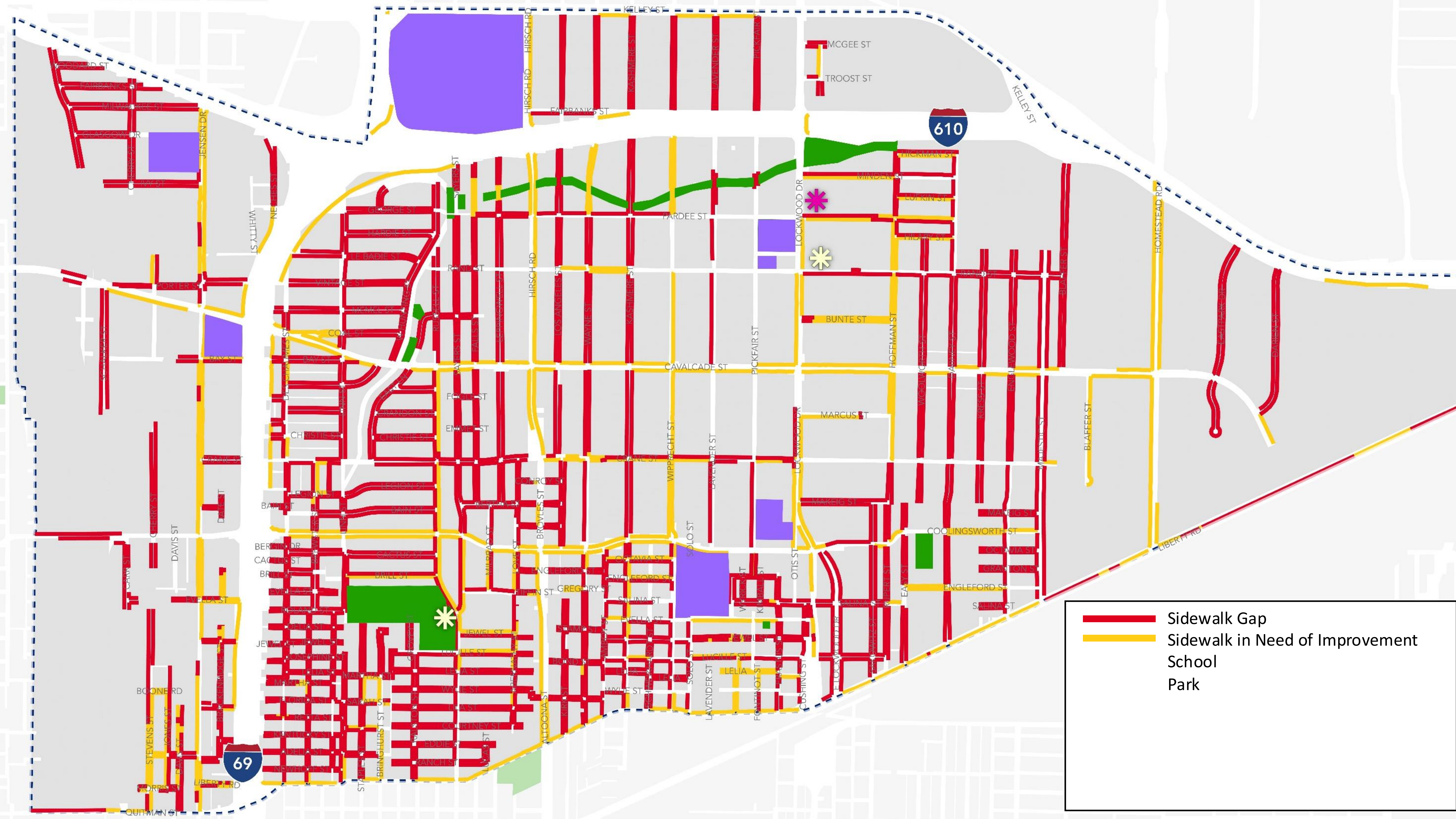
OD-3.1 Built example in Seattle, WA of permeable sidewalk along an open ditch

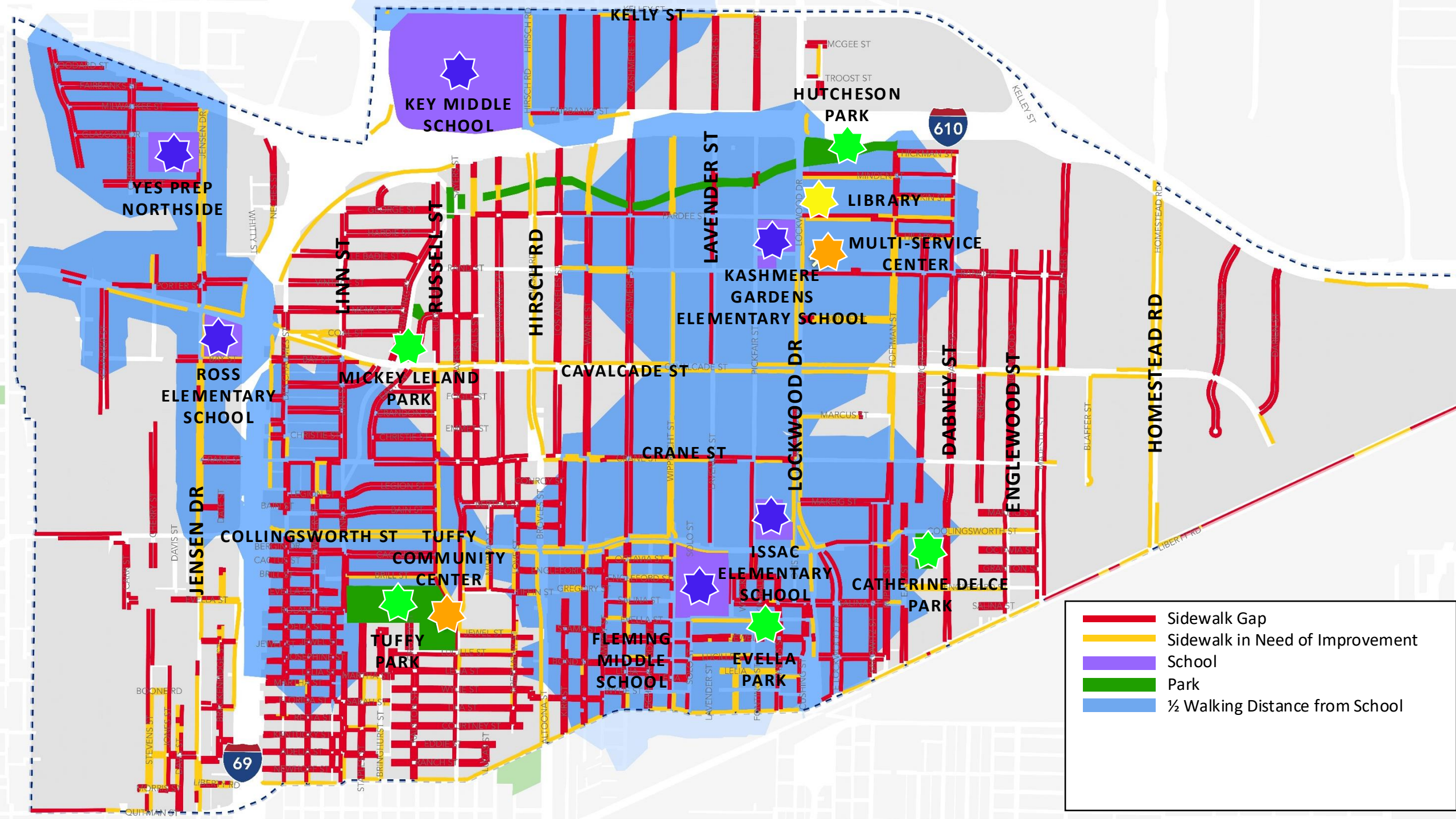
OD-3.3 Rendering of open ditch converted to a standard underground drainage system with a sidewalk and planting strip on top


Existing
Roadway
Existing Open
Ditch


Shade Providing Trees
Vegetated Bioswale in Place of Open Ditch
Raised 6” Slotted Curb
Standard Concrete Sidewalk at Grade with Roadway
MIG

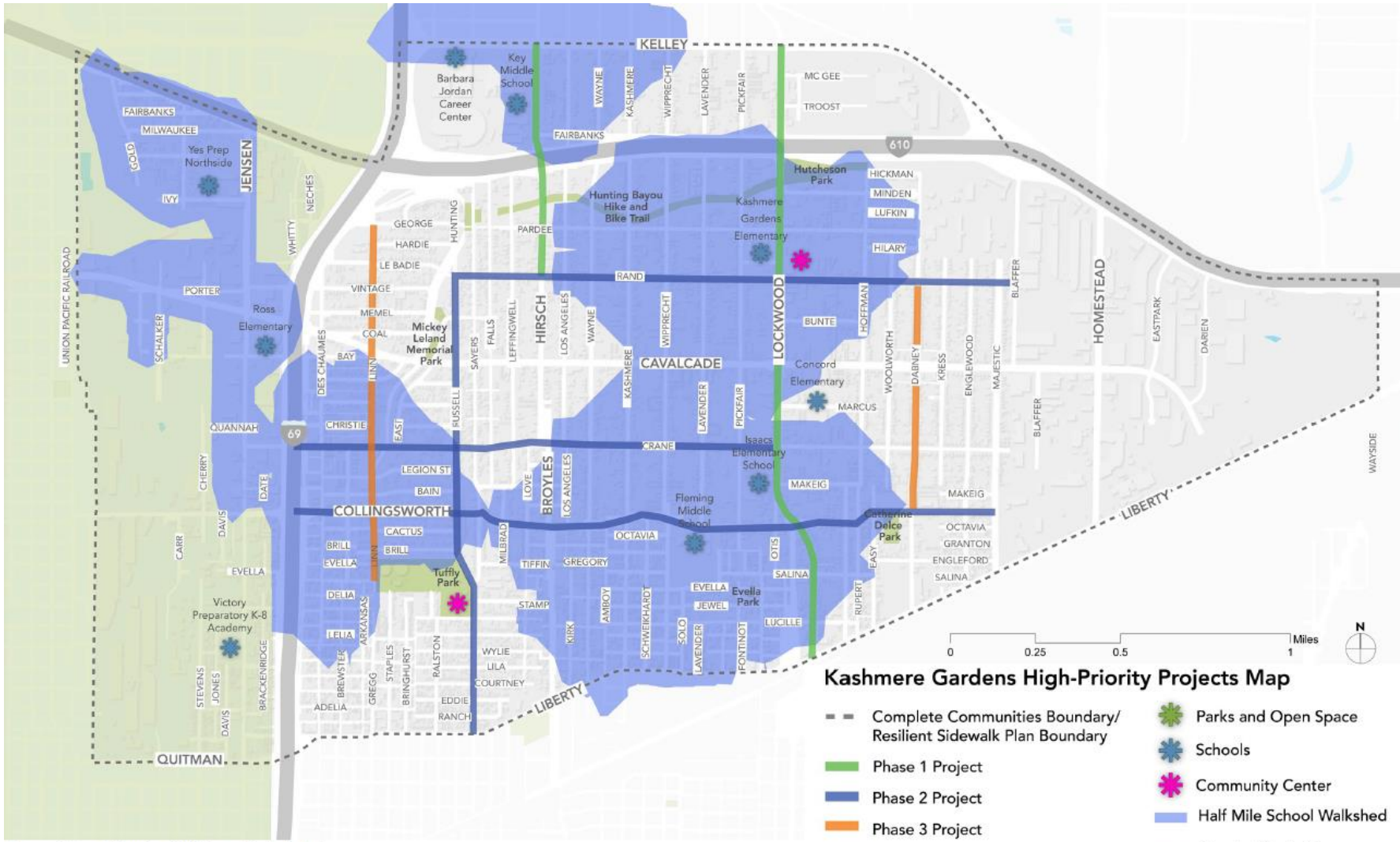

Shade-Providing Trees
Shrubs and Grasses to Beautify the Street and Improve Stormwater Quality
Standard Concrete Sidewalk Protected by Trees
WARNING


Sidewalk Gap
Sidewalk in Need of Improvement
School
Park
610
69
KELLEY ST
MCGEE ST
TROOST ST
HIRSCH RD
FAIRBANKS ST
KASHMERE ST
LAVENDER ST
PICKFAIR ST
HICKMAN ST
MINDEN ST
LUFKIN ST
FARDEE ST
LOCKWOOD DR
HILARY ST
GEORGE ST
LE BADIE ST
BUNTE ST
HOFFMAN ST
CAVALCADE ST
MARCUS ST
WIPPRECHT ST
HOMESTEAD RD
BLAFFER ST
LIBERTY RD
COOLINGSWORTH ST
ENGLEFORD ST
SALINA ST
OTIS ST
SOLO ST
CUSHING ST
BROYLES ST
ALTOONA ST
BRILL ST
JEWEL ST
LUCILLE ST
LELIA ST
STEVENS ST
DAVIS ST
BOONE RD
QUITMAN ST
JENSEN DR
WHITTY ST
PORTER ST
BAY ST
CHRISTIE ST
LEGION ST
STAPLES ST
BRINGHURST ST
COURTNEY ST
EDDIE ST
RANCH ST
EVELLA ST
GREGORY ST
OCTAVIA ST
GRAUSTARK ST
WYLIE ST
MILWAUKEE ST
CASS ST
CACTUS ST
MARTHA ST
SARAH ST
KELLEY ST
FONTAINE ST
BERNARD ST


KELLY ST
KEY MIDDLE SCHOOL
HUTCHESON PARK
610
YES PREP NORTHSIDE
LIBRARY
MULTI-SERVICE CENTER
LAVENDER ST
HIRSCH RD
RUSSELL ST
LINN ST
KASHMERE GARDENS ELEMENTARY SCHOOL
ROSS ELEMENTARY SCHOOL
MICKEY LELAND PARK
CAVALCADE ST
LOCKWOOD DR
DABNEY ST
ENGLEWOOD ST
HOMESTEAD RD
CRANE ST
JENSEN DR
COLLINGSWORTH ST
TUFFY COMMUNITY CENTER
ISSAC ELEMENTARY SCHOOL
CATHERINE DELCE PARK
TUFFY PARK
FLEMING MIDDLE SCHOOL
EVELLA PARK
69
Sidewalk Gap
Sidewalk in Need of Improvement
School
Park
½ Walking Distance from School

Implementation - High Priority Projects

Proposed Priority Street	Proposed Improvements *(Preferred Scenario Solution)*	Cost Estimate*
Phase 1		
Lockwood (Kelley to Liberty)	Sidewalks with bioswales along sections with open drainage system *(OD-1 & OD-2)* and sidewalks with landscape buffer along underground drainage system *(CG-2)*	$31.9M
Hirsch (Kelley to Rand)	Sidewalks with landscape buffer *(CG-2)*	$13.3M
Phase 2		
Crane (I-69 to Lockwood)	Sidewalks with bioswales along sections with open drainage system *(OD-1 & OD-2)* and sidewalks with landscape buffer along underground drainage system *(CG-1)*	$23.1M
Collingsworth (I-69 to Majestic)	Sidewalks with landscape buffer *(CG-2)*	$38.1M
Russell (Rand to Liberty)	Sidewalks with bioswales along property line *(OD-1)*	$22.7M
Rand (Russell to Blaffer)	Sidewalks with landscape buffer west of Lockwood *(CG-1)* and sidewalks with bioswales along property line east of Lockwood *(OD-1)*	$28.4M
Phase 3		
Dabney (Rand to Collingsworth)	Sidewalks with bioswales along property line *(OD-1)*	$12.2M
Linn (George to Roland)	Sidewalks with bioswales along property line *(OD-1)* north of Collingworth and sidewalks on converted one-way street system south of Collingsworth *(OD-3)*	$13.5M



Source: City of Houston GIS Open Data Portal

HOUSTON CHRONICLE

LOCAL // TRANSPORTATION

Federal money aimed at neglected areas to pour $43.4M into Gulfton, Kashmere Gardens sidewalks

By **Dug Begley**, *Staff writer*
Updated March 13, 2024 6:02 p.m.