RIGHT-OF-WAY:

NOT JUST FOR STREETS

TX ASLA // Fort Worth
APRIL 2023

01

SECTION 01

BIOGRAPHIES

01

BIOGRAPHIES

PANELISTS

JASON MILLER

Operations Principal

CLARK CONDON
landscape architecture

MATT BUCHANAN

President

PEARLAND
ECONOMIC DEVELOPMENT CORPORATION

GEOFF CARLETON

Senior Principal

tei
Planning + Design

02

SECTION 02

HISTORY

02

HISTORY

ORIGIN

Right-of-Way as a concept originated in English law in the 1700s to allow the right of the king to establish public roads across private property and allow the public, right of passage on such ways.

Originally called public foot paths, they were created by people to walk to work, market, church, school or to the next village.

The practice was then continued by colonists in North America and is currently defined by Webster as a legal right of passage over another person's ground. The area over which a right-of-way exists a strip of land over which is built a public road, occupied by a railroad or land used by a public utility for transmission.

02 HISTORY

EVOLUTION

AUTOMOBILE-DRIVEN

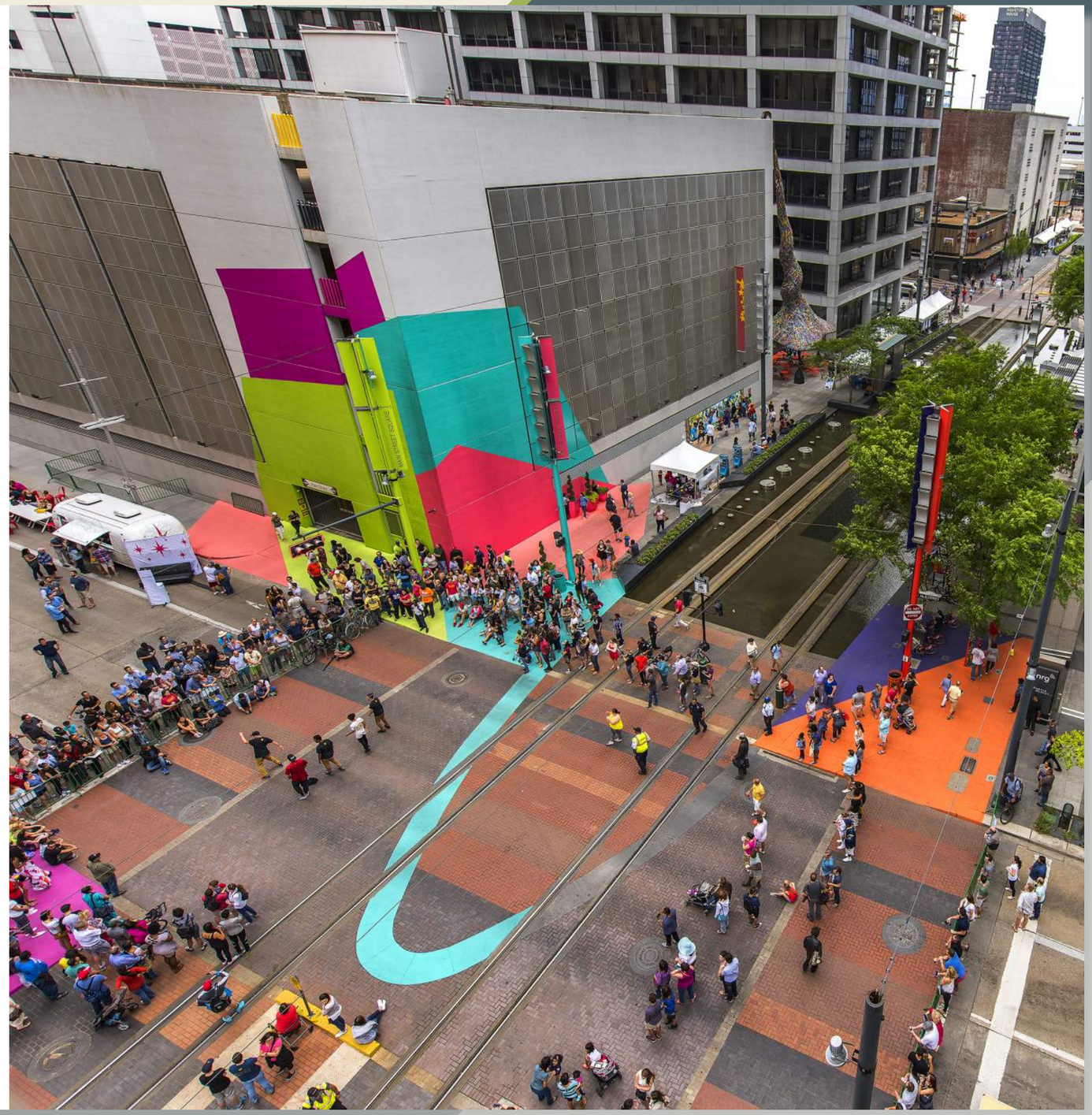
- Mass production of automobiles started in early 1900s
- Creation of the Interstate Highway System in the 1950s
- Families move to suburbs post World War II, creating the commuter way of life
- Today there are over 290 million cars in the U.S.
- 20 million in Texas alone!

02 HISTORY

CURRENT DAY

PROGRAM ELEMENTS

- Vehicles
- Utilities
- LID Principles
- Buses/ Trains
- Site Furniture
- Bike Lanes
- Bike/Scooter Share
- Art/ Sculpture
- Ride Share
- Dinning/ Food Trucks
- Pedestrians
- Landscape
- Branding/ Signage
- Site Lighting
- Hybrid & Electric Vehicles



03

SECTION 03

PLACEMAKING

03 PLACEMAKING
PLANNING

PROGRAMS & GUIDES

- Complete Streets: US & COH
- More Space Program: COH
- Adopt-An-Esplanade: COH
- Green Stormwater Infrastructure Program: COH
- Streetscape Resource Guide: Scenic Houston
- METRONext: COH
- Urban Street Design Guide: National Association of City Transportation Officials
- Connecting Texas 2050: TxDOT
- Tollways to Trailways: HCTRA

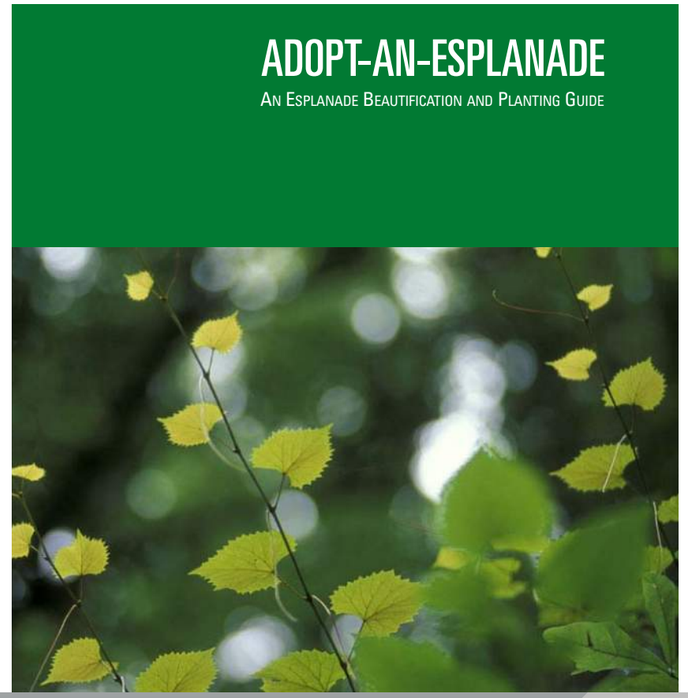
Complete Streets and Transportation Report
2021

PLANNING & DEVELOPMENT DEPARTMENT

City of Houston's
More Space Program
PLANNING & DEVELOPMENT DEPARTMENT

Main Street

PROGRAM GUIDELINES AND REQUIREMENTS
November 2020



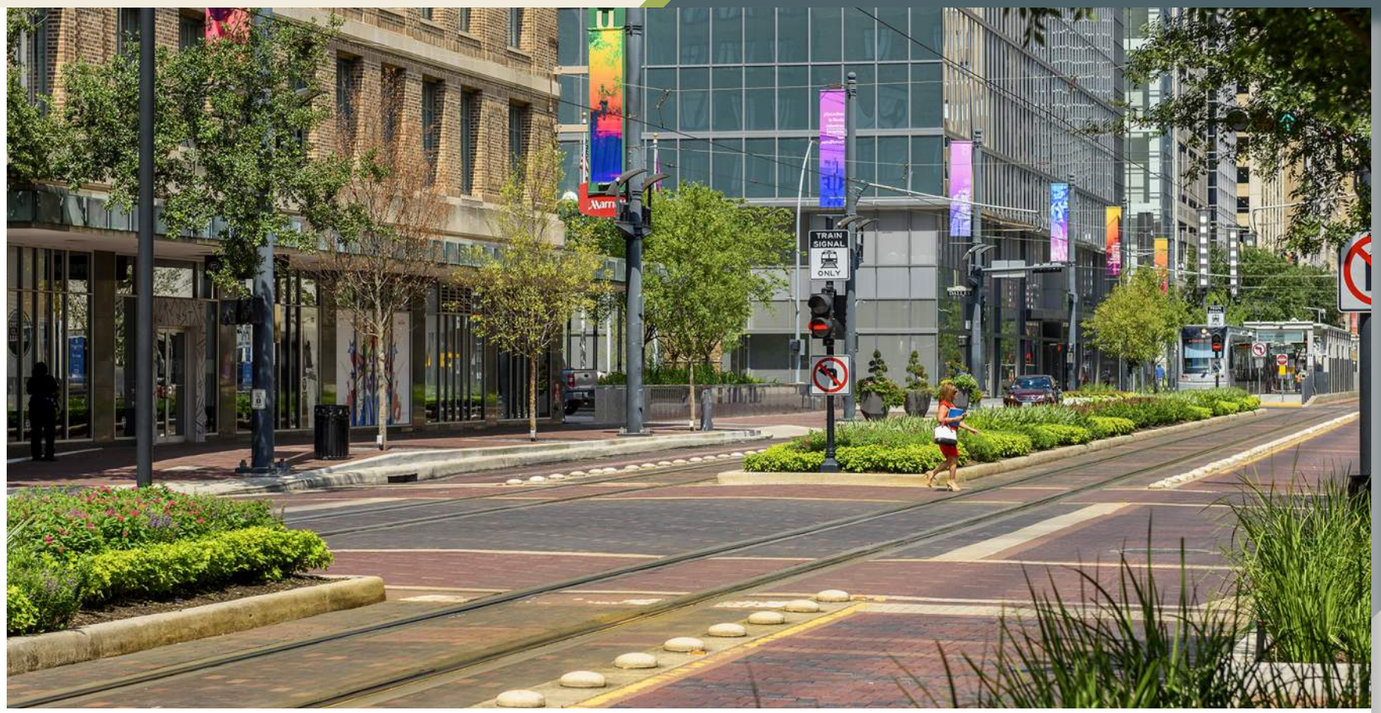
03

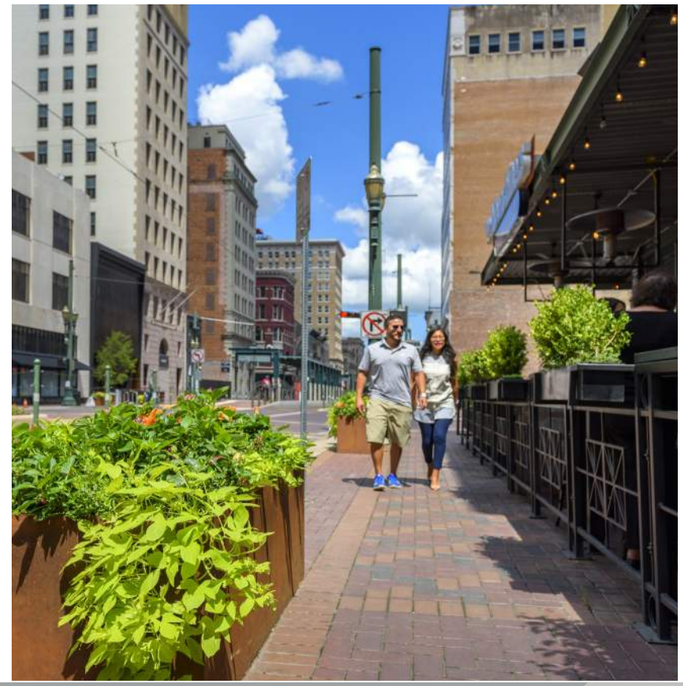
PLACEMAKING

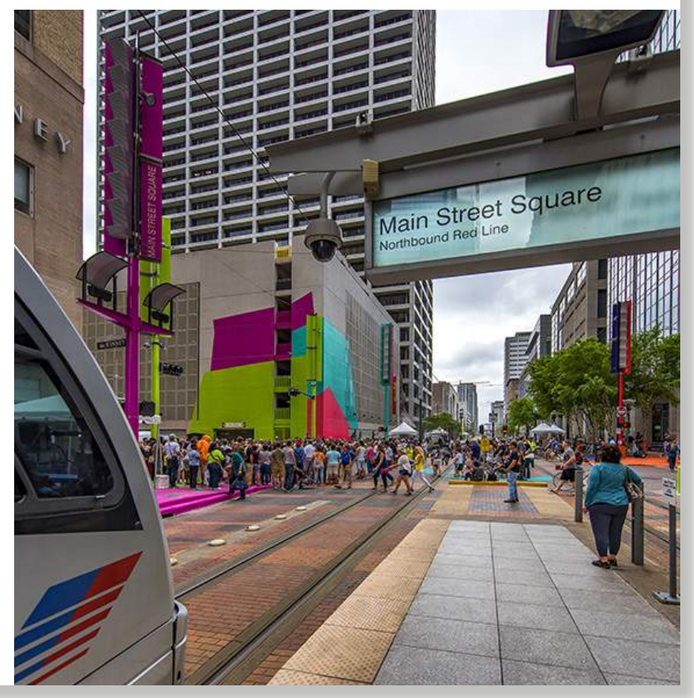
MAIN STREET

FEATURES

- Reduced Vehicular Lanes
- Metro Rail Lines
- Water Feature
- Planters
- Trees, Shrubs & Groundcover
- Art/Sculpture
- Banner Program
- On-street Dinning
- Site Furniture
- Site Lighting
- Enhanced Pedestrian Paving







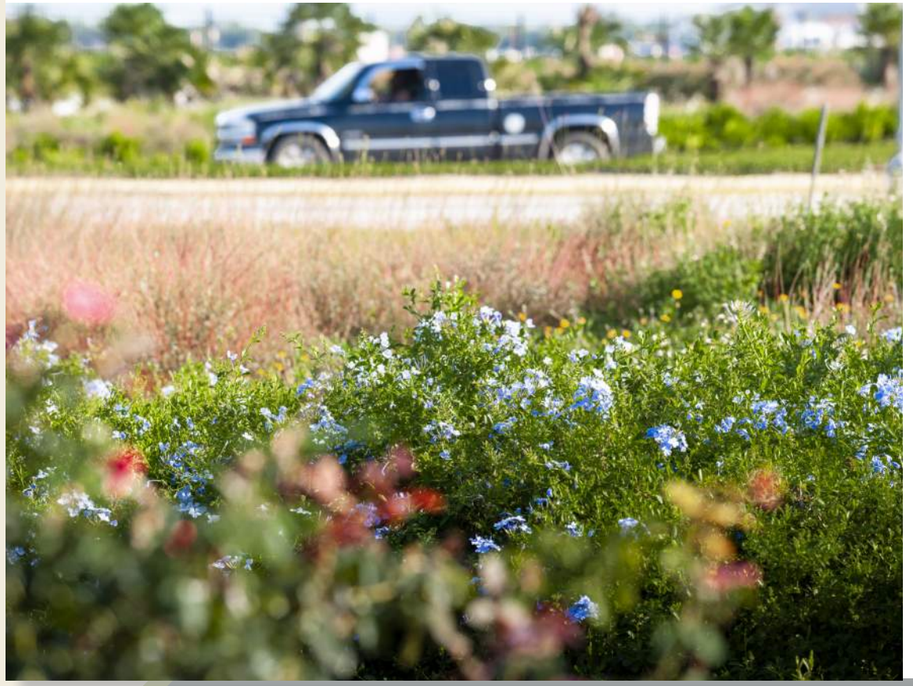
03

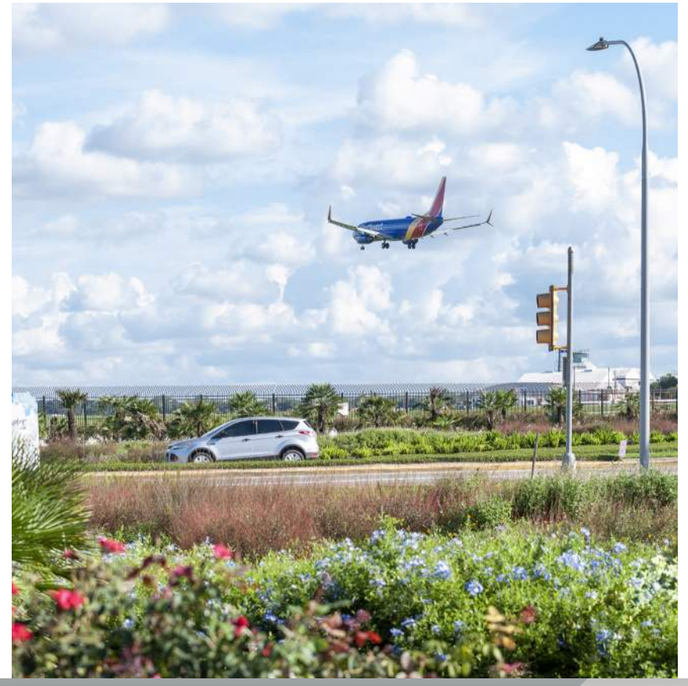
PLACEMAKING

AIRPORT BLVD.

FEATURES

- LED Street Lighting
- Trees, Palms, Shrubs & Groundcovers
- COH Adopt-An-Esplanade Program
- Site/Amenity Lighting
- FAA Approved Landscape





03

PLACEMAKING

SPRINGWOODS

FEATURES

- CityPlace
- Bioswales
- Native Landscape
- Trees, Shrubs & Groundcover
- Existing Landscape Preservation
- Pedestrian & Street Lighting

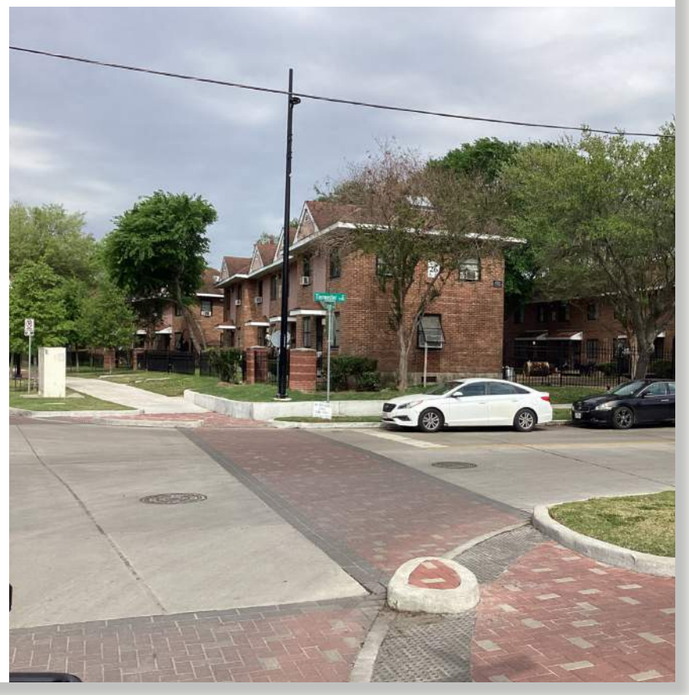
03

PLACEMAKING

TSU CAMPUS

PH 1 FEATURES

- Shared Use Pathways
- Street & Pedestrian Lighting
- Branding & Identity
- Special Paving & Site Furniture
- Improve Equity



03

PLACEMAKING

TSU CAMPUS

PH 2 CONSTRUCTION

- Dedicated Bike Lanes
- Reduced Travel Lanes
- Floating Bus Shelters
- Median Improvements
- Improve Connectivity to Regional Systems
- Columbia Tap Trail

04

SECTION 04

FUNCTIONALITY

04

FUNCTIONALITY

STREET DESIGN

EVERY STREET IS AN EXPRESSION OF A SET OF VALUES

04

FUNCTIONALITY

STREET DESIGN

EVERY STREET IS AN EXPRESSION OF A SET OF VALUES

04

FUNCTIONALITY

STREET DESIGN

SAMPLE STREET DESIGN VALUES

- Safety
- Vehicle Capacity (existing or future)
- People Capacity
- Speed
- Universal Access
- Environment/Resilience
- Aesthetics/Beauty
- Equity
- Economic Vitality
- Health + Activity (walkability/bikeability)
- Innovation
- Freedom
- Leisure
- Fun

04

FUNCTIONALITY

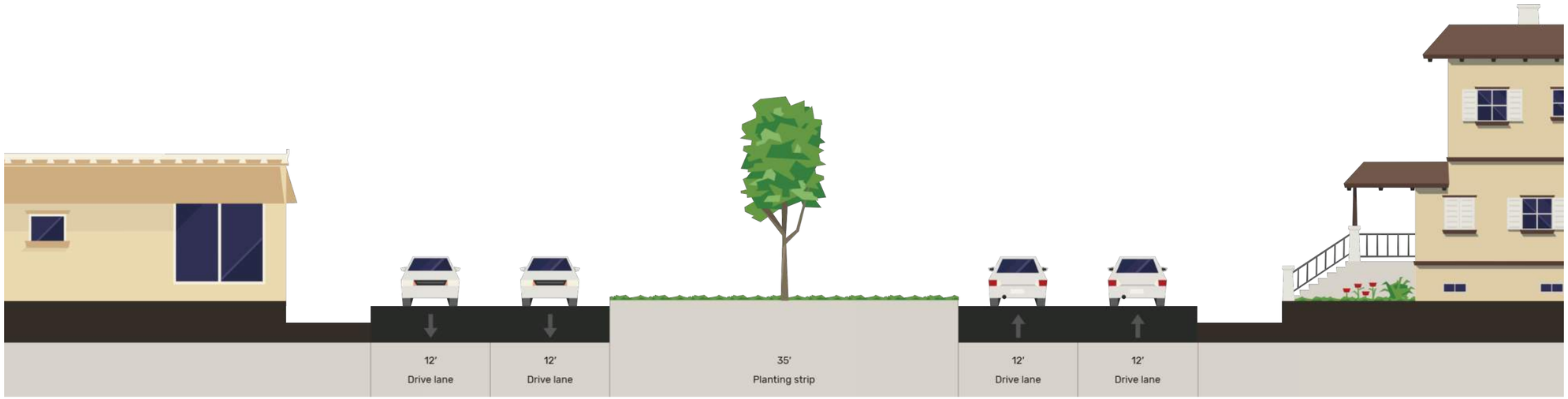
STREET DESIGN

STARTING POINT

» Developing a design for a 4-lane road in 100’ ROW

04 FUNCTIONALITY

STREET DESIGN

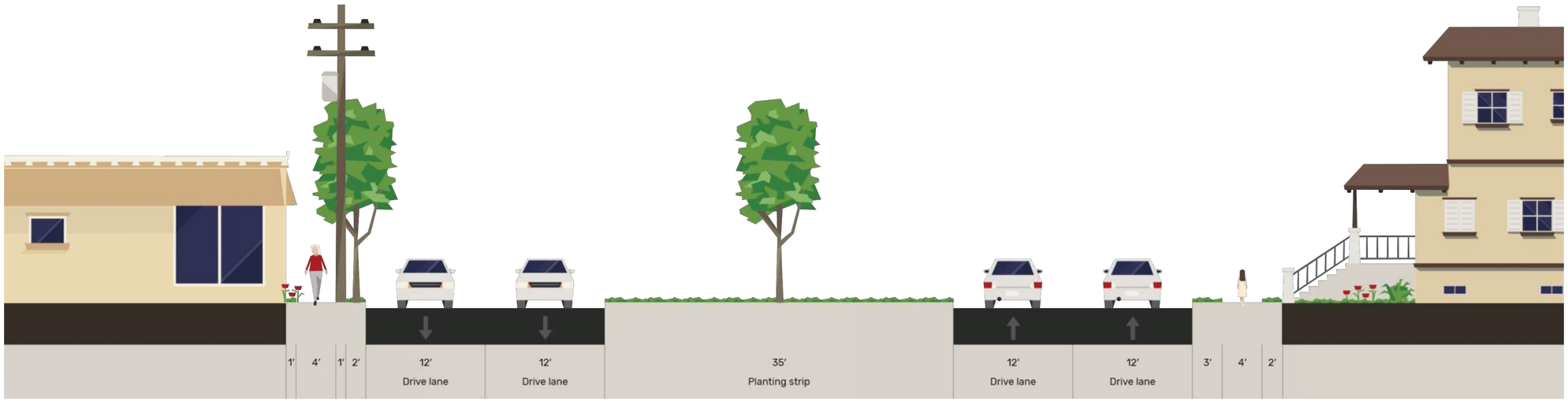


INSIDE-OUT STREET DESIGN

» 4 @ 12’ lanes with wide median to support future lane additions

04 FUNCTIONALITY

STREET DESIGN



INSIDE-OUT STREET DESIGN

» Narrow pedestrian realm in the space left over; 4’ sidewalks, limited trees with utility conflicts

04 FUNCTIONALITY

STREET DESIGN

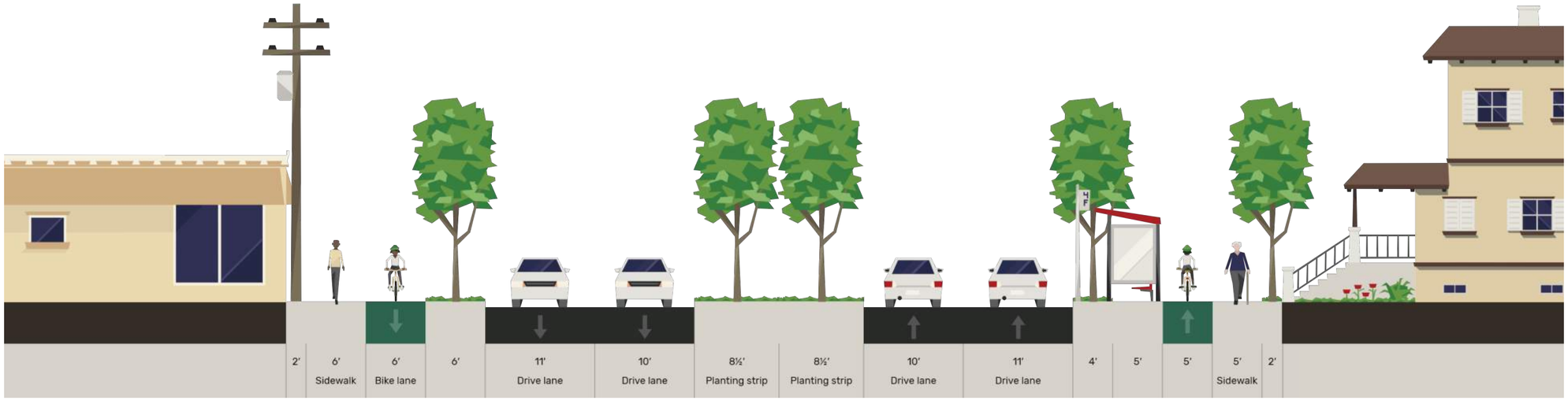
OUTSIDE-IN STREET DESIGN

» Ample walking and biking space, shade trees, transit stop space, utilities

04

FUNCTIONALITY

STREET DESIGN



	2'	6' Sidewalk	6' Bike lane	6'	11' Drive lane	10' Drive lane	8½' Planting strip	8½' Planting strip	10' Drive lane	11' Drive lane	4'	5'	5'	5' Sidewalk	2'	

OUTSIDE-IN STREET DESIGN

» 4 @10-11’ traffic lanes; narrower median

04

FUNCTIONALITY

STREET DESIGN

QUESTIONS TO ASK

- Which outcome do you prefer?
- What values does that outcome represent?
- Which outcome has higher capacity?
- Which would most likely be safer?

04 FUNCTIONALITY

MANAGING TRADE-OFFS

VALUES CAN BE IN TENSION: SPEED VS. SAFETY

Source: Institute of Transportation Engineers (ITE)

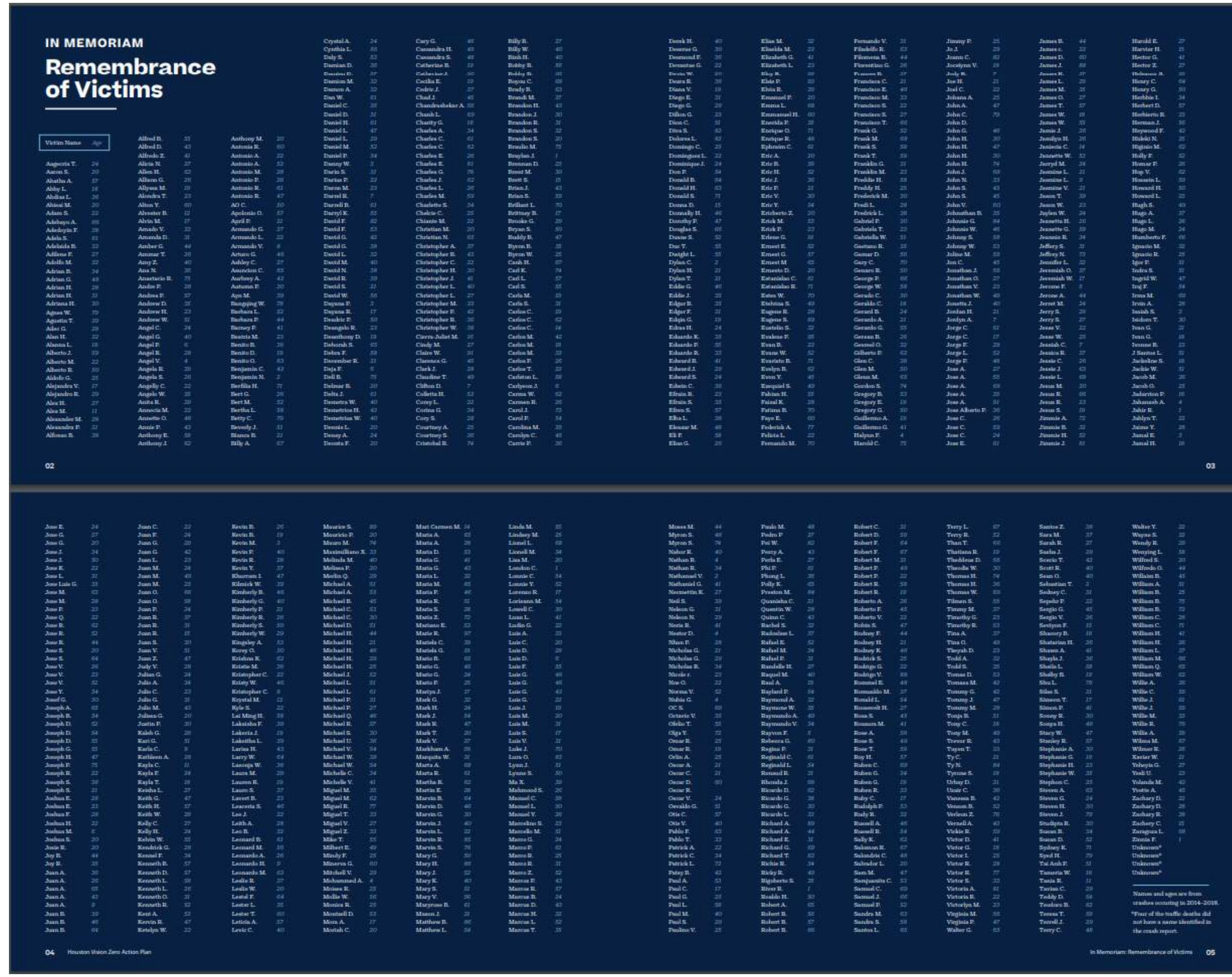
04

FUNCTIONALITY

SAFETY

WHY THIS MATTERS

» Over 1,000 fatalities on COH roadways in 2014-2018 assessment period



Source: City of Houston Vision Zero Action Plan - 2014-2018 Fatalities on Houston Streets

04 FUNCTIONALITY

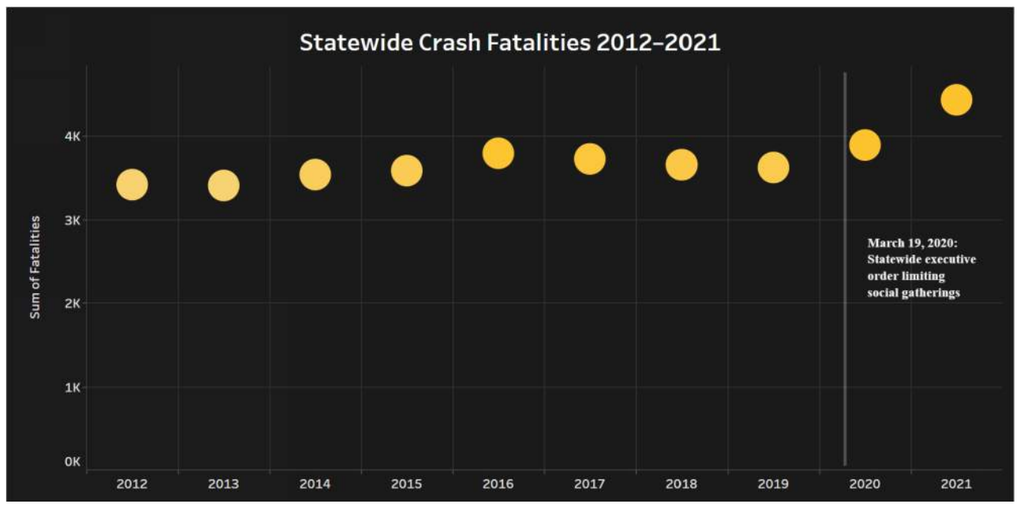
SAFETY

TRENDS ARE NOT GREAT

» Texas has lost at least one person every day on Texas roads since Nov. 7, 2000

» 8,173 days!!

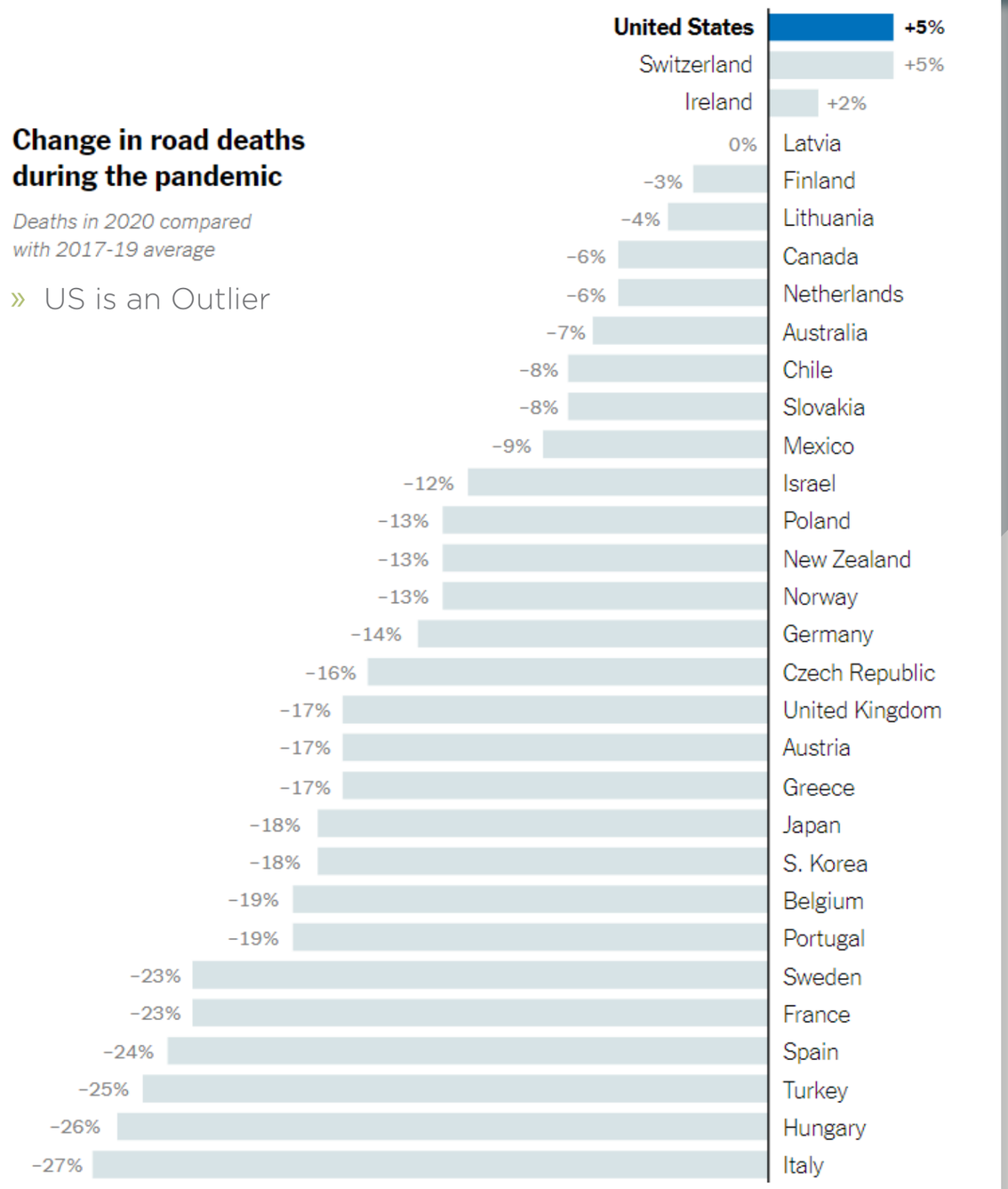
» Equivalent of the loss of 25+ 737-700s per year



Change in road deaths during the pandemic

Deaths in 2020 compared with 2017-19 average

» US is an Outlier



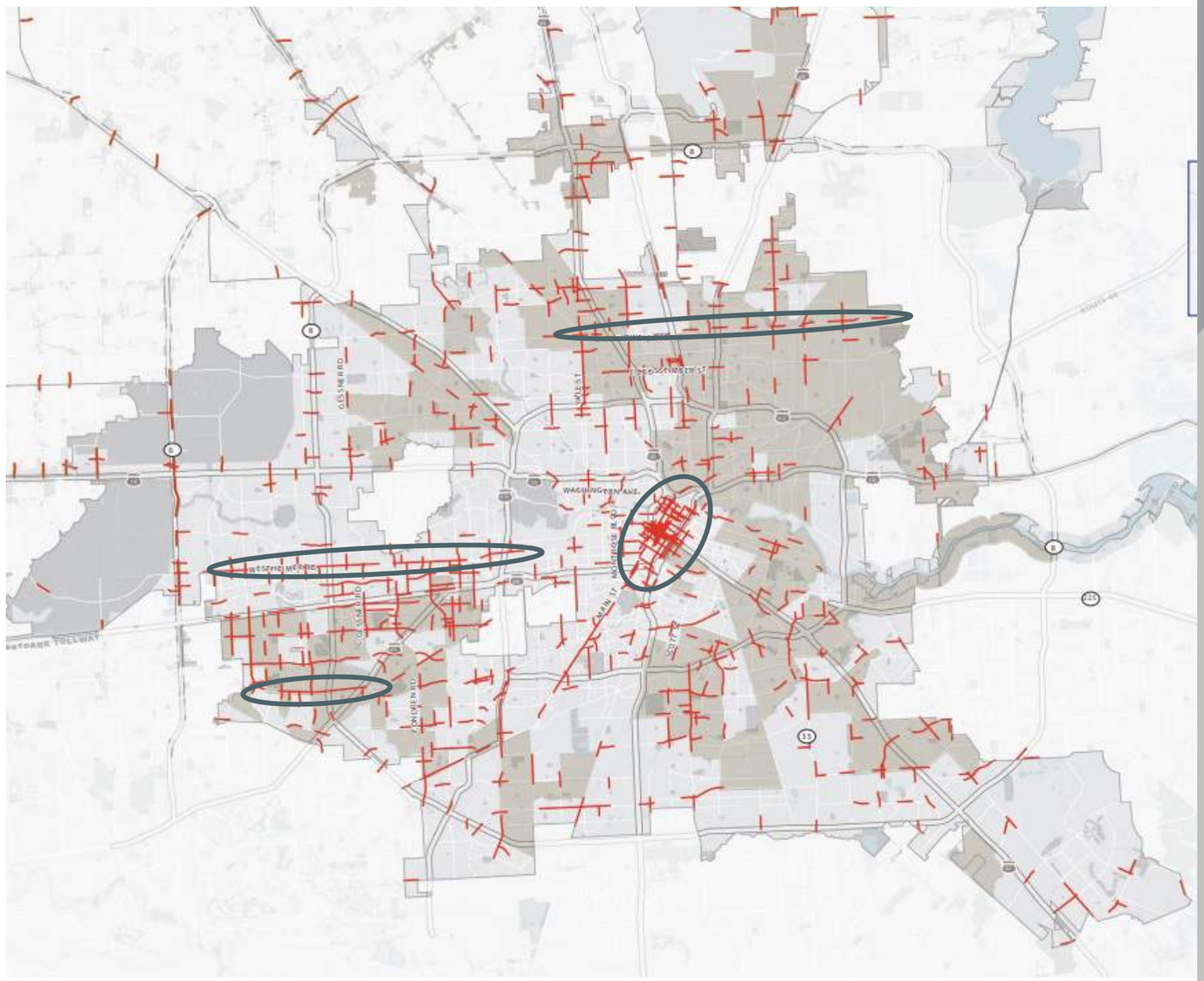
Source: Organization for Economic Cooperation and Development • The New York Times

04 FUNCTIONALITY

SAFETY + VISION ZERO

HIGH INJURY NETWORK SUPPORT PRESENTATION

- 6% of street segments that account for 60% of the fatal and serious crashes
- Segments on many of METRO's highest ridership transit corridors
  - Westheimer
  - Bissonnet
  - Tidwell
  - Downtown/Midtown



Source: City of Houston Vision Zero Action Plan - 2014-2018 Fatalities on Houston Streets

04 FUNCTIONALITY

VEHICLE CAPACITY

MEASURING DELAY - LEVEL OF SERVICE

Table 1. Level of Service Criteria for Signalized Intersections

Level of Service	Average Control Delay (sec/veh)	General Description (Signalized Intersections)
A	≤10	Free Flow
B	>10 - 20	Stable Flow (slight delays)
C	>20 - 35	Stable flow (acceptable delays)
D	>35 - 55	Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
E	>55 - 80	Unstable flow (intolerable delay)
F	>80	Forced flow (jammed)

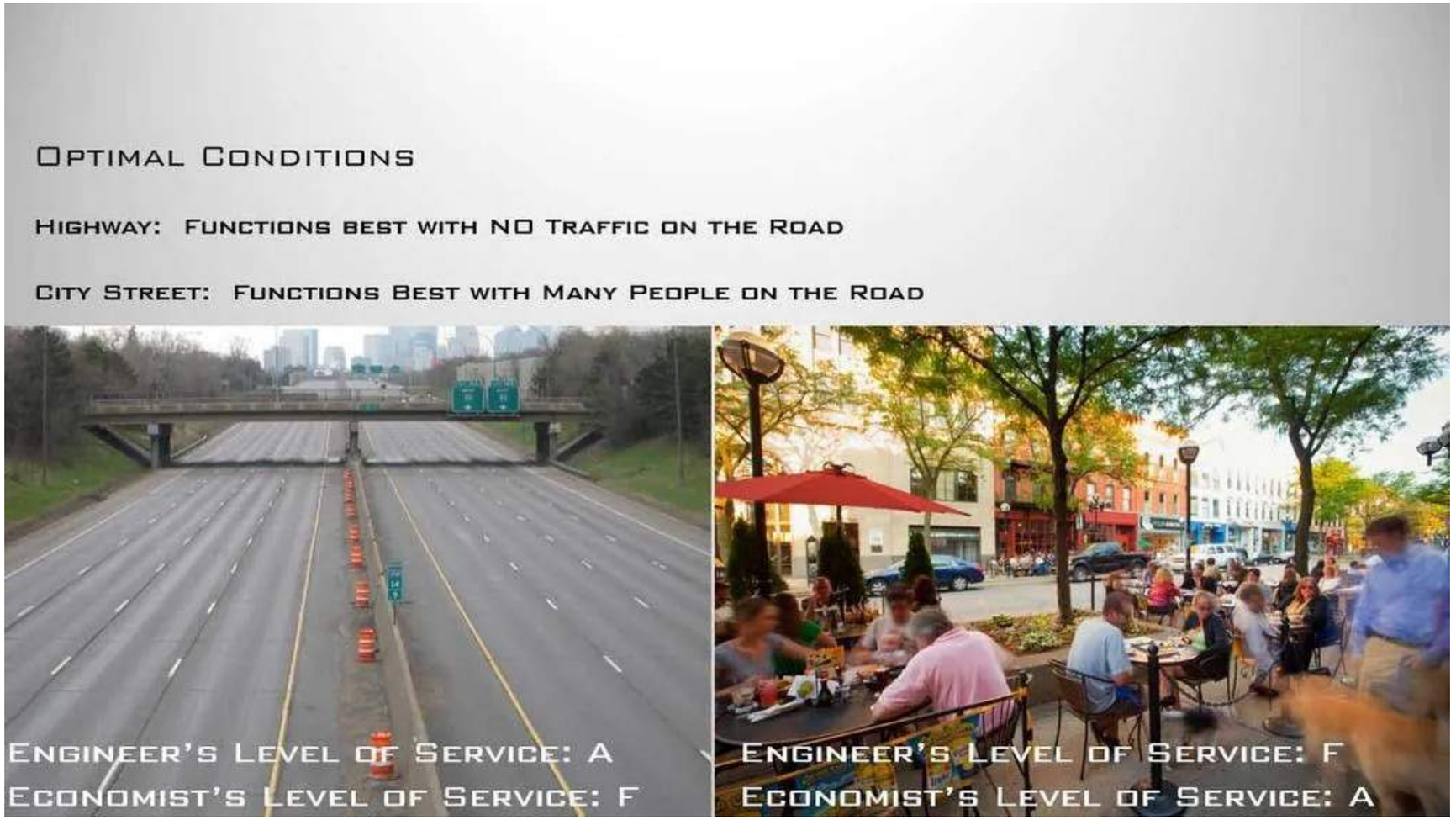
Source: Institute of Transportation Engineers (ITE)

» Vehicle LOS is typically measured for the peak 15 minutes of the peak hour of a weekday

04 FUNCTIONALITY

VEHICLE CAPACITY

MEASURING DELAY - LEVEL OF SERVICE



Source: Patrick Kennedy, D Magazine, http://streetsmart.dmagazine.com/2014/11/07/age-of-enlightenment/

04

FUNCTIONALITY

HEALTHY, ACTIVE + FUN

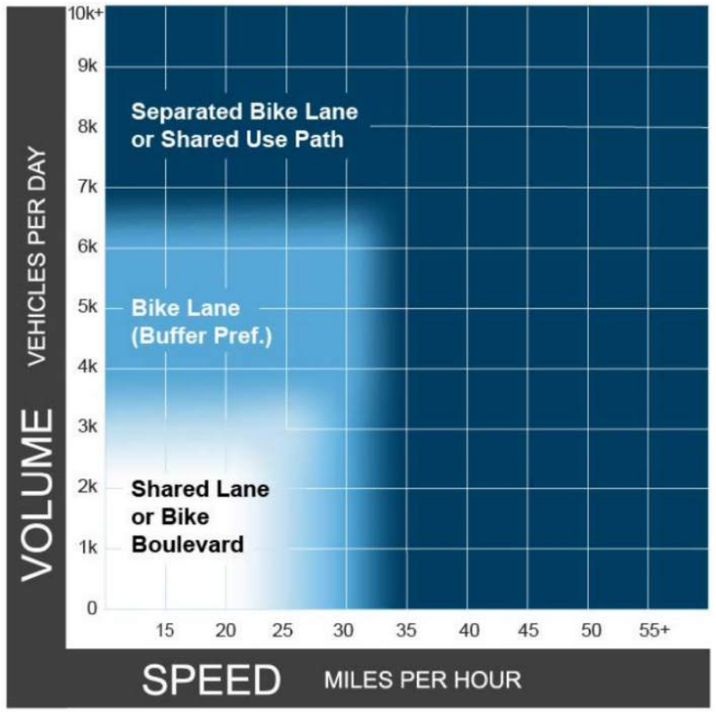
WALK, BIKE + ROLL

- 4’ Sidewalk
- 6’ Sidewalk

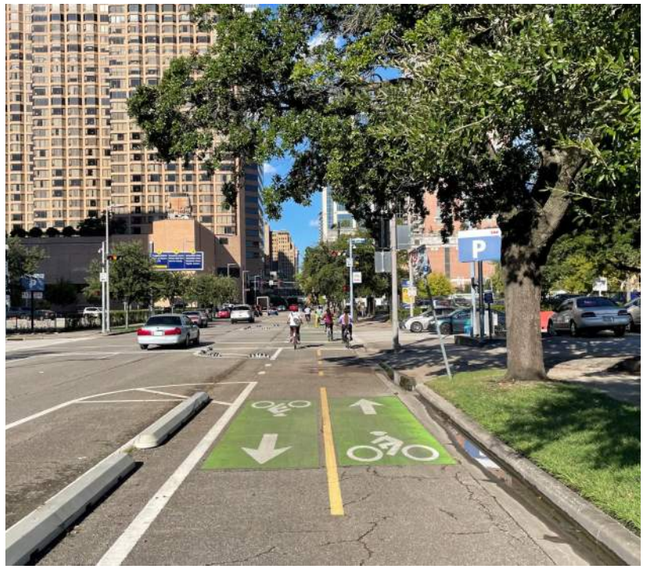
04 FUNCTIONALITY

HEALTHY, ACTIVE + FUN

WALK, BIKE + ROLL



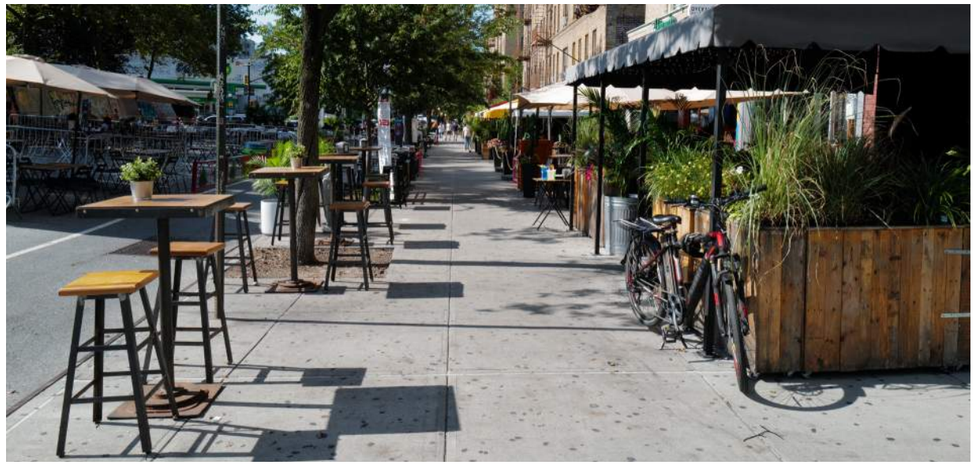
FHWA Bikeway Selection Guide/ TxDOT



04 FUNCTIONALITY

HEALTHY, ACTIVE + FUN

INTEGRATING FUN INTO STREETS



04 FUNCTIONALITY

CHANGING VALUES

BABGY STREET

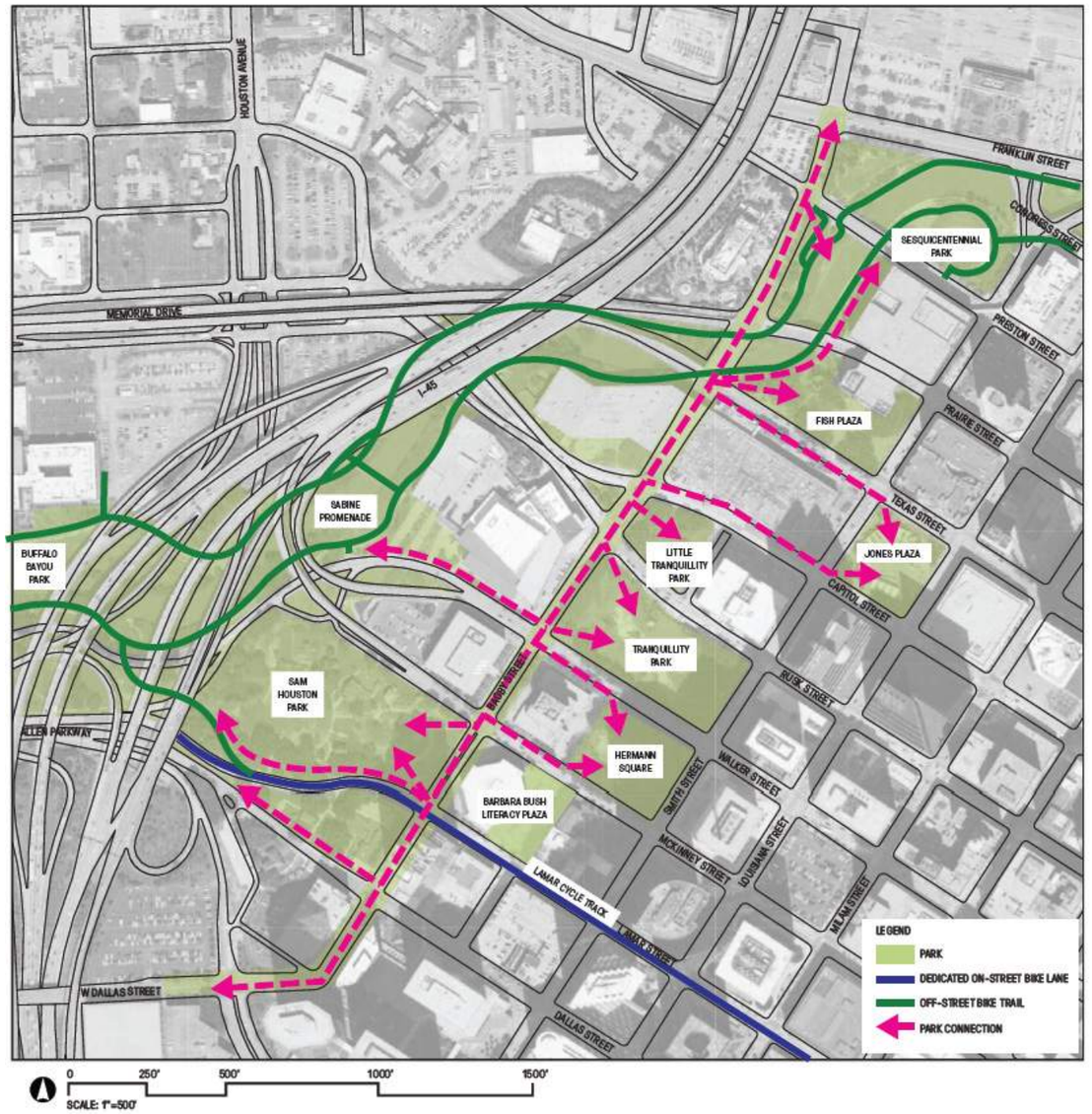


Figure 1.07 A Street of Parks

04 FUNCTIONALITY

CHANGING VALUES

MILAM/TRAVIS RED LANES

04 FUNCTIONALITY

CHANGING VALUES

EXPANDING BIKEWAY NETWORK

04

FUNCTIONALITY

CLOSING THOUGHTS

Design streets for the outcomes you want, the uses you want to invite, and the values you prioritize.

05

SECTION 05

BRANDING

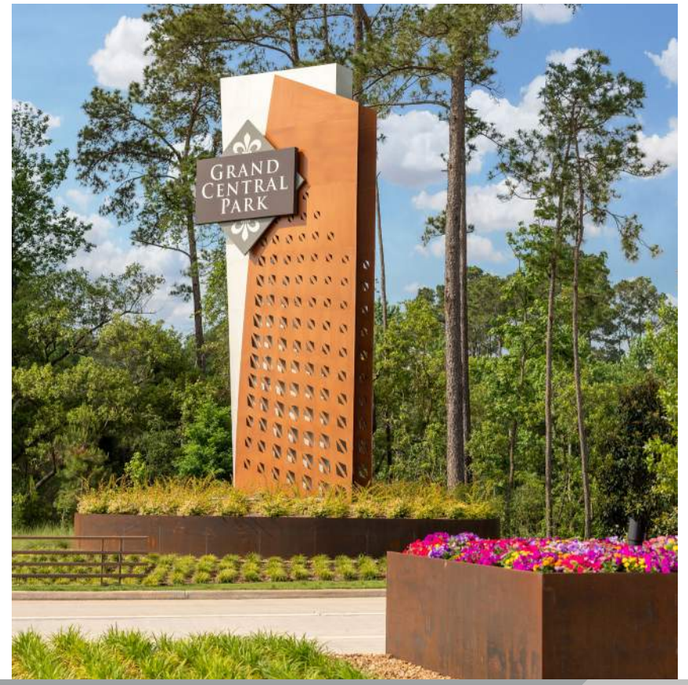
05

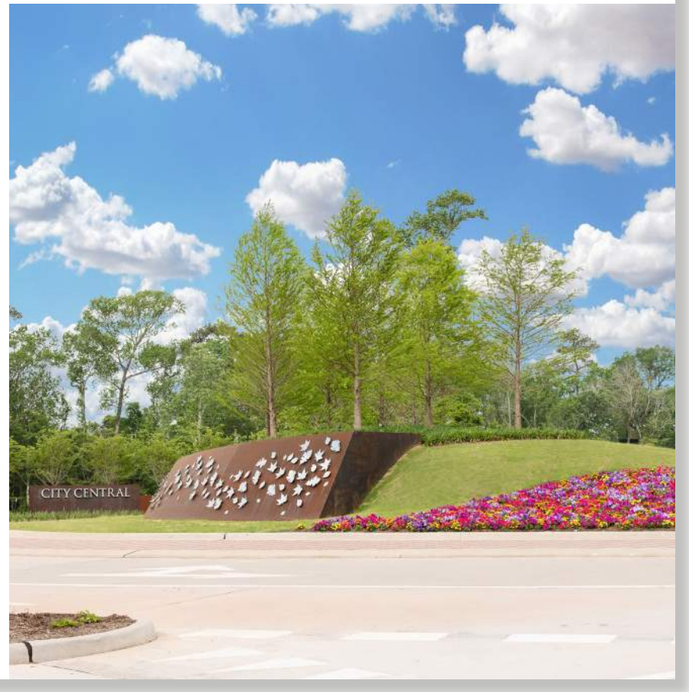
BRANDING

GRAND CENTRAL

THEME & MATERIAL

- Corten Metals (color + texture)
- Sculptural Signage
- Existing Vegetation Preservation



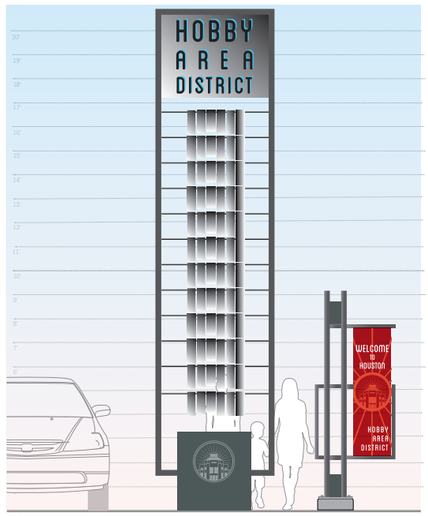


05 BRANDING

HOBBY DISTRICT

BRAND

- Family of Identity Markers
- Primary Gateway
- Logo, Font + Color Scheme
- Street Sign Mock Up



VS_1

TOP VIEW

brisbane airport: Ned Kahn

Windswept: Charles Sowers

HOBBY AREA DISTRICT

Option A

Option B

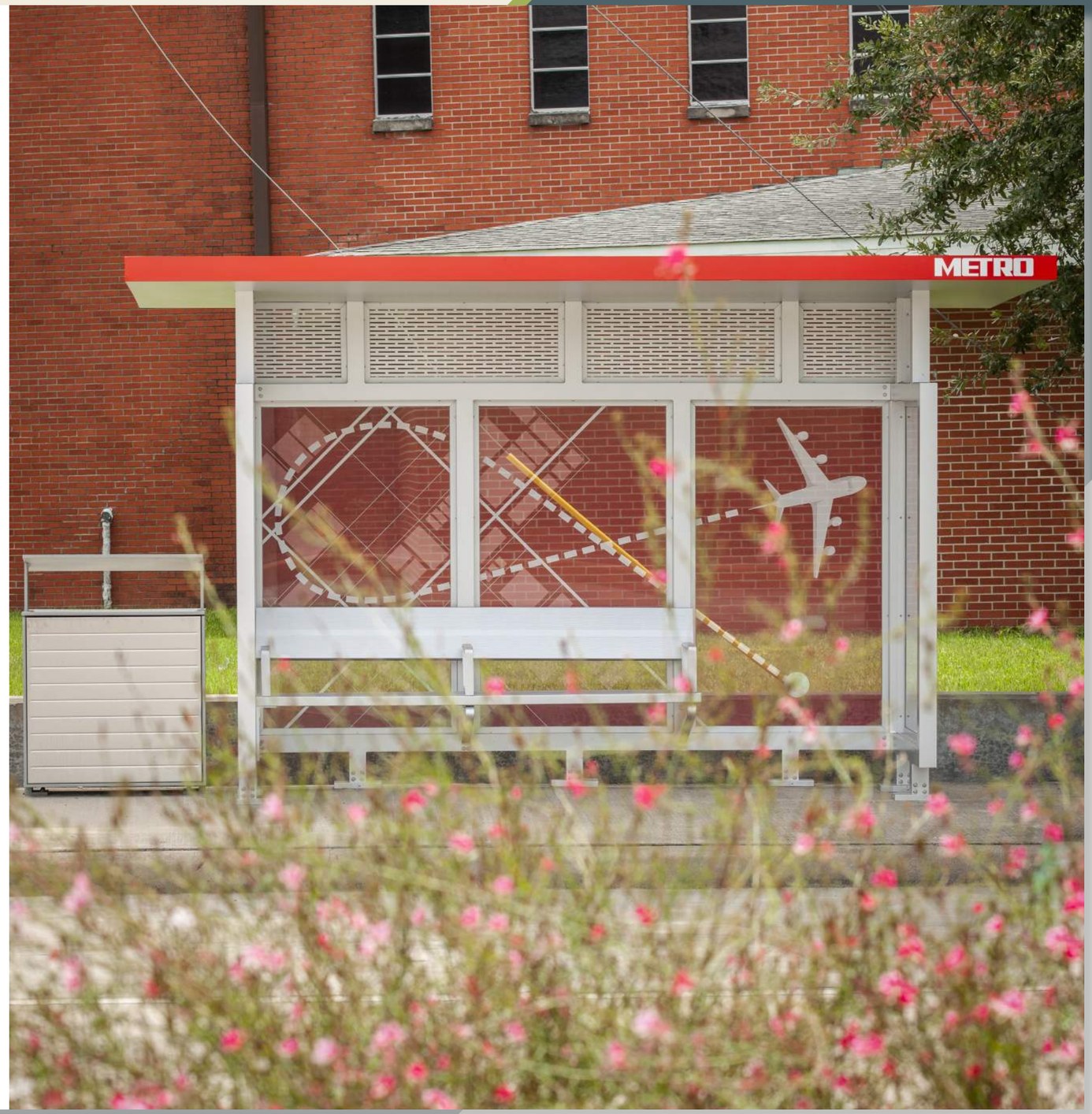
05

BRANDING

HOBBY DISTRICT

APPLICATION OF THE BRAND - BROADWAY

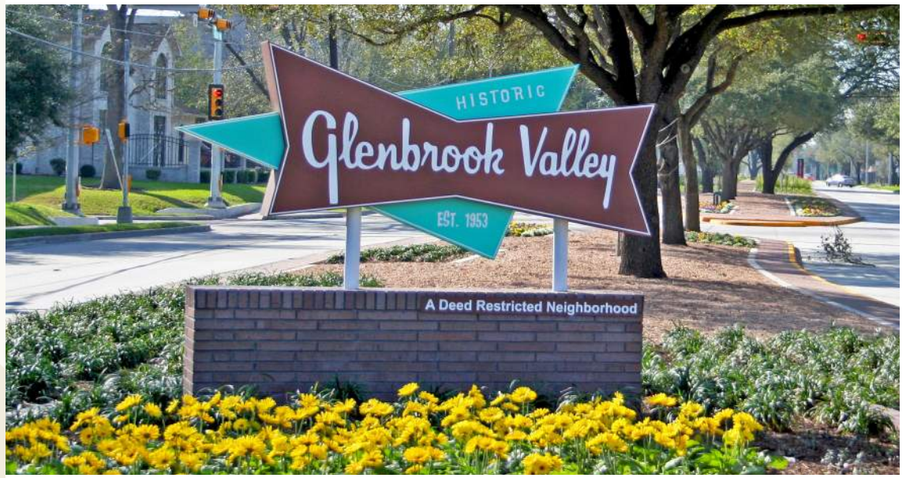
- Custom Bus Shelters - Primary + Mini Shelters
- Site Furniture
- Iconic Median Landscape Treatment - 400+ Street Trees
- Identity Markers
- Community Signage Program
- LED Street Lights
- Public-Private Partnerships (HAMD, COH, TxDOT, HAS, Scenic Houston, Trees for Houston, CenterPoint + METRO)

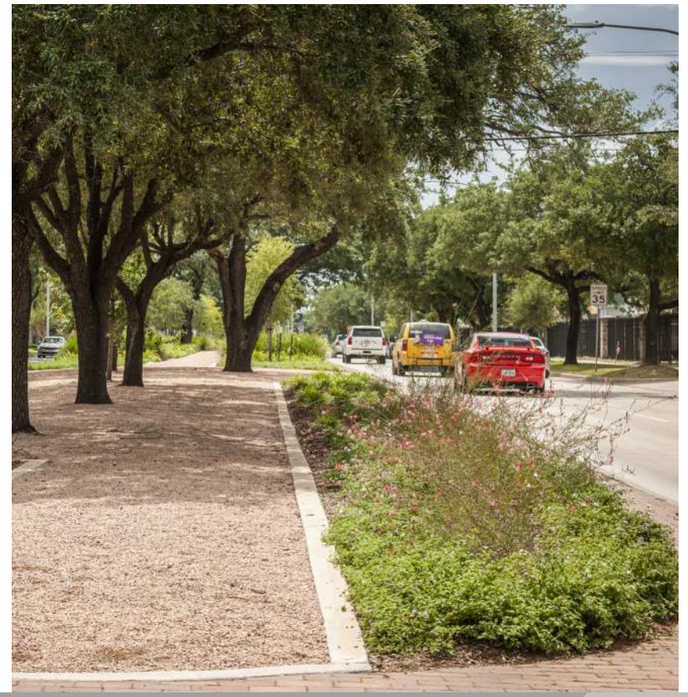


05

BRANDING

HOBBY DISTRICT





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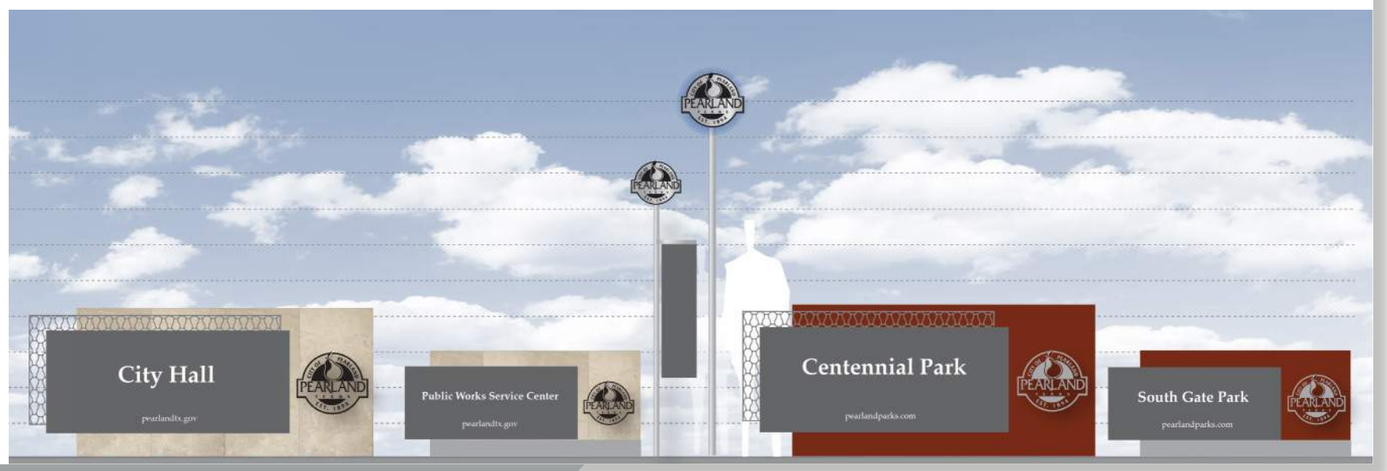
BRANDING

PEARLAND



05 BRANDING

PEARLAND

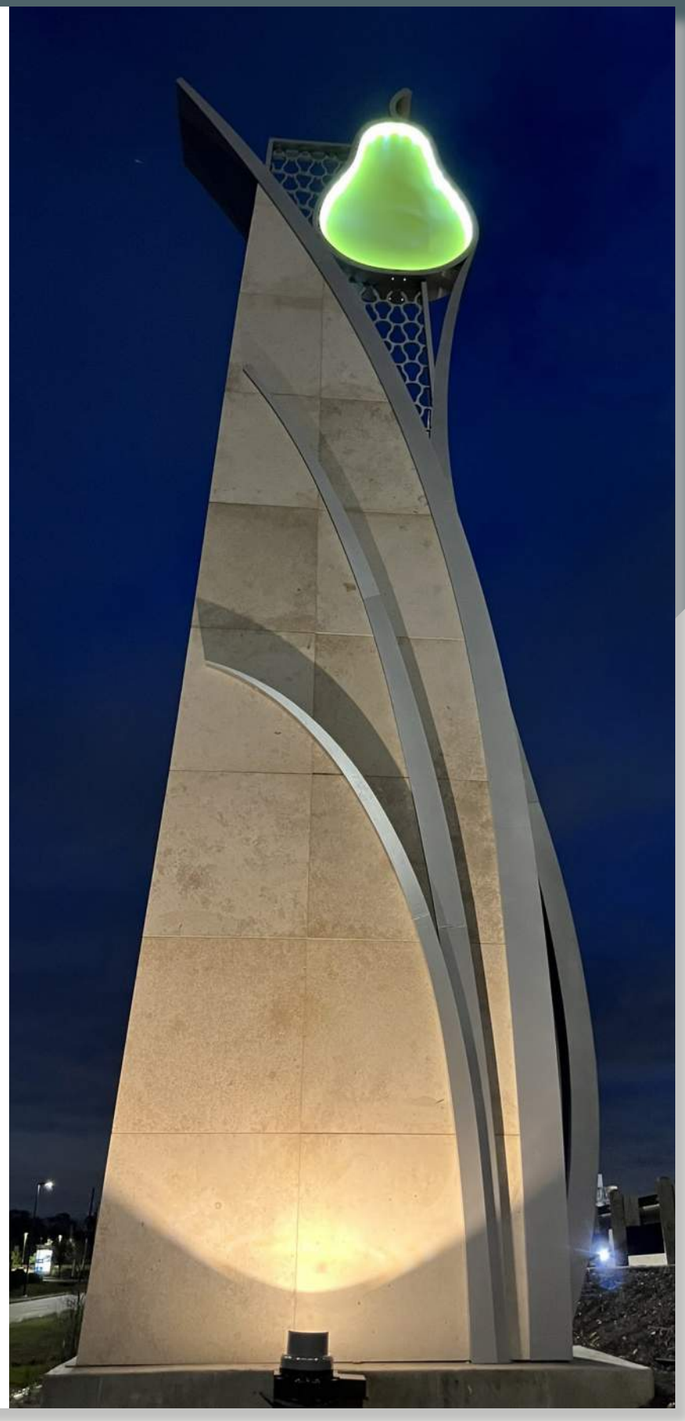
GATEWAYS

- 2014 Beautification Strategy Master Plan
- City-Wide Branding + Signage Program
- Signage Types: Primary Gateway Monuments (8), District Gateways (3), City Facility Markers, Park Signage + Trail Markers (2)
- Cohesive Landscape Treatment
- Fountains
- Special Paving
- Lighting

05

BRANDING

PEARLAND

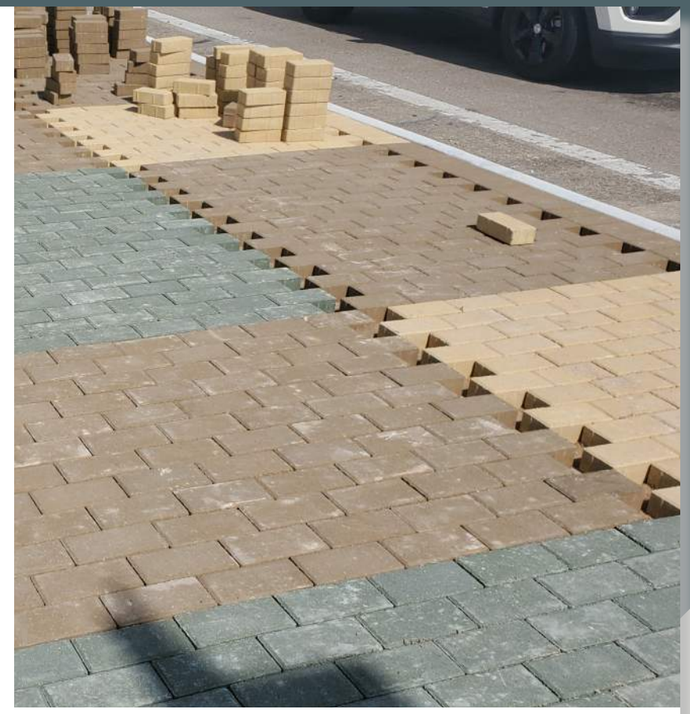


05 BRANDING

PEARLAND

STATE HIGHWAY 288

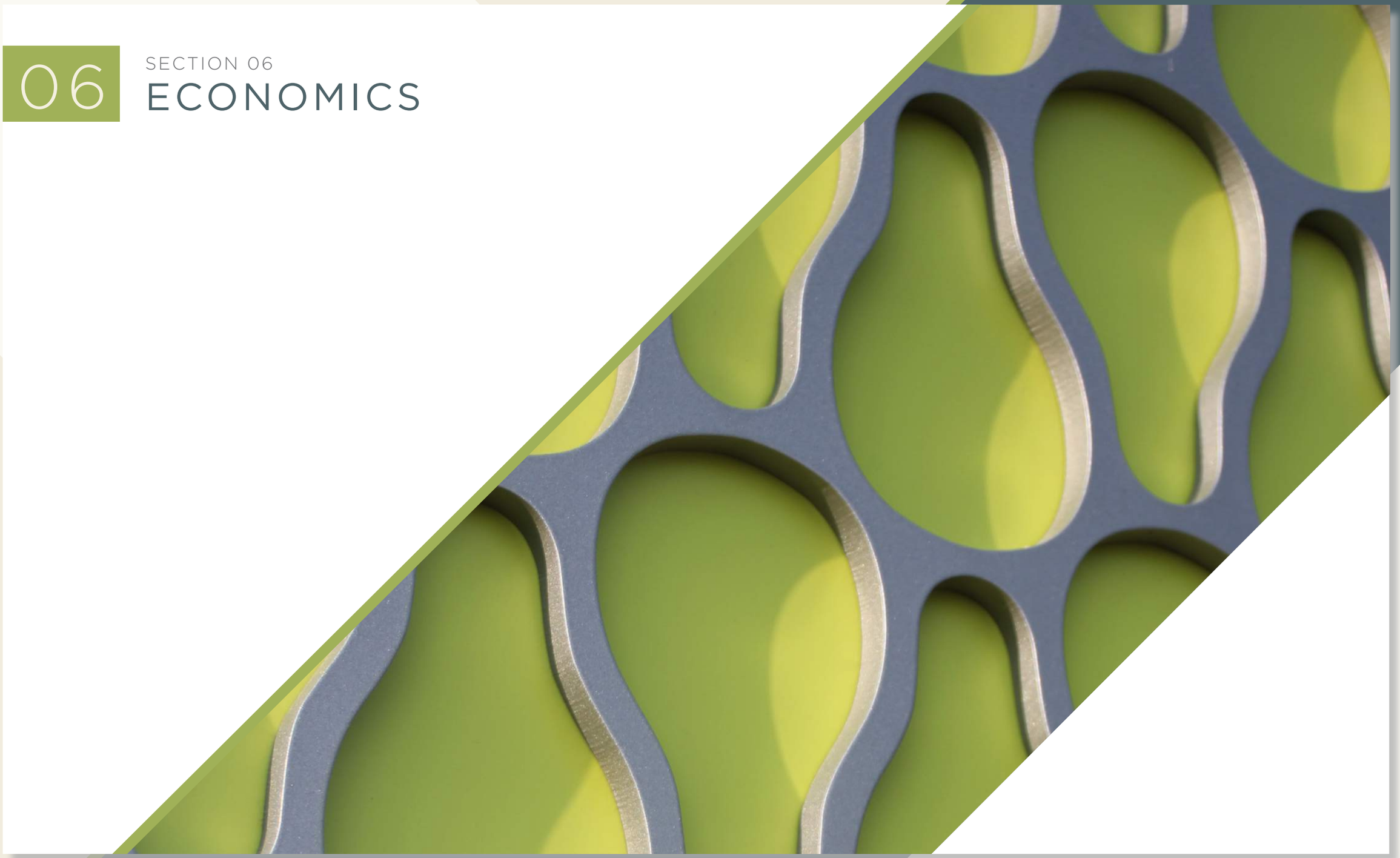
- 3.5 Miles of Highway + 80+ Acres of Area Untouched
- Highway Scale Sculptures (16)
- Gateway Markers (7)
- Major Intersections (3)
- Ponds with Fountains (3)
- 3000+ Trees (contract grown)
- 70,000+ Shrubs + Groundcovers
- Special Paving
- Lighting
- MSE Wall Pattern
- $18 Million Construction



06

SECTION 06

ECONOMICS



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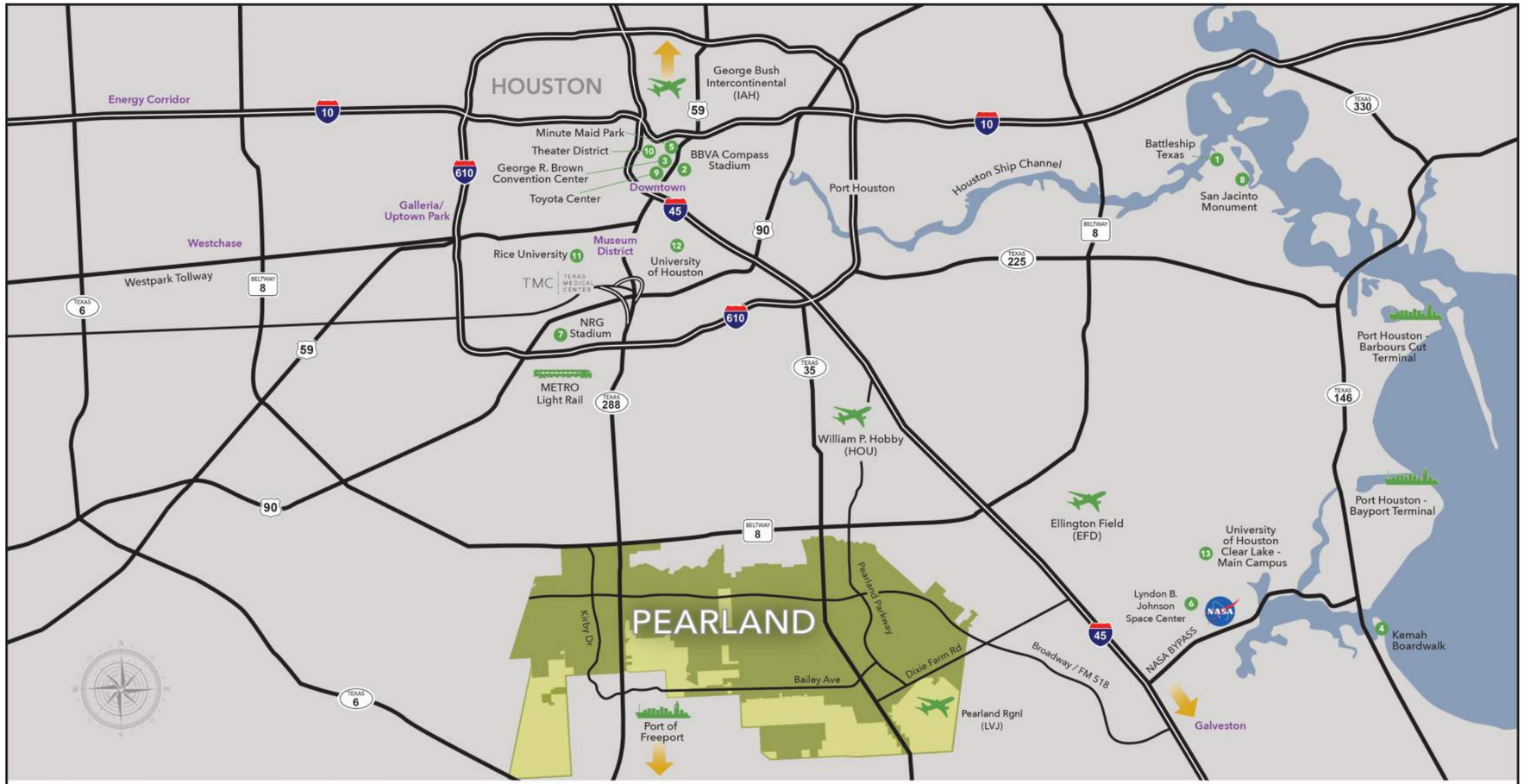
ECONOMICS

PEARLAND



General Areas

- **Downtown:** 17 minutes
- **Energy Corridor:** 27 minutes
- **Galleria / Uptown Park:** 18 minutes
- **Galveston:** 32 minutes
- **Texas Medical Center:** 13 minutes
- **Museum District:** 12 minutes

Transportation

- **George Bush Intercontinental (IAH):** 33 minutes
- **Ellington Field (EFD):** 6 minutes
- **Metro Light Rail:** 9 minutes
- **Pearland Regional (LVJ):** in Pearland
- **Port of Freeport:** 58 minutes
- **Port Houston:** 20 minutes
- **Port Houston - Barbours Cut Terminal:** 29 minutes
- **Port Houston - Bayport Terminal:** 29 minutes
- **William P. Hobby (HOU):** 11 minutes

Attractions

1. **Battleship Texas:** 23 minutes
2. **BBVA Compass Stadium:** 14 minutes
3. **George R. Brown Convention Center:** 14 minutes
4. **Kemah Boardwalk:** 26 minutes
5. **Minute Maid Park:** 14 minutes
6. **NASA Johnson Space Center:** 16 minutes
7. **NRG Stadium:** 9 minutes
8. **San Jacinto Monument:** 22 minutes
9. **Toyota Center:** 13 minutes
10. **Theater District:** 18 minutes

Universities

11. **Rice University:** 20 minutes
12. **University of Houston:** 13 minutes
13. **University of Houston Clear Lake - Main Campus:** 17 minutes

PEARLAND ECONOMIC DEVELOPMENT CORPORATION

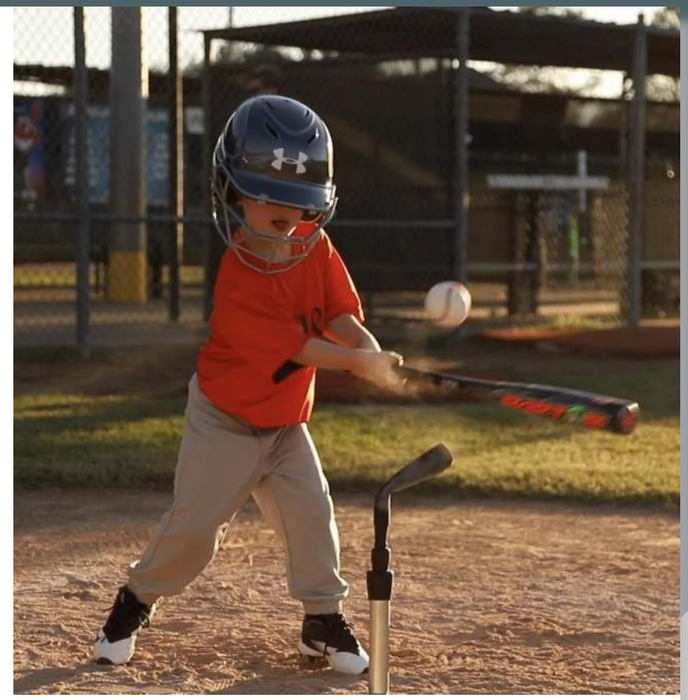
pearlandedc.com

06 ECONOMICS

PEARLAND

PREPARE TO LOVE IT

- One of the nation's fastest-growing cities
- Diverse and globally connected
- Minutes south of Houston
- Ranked one of the safest cities in Texas
- Top-rated school districts
- Becoming a major employment center for Houston region



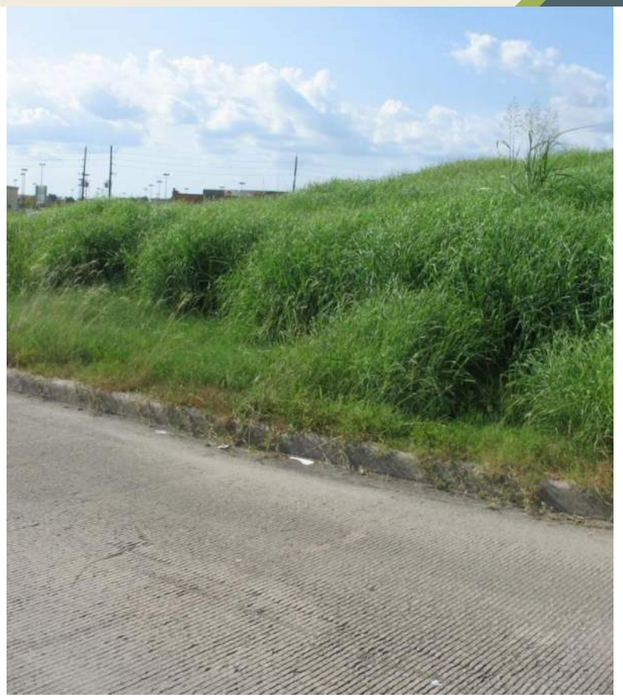
06

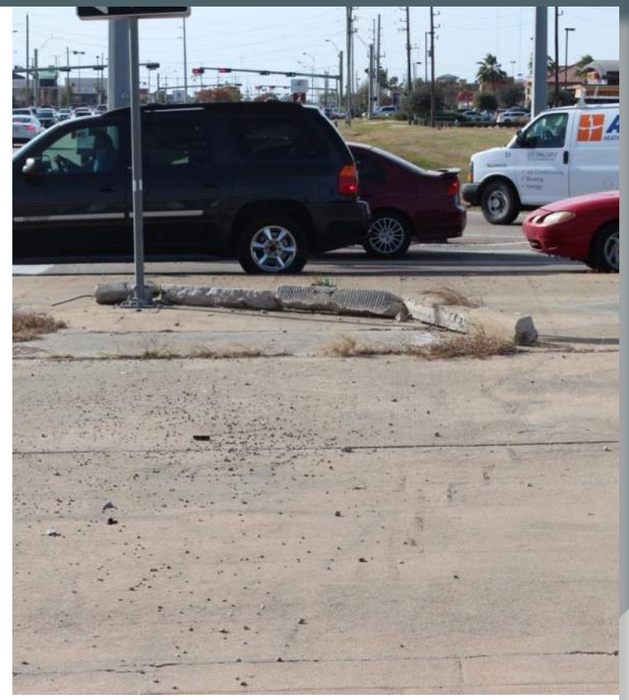
ECONOMICS

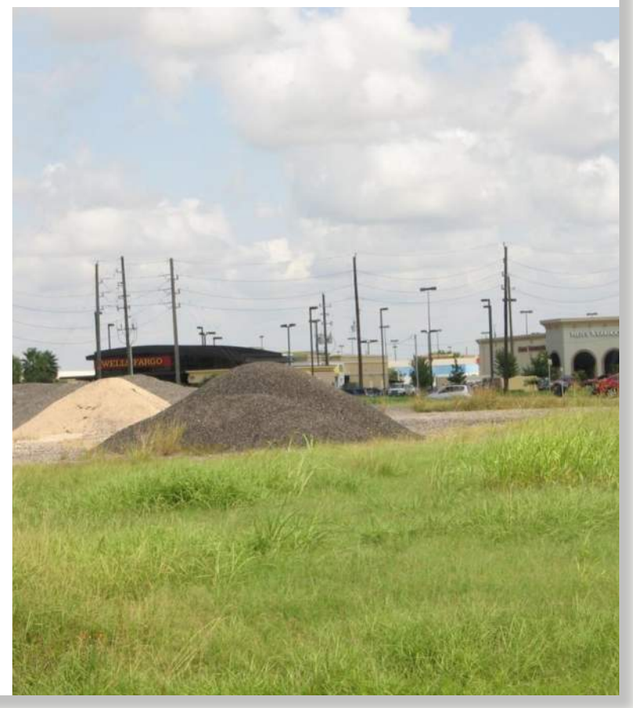
FIRST IMPRESSIONS

LOOKING TO THE FUTURE

- Development of Strategic Plan
- Capital Investments
- Economic Growth
- Infrastructure Improvements
- Mobility Enhancements







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ECONOMICS

FIRST IMPRESSIONS

Frontage Road - State Highway 59

Frontage Road - Pearland

Beltway 8 and I-10 Interchange

Beltway 8 and SH 288 Interchange

06

ECONOMICS

CATALYTIC DEVELOPMENT

"I have been a strong believer, since the start of my real estate firm in 1957 that better aesthetics lead to better cities, and better economies."

- Gerald Hines, founder and chairman of Houston-based Hines, one of the nation's most respected real estate developers and responsible for projects such as the Houston Galleria and One Shell Plaza

06 ECONOMICS

IMPROVEMENTS

COMMUNITY GATEWAY STRATEGY

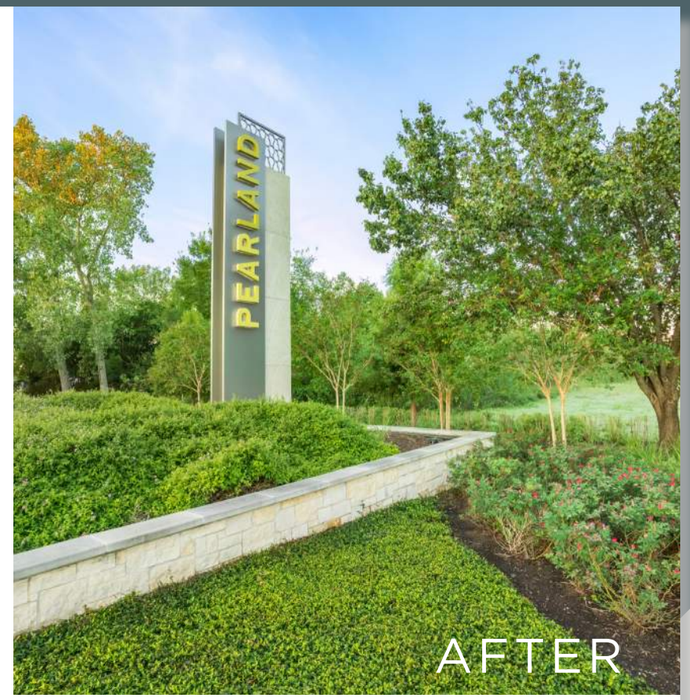
- Community Standards
- Enhanced Aesthetics + Beautification
- Branding + Identity
- Support Catalytic Development
- Gateways at Key Entry Points

06 ECONOMICS

IMPROVEMENTS

SH 35 REDEVELOPMENT

- Major Commercial Corridor
- Catalyst Redevelopment Projects
- New Gateway at Entry Points
- Elevated Monument
- Improved Walkability + Accessibility
- Improved Safety
- Landscaping
- Enhanced Aesthetics



06 ECONOMICS

IMPROVEMENTS

LOWER KIRBY BUSINESS DISTRICT

- Located at intersection of SH 288 and Beltway 8
- Development of Lower Kirby Business District for mixed-use employment, residential, and entertainment
- Driving force for business development
- Unique branding and identity monuments and landscaping improvements
- Development of quality life amenities

06 ECONOMICS

IMPROVEMENTS

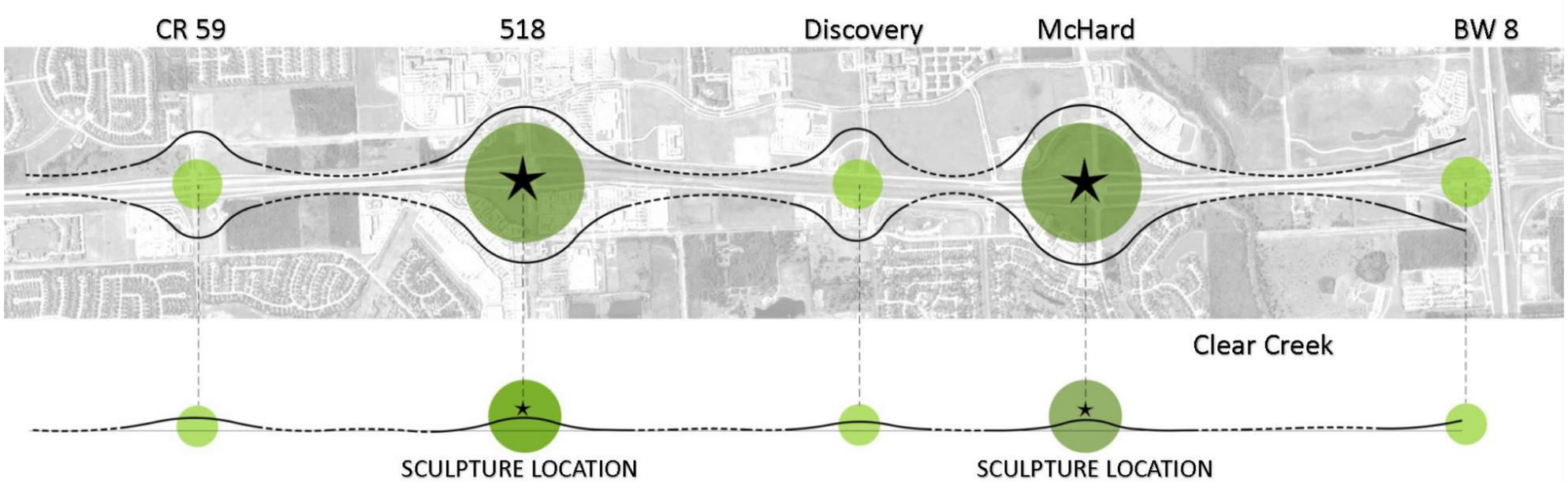
SH 288 CORRIDOR MASTER PLAN IMPROVEMENTS

- Major Commercial Center with Millions of SF of Retail, Office + Residential Development
- Eliminate Visual Clutter
- Improve Aesthetics
- Consolidate Utilities
- Improve Drainage
- Implement Branding + Identity Opportunities
- Improve Pedestrian + Vehicular Safety

06 ECONOMICS

IMPROVEMENTS

SH 288 CORRIDOR IMPROVEMENT ZONES



06 ECONOMICS

IMPROVEMENTS

SH 288 @ SHADOW CREEK PARKWAY

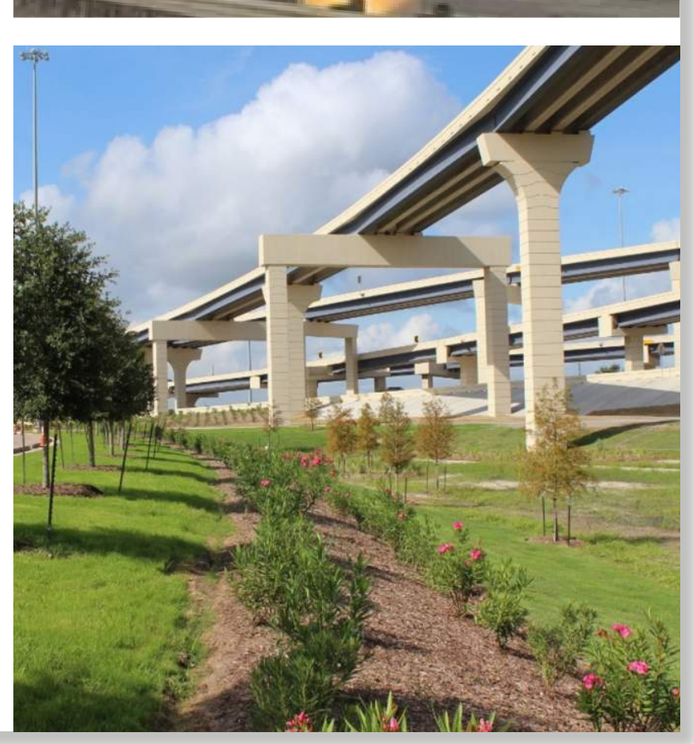
- Key Corridor Gateway Location
- Increased Visual Impact
- Improved Area Aesthetics for Curb Appeal + Business Growth

06 ECONOMICS

IMPROVEMENTS

SH 288 IMPROVEMENTS IN PROGRESS

- Distinctive Highway Sculptures
- Beautification Strategy + Implementation
- Improved Drainage + Pond Enhancements
- Lighting Improvements
- Enhanced Mobility through Highway Improvements
- City Gateway Improvements for Recognition + Identity
- Enhanced Pedestrian Experience

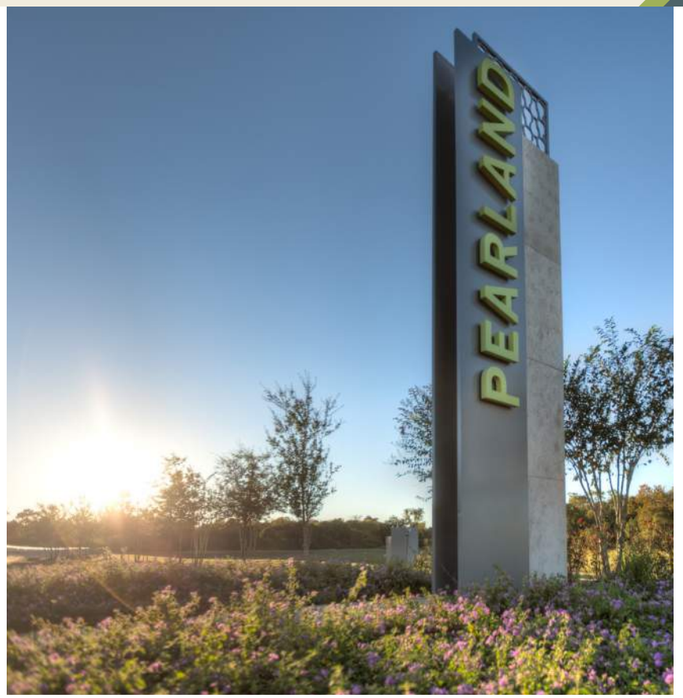


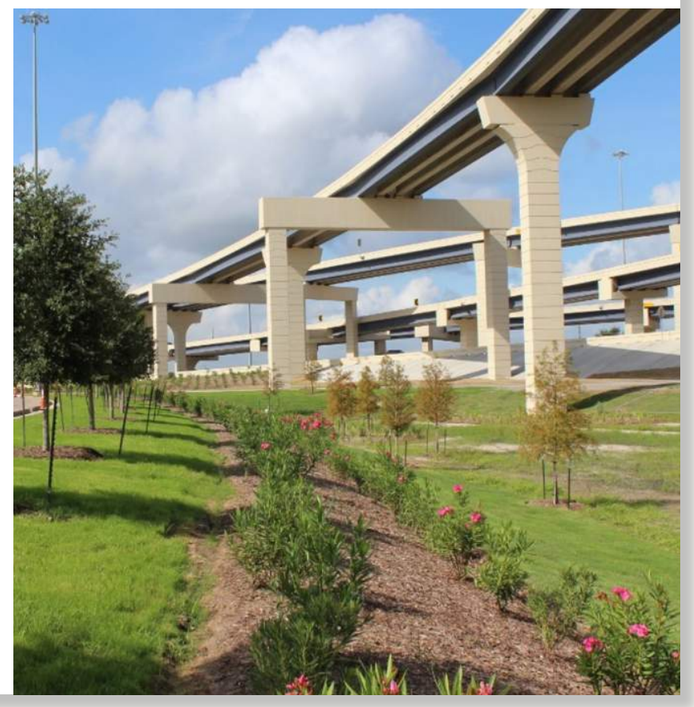
06 ECONOMICS

PEARLAND

PROSPERITY

- Implementation of 20/20 Vision + Strategic Plan
- Continued Development + Beautification Strategies
- Implementation of Mobility Projects
- Economic Development
- Distinct Identity + Character
- Competitive Destination to Live, Work, and Play
- Improved Quality of Life for Businesses and Residents





07

SECTION 07

MAINTENANCE

07

MAINTENANCE

LESSONS LEARNED

PEARLAND MAINTENANCE

- Irrigation Monitoring & Repairs
- Over/Under Watering
- Trash Removal
- Tree Maintenance & Staking
- Notification of Dead or Missing Material

07

MAINTENANCE

LESSONS LEARNED

PEARLAND MAINTENANCE

- Tree Staking Monitoring
- Freeze Damage
- Rutting from Mowing when Wet
- Missing Plant Material
- Inconsistent Weeding

07

MAINTENANCE

LESSONS LEARNED

SPRINGWOODS NATIVE AREAS

- Planting Method
- Establishment Time
- Intensive Hand Weeding
- Time Sensitive Mowing
- Overseeding Required
- Prescriptive Watering Times

1 MONTH- 25% COVERAGE

8 MONTHS- 60% COVERAGE

12 MONTHS- 75% COVERAGE

18 MONTHS- 100% COVERAGE

07

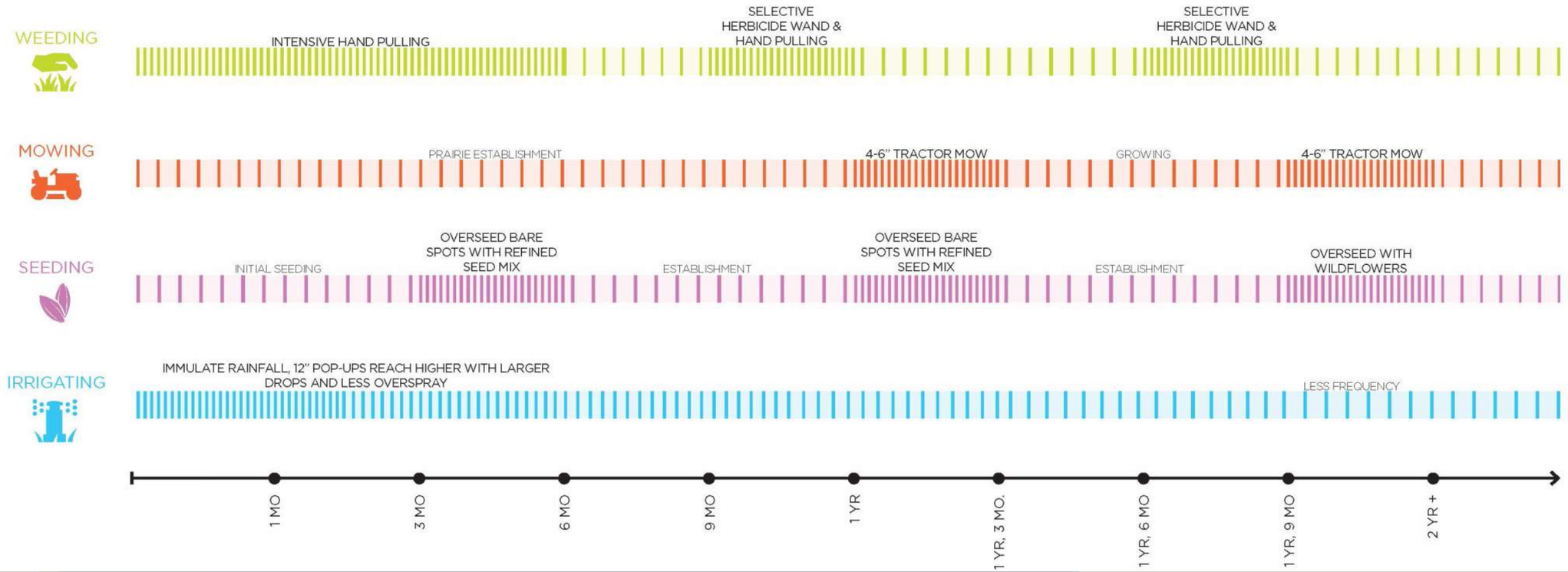
MAINTENANCE

LESSONS LEARNED

SPRINGWOODS

EXHIBIT G - MAINTENANCE INTENSITY + STRATEGY

A complete automatic irrigation system was installed. The irrigation system was run by a smart controller to maximize water efficiency. The goal was to water the first year and to simulate natural rainfall in a good year in subsequent years. This goal was supported by the maintenance plan of mowing in July as this summer month would make the most demand on irrigation water. In addition, planting times were crucial to the prairie's timely success. Native grass seeding is most successful in the spring. Seasonal windows for wildflower seeding are limited to two months in the fall and three months in the spring. It is more effective to seed prior to planting to establish critical seed to soil contact. The prairie was planted in five phases over the course of nine months. In some areas, the appropriate time windows were met. In other areas, seasonal limitations required planting followed by seeding, a more labor intensive operation.



07 MAINTENANCE

LESSONS LEARNED

SPRINGWOODS

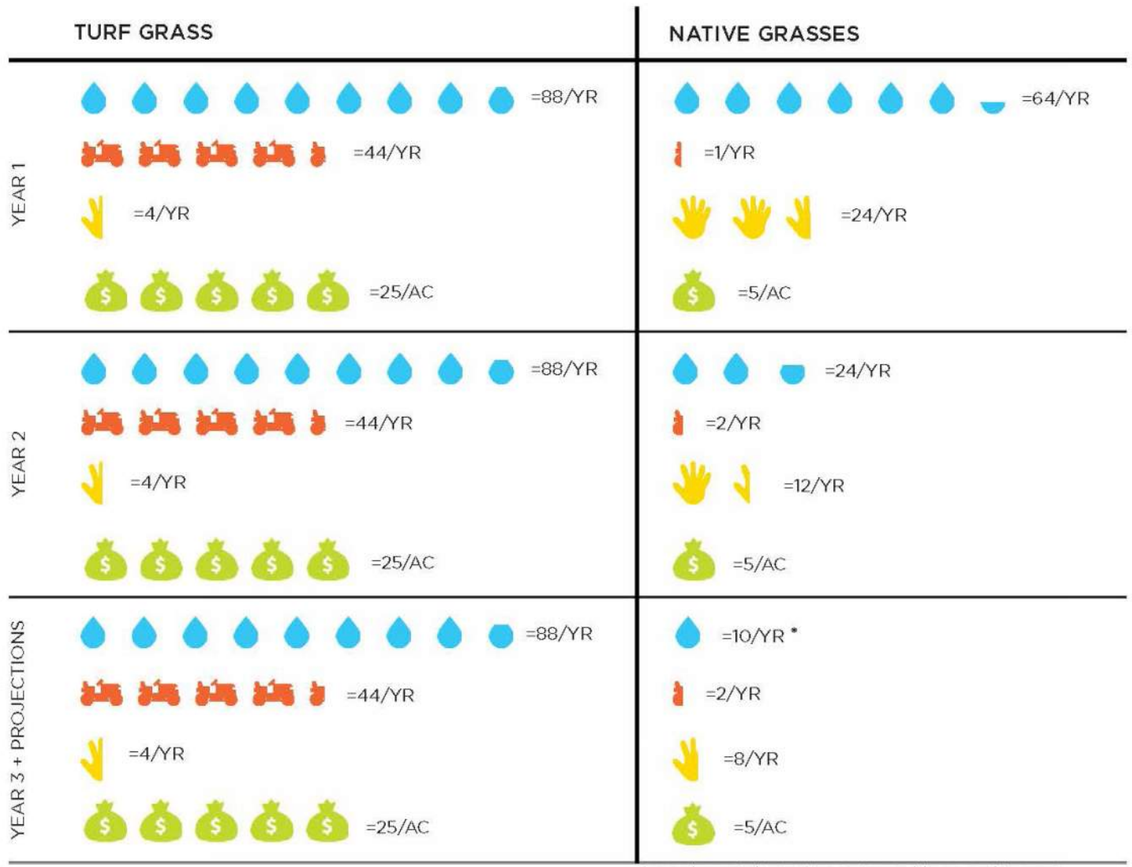
EXHIBIT H - LONGTERM SAVINGS

=10 TIMES/YR
IRRIGATION FREQUENCY

=10 TIMES/YR
MOWING FREQUENCY

=10 TIMES/YR
LABOR FREQUENCY

=5,000/AC
LABOR + MAINTENANCE COSTS



* supplemental irrigation to insure bloom and to meet developer expectation

07

MAINTENANCE

FACTORS FOR SUCCESS

Landscape Maintenance Guidelines + Specifications

Client Rep Inspections + Reviews

Weather + Climate Change

Budget + Funding

Service Frequency

Constant Clear Communication (reporting, etc.)

Special Factors (meadows, water plants, etc.)

Experienced + Reputable Maintenance Contractor

08

SECTION 08

CONCLUSION

08

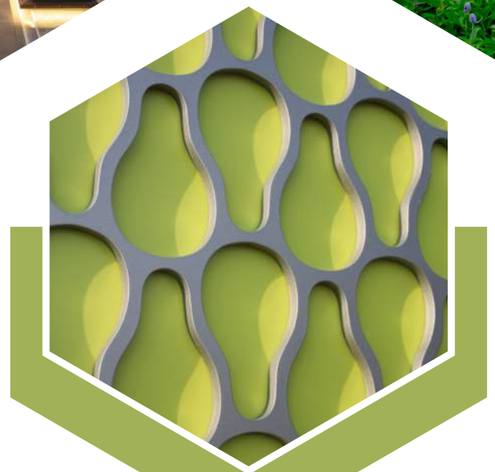
CONCLUSION

KEY COMPONENTS

PLACEMAKING

FUNCTIONALITY

BRANDING



ECONOMICS

MAINTENANCE

09

SECTION 09

Q & A

RIGHT-OF-WAY:
NOT JUST FOR STREETS

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