Visioning Bellaire

Urban Design and Beautification Conceptual Master Plan

December 2016

Introduction

The Urban Design and Beautification Conceptual Master Plan for the city of Bellaire is the result of an intensive planning effort. Recognizing that the quality of the physical environment has a tremendous influence on the image of the City, the Urban Design and Beautification Conceptual Master Plan serves as a foundation for shaping the City fabric in support of its vision to enhance the overall quality of life for its residents.

At its very essence, the Conceptual Master Plan is an assemblage of powerful ideas. This Master Plan provides guidelines to maintain the inherent beauty and unique characteristics of the city while, at the same time, identifying opportunities for improvement of the quality of the living environment.

Contents

LISTENING TO THE COMMUNITY

Citizens' Survey

PARTICIPATION

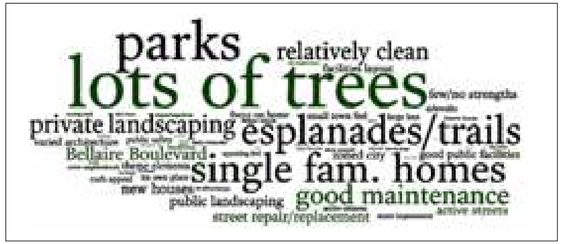
In an effort to enhance the visual and environmental quality of the city of Bellaire, the Citizens for a Beautiful Bellaire organization invited residents to participate in a survey that received over 1,000 responses.

This survey, coupled with the grass-roots movement, launched the need to develop a long-term vision for the city of Bellaire. This plan aims to develop a consensus vision that acts as a guide to implementing design beautification initiatives over time.

FOUR RESULTS CATEGORIES

Four categories were used to filter the numerous responses from the citizens' survey: landscaping, homes and neighborhoods, streetscape planning and Triangle/Downtown planning. The results of these categories are graphically represented as word clouds or tag clouds. The larger the word, the more the concept was repeatedly mentioned or emphasized in the survey.

Strengths



Weaknesses

Opportunities

IMAGES PROVIDED BY CBB PLANNING.

Design Process

The Urban Design and Beautification Conceptual Master Plan has been prepared as a collaborative and cooperative effort. Through a design process characterized by listening, fluid idea-generation, stakeholder involvement and on-site workshops, the general public was provided the opportunity to voice their concerns and make recommendations regarding issues to be considered in the Conceptual Master Plan. The design team has developed a long-range planning tool for the City of Bellaire addressing the physical, social, and sustainability challenges, which the City will face in the future. This Plan has been crafted to address both a near- and long-term strategy for implementing beautification interventions required to achieve the consensus vision.

Step One: Conceptual Alternatives

Milestones

- Listening to the City and Community Meetings
- Conceptual Alternatives Workshop

Roles + Responsibilities

Terrain Studio
- Listening to the city and community, perform site analysis
- Conceptual Alternatives
- Project management

The City
- Data Gathering
- Stakeholder Coordination
- Design Input

Citizens for a Beautiful Bellaire
- Citizen Survey
- Design Advisory
- Council, Boards and Commissions
- Design Input During Community Meetings
- Design Input During the Conceptual Alternatives Workshop

Outcome:
Consensus Conceptual Direction
September 2016

Step Two: Draft Conceptual Master Plan

Milestones

- 75% Review of Draft Conceptual Master Plan
- Draft Conceptual Master Plan Workshop

Roles + Responsibilities

Terrain Studio
- Draft Conceptual Master Plan Development
- Project Management

Advisory Group
- Representatives from Citizens for a Beautiful Bellaire, City, Key Boards and Commissions
- Design Input at 75% Draft Conceptual Master Plan Point

The City
- Stakeholder Coordination
- Design Input

Council, Boards and Commissions
- Design input during draft conceptual master plan workshop

Outcome:
Draft Conceptual Master Plan
October 2016

Step Three: Final Conceptual Master Plan

Milestones

- 75% Review of Final Conceptual Master Plan
- Draft Conceptual Master Plan Workshop

Roles + Responsibilities

Terrain Studio
- Final Conceptual Master Plan Development
- Project Management

Advisory Group
- Representatives from Citizens for a Beautiful Bellaire, City, Key Boards and Commissions
- Design Input at 75% Final Conceptual Master Plan Point

The City
- Stakeholder Coordination
- Design Input

Council, Boards and Commissions
- Design Input During Final Conceptual Master Plan Workshop
- City Council Presentation

Outcome:
Final Conceptual Master Plan
November 2016

Step Four: Program Plan

Milestones

- 90% Review of Program Plan

Roles + Responsibilities

Terrain Studio
- Program Plan
- Final Conceptual Master Plan
- Project Management

Advisory Group
- Representatives from Citizens for a Beautiful Bellaire, City, Key Boards and Commissions
- Design Input at 90% Program Plan Point

The City
- Stakeholder Coordination
- Program Plan Input

Council, Boards and Commissions
- Program Plan and Final Conceptual Master Plan Approval

Outcome:
Program Plan
Final Conceptual Master Plan
December 2016

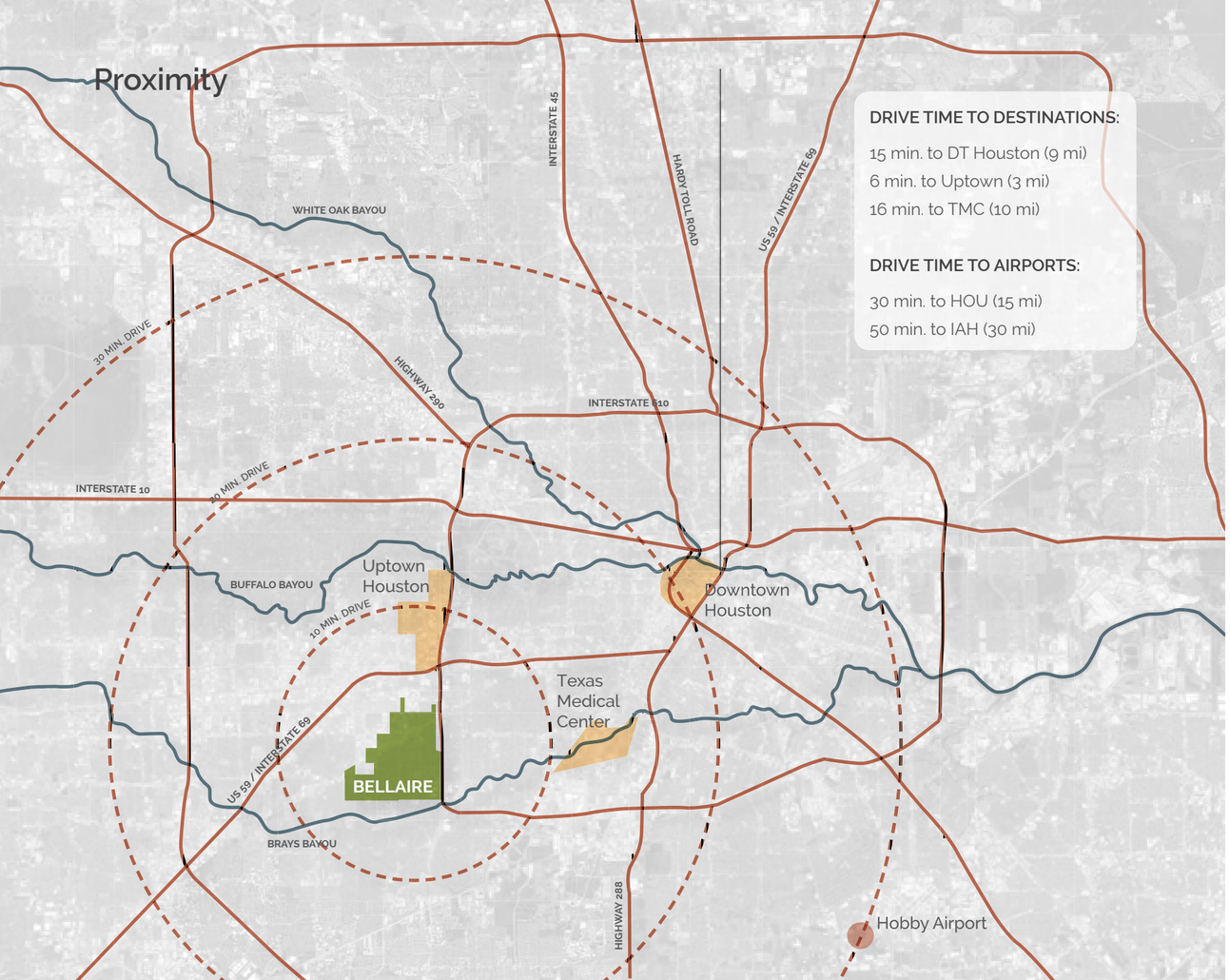
Bellaire Wonderful

History and Culture

Neighborhoods and Schools

Parks and Trees

LISTENING TO THE LAND



History

Urban Planning

1908: City of Bellaire founded by William Baldwin as part of the 23,000-acre Rice Ranch. It was envisioned to be a "Garden City".

Connectivity

1909: A four-mile street car line is built, along with Bellaire Boulevard, connecting Bellaire to Houston's Main Street.

Signage

1952: "Welcome to Bellaire, Texas: A City of Homes" at City Entrance

Strip Retail

1957: Pictured: Dugan Drugs Shopping Center on South Rice at Bellaire Boulevard. This is the current location of the Walgreens on South Rice Avenue.

Automobile-Orientated

1958: Pictured: Shopping center on Bissonnet Street at 6th Street that Amegy Bank purchased the shopping center in 2006.

Architectural Style

1960: Pictured: First State Bank of Bellaire located in the 5100 block of Bellaire Boulevard near South Rice. The First State Bank became the new location of Community National Bank.

Outstanding Parks and Schools

1962: The Bellaire Parks + Recreation Department made Bellaire the best place for kids to grow up.

URBAN PLANNING

CONNECTIVITY

SIGNAGE

STRIP RETAIL

AUTOMOBILE ORIENTED

ARCHITECTURAL STYLE

SCHOOLS AND PARKS

IMAGES FROM "LIFE AND TIMES AROUND BELLAIRE, TEXAS: 1909-2013" BY J. MICHAEL MCCORKLE

Key Components

Everything, including Bellaire's proximity to regional destinations, the city's urban forest, and auto-oriented development, has made the City what it is today.

CAR-ORIENTED IDENTITY
- Signage at city gateways
- City seen as commuter's home

GREAT NEIGHBORHOODS
- Safe neighborhoods
- Good schools
- Good parks

CONNECTED TO HOUSTON'S DESTINATIONS
- Average commute time to employment: 20 minutes
- Great location for bedroom community

AUTO-ORIENTED COMMERCIAL DEVELOPMENT
- Historically, development focused around the car
- Inhibits sustainable forms of development

AUTOMOBILE
- City revolves around access via car
- Historically important
- Deters people from social interaction

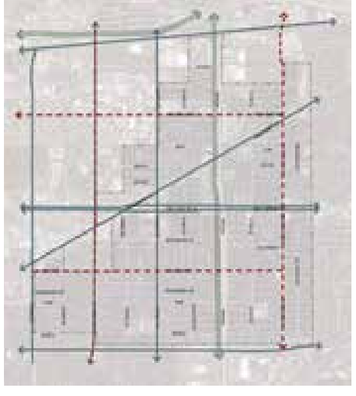
BELLAIRE ICONOGRAPHY
- Signage as signature
- Mostly auto-oriented iconography

FLOODING
- Frequent flooding due to location in region and existing infrastructure

TREES
- Strong tree canopy
- Major contributor to city's beauty
- Appreciated by all in the community

IMAGE FROM "LIFE AND TIMES AROUND BELLAIRE, TEXAS: 1909-2013" BY J. MICHAEL MCCORKLE

01. Land-Use



02. Urban Fabric

03. Natural Systems

04. Cultural Systems

Inventory + Analysis

Necessary efforts for an enhanced urban fabric, multi-modal connectivity, and beautification are made clear through a series of analyses. These four chosen analyses include layers of information that help establish the design principles and proposed design initiatives.

Land-Use

RATIO

A crucial component of the city's land-use includes public realm. This allows Bellaire to make a significant impact on its community. Examples of what is included in the public realm are streetscapes, publicly accessible open spaces, civic buildings and facilities, and right-of-ways.

City Comparisons:

- Bellaire: 48.6% of land in public realm
- Houston: 52% of land in public realm
- Uptown Houston: 17% of land in public realm

With the majority of urban design and beautification efforts occurring in the public realm and Bellaire's relatively high ratio of land dedicated to the public realm, the City is fully capable of making significant changes to the overall beauty, connectivity and sustainability.

Urban Fabric

STREET HIERARCHY

Regional Highways:

As the major highway running through the center of Bellaire, West Loop better connects the city, versus dividing it. The West Loop provides ample opportunities for residents to easily get to local and regional destinations outside of the city.

Major Thoroughfares:

The City's major thoroughfares have direct connections to significant destinations outside of the city. In particular, Bellaire Boulevard has true potential to be a great street on a local, regional, and national scale. However, some challenges exist in activating such potential. Firstly, streets such as Chimney Rock Road, Rice Avenue, and Bissonnet Street are partially within the city's limits, making portions non-accessible under the City's control. This fragmentation makes urban design efforts difficult to continue through corridors. Secondly, the most frequent users are those who use these thoroughfares as a means to get through the city, not to a destination. This lessens the effectiveness of design efforts that aim to create safe streets for all forms of transportation.

Connector Streets:

East-West streets, such as Fournace Place, connect to major thoroughfares and the West Loop; while, North-South streets connect to streets beyond the city limits of Bellaire. Each of these connector streets also have narrower right-of-way widths, making modifications more challenging, but still possible, to implement separated modes of transportation and beautification efforts.

CONNECTOR STREETS

NEWCASTLE STREET

FERRIS DRIVE

HOLLY STREET

MAJOR THOROUGHFARES

BISSONNET STREET

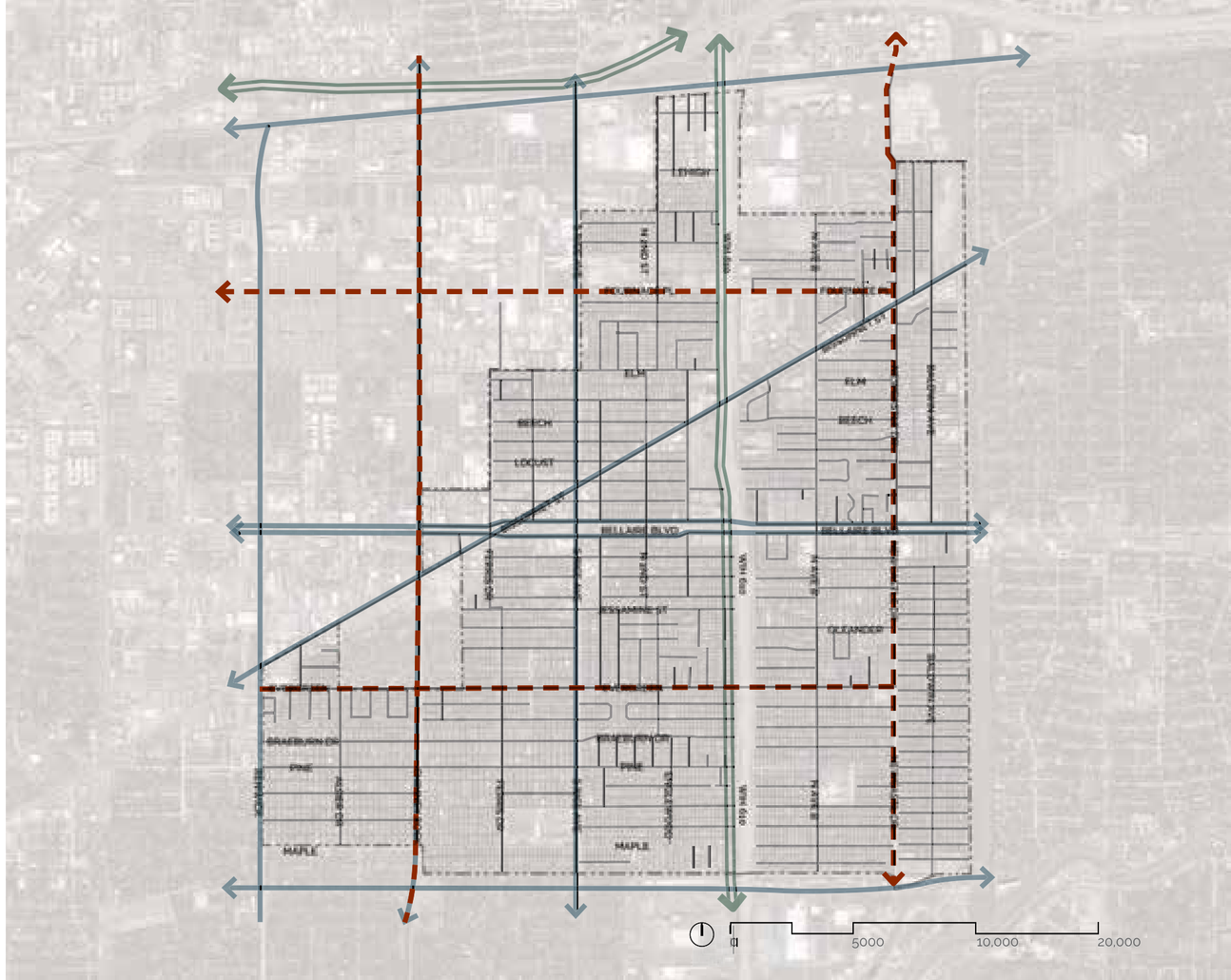
CHIMNEY ROCK ROAD + BISSONNET STREET

RENWICK DRIVE

REGIONAL HIGHWAYS

LEGEND:

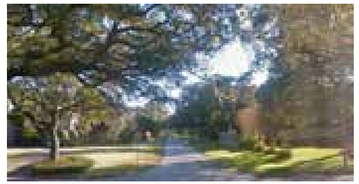
- Neighborhood Street
- Connector Street
- Major Thoroughfare
- Regional Highway



SIDEWALKS

Neighborhood Streets:

Bellaire's walkable size makes implementing sidewalks very beneficial for residents, as one may notice in the walk radii shown on the far page. One can also notice that few continuous sidewalks exist along neighborhood streets. Where continuous sidewalks exist, they are often broken and unmatched. With continuous, wide sidewalks along neighborhood streets in conjunction with adequate lighting, residents are able and encouraged to utilize their city's landscape safely, and comfortably.



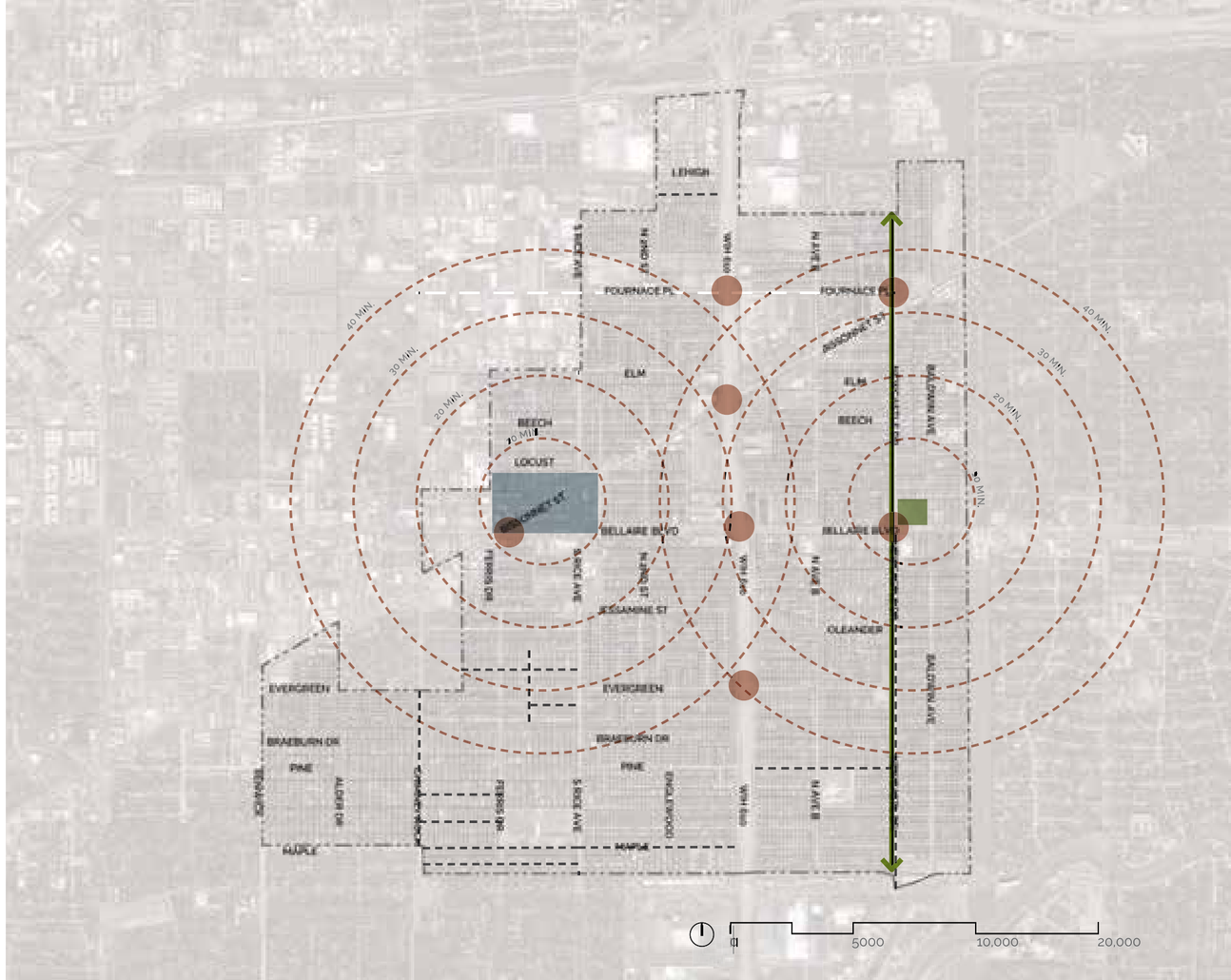



INCONSISTENT SIDEWALKS

STREET CHARACTERS

LEGEND:

- Continuous Sidewalks
- Challenging Crossings
- Newcastle Trail
- Urban Village Downtown
- Evelyn's Park



BICYCLE LANES

The City of Houston has already begun efforts through their bicycle master plan. However, there is a clear void in the planning of Bellaire's bicycle-safe streets. With the clear demand from residents from the community survey, accommodation for avid- and casual-cyclists is needed. The approach to such facilities should be focused around separating bicyclists using a physical barrier when possible. A physical barrier allows a safe mode of transportation for cyclists with varying levels of experience.

Bicycle facilities on neighborhood streets are not necessary due to the minimal right-of-way and lack of regular traffic on these streets. Residents have easy connectivity to connector and major thoroughfares with dedicated facilities.

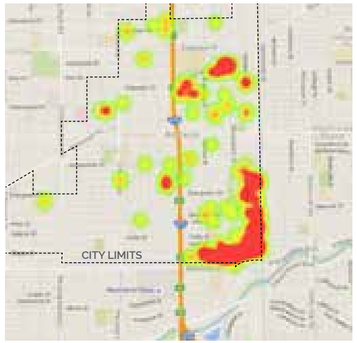
STREET WITHOUT BICYCLE LANE

STREET WITH BICYCLE LANE (CHIMNEY ROCK ROAD)

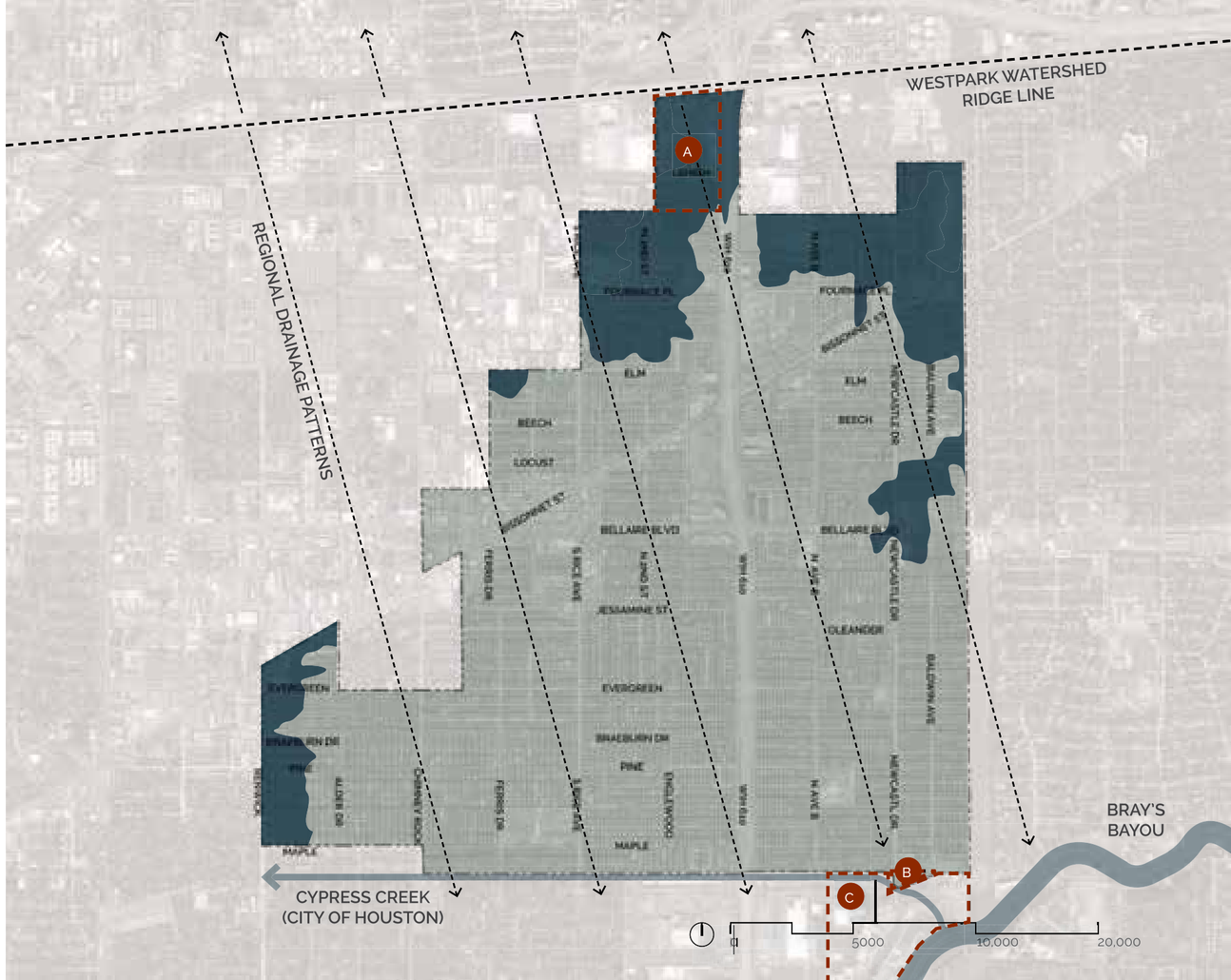
Natural Systems

STORMWATER MANAGEMENT

Stormwater interventions are a necessity in future efforts as flooding is a reality of residents and business owners in the city of Bellaire. Drainage and infiltration problems persist throughout the entirety of the city's land, particularly at the northern sites. A large portion of flooding is due to Brays Bayou and local storm sewer systems not able to hold the extreme volume of incoming stormwater.



2015 MEMORIAL DAY FLOODING EVENT - FLOODING LOCATION INTENSITY MAP



LEGEND:

- 100 Year Floodplain
- 500 Year Floodplain
- A — Drainage Impeding Redevelopment
- B — City of Bellaire Waste Water Treatment Facility
- C — City of Houston Waste Water Treatment Facility

HISTORIC STORMWATER MANAGEMENT

One constant throughout Bellaire's history is flooding. Countless flood events have occurred in the city since its beginning. Overtime, the impervious land area has also increased dramatically as land use has shifted to a higher built ratio.

Two Approaches can be used: traditional engineering, or green infrastructure.

1955: STREET FLOODING RESULTING FROM RAIN STORMS

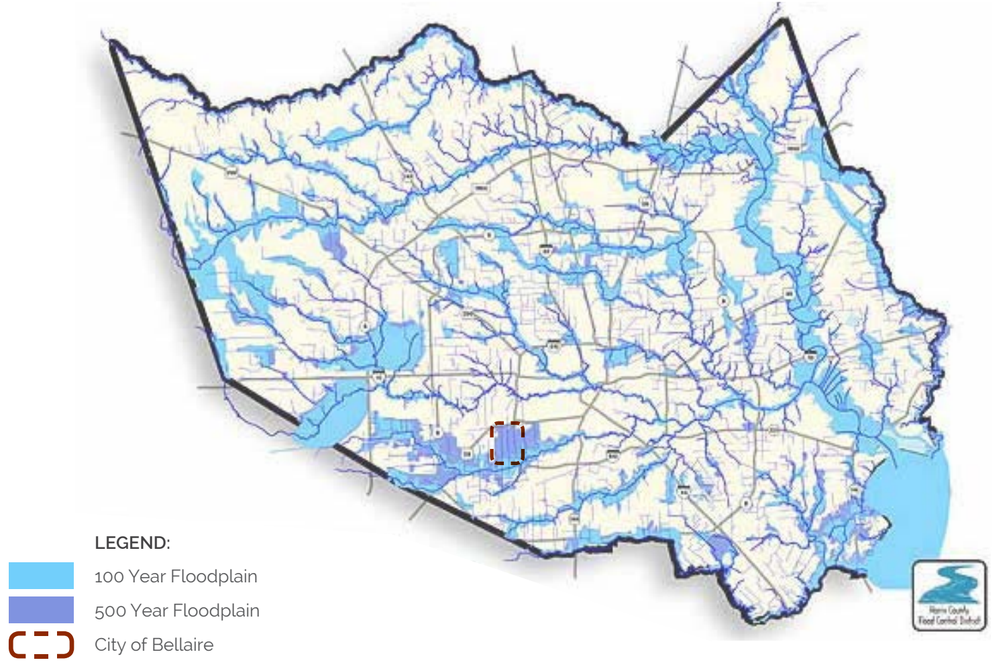
2001: THE AFTERMATH OF TROPICAL STORM ALLISON

IMAGES FROM 2015 FLOOD

IMAGES FROM 2016 FLOOD

IMAGES FROM "LIFE AND TIMES AROUND BELLAIRE, TEXAS: 1909-2013" BY J. MICHAEL MCCORKLE

Harris County's Current Floodplain



LEGEND:

100 Year Floodplain

500 Year Floodplain

City of Bellaire

URBAN FOREST

One proud asset of the community is its strong urban forest. The city's beautiful tree canopy was encouraged to be developed along major corridors including connector streets and major thoroughfares.

LIVE OAK

RED OAK

CYPRESS

CHINESE TALLOW

ELM

ASH

Cultural Resources

SOCIAL SPACES

A critical component of a better Bellaire is encouraging the use of social spaces such as schools, churches, and parks. Urban design and beautification initiatives can help achieve this effort by physically connecting residents to destinations, while enhancing community pride.

ART AND HISTORY

The citizens' survey has demonstrated a deep desire for a more vibrant art and design community. Bellaire has already made strides through installations such as the "Open the Door" Art Door installation in Paseo Park. A focused effort in the arts community gives opportunity for residents and artists to embrace Bellaire's amazing historic and cultural depth.

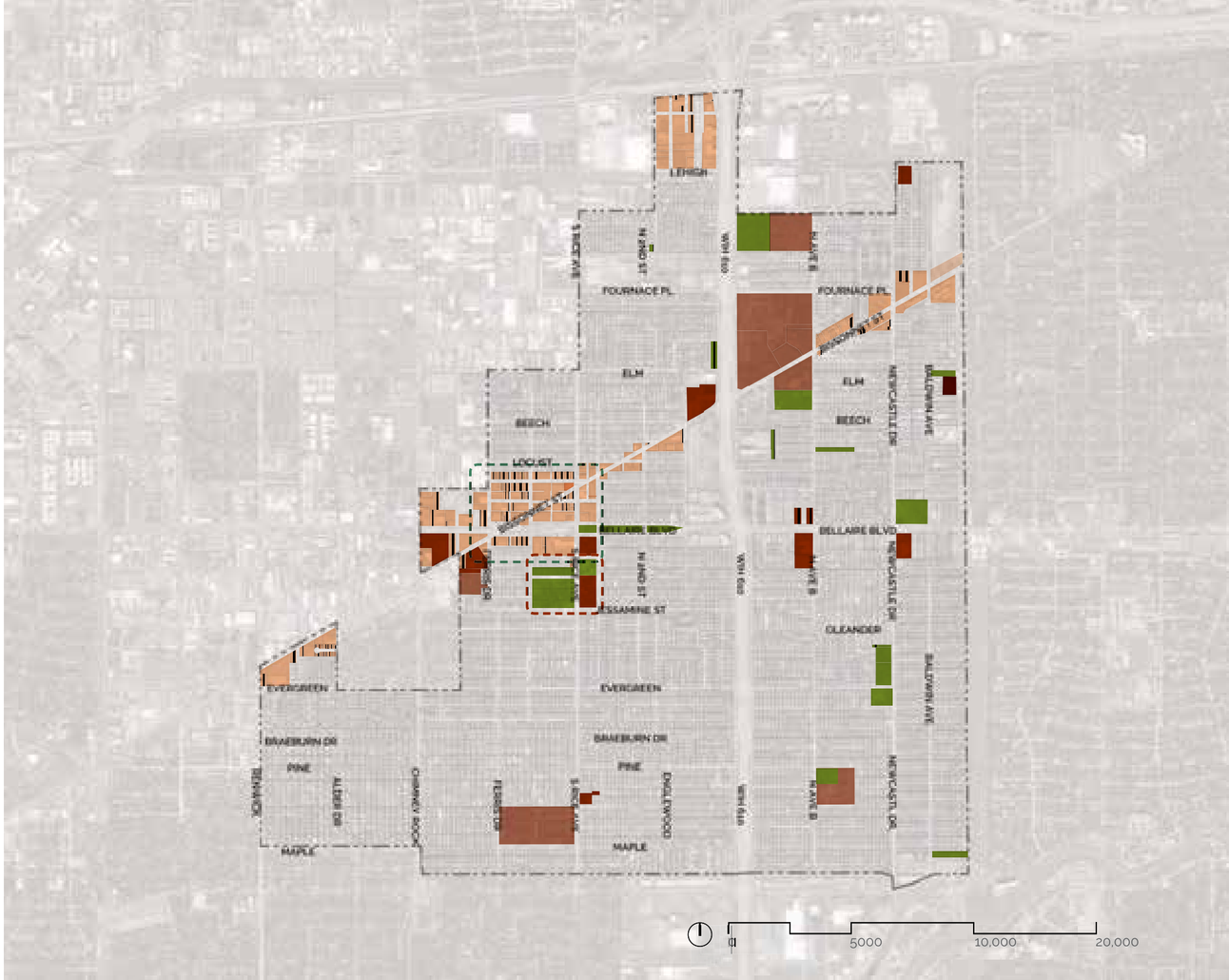
PARKS AND OPEN SPACE

Parks are dynamic places that provide a vital role in the social, economic and physical welfare of cities and its residents. Parks promote community engagement and civic pride and attract individuals of all ages and backgrounds. Parks are an essential component of any city's infrastructure and because of the many benefits, the return on investment is high.

UTILITY BOX PAINTING AT PASEO PARK, BELLAIRE , TEXAS

HISTORIC TROLLEY, BELLAIRE, TEXAS

"OPEN THE DOOR" ART DOORS INSTALLATION, PASEO PARK, BELLAIRE, TEXAS



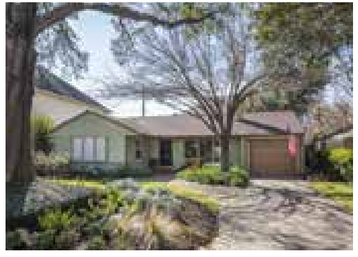
ARCHITECTURE

Bellaire has a variety of architecture — both residential and commercial. The city's history as a bedroom community provides several types of architecture, along with unique, auto-oriented architecture. This extensive palette of architectural styles is one of Bellaire's greatest assets.

New styles of mainstream architecture have also been introduced in the urban village and West Loop in recent years.

Historic

Residential



Commercial

Institutional

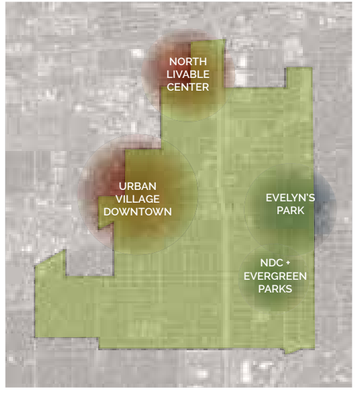
DESIGN PRINCIPLES

Design Principles

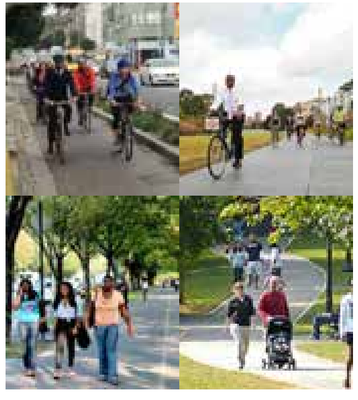
Through understandings gained from listening to the community and the land a set of design principles emerge that form the framework for urban design and beautification initiatives.

þ1. "One" City

þ2. Brand Clarity



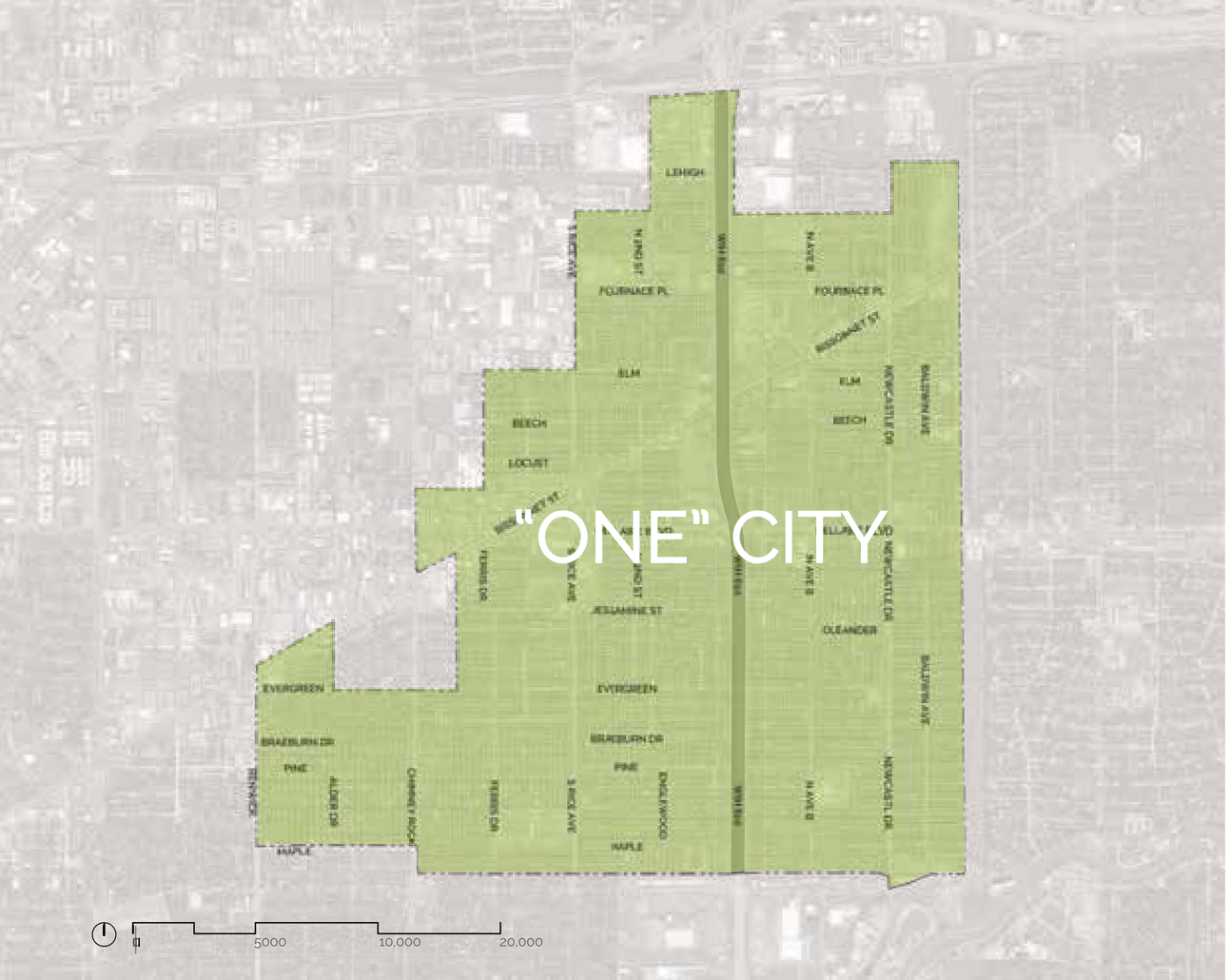
þ3. Destinations



þ4. Connectivity

þ5. Green Infrastructure

þ6. The Social Landscape

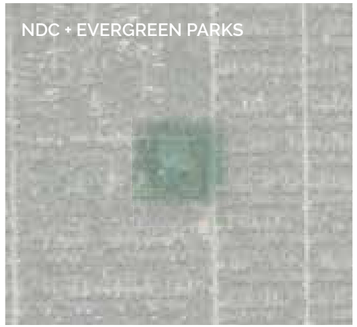


01."One" City

Although the city is subdivided by the West Loop, it's still "ONE" city. Urban design and beautification improvements should establish a brand that reinforces Bellaire's unity. Bellaire's brand can elevate the overall quality of life, as well as quality and real property value for all.

02. Brand Clarity

Through a people-oriented design language, Bellaire can build a clear, cohesive brand. Focusing the brand on the public realm and urban hardware will help define the city as a united and unique place to live.



03. Destinations

With proper accommodation for all modes of transportation, residents can rely on modes of transportation besides the automobile to get to destinations throughout the city. The city's town center and Evelyn's Park act as "centers of gravity" within the city, creating both urban and green destinations. Bellaire's close proximity of destinations serve as a strong advantage in supporting its overall vision of a great city.

04. Connectivity

A major goal is to create multi-modal streets that link destinations and promote walking and biking as safe, pleasant alternatives to the car particularly for families.

05. Green Infrastructure

Throughout Bellaire, a key component to tackling issues, such as stormwater management, is to employ proven, green infrastructure solutions. These solutions set Bellaire apart as an environmentally conscious community.

06. The Social Landscape

Creating a public realm that allows people to socialize, to meet on the street and to know one's neighbor is a key component in bettering Bellaire. These efforts can focus around creating social spaces for gatherings, both large and small. Establishing an annual civic event that is a regional attraction could also be a great addition to Bellaire.

THE VISION

Urban design and beautification improvements will happen incrementally over decades, these small pieces should aggregate into a clear vision unique to Bellaire a vision rooted in Bellaire's history.

Renewing the 1908 Vision for Bellaire

1908

Bellaire founded by William Baldwin as part of the 23,000 acre Rice Ranch. It was envisioned to be a

"GARDEN CITY"

Bellaire's Brand

THE NEW GARDEN CITY

a harmonious, family-oriented community balancing the best of town and country

Beautiful

Sustainable

Connected/Social

Bellaire's Strength

THE BEST PLACE TO LIVE IN HOUSTON

Beautiful

Sustainable

Connected/Social

Public Investment Strategy

each $ yields

Beautification + Functionality + Property Value Creation

DESIGN INITIATIVES

Design Initiatives

These design initiatives aim to achieve the grand vision of Bellaire as a "Garden City". Each initiative, represented through the design principles' graphic icons (see right), utilizes one or more of the overall design principles. Some initiatives resonate throughout the entire city, while others focus on site-specific solutions.

PROJECTS:

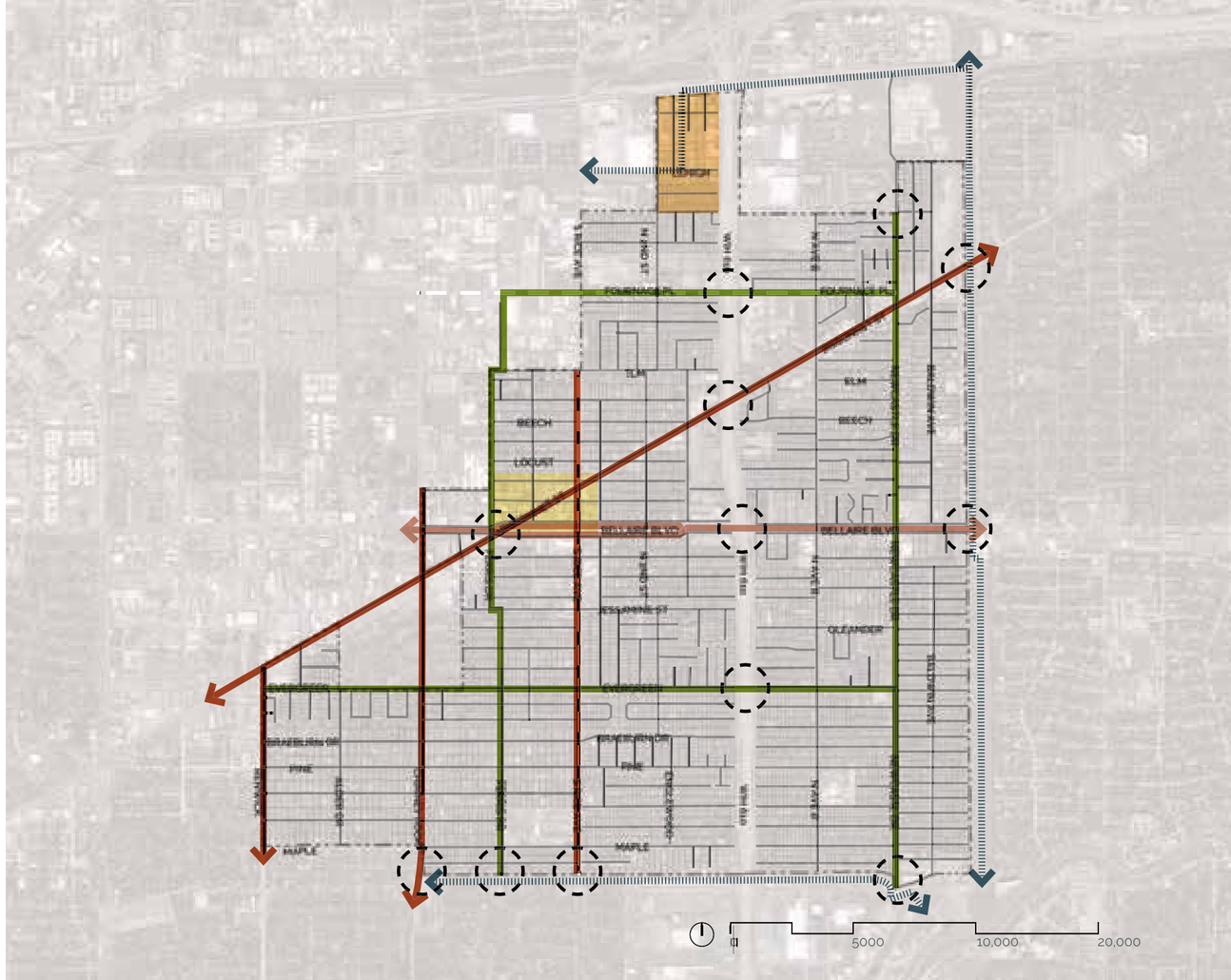
01. Overhead Power Lines
02. Urban Elements
03. Connectivity
04. Stormwater Management
05. Bellaire Boulevard
06. Urban Village Downtown
07. City Gateways
08. Easements
09. North Livable Center

DESIGN PRINCIPLES:

- ONE CITY
- BRAND CLARITY
- DESTINATIONS
- CONNECTIVITY
- GREEN INFRASTRUCTURE
- SOCIAL LANDSCAPES

LEGEND:

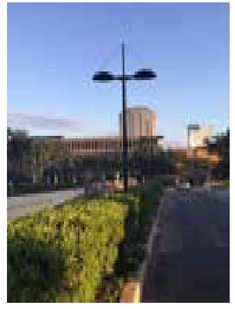
- Bellaire Boulevard
- Major Thoroughfares
- Connector Streets
- Neighborhood Streets
- Easements
- City Gateways
- Urban Village Downtown
- North Livable Center



Urban Elements

Urban elements are a key factor in reinforcing a common aesthetic language throughout Bellaire. Some alternations may happen in specialty location, such as the urban village downtown, an important street corner, etc. However, all urban elements should include the same pole fixture, the unique mast, and ellipse-shaped bottom. As funding and reconstruction allows, the newer lights can replace existing light fixtures.

Roughly 4,000 to 7,000 new lights will be installed over time. This can potentially warrant Centerpoint, the local lighting provider, to add Bellaire's proposed fixture to their suite of available options.

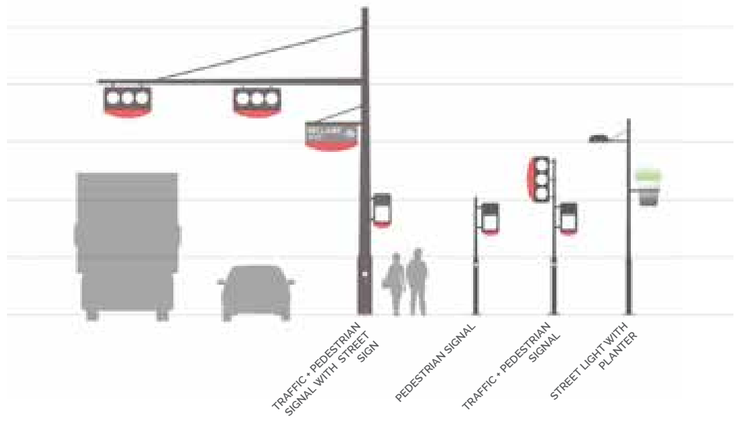


PREFERRED FIXTURE

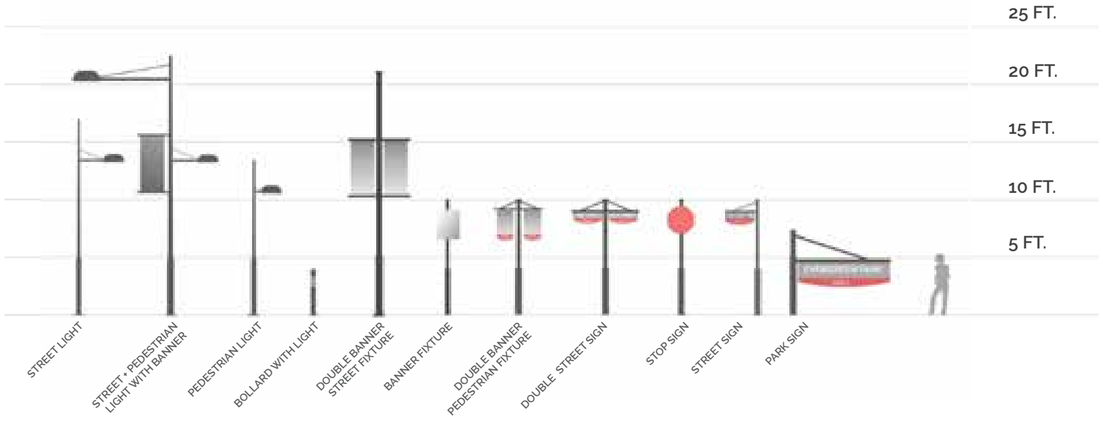
OPTIONAL FIXTURE

OPTIONAL FIXTURE

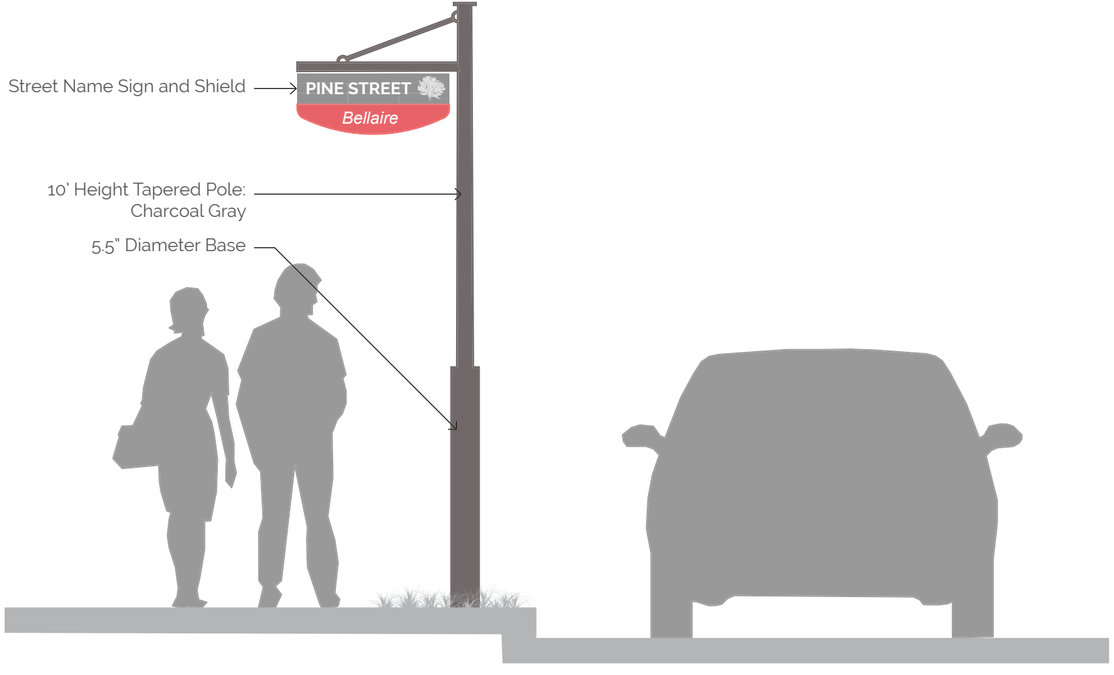
Urban Street Elements Family



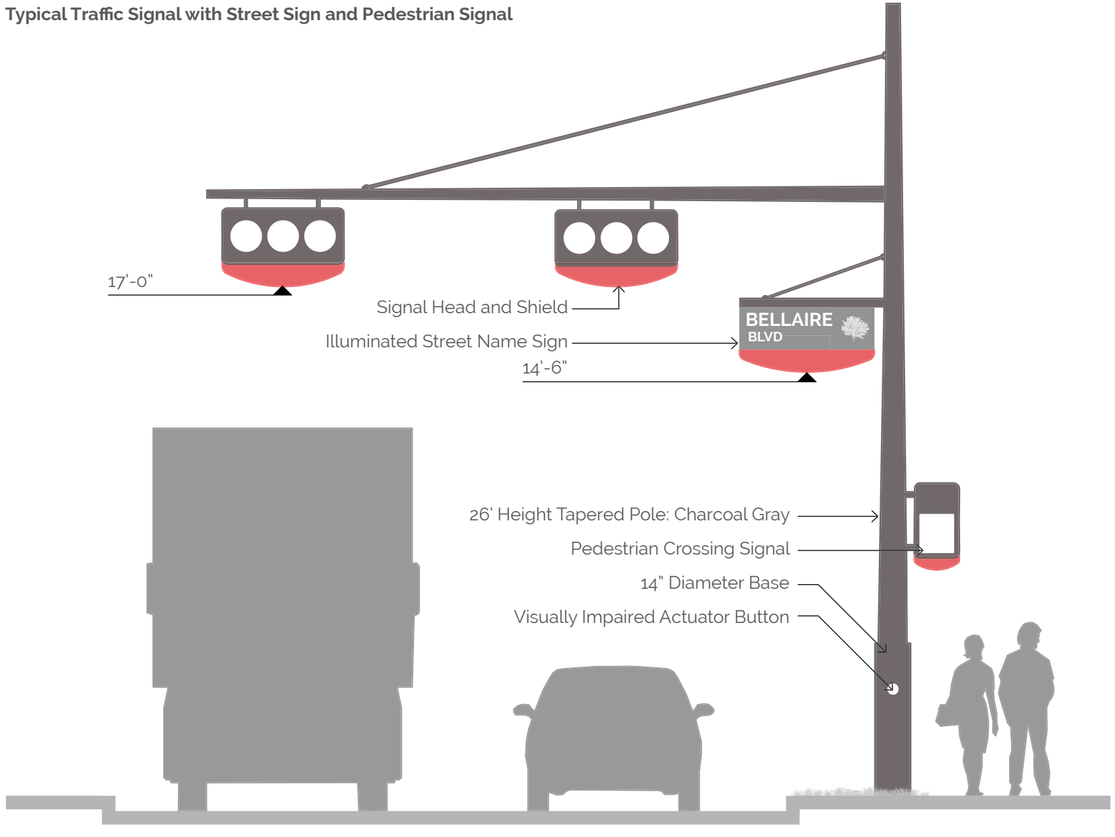
NEIGHBORHOOD INTERSECTION WITH URBAN ELEMENTS FAMILY



Typical Street Sign



Typical Traffic Signal with Street Sign and Pedestrian Signal



Overhead Power Lines

An overall initiative for the city of Bellaire is to bury a portion of the overhead power lines in order to bring the city up to contemporary standards. This standard helps achieve three ideas:

01. Dependability of service
02. Public safety
03. Visual quality

Implementation of such standards can happen in association with street reconstruction. Key locations for burying would be at locations where overhead power lines are extremely visible. Other locations can happen as funding allows.

Above-Ground Line Locations

LEGEND:

Overhead Power Lines Fronting Streets

Neighborhood Streets

IMPLEMENTATION OF SIDEWALKS

The proposed typical street section for a neighborhood street takes into consideration several factors:

01. Implementation of sidewalks
02. Creation of bellaire intersections (with, or without, an art component)
03. Bio-retention gardens
04. Urban elements component.

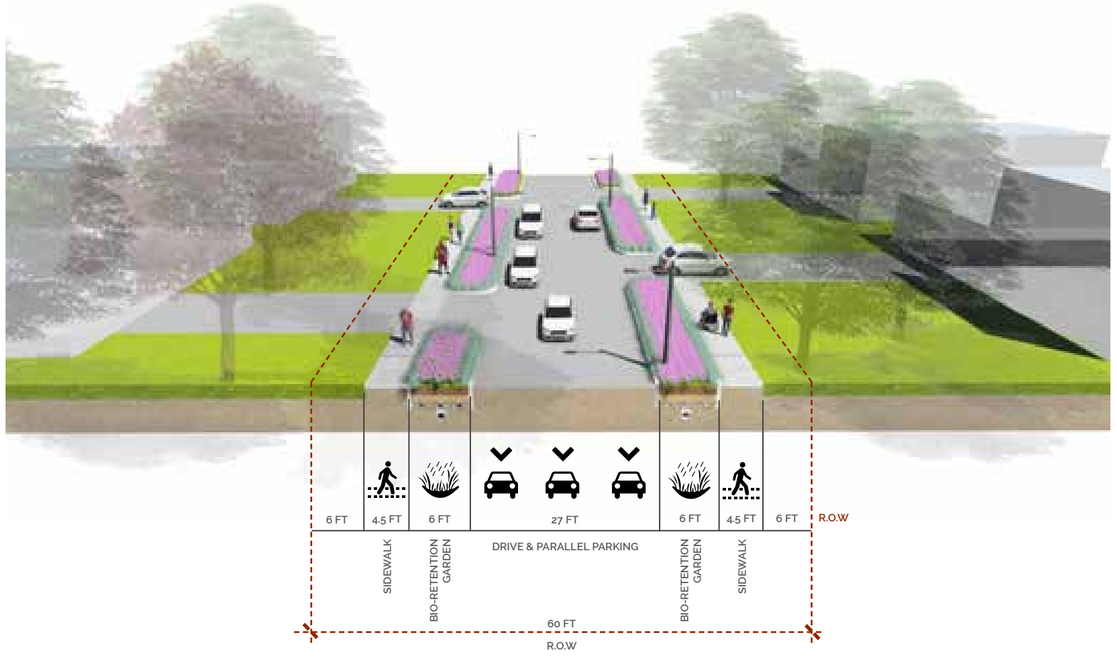
Overall, the streets of Bellaire consume 88% of the city's street fabric. Improvements overall are to be made within the existing street footprint and well-within the right-of way. This minimizes disruption to private property.

The concerns and demands voiced in the community survey proved that sidewalks are necessary on all neighborhood streets. The proposed neighborhood streets use more of the right-of-way to maximize sidewalk footprints and bio-retention gardens. Specifically, sidewalks are a minimum of four and a half feet in width to allow passing room. Overall improvements to the streetscape are beneficial for all residents as they provide connection to connector streets and major thoroughfares, as well as improve street aesthetic.

Long-term durability is considered when placing the sidewalks. Sidewalks are placed away from the curb in an effort to enhance durability of the sidewalk, itself, and connections at driveways.

EXAMPLE OF SIDEWALK IMPROVEMENTS AT INTERSECTIONS

Typical Section: Neighborhood Street

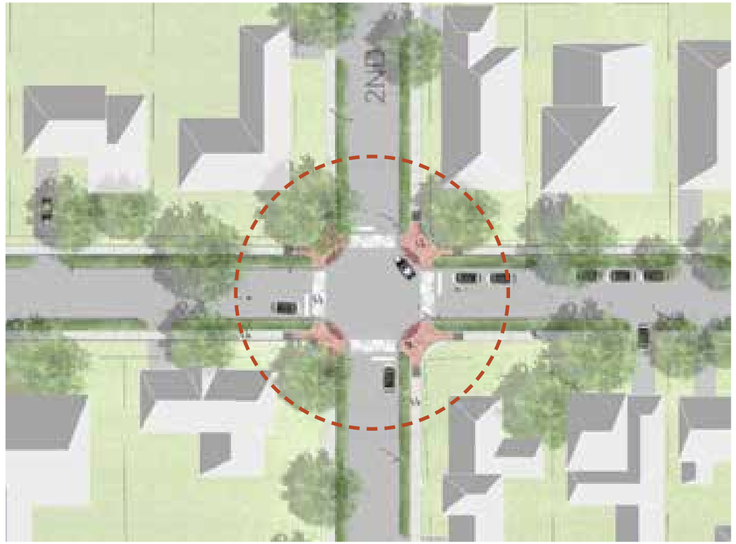


Neighborhood Streets (cont'd)

CREATION OF BELLAIRE INTERSECTIONS

Since Bellaire is a grid-city, everyone experiences intersections. This creates opportunity to enhance the common factor among residents through physical enhancements and create common identity within the city.

The enhanced intersections seamlessly take care of several conflicts: connects the neighborhood sidewalks that are pulled back from the curb; takes care of grade change; provides ample space for safe crosswalks insuring accessibility; and, provides ample space for seating and art elements. These intersections encourage social interaction in the landscape while creating an opportunity for a public art program.

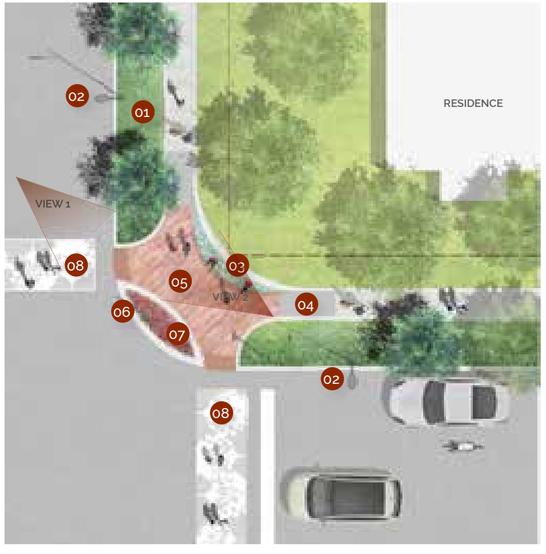


TYPICAL INTERSECTION WITH SPECIAL CORNERS

LEGEND:

Enhanced Intersection Location

Typical Street Corner (With Art and Mural Wall)



LEGEND

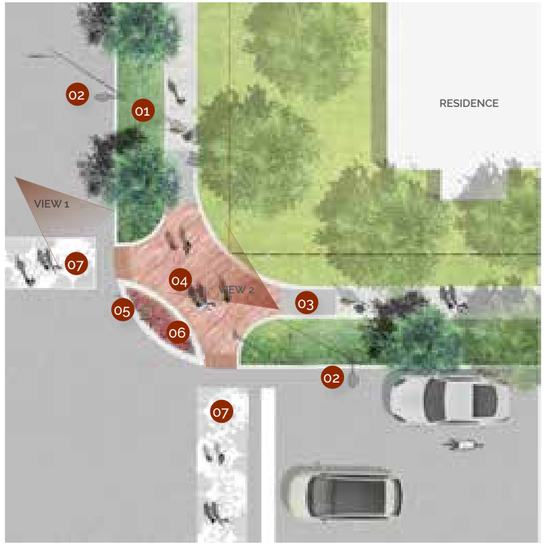
01. Bio-retention Garden
02. Street Light
03. The"Bellaire Bench"
04. Curb Ramp
05. Corner Plaza
06. Stop Sign
07. Corner Garden Planter
08. Art Crosswalk

VIEW 1

VIEW 2

VIEW OF INTERSECTION

Typical Street Corner (Without Art and Mural Wall)



LEGEND

01. Bio-retention Garden
02. Street Light
03. Curb Ramp
04. Corner Plaza
05. Stop Sign
06. Corner Garden Planter
07. Art Crosswalk

VIEW 1

VIEW 2

VIEW OF INTERSECTION

Neighborhood Streets (cont'd)

BIO-RETENTION GARDENS

Located against the sidewalk between the street curb, bio-retention gardens have several benefits, a few being the following:

01. Stormwater Management and Infiltration
02. Creates Beautiful Environment
03. Improves Curb Appeal

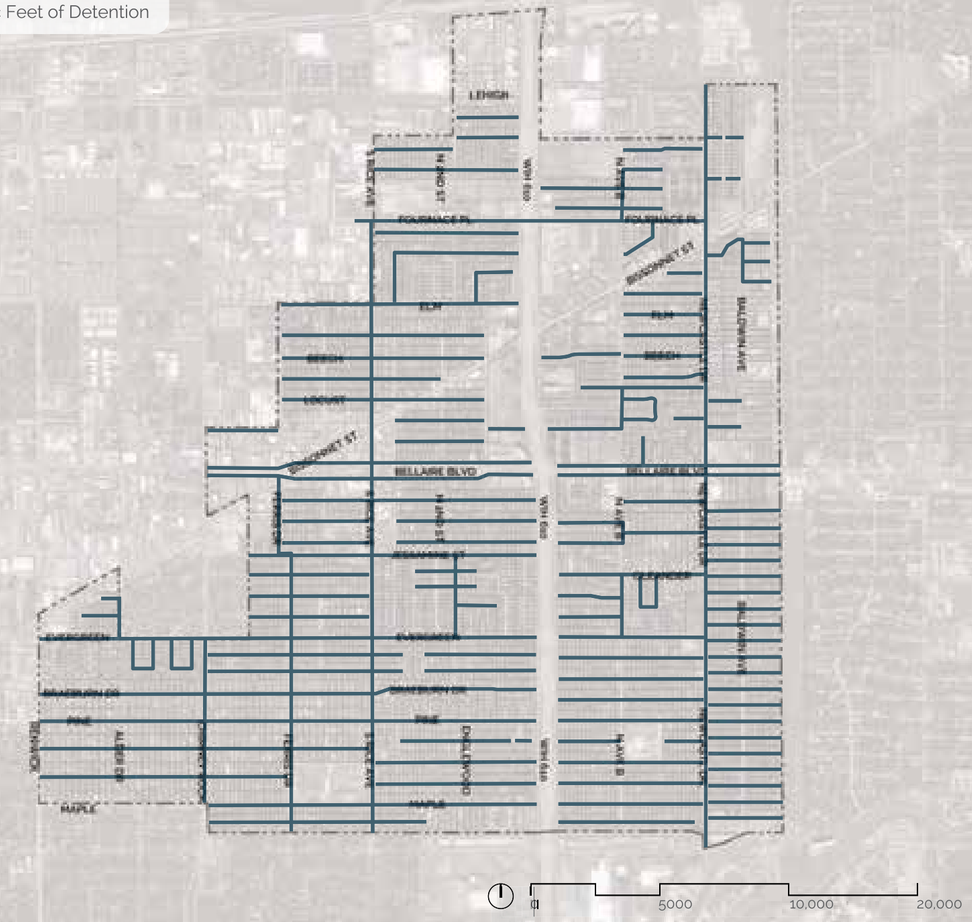
To preserve large trees along neighborhood streets, special care is taken during the implementation process. One example of wrapping tree roots (shown to the right) includes excavating or boring under existing tree roots within these gardens.

BAGBY STREET, HOUSTON, TEXAS

EXCAVATION AROUND EXISTING AND PROTECTIVE WRAPPING OF TREE ROOTS, HERMANN PARK, HOUSTON, TEXAS

BIO-RETENTION GARDENS:

1,275,000 Cubic Feet of Detention



LEGEND:

Bio-retention Garden Locations

Neighborhood Streets (cont'd)

BIO-RETENTION GARDEN IMPACTS

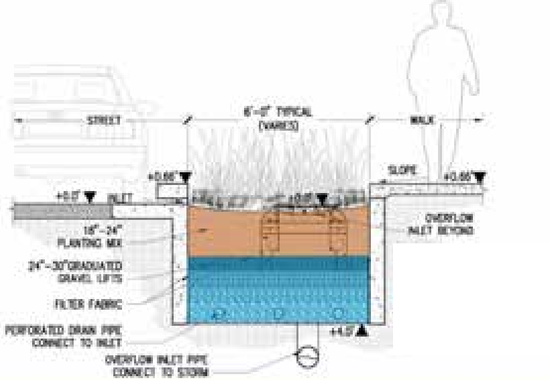
Bio-retention gardens improve water quality through filtering pollutants, reduce flood impacts through capturing and retaining water on-site, and also create new wildlife habitats (Designing For Impact Guide for Governments, Houston-Galveston Area Council). Along neighborhood streets, trees shall not be placed in bio-retention gardens because of the strong, existing tree canopy. Common plant species for new gardens also grow best in full sun. Plants species should also be robust and shown to have succeeded in other landscapes in the Houston area.

Life Cycle Cost ($, NPV)
Net Present Value

	Conventional	LID	Difference	%
Curbs & Gutters	$ 67,984	$ 67,984	$ 0	0 %
Street	$ 1,110,977	$ 555,488	$ 555,489	-50 %
Conventional Stormwater Storage	$ 297,208	$ 297,208	$ 0	0 %
Bioswale	$ 157,514	$ 405,629	($ 248,116)	158 %
Trees	$ 0	$ 63,922	$ 63,922	
Total	$ 1,633,683	$ 1,388,231	$ 245,452	-15 %

These numbers compare landscape development and stormwater management costs. They do not account for cost to construct buildings.

COST BENEFIT OF STORMWATER MANAGEMENT INFRASTRUCTURE FROM "DESIGNING FOR IMPACT GUIDE FOR GOVERNMENTS" BY HOUSTON-GALVESTON AREA COUNCIL



TYPICAL CONSTRUCTION DETAIL OF BIO-RETENTION GARDEN

Bio-Retention Garden Examples






BIO-RETENTION GARDEN MAINTENANCE

Bio-retention gardens are to be built with robust plant material. Specifically, plants are to be native, naturalized plant material that's proven to do well in Houston area.

Regarding maintenance duties for the proposed bio-retention gardens, two approaches are suggested:

01. Residential Approach

Given a variety of circumstances, native, naturalized plant maintenance is typically easier to maintain than traditional lawn. Residents could be given guides to maintain the gardens closest to their house and maintain gardens. This approach is suggested due to the high amount of maintenance given to the existing right-of-way by current residents in the city.

02. City Approach

A garden team would be created by the city. This team would specialize in maintaining the plants in bio-retention gardens throughout the city.

LANTANA
LANTANA CAMARA

LOUISIANA IRIS
IRIS SER. HEXAGONAE

ASIAN JASMINE
TRACHELOSPERMUM ASIATICUM

KNOCKOUT ROSES
ROSA 'DOUBLE KNOCK OUT'

SALVIA
SALVIA OFFICINALIS

KATY RUELIA
RUELLIA SIMPLEX 'KATIE'

MEXICAN FEATHER GRASS
NASSELLA TENUISSIMA

GULF COAST MUHLY GRASS
MUHLENBERGIA CAPILLARIS

SPIDER LILY
LYCORIS RADIATA

GIANT BLUE LIRIOPE
LIRIOPE MUSCARI

INDIAN HAWTHORN
RHAPHIOLEPIS INDICA

MONKEY GRASS + OPHIOPOGON
OPHIOPOGON JAPONICUS

West Loop Motor Courts

MOTOR COURTS

The current connection to the West Loop's frontage roads makes for an unsafe environment for a family-oriented community due to the high volume of commuter traffic. These intersections (such as the "Before" image shown to far right), create an undesirable front door to the West Loop abutment wall.

Design initiatives that disconnect the street to create a motor court could provide a variety of advantages. The closing create social spaces and promote safe, neighborhood activities.

One challenge with closing certain intersections is the impact on current traffic flow and the potential for congestion elsewhere. A traffic study for this initiative is heavily encouraged.

Certain residents may want to keep their street open due to personal concerns. An alternative for the selection of street closings in conjunction with a traffic study might be residents volunteer their block to be disconnected from the frontage road.

Converted Motor Court Locations

Connector Streets

TYPICAL STREET SECTION

Connector streets are generally narrow and have more traffic than neighborhood streets. However, they still allow people to get safely to local destinations and their homes. The connector street has similar elements as the neighborhood streets, but instead of a dedicated bicycle lane to promote safety. Like neighborhood streets, connector streets do not touch private property and contain Bellaire's proposed urban elements family. These streets receive street tree treatment on both sides of the street.

FOURNACE PLACE: 75' RIGHT OF WAY WIDTH

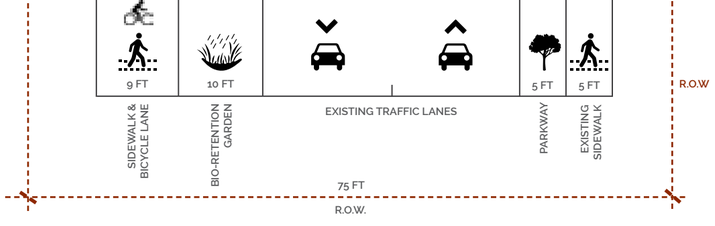
NEWCASTLE STREET: 60' RIGHT OF WAY WIDTH

LEGEND:

Connector Streets

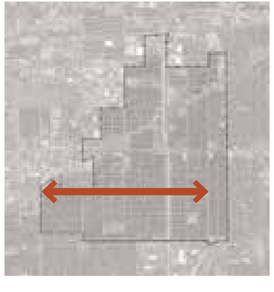
Typical Section: Newcastle Street

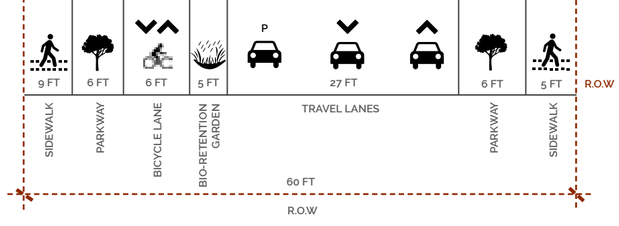
Key Map:



Typical Section: Evergreen

Key Map:





Major Thoroughfares

South Rice is the north/south heart of Bellaire. It is a civic street lined with residences, churches, schools, parks, the Municipal Complex and businesses. It links many of Bellaire's neighborhoods to these and other destinations within and beyond the city limits.

Both South Rice and Chimney Rock exist within a generous 90' right-of-way allowing these streets to become "green" streets in character and sustainable functionality. South Rice can include multi-modal connectivity with two lanes of traffic in each direction, wide sidewalks, dedicated bike lanes, parkway green space, Bio-retention gardens and a planted median. When needed 7' wide Bio-retention Gardens can be paved with pervious paving to accommodate parallel parking.

Chimney Rock can include the same functions but given its residential character parallel parking is not required.

Bissonnet is envisioned as Bellaire's urban street allowing the wide variety of land-uses that front Bissonnet to gain vehicular, pedestrian and bike access from it while creating space for coffee shops, restaurants and other businesses to spill out onto generous sidewalks. Additional sidewalk space is created by removing the existing "chicken lane" in the middle of the street while maintaining four (4) lanes of traffic, two (2) in each direction. Recently the "chicken lane" on Westheimer east of Shepherd was removed, a corridor with much higher traffic demands than Bissonnet through Bellaire, a model that Bissonnet can emulate.

BISSONNET STREET:

This corridor not only slides through Bellaire's downtown, but also has varying land-uses. The right-of-way width is also only seventy feet wide, making it the one urban corridor in the city of Bellaire. Bissonnet allows Bellaire to stretch its urbanity through the city, and is a great example of where urban elements can vary (e.g. pots, banners on poles, etc.). Unique streetscape elements along Bissonnet include infiltration beds and trees in tree grates. These infiltration beds allow a significant amount of stormwater infiltration.

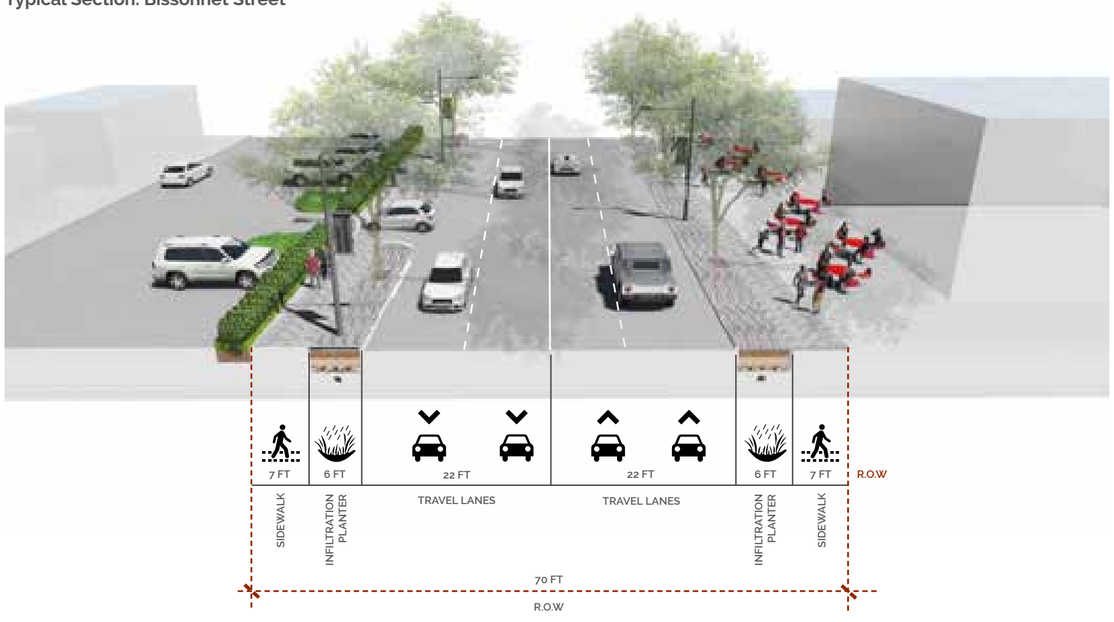
Major changes to this two-way street would be getting rid of the middle lane that allows left and right turns. A successful example of this is Westheimer at Shepard (shown in image to the right). The middle lane removal allows the sidewalks to be widened.

Key Map:

EXAMPLE AT WESTHEIMER STREET AND SHEPARD STREET OF HOW MIDDLE LANE CAN BE REMOVED WITHOUT SIGNIFICANTLY CONGESTING TRAFFIC

MULTI-MODAL STREET EXAMPLES

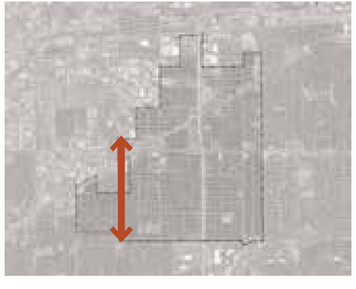
Typical Section: Bissonnet Street



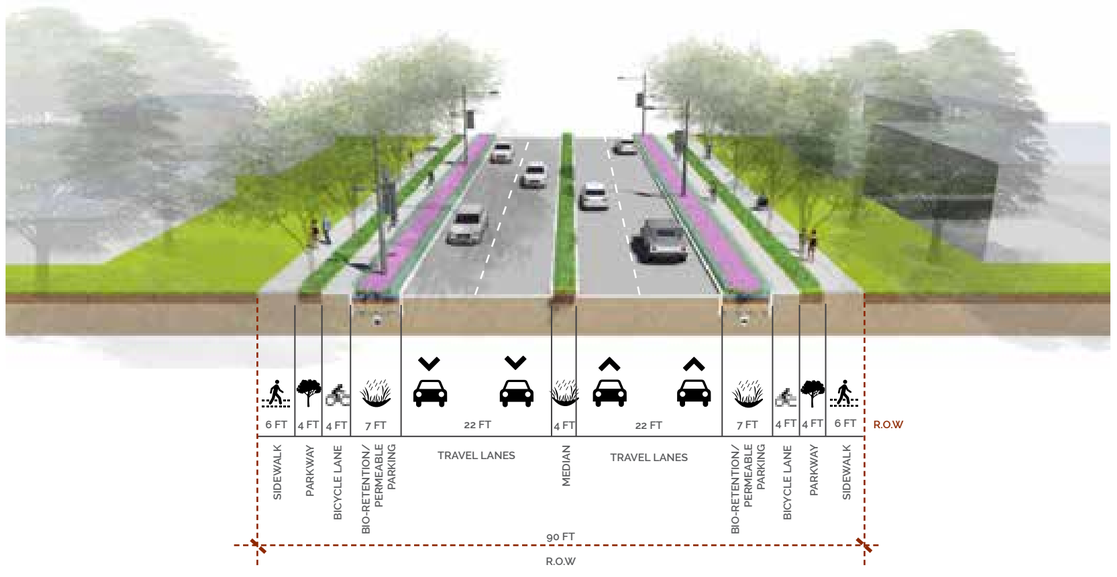
CHIMNEY ROCK ROAD:

Chimney Rock Road has vastly different land-uses than South Rice Boulevard, but still carries the same treatment in its similar ninety-foot right-of-way.

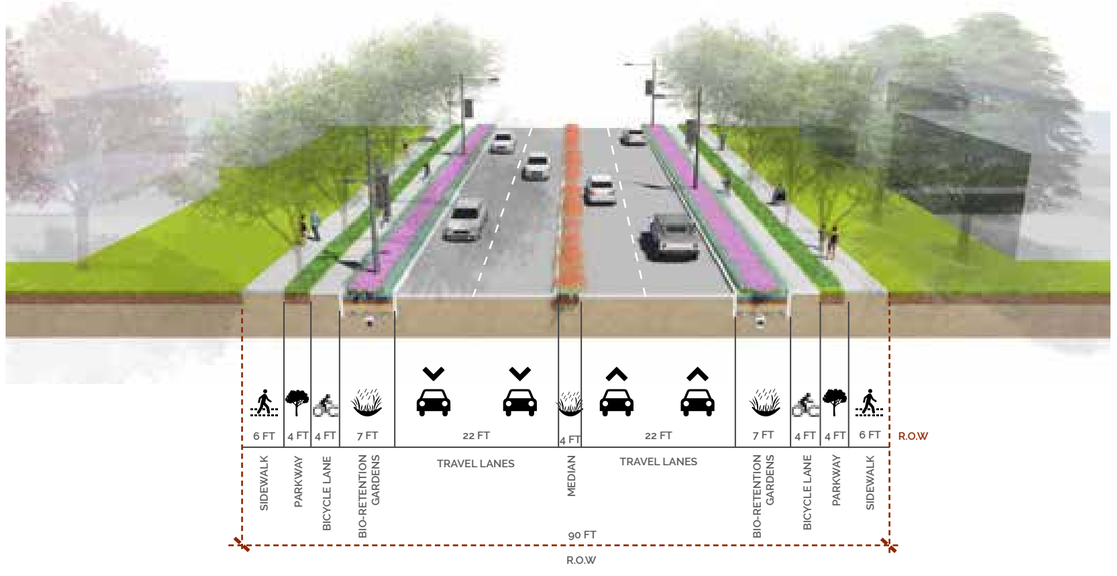
Key Map:



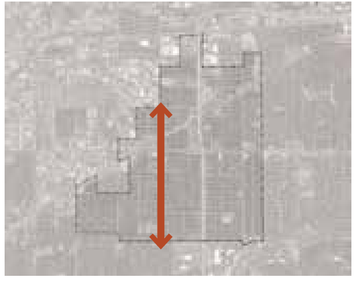
Typical Section: Chimney Rock Street



Typical Section: South Rice Boulevard (Without Street Parking)



Key Map:

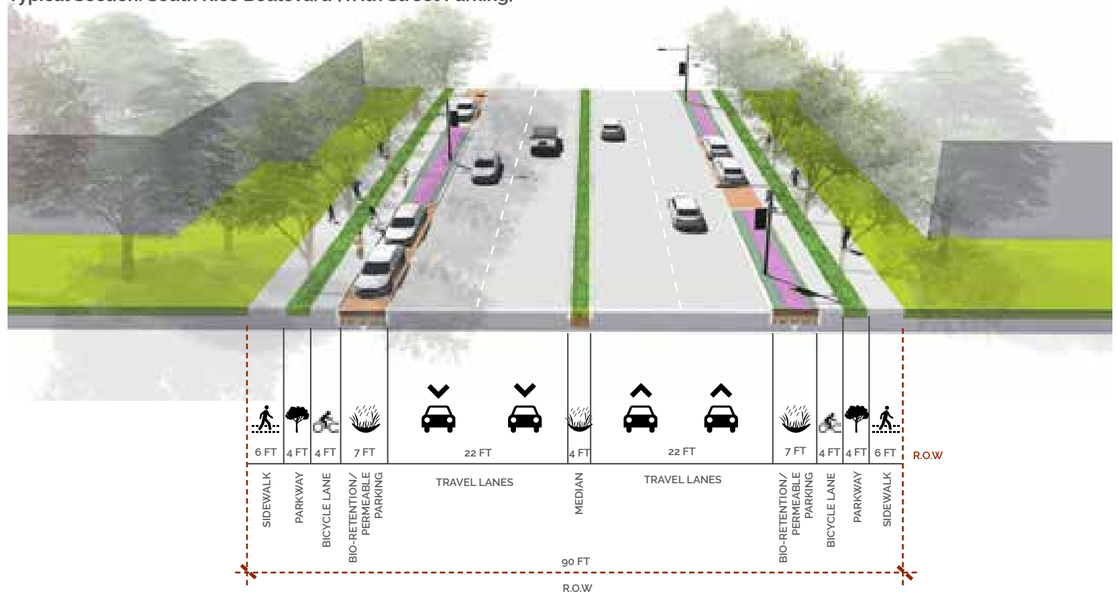


SOUTH RICE BOULEVARD (NO PARKING):

South Rice Boulevard exists as one of the major streets in the city of Bellaire. There are several aspects that make it a unique street:

01. Able to create sidewalks on both sides for walkability
02. Dedicated bicycle lanes with physical barriers separating one-way bicycle lanes on both traffic directions
03. Seven-foot continuous bio-retention gardens that are made to accommodate parallel parking widths in parts of the corridor that require street parking
04. Two, eleven-foot lanes that allow for a vegetated median to help establish beautiful streetscape
05. Streetscape is able to create a garden street that enables all modes of transportation and ample green infrastructure

Typical Section: South Rice Boulevard (With Street Parking)



SOUTH RICE BOULEVARD (PARKING):

White continuing down South Rice Boulevard, portions of the bio-retention gardens will be eliminated to accommodate parking. This parking accommodates parking portion of the street adjacent to civic buildings.

Stormwater Management

BIO-RETENTION GARDENS

Throughout the entire city of Bellaire, bio-retention gardens shall be placed on all neighborhood streets, connector streets, and major thoroughfares. The impact of placing bio-retention gardens throughout the city has an enormous impact on overall stormwater infiltration.

INFILTRATION PLANTERS

Infiltration planters are specified for Bissonnet Street because of its urbanity as a corridor. With the small right-of-way width, incorporating stormwater management is still a primary priority.

EASEMENT SWALES

At easements, there lies a perfect opportunity to create bio-retention swales with the proposed undulating topography. The significant impact on stormwater management for Bellaire while utilizing this application is extremely beneficial.

CUMULATIVE DETENTION BENEFITS

In aggregate "green infrastructure" stormwater management initiatives will store a total of 3, 111,705 cubic feet of stormwater. This equates to 71.43 acre-feet of storage (71.43 acres detaining water 12" deep).

This is equivalent to the amount of water held within 1,300 typical 20'x40'x3' residential swimming pools.

BIO-RETENTION GARDENS:

1,275,000 Cubic Feet of Detention

INFILTRATION PLANTERS:

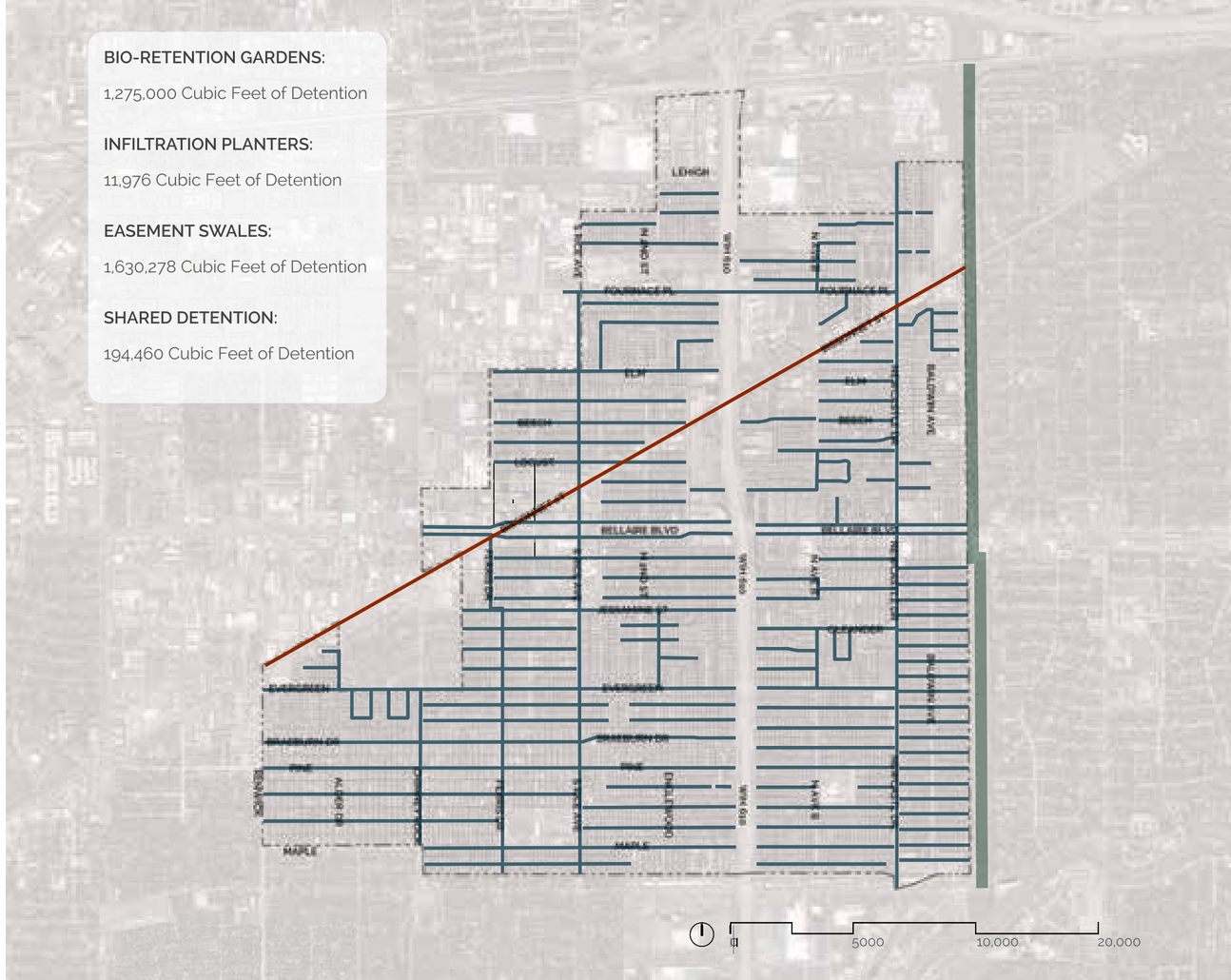
11,976 Cubic Feet of Detention

EASEMENT SWALES:

1,630,278 Cubic Feet of Detention

SHARED DETENTION:

194,460 Cubic Feet of Detention



Bellaire Boulevard: The Heart of Bellaire

As the corridor running through the heart of the city, it links destinations such as the Urban Village Downtown, Evelyn's Park, and the municipal complex. Bellaire Boulevard plays a crucial role in connecting pedestrians and bicyclists to the remainder of the city.

Similar to other proposed streetscapes throughout the city of Bellaire, Bellaire Boulevard's edges keep the same treatment of multi-modal accommodation and bio-retention gardens within the existing right-of-way. A double allee of live oak trees will be planted, one row living in the bio-retention gardens. These bio-retention gardens should include shade tolerant species.

LEGEND:

- Bellaire Boulevard East
- Office
- Paseo Park
- Urban Village

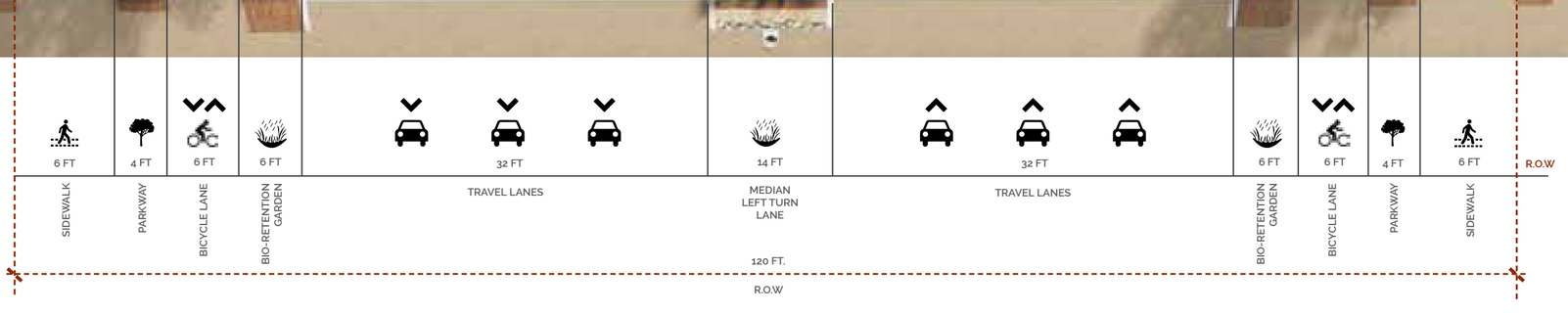
BELLAIRE BOULEVARD WEST

At the west end of this central corridor, Bellaire's city limits weave into the fabric of the city of Houston. So, a city gateway opportunity is best recognized at the intersection of Bissonnet Street and Bellaire Boulevard. The streetscape treatment from Chimney Rock Street to South Rice Boulevard is similar to South Rice Boulevard, but has the ability to utilize the median as a bio-retention swale and extending eight-foot sidewalks, parkway green space, a double allee of Live Oak Trees and six-foot wide dedicated bike lane to Chimney Rock.

LEGEND:

01. The Paseo – 20' Wide with Decomposed Granite
02. Park Architecture / Cafe's / Coffee Shops
03. Art Terrace
04. Public Art
05. Metro Transit Stop
06. Connector Plazas
07. Annual/Perennial Display
08. Bellaire Water Gardens
09. Bellaire Weekend Farmers Market
10. Existing Trees to Remain
11. Live Oak Allee
12. Dedicated Bicycle Lane
13. 8' Sidewalk

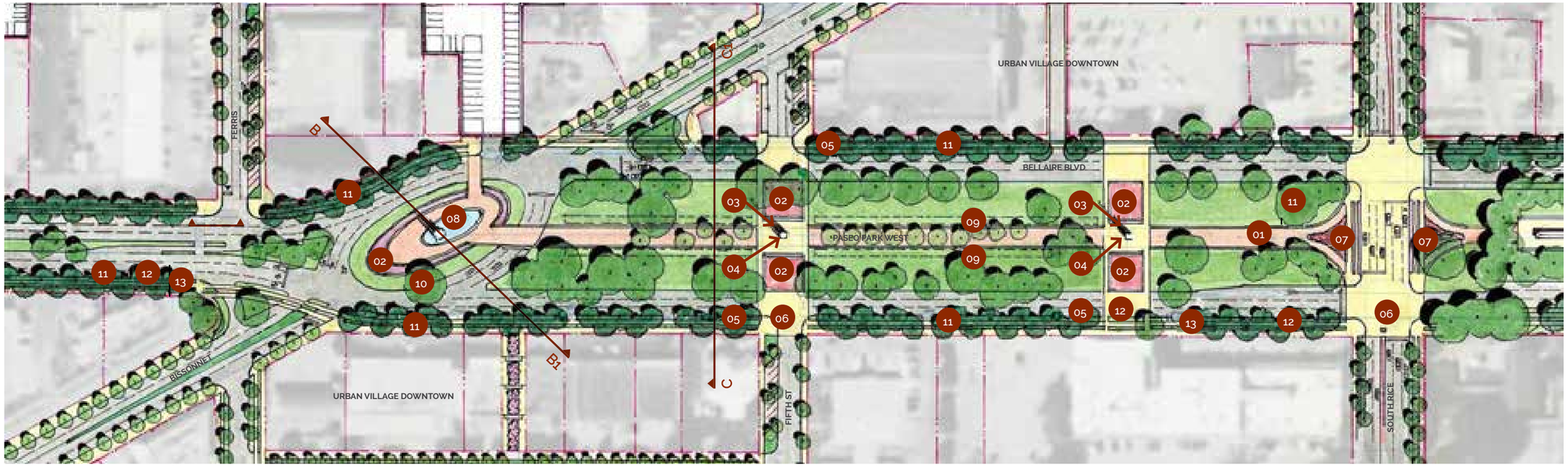
Bellaire Boulevard West: Section A-A1



PASEO PARK WEST

At the west end of the Paseo Park, a large intersection at Bissonet and Bellaire Boulevard provides opportunity for a welcoming water garden that emphasizes the entrance into the "Garden City" around a new traffic circle. Visitors then enter the extension of Paseo Park to the west. This portion of the streetscape holds the existing location for the Metro Station.

The widening of Paseo Park in the west section allows sidewalks to be adjacent to developments on the north and south sides of Bellaire Boulevard. Paseo park itself helps activate necessary north-south connections.



LEGEND:

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07. Annual/Perennial Display
08. Bellaire Water Gardens
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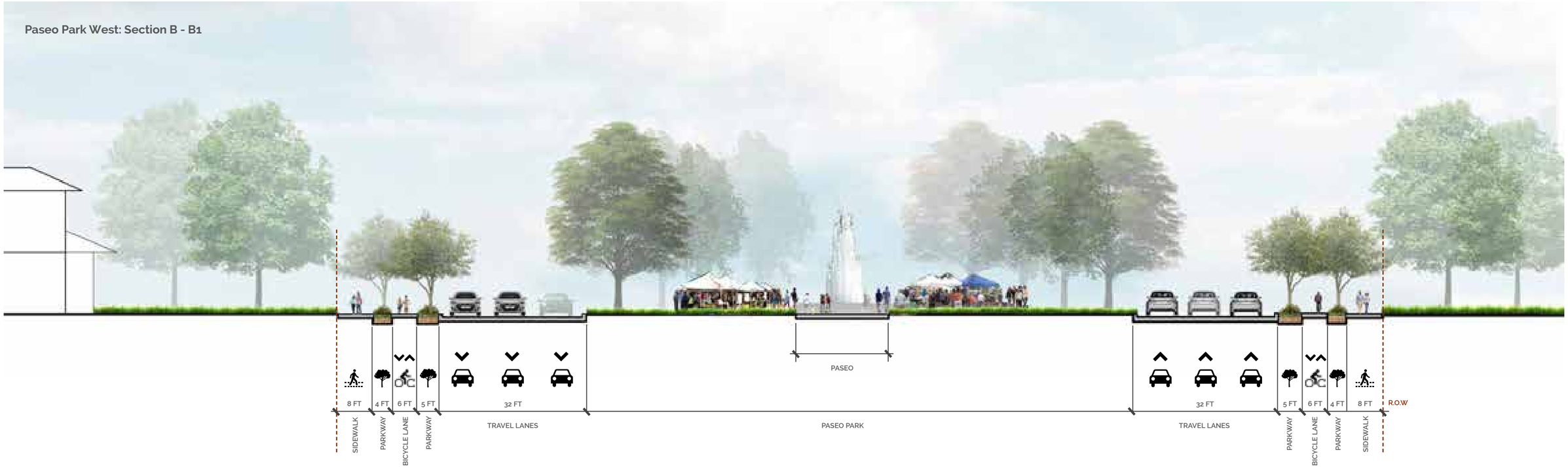
10. Existing Trees to Remain
11. Live Oak Allee
12. Dedicated Bicycle Lane
13. 8' Sidewalk

Paseo Park West: Section B - B1



Paseo Park West: Section C - C1

PASEO PARK WEST

Without Metro Station

METRO transit serves patrons by bus stops at street corners along the new Bellaire Boulevard

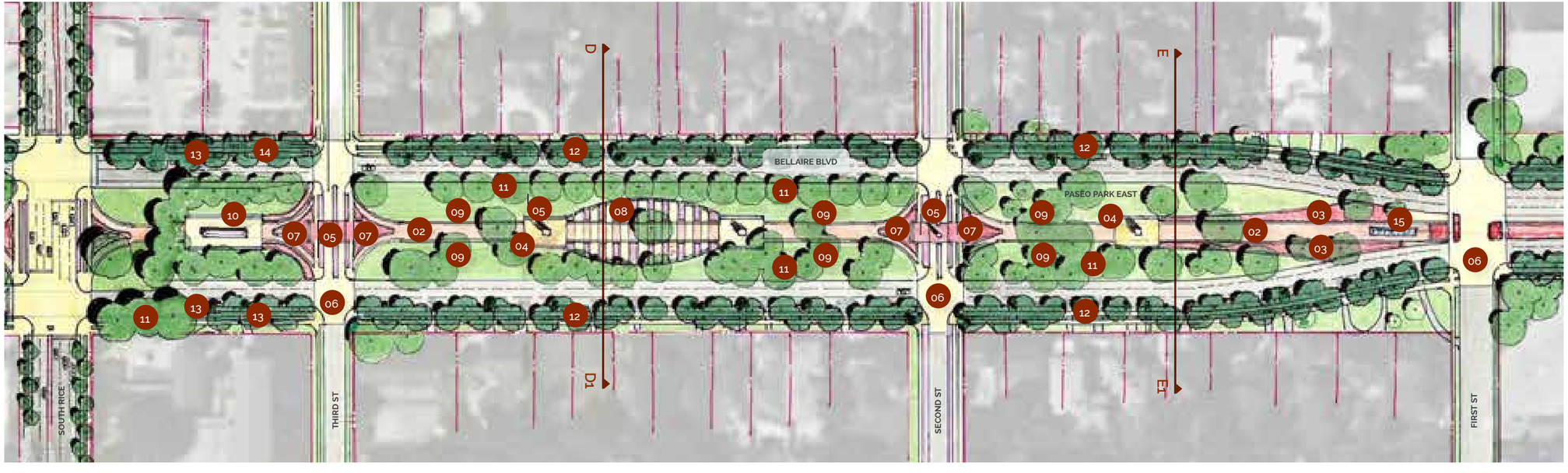
LEGEND:

M METRO Transit Stop

With Metro Station

METRO transit station is reconstructed within the new Paseo Park and designed to accommodate longer articulated busses.

PASEO PARK EAST

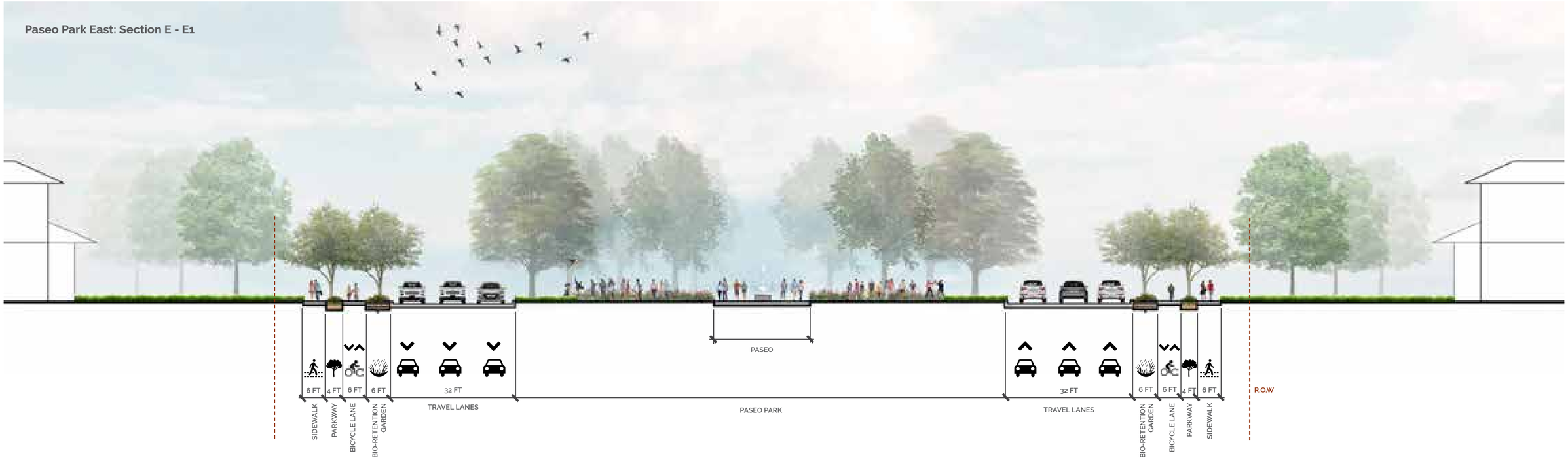


LEGEND:

01. West Loop Gateway
02. The Paseo – 20' Wide with Decomposed Granite
03. Teas Legacy Rose Garden
04. Art Terrace
05. Public Art
06. Connector Plazas
07. Annual/Perennial Display
08. Community Gardens
09. Weekend Farmers Market
10. Trolley Pavilion
11. Existing Trees to Remain
12. Live Oak Allee
13. Dedicated Bicycle Lane
14. 6' Sidewalk
15. Founders Fountain

Paseo Park East: Section D - D1

Paseo Park East: Section E - E1



BELLAIRE BOULEVARD MIDDLE

Rebuilding the street to have contemporary vehicular lane widths gives twelve feet for additional green space, as well as space for wider sidewalks and bicycle facilities. The special paving at intersections helps embrace identity in the city and acts as a traffic calming device along Bellaire Boulevard's busy corridor.

BELLAIRE BOULEVARD EAST

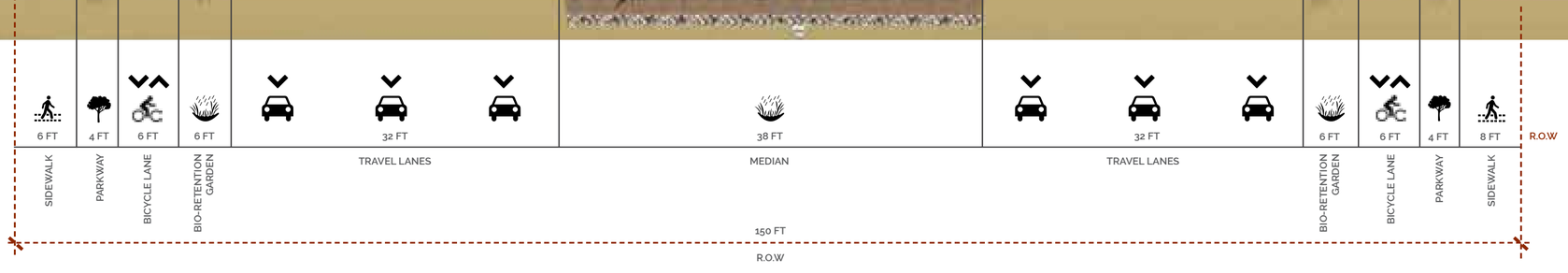
The portion of Bellaire Boulevard East of West Loop has a 150-foot right-of-way that, after a "road diet", could provide space for a large median. A large median in Bellaire Boulevard East has the potential to be a significant space for stormwater infiltration using bio-retention swales.

LEGEND:

01. West Loop Gateway
02. The Paseo – 20' Wide with Decomposed Granite
03. Teas Legacy Rose Garden
04. Art Terrace
05. Public Art
06. Connector Plazas
07. Annual/Perennial Display
08. Community Gardens
09. Weekend Farmers Market
10. Trolley Pavilion
11. Existing Trees to Remain
12. Live Oak Allee
13. Dedicated Bicycle Lane
14. 6' Sidewalk
15. Founders Fountain

Bellaire Boulevard East: Section F - F1

Key Map:



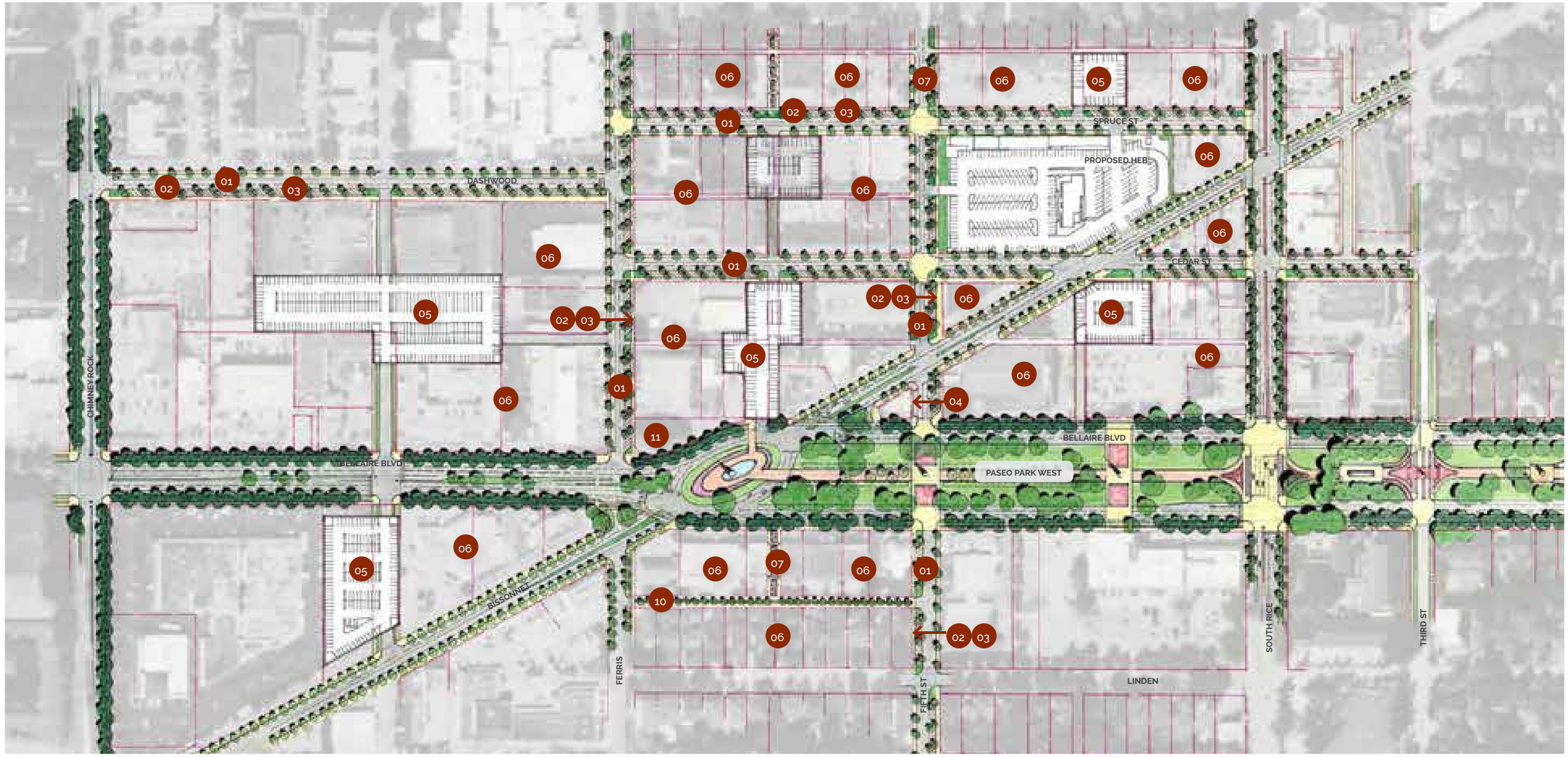
Urban Village Downtown

Acting as a major destination in the city of Bellaire, the urban village downtown functions as a "center of gravity". The idea of this small mixed-use village focuses on local needs and businesses, rather than attracting regional or national businesses.

The area that encompasses the urban downtown village has great access, visibility and demographics. However, two major challenges exist: parking and stormwater infiltration detention. These requirements become barriers to renewal and redevelopment for the areas small parcels and local businesses.

LEGEND:

01. Urban Village Complete Streets (500 Spaces)
02. Angled Parking; Pervious Paving; Shared Parking District
03. Detention and Water Harvesting below Angled Parking
04. Parallel Parking
05. Structured Parking; 4 to 5 Levels; Shared Parking District
06. Renewal or Redevelopment Parcel
07. Urban Paseo
08. Dedicated Bicycle Lane
09. 6' Sidewalk
10. Transition Alley
11. Proposed Private Property

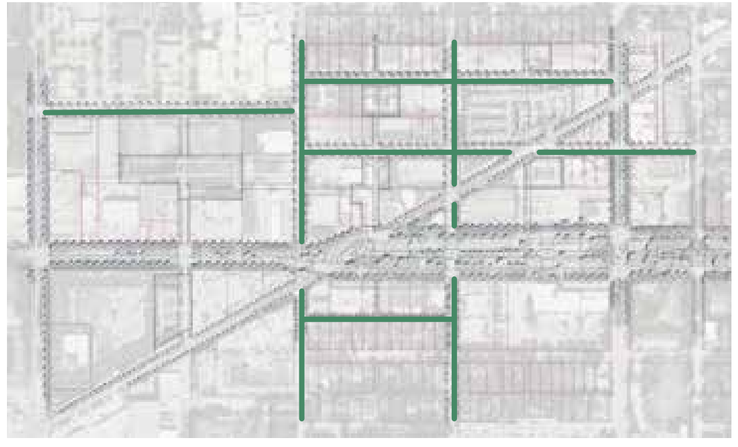


Urban Village Downtown (cont'd)

INCENTIVIZE DEVELOPMENT

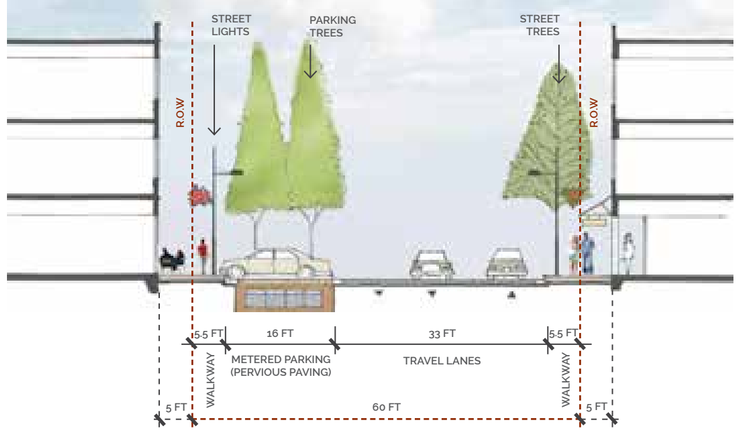
To overcome these the challenges in the existing downtown, the city can utilize the public right-of-way by establishing complete streets that offset burdensome parking requirements, as well as building parking structures strategically within city blocks.

These complete streets would include shared street parking and water detention zones via pervious paving, along with beautification and connectivity efforts.

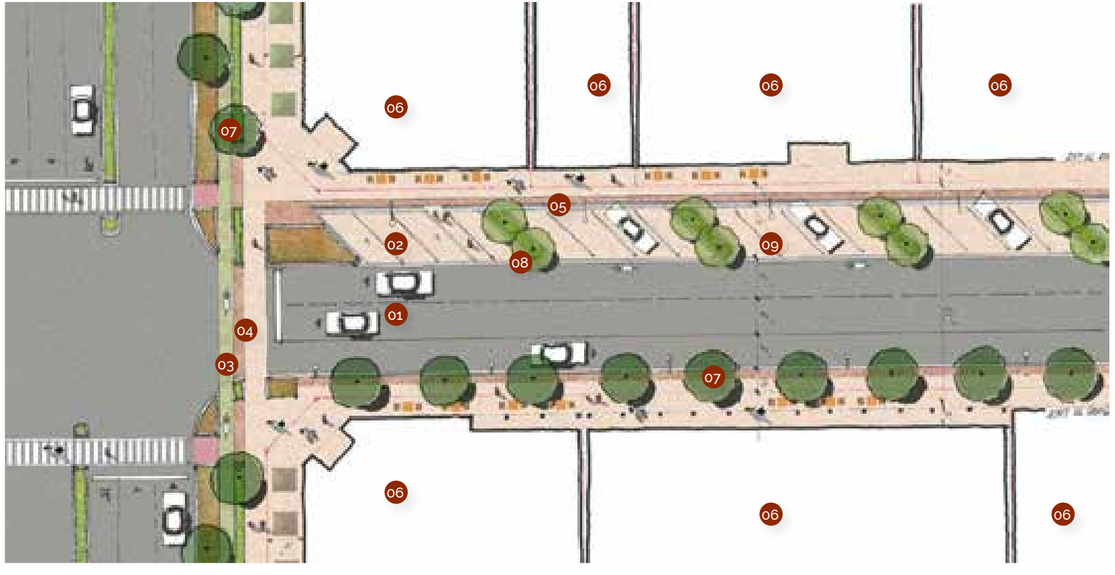


SHARED STORMWATER DETENTION ZONES

Typical Urban Village Downtown Streetscape, Section View



Typical Urban Village Downtown Streetscape, Plan View



LEGEND

01. Travel Lanes
02. Metered Parking
03. Bicycle Lane
04. Walkways
05. Street Lights
06. Future Mixed-Use Development
07. Street Trees
08. Parking Trees
09. Pervious Paving

Urban Village Downtown (cont'd)

SHARED PARKING ZONE SUMMARY

- Developable Area: 1.0 Floor Area Ratio
- Required Parking: 5 spaces per 1,000 square feet
- Shared Parking in Street
- Shared Parking in Garages, roughly five level
- 50% Required Parking within the Public Realm

Shared Parking Zone 01

Development Area	436,035 SF
1.0 Floor Area Ratio	436,035 SF
Parking Spaces: 5/1,000SF	2,180 SP
Garage: 4 Levels (240 ea.)	960 SP
Street Parking	96 SP
Shared Parking %	48%

Shared Parking Zone 2

Development Area	315,100 SF
1.0 Floor Area Ratio	315,100 SF
Parking Spaces: 5/1,000SF	1,576 SP
Garage: 5 Levels (150 ea.)	750 SP
Street Parking	0 SP
Shared Parking %	48%

Shared Parking Zone 3

Development Area	198,508 SF
1.0 Floor Area Ratio	198,508 SF
Parking Spaces: 5/1,000SF	993 SP
Garage: 6 Levels (66 ea.)	396 SP
Street Parking	74 SP
Shared Parking %	47%

Shared Parking Zone 4

Development Area	138,075 SF
1.0 Floor Area Ratio	138,075 SF
Parking Spaces: 5/1,000SF	690 SP
Garage: 3 Levels (84 ea.)	252 SP
Street Parking	78 SP
Shared Parking %	48%

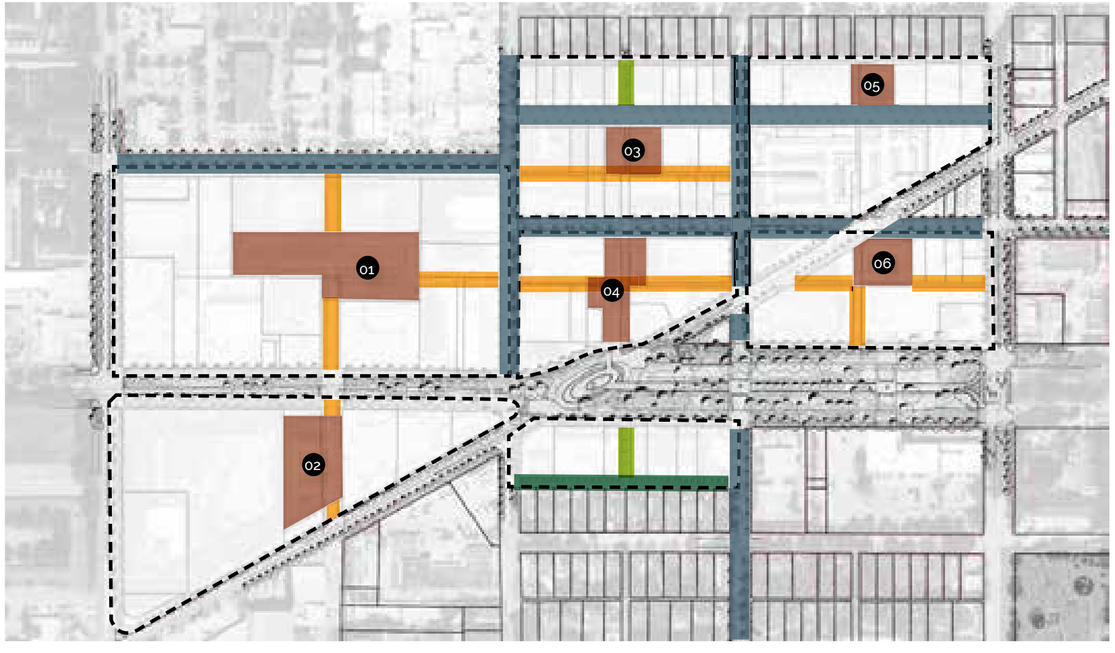
Shared Parking Zone 5

Development Area	84,440 SP
1.0 Floor Area Ratio	84,440 SP
Parking Spaces: 5/1,000SF	422 SP
Garage: 3 Levels (44 ea.)	132 SP
Street Parking	74 SP
Shared Parking %	49%

Shared Parking Zone 6

Development Area	155,288 SP
1.0 Floor Area Ratio	155,288 SF
Parking Spaces: 5/1,000SF	776 SP
Garage: 4 Levels (49 ea.)	196 SP
Street Parking	195 SP
Shared Parking %	50%

Shared Parking Zone Summary



LEGEND

- Complete/Parking Streets
- Shared Parking Garages
- Access Alleys
- Urban Paseos
- Buffer Alley

Urban Village Downtown (cont'd)

ARCHITECTURAL GUIDELINES

Guidelines for architecture within the Urban Village Downtown are recommended through a comprehensive plan of the downtown. An additional method of establishing these guidelines is from a form-based code where a "build-to" line is established (see "Typical Urban Village Downtown Streetscape, Section View" for example).

Typical Development in Commercial Mixed-Use District

Urban Village Downtown Character

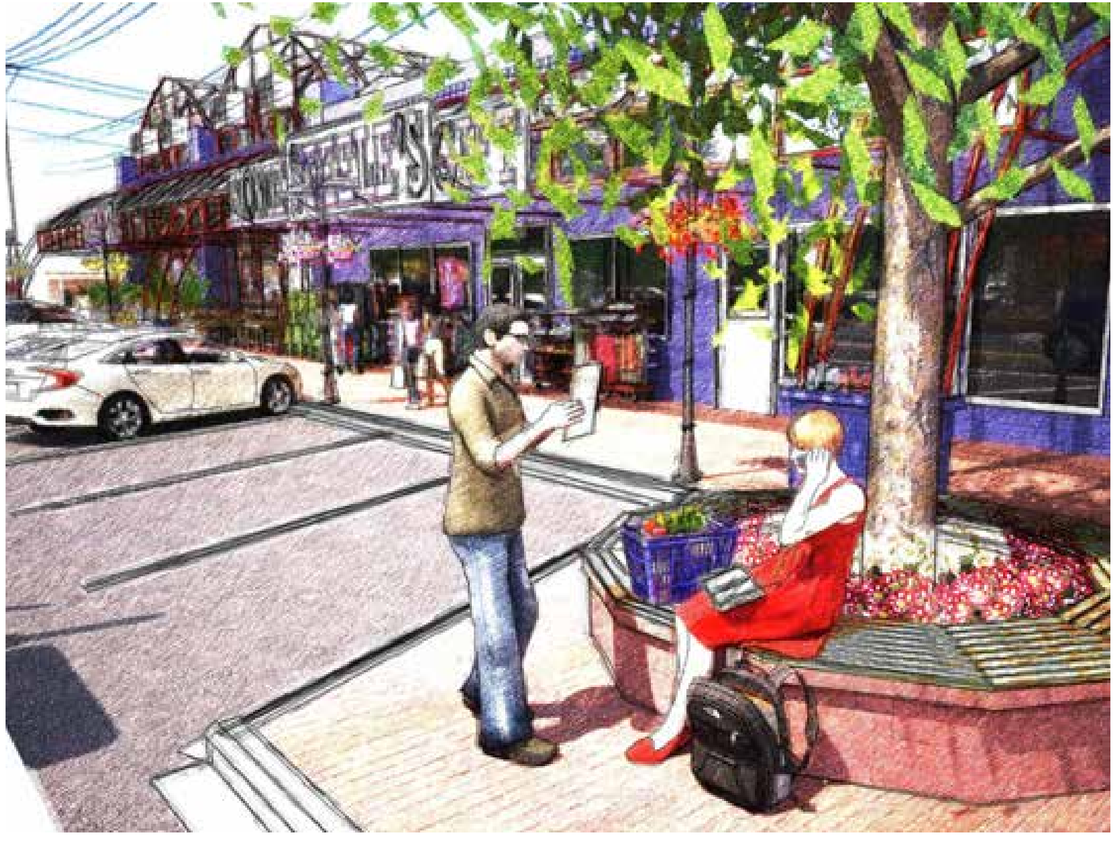


IMAGE COURTESY OF BUTLER PLANNING

Urban Village Downtown Character

IMAGE COURTESY OF BUTLER PLANNING

IMAGE COURTESY OF BUTLER PLANNING

Urban Village Downtown (cont'd)

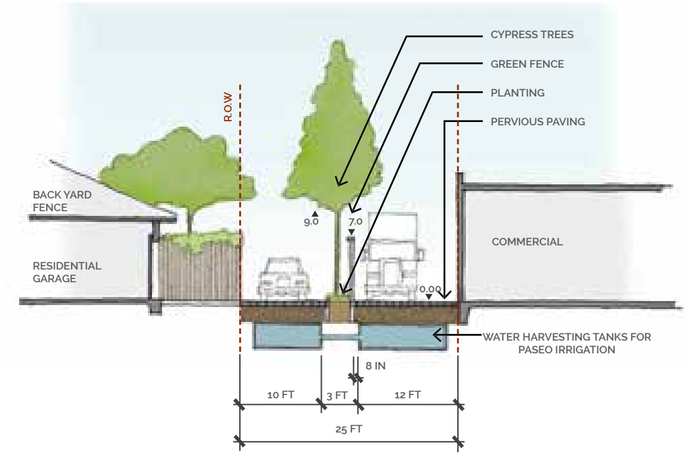
URBAN PASEO ALLEYWAYS

Alleyways occurring between developments in the Urban Village Downtown can be utilized as small park-like spaces such as "urban paseos". Property owners can utilize these alleys as public space.

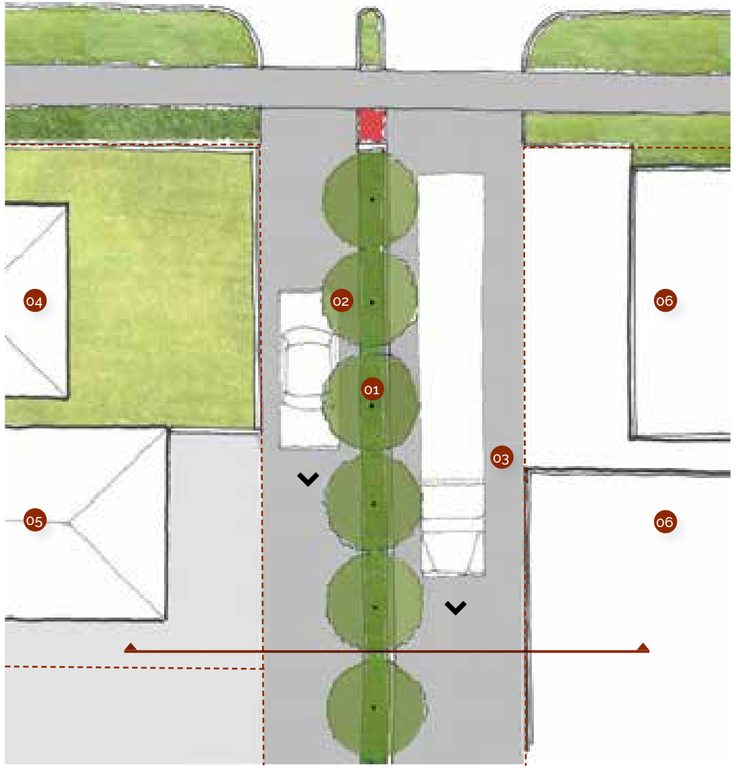
TRANSITION ALLEYWAYS

Alleyways can be utilized as transition alleys that aid in shifting the landscape of one type of zoning to another.

Typical Transition Alley, Section View



Typical Transition Alley, Plan View



LEGEND

01. Planting
02. Cypress Trees
03. Pervious Paving
04. Residential Building
05. Residential Garage
06. Commercial Building

City Gateways

WEST LOOP GATEWAYS

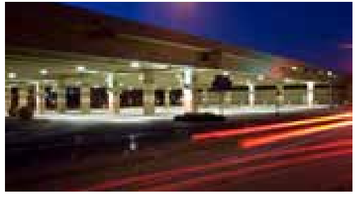
Instead of shying away, the city can embrace the underpasses of the West Loop. These underpasses are the chance to have an iconic moment that give an architectural elegance, as well as an opportunity for art. Additionally, lighting is extremely important in these spaces, as it makes the new gateways a comfortable space for pedestrians — day and night.

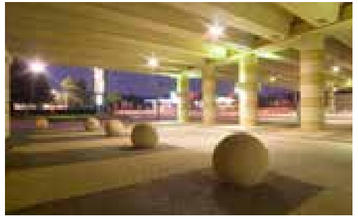
Through adding a wrap-like facade to the existing structure that floats away from the West Loop wall, lanterns and columns can landmark the threshold to form a elegant piece of civic architecture.

PERIMETER CITY GATEWAYS:

A theme of landscaped columns and lanterns would continue to the perimeter gateways at the east. Rose gardens in memory of the Teas Nursery could also continue throughout medians and planted edges. At the west end, the water gardens at Bellaire Boulevard and Bissonnet Street act as a beautiful statement entering the city of Bellaire.

City Gateway Locations





LEGEND:

- West Loop City Gateway
- Perimeter City Gateway
- Bellaire Water Gardens — West City Gateway

Perimeter City Gateway

West Loop Gateway Option

Coastal Prairie Park

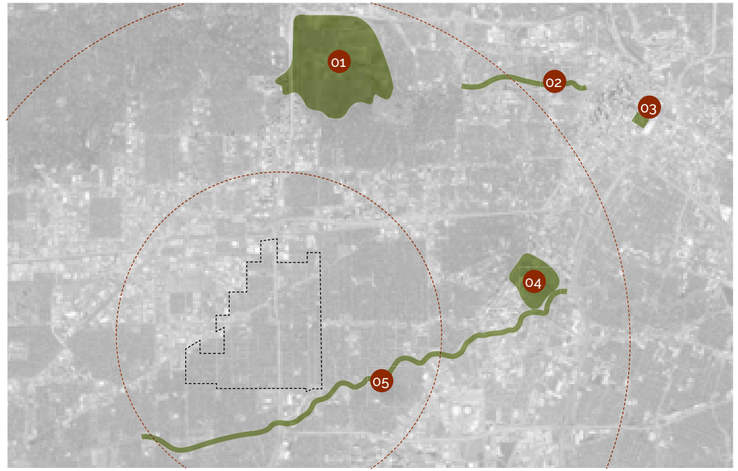
CREATING OPPORTUNITIES

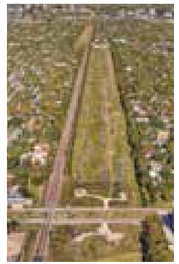
A game-changing opportunity to create a Coastal Prairie Park lies at the east side of Bellaire - the Centerpoint easements. These long spans of open lawn used for electricity towers create: an affordable way to detail stormwater infiltration and detention where's it's needed (see Heat Map, page 28); provide local and regional connections; and, reconnect to the region's historic coastal prairie ecosystem.

CONNECTIVITY

The landscape is elevated as both a recreational destination and string of bio-retention swales through undulating topography and shared-use trails. Bicyclists and pedestrians would have direct, safe access to connection points at Bellaire's east edge, the Nature Discovery Center, and Evelyn's Park.

Other connections that are possible through the easements, but require working with the city of Houston are the north edges of Bellaire, North Livable Center, Memorial Park, and Hermann Park (via bridge over Brays Bayou).





EXISTING CENTERPOINT EASEMENTS

LEGEND

01. Memorial Park
02. Buffalo Bayou Park
03. Discovery Green
04. Hermann Park
05. Brays Bayou Open Space

EASEMENT SWALES:

1,630,278 Cubic Feet of Detention

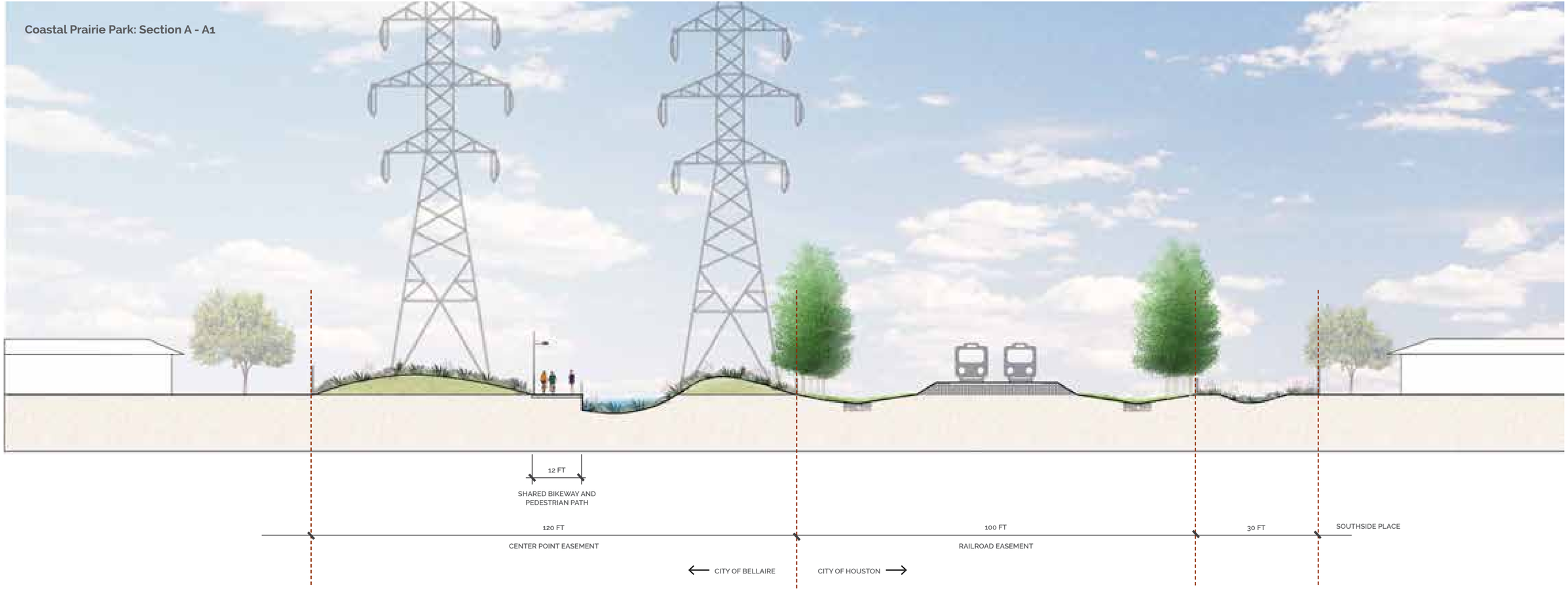
CHARACTER IMAGERY



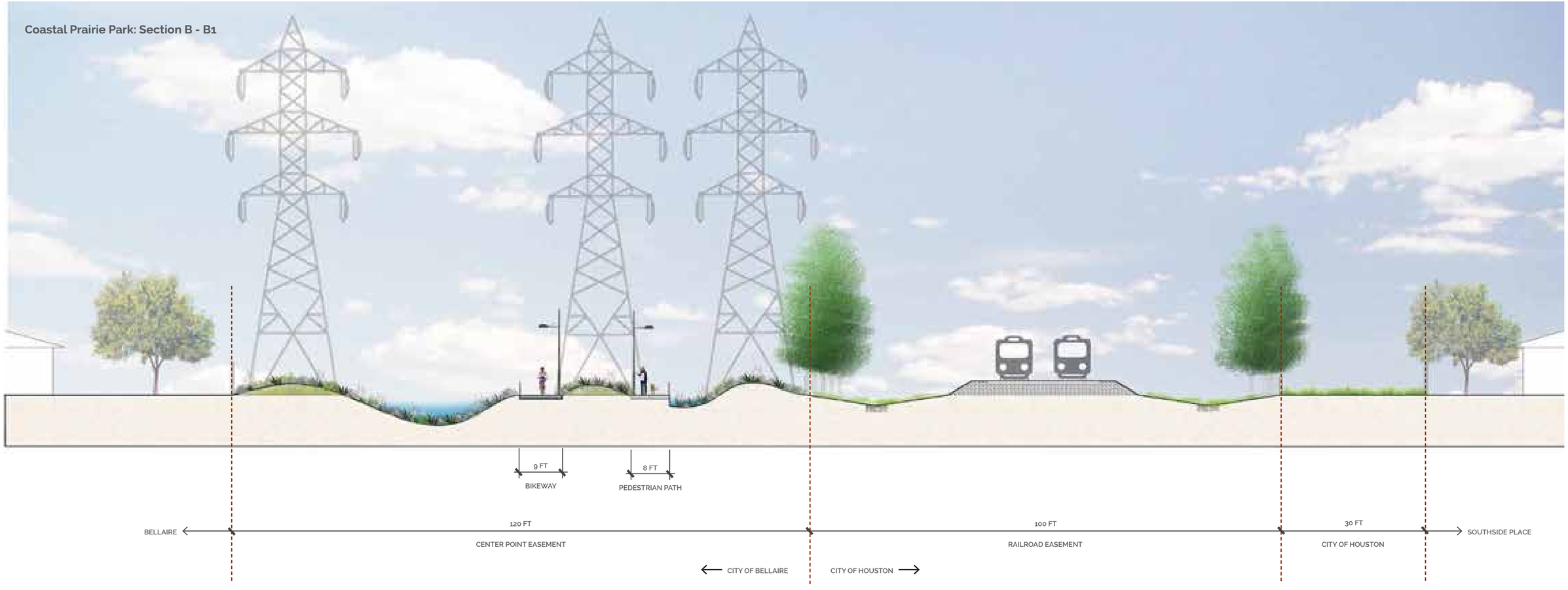




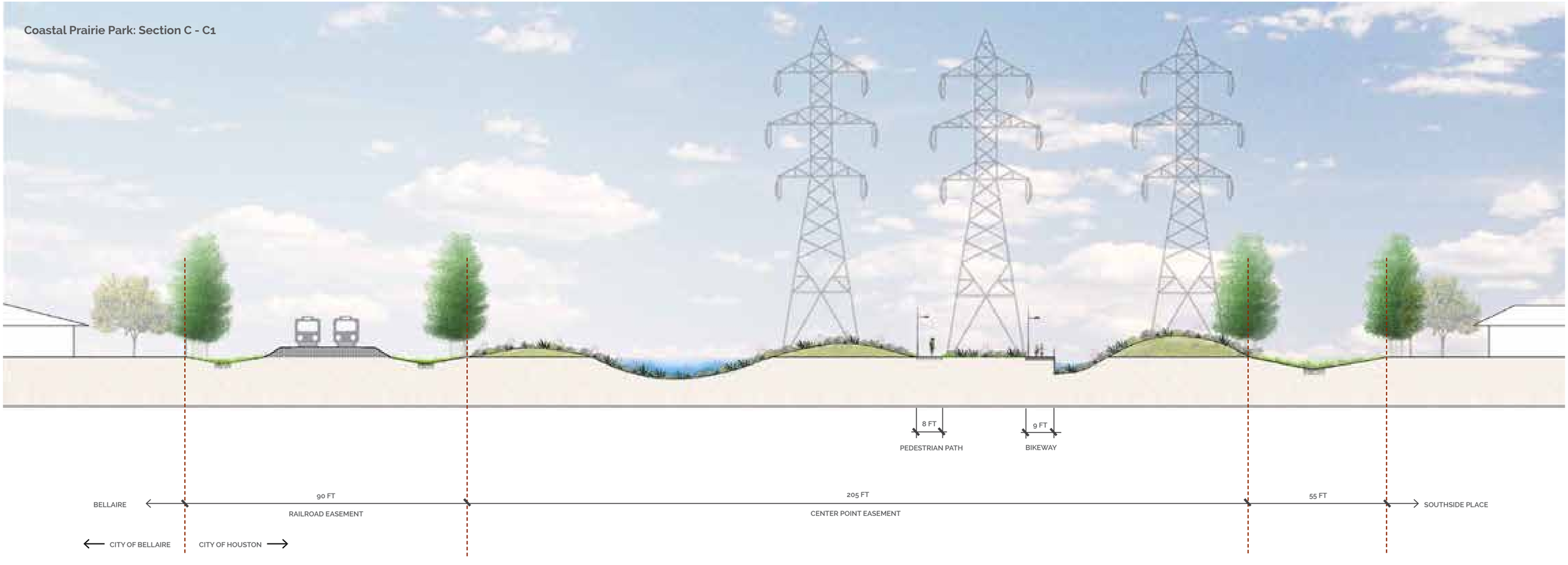

Coastal Prairie Park: Section A - A1



Coastal Prairie Park: Section B - B1



Coastal Prairie Park: Section C - C1

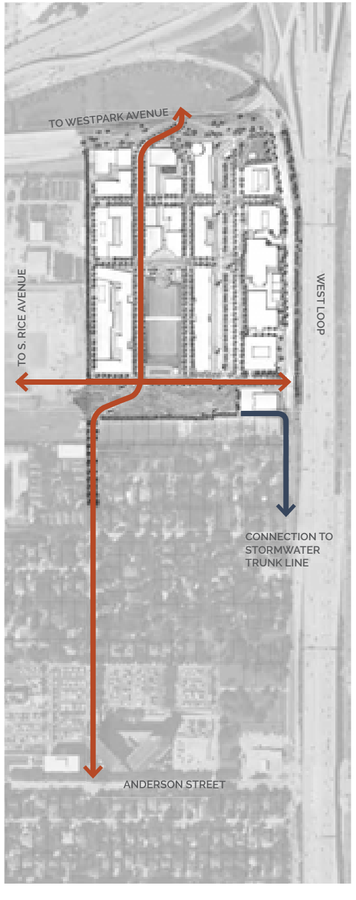


North Livable Center

The intent of the North Livable Center is to create a vibrant area that encourages dynamic economic development focused around live, work, and play opportunities with a mix of development types; retail, office, hospitality, and residential.

The concept plan includes a range of residential options that reflect changing lifestyles. Design of streets, squares, plazas, parks, open spaces and other civic spaces emphasize pedestrian connectivity.

The Centerpoint easement on the Plan's southern edge has been utilized as an environmental transition zone between existing residential and the North Livable Center. The environmental feature — a Coastal Prairie Park that functions as storm water catchment, hike-and-bike connectivity, and buffers edge conditions maximizing value to the livable center development.



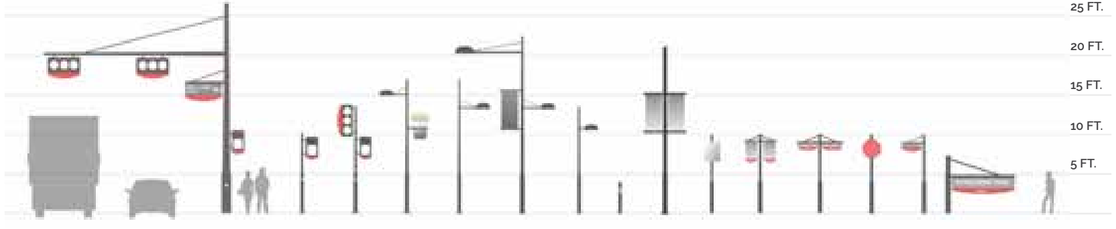
IMPLEMENTATION

Initiatives and Implementation Strategies

Urban Elements - Branding Bellaire

INITIATIVES & IMPLEMENTATION STRATEGIES	LOW HANGING FRUIT	BANG FOR THE BUCK	TIME FRAME (YRS)	CAPITAL COSTS YRS 1-5	CAPITAL COSTS YRS 5-10	CAPITAL COSTS YRS 10-15	CAPITAL COSTS YRS 10-20	O&M IMPLICATIONS
Bellaire Street Lighting								
STEP ONE - BELLAIRE URBAN ELEMENTS DETAILED DESIGN (LIGHTING, SIGNALIZATION AND SIGNAGE)	X	H	YR 1	$100,000				• ENERGY EFFICIENCY AND LAMP LONGEVITY IMPROVED THROUGH LED AND NEW TECHNOLOGY • MAINTENANCE BY CENTERPOINT PAID FOR BY THE CITY OF BELLAIRE THROUGH TARIFF CHARGES. • A CUSTOM DESIGN WILL MEAN STOCKING AND REPLACING FABRICATED COMPONENTS
STEP TWO - BEGIN WITH NEWCASTLE TRAIL LIGHTING	X	H	YR 1	TBD				
STEP THREE - IMPLEMENT ALONG NEIGHBORHOOD STREETS NOT PLANNED FOR RECONSTRUCTION		H	YRS 1-5	TBD				
STEP FOUR - IMPLEMENT AS PART OF FUTURE STREET RECONSTRUCTION		H	YRS 1-20	TBD				
Bellaire Traffic Signalization								
STEP ONE - BEGIN WITH BELLAIRE BOULEVARD AT SOUTH RICE	X	H	YR 1	$120,000				• MINIMIZED THROUGH NEW TECHNOLOGIES, BUT A CUSTOM DESIGN WILL MEAN STOCKING AND REPLACING FABRICATED COMPONENTS
STEP TWO - BELLAIRE BOULEVARD AT CHIMNEY ROCK, WEST LOOP AND NEWCASTLE		M	YRS 5-10		$420,000			
STEP THREE - IMPLEMENT TOGETHER WITH FUTURE STREET RECONSTRUCTION		M	YRS 1-20			TBD	TBD	
Bellaire Regulatory and Community Facility Signage								
STEP ONE - IMPLEMENT ALONG STREETS NOT PLANNED FOR RECONSTRUCTION	X	M	YRS 1-5	TBD				• A CUSTOM DESIGN WILL MEAN STOCKING AND REPLACING FABRICATED COMPONENTS
STEP TWO - IMPLEMENT AS PART OF FUTURE STREET RECONSTRUCTION		M	YRS 5-20		TBD	TBD	TBD	

Urban Street Elements Family



INITIATIVES & IMPLEMENTATION STRATEGIES	LOW HANGING FRUIT	BANG FOR THE BUCK	TIME FRAME (YRS)	CAPITAL COSTS YRS 1-5	CAPITAL COSTS YRS 5-10	CAPITAL COSTS YRS 10-15	CAPITAL COSTS YRS 10-20	O&M IMPLICATIONS
Bury Overhead Power Lines								
STEP ONE - INTERSECTION OF BELLAIRE BOULEVARD AND SOUTH RICE (200' EACH DIRECTION)	X	H	YRS 1	$1,368,000				• POWER OUTAGES WILL BE REDUCED RESULTING FROM STORM EVENTS AND/ OR DOWNED LINES PUBLIC SAFETY AND MAINTENANCE ARE IMPROVED
STEP TWO - BELLAIRE BOULEVARD, SOUTH RICE, CHIMNEY ROCK AND BISSONNET		H	YRS 5-10		$7,725,000			
STEP THREE - NEWCASTLE, FOURNACE, EVERGREEN, FERRIS, AVE B		H	YRS 10-15			$11,550,000		
STEP FOUR - REMAINING OVERHEAD POWER LINES FRONTING STREETS ON CONCRETE POLES		H	YRS 10-20				TBD	

Above-Ground Line Locations

LEGEND:

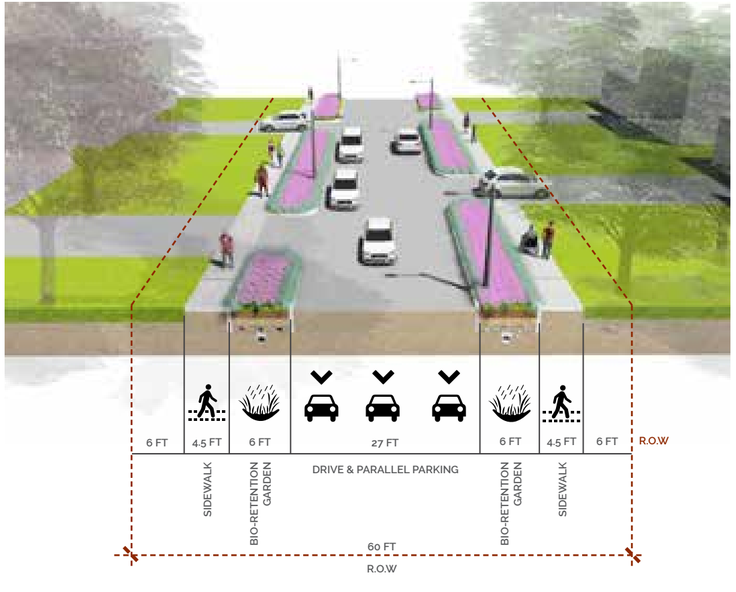
Overhead Power Lines Fronting Streets

Typical Example: South Rice Avenue and Bellaire Boulevard

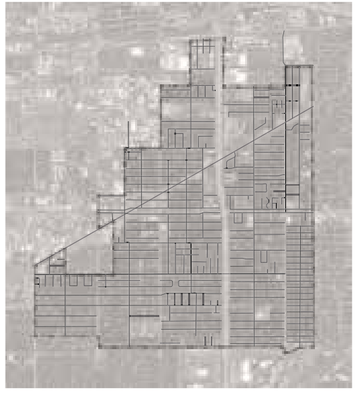
Neighborhood Streets

INITIATIVES & IMPLEMENTATION STRATEGIES	LOW HANGING FRUIT	BANG FOR THE BUCK	TIME FRAME (YRS)	CAPITAL COSTS YRS 1-5	CAPITAL COSTS YRS 5-10	CAPITAL COSTS YRS 10-15	CAPITAL COSTS YRS 10-20	O&M IMPLICATIONS
General								
STEP ONE - DETAILED URBAN DESIGN STANDARDS AND ENGINEERING	X	H	YR 1	$250,000				• PRIVATE PROPERTY RELATED DAMAGE REPAIRED BY PRIVATE PROPERTY OWNER
STEP TWO - NEIGHBORHOOD STREET PROTOTYPICAL BLOCK (600' + 2 INTERSECTIONS)	X	H	YR 1	$756,509				
Sidewalks								
STEP ONE - IMPLEMENT AS PART OF FUTURE STREET RECONSTRUCTION (PER LINEAR FOOT)		H	YRS 1 -10	$87	$87			• PRIVATE PROPERTY RELATED DAMAGE REPAIRED BY PRIVATE PROPERTY OWNER
STEP TWO - IMPLEMENT ALONG EXISTING STREETS (PER LINEAR FOOT)		H	YRS 10-20			$107	$107	

Typical Section: Neighborhood Street



Street Locations



LEGEND:

Neighborhood Streets

Neighborhood Streets (cont'd)

INITIATIVES & IMPLEMENTATION STRATEGIES	LOW HANGING FRUIT	BANG FOR THE BUCK	TIME FRAME (YRS)	CAPITAL COSTS YRS 1-5	CAPITAL COSTS YRS 5-10	CAPITAL COSTS YRS 10-15	CAPITAL COSTS YRS 10-20	O&M IMPLICATIONS
Bellaire Intersections with, w/o Art								
STEP ONE - IMPLEMENT AS PART OF FUTURE STREET RECONSTRUCTION (EACH)		H	YRS 1 -10	$29,000	$29,000			• OCCASIONAL REPAIR OF PAVERS IF USED • ART ELEMENTS CLEANING AND REPAIR
STEP TWO - IMPLEMENT ALONG EXISTING STREETS (EACH)		H	YRS 10-20			$29,000	$2,900	

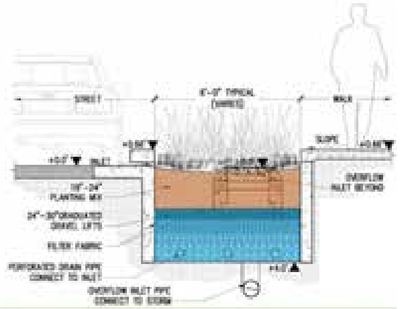
Typical Street Corner (With Art and Mural Wall)

Typical Sidewalk Improvements at Intersections

Neighborhood Streets (cont'd)

INITIATIVES & IMPLEMENTATION STRATEGIES	LOW HANGING FRUIT	BANG FOR THE BUCK	TIME FRAME (YRS)	CAPITAL COSTS YRS 1-5	CAPITAL COSTS YRS 5-10	CAPITAL COSTS YRS 10-15	CAPITAL COSTS YRS 10-20	O&M IMPLICATIONS
Bio-Retention Gardens								
STEP ONE - IMPLEMENT AS PART OF FUTURE STREET RECONSTRUCTION (PER LINEAR FOOT)		H	YRS 1 -5	$230	$230			• TWO VIABLE STRATEGIES: 1) PRIVATE PROPERTY MAINTAINED 2) CITY GARDEN TEAM MAINTAINED
STEP TWO - IMPLEMENT ALONG EXISTING STREETS (PER LINEAR FOOT)		H	YRS 5-20			$282	$282	

Typical Construction Detail of Bio-retention Garden



Connector Streets

INITIATIVES & IMPLEMENTATION STRATEGIES	LOW HANGING FRUIT	BANG FOR THE BUCK	TIME FRAME (YRS)	CAPITAL COSTS YRS 1-5	CAPITAL COSTS YRS 5-10	CAPITAL COSTS YRS 10-15	CAPITAL COSTS YRS 10-20	O&M IMPLICATIONS
Newcastle								
STEP ONE - BELLAIRE INTERSECTIONS, SIDEWALKS, STREET TREES, LIGHTING, PLANTING, BIO-RETENTION GARDENS		H	YRS 1-5	$9,081,245				
Fournace								
STEP ONE - BELLAIRE INTERSECTIONS, SIDEWALKS, BIKE LANES, STREET TREES, LIGHTING, PLANTING, BIO-RETENTION GARDENS		H	YRS 5-10		$4,272,072			
Evergreen								
STEP ONE - BELLAIRE INTERSECTIONS, SIDEWALKS, BIKE LANES, STREET TREES, LIGHTING, PLANTING, BIO-RETENTION GARDENS		H	YRS 10-15			$9,980,904		
Ferris								
STEP ONE - BELLAIRE INTERSECTIONS, SIDEWALKS, BIKE LANES, STREET TREES, PLANTING, BIO-RETENTION GARDENS		H	YRS 15-20				$7,050,192	

Typical Section: Newcastle

Typical Section: Evergreen

Bellaire Boulevard and Paseo Park

INITIATIVES & IMPLEMENTATION STRATEGIES	LOW HANGING FRUIT	BANG FOR THE BUCK	TIME FRAME (YRS)	CAPITAL COSTS YRS 1-5	CAPITAL COSTS YRS 5-10	CAPITAL COSTS YRS 10-15	CAPITAL COSTS YRS 10-20	O&M IMPLICATIONS
Bellaire Boulevard West (West of Bissonnet to South Rice)								
STEP ONE - AGREEMENT WITH METRO	X	H	YR 1	TBD				• REMOVAL OF METRO STATION AVOIDS A PUBLIC SAFETY CONCERN
STEP TWO - NEW STREET, BELLAIRE CIRCLE, SIDEWALKS, BIKE LANES, STREET TREES, LIGHTING, PLANTING, BIO-RETENTION GARDENS		H	YRS 1-5	$9,378,682				• SEE ITEMS UNDER NEIGHBORHOOD & CONNECTOR STREETS • EXPANDED PASEO PARK WILL REQUIRE ADDED PARK MAINTENANCE
STEP THREE - CREATE PASEO PARK WEST		H	YRS 5-10		$4,425,530			• MAINTAIN SPECIAL PAVERS "TRAFFIC CALMING" IN STREET

Bellaire Boulevard West

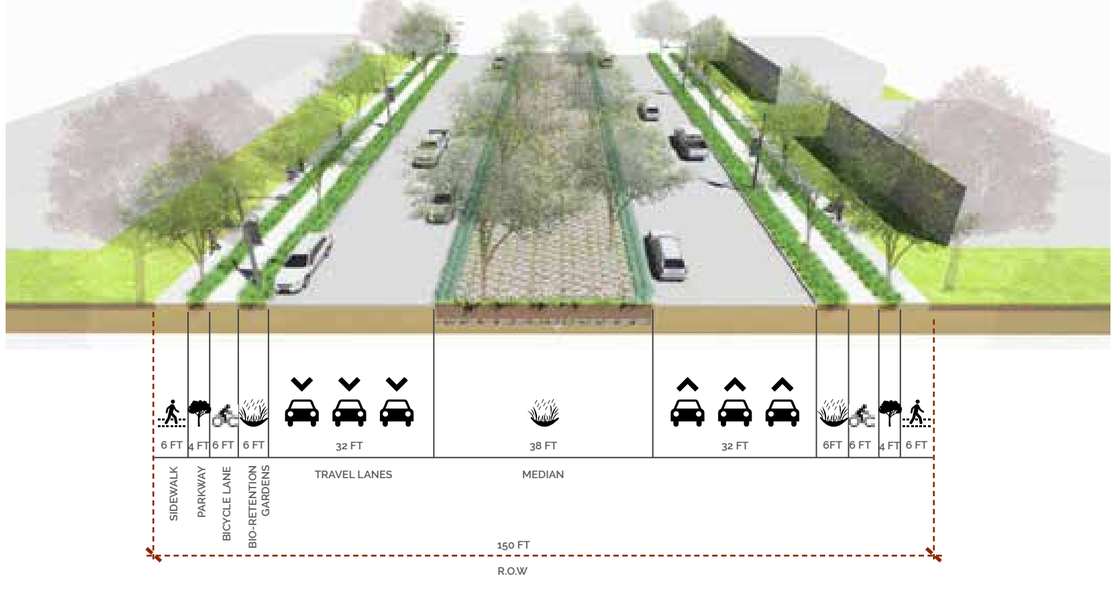
INITIATIVES & IMPLEMENTATION STRATEGIES	LOW HANGING FRUIT	BANG FOR THE BUCK	TIME FRAME (YRS)	CAPITAL COSTS YRS 1-5	CAPITAL COSTS YRS 5-10	CAPITAL COSTS YRS 10-15	CAPITAL COSTS YRS 10-20	O&M IMPLICATIONS
Bellaire Boulevard (South Rice to West Loop)								
STEP ONE - CONSTRUCT SIDEWALKS, BIKE LANES, STREET TREES, LIGHTING, PARKWAY PLANTING & BIO-RETENTION GARDENS		H	YRS 5-10		$5,036,914			• SEE ITEMS UNDER NEIGHBORHOOD & CONNECTOR STREETS • DESIGN WILL REDUCE MOWING AND IRRIGATION DEMAND
STEP TWO - IMPROVE PASEO PARK		H	YRS 5-10		$3,423,960			

Bellaire Boulevard

Bellaire Boulevard and Paseo Park (cont'd)

INITIATIVES & IMPLEMENTATION STRATEGIES	LOW HANGING FRUIT	BANG FOR THE BUCK	TIME FRAME (YRS)	CAPITAL COSTS YRS 1-5	CAPITAL COSTS YRS 5-10	CAPITAL COSTS YRS 10-15	CAPITAL COSTS YRS 10-20	O&M IMPLICATIONS
Bellaire Boulevard East (West Loop to Railroad Tracks)								
STEP ONE - CONSTRUCT STREET, SIDEWALKS, BIKE LANES, STREET TREES, LIGHTING, PARKWAY PLANTING & BIO-RETENTION GARDENS		M	YRS 10 -20			$5,911,738		• SEE ITEMS UNDER NEIGHBORHOOD & CONNECTOR STREETS • INCREASED MEDIAN MAINTENANCE

Typical Section: Bellaire Boulevard East

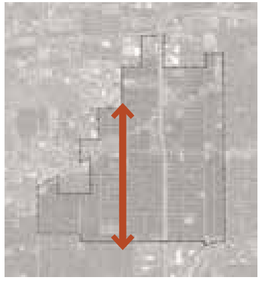


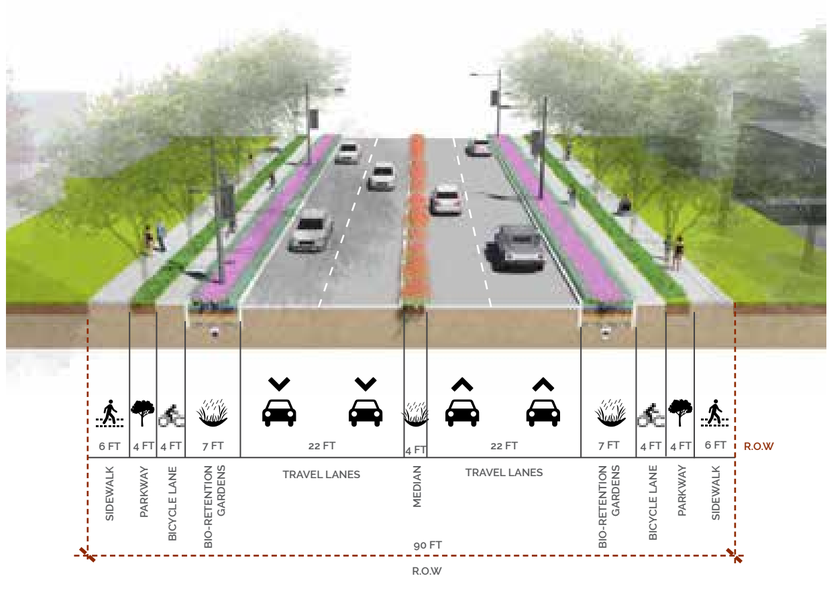
South Rice Avenue

INITIATIVES & IMPLEMENTATION STRATEGIES	LOW HANGING FRUIT	BANG FOR THE BUCK	TIME FRAME (YRS)	CAPITAL COSTS YRS 1-5	CAPITAL COSTS YRS 5-10	CAPITAL COSTS YRS 10-15	CAPITAL COSTS YRS 10-20	O&M IMPLICATIONS
South Rice - South (Bellaire Blvd to Cypress Ditch)								
STEP ONE - NEW STREET, SIDEWALKS, BIKE LANES, STREET TREES, LIGHTING, PLANTING, BIO-RETENTION GARDENS		H	YRS 5-10		$16,974,926			• SEE ITEMS UNDER NEIGHBORHOOD & CONNECTOR STREETS • INCREASED MEDIAN MAINTENANCE
South Rice - North (Fournace to Bellaire Blvd)								
STEP ONE - NEW STREET, SIDEWALKS, BIKE LANES, STREET TREES, PLANTING, BIO-RETENTION GARDENS		M	YRS 10-15			$7,534,154		• SEE ITEMS UNDER NEIGHBORHOOD & CONNECTOR STREETS • INCREASED MEDIAN MAINTENANCE

Typical Section: South Rice Boulevard (Without Street Parking)

Key Map:

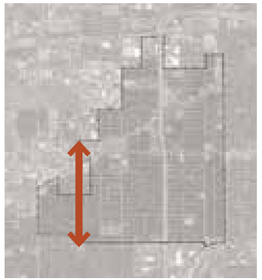




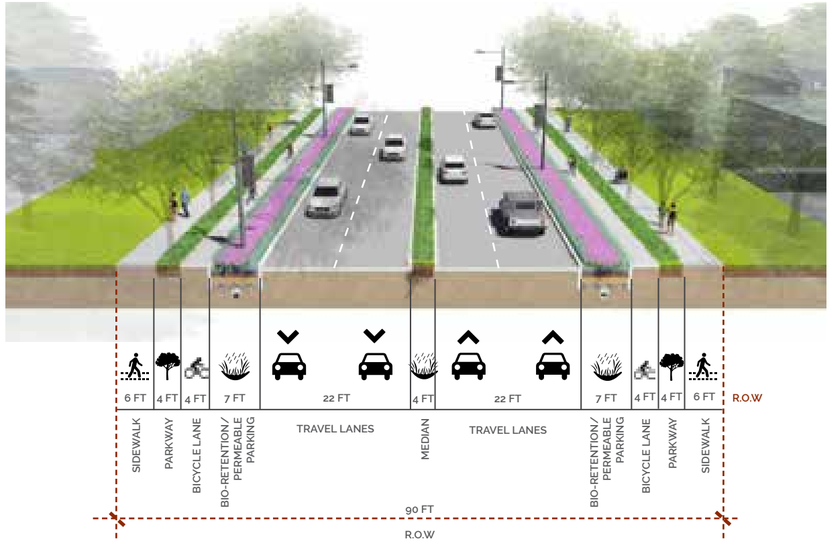
Chimney Rock Road

INITIATIVES & IMPLEMENTATION STRATEGIES	LOW HANGING FRUIT	BANG FOR THE BUCK	TIME FRAME (YRS)	CAPITAL COSTS YRS 1-5	CAPITAL COSTS YRS 5-10	CAPITAL COSTS YRS 10-15	CAPITAL COSTS YRS 10-20	O&M IMPLICATIONS
Chimney Rock - South (Evergreen to Cypress Ditch)								
STEP ONE - NEW STREET, SIDEWALKS, BIKE LANES, STREET TREES, LIGHTS, PLANTING, BIO-RETENTION GARDENS		M	YRS 10-15			$8,529,775		SEE ITEMS UNDER NEIGHBORHOOD & CONNECTOR STREETS; INCREASED MEDIAN MAINTENANCE
Chimney Rock - North (Dashwood to Bissonnet)								
STEP ONE - NEW STREET, SIDEWALKS, BIKE LANES, STREET TREES, LIGHTING, PLANTING, BIO-RETENTION GARDENS		L	YRS 15-20				$3,897,286	• SEE ITEMS UNDER NEIGHBORHOOD & CONNECTOR STREETS • INCREASED MEDIAN MAINTENANCE

Key Map:



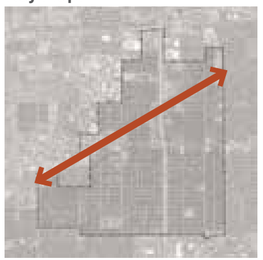
Typical Section: Chimney Rock Street



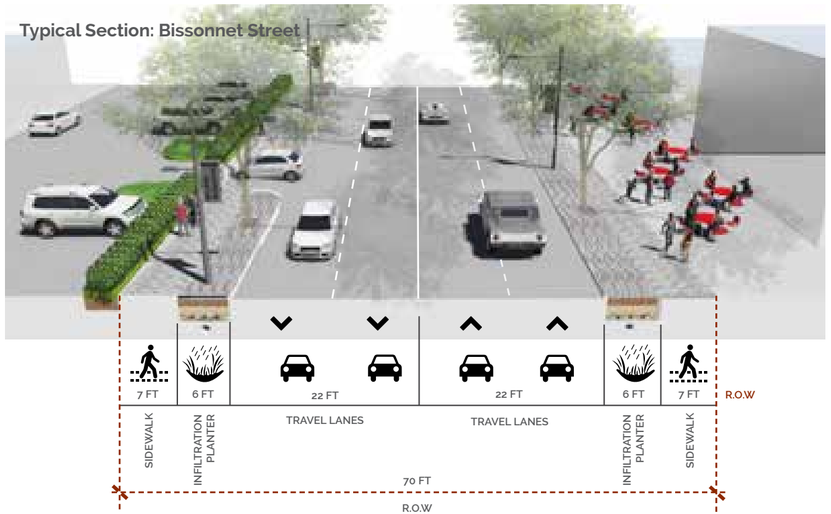
Bissonnet Street

INITIATIVES & IMPLEMENTATION STRATEGIES	LOW HANGING FRUIT	BANG FOR THE BUCK	TIME FRAME (YRS)	CAPITAL COSTS YRS 1-5	CAPITAL COSTS YRS 5-10	CAPITAL COSTS YRS 10-15	CAPITAL COSTS YRS 10-20	O&M IMPLICATIONS
Bissonnet - Middle (Chimney Rock to the West Loop)								
STEP ONE - NEW STREET, SIDEWALKS, BIKE LANE, STREET TREES, BIO-INFILTRATION		H	YRS 5-10		$14,850,066			• SIDEWALKS, TREES TO BE MAINTAINED BY THE CITY, PAVER • STOCKING AND REPLACEMENT REQUIRED. PRIVATE PROPERTY • COMPENSATES CITY FOR DAMAGE
Bissonnet - East (West Loop to Rail Road Tracks)								
STEP ONE - NEW STREET, SIDEWALKS, BIKE LANES, STREET TREES, BIO-INFILTRATION		M	YRS 10-15			$12,363,192		• SIDEWALKS, TREES TO BE MAINTAINED BY THE CITY, PAVER • STOCKING AND REPLACEMENT REQUIRED. PRIVATE PROPERTY • COMPENSATES CITY FOR DAMAGE
Bissonnet - South (Alder to Renwick)								
STEP ONE - NEW STREET, SIDEWALKS, BIKE LANES, STREET TREES, BIO-INFILTRATION		L	YRS 15-20				$3,974,460	• SIDEWALKS, TREES TO BE MAINTAINED BY THE CITY, PAVER • STOCKING AND REPLACEMENT REQUIRED. PRIVATE PROPERTY • COMPENSATES CITY FOR DAMAGE

Key Map:



Typical Section: Bissonnet Street



West Loop Motor Courts

INITIATIVES & IMPLEMENTATION STRATEGIES	LOW HANGING FRUIT	BANG FOR THE BUCK	TIME FRAME (YRS)	CAPITAL COSTS YRS 1-5	CAPITAL COSTS YRS 5-10	CAPITAL COSTS YRS 10-15	CAPITAL COSTS YRS 10-20	O&M IMPLICATIONS
West Loop Motor Courts - General								
STEP ONE - TRAFFIC IMPACT STUDY & DEDICATION OF ACCESS EASEMENTS	X	M	YR 1	TBD				• MAINTAIN MOTOR COURT SURFACES LIKE A STREET • IS MAINTAINED, MAINTAIN POCKET PARKS IN THE • CENTER OF MOTOR COURTS, IRRIGATION BY ADJACENT PRIVATE • PROPERTY
STEP TWO - EAST SIDE OF THE WEST LOOP		M	YRS 5-10		$1,590,758			
STEP THREE - WEST SIDE OF THE WEST LOOP		M	YRS 10-15			$1,391,914		

Converted Motor Court Locations

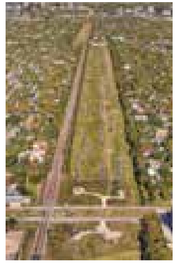
Typical Example: Converted Motor Court

The Coastal Prairie Park

INITIATIVES & IMPLEMENTATION STRATEGIES	LOW HANGING FRUIT	BANG FOR THE BUCK	TIME FRAME (YRS)	CAPITAL COSTS YRS 1-5	CAPITAL COSTS YRS 5-10	CAPITAL COSTS YRS 10-15	CAPITAL COSTS YRS 10-20	O&M IMPLICATIONS
Coastal Prairie Park - General								
STEP ONE - COASTAL PRAIRIE PARK PRELIMINARY DESIGN	X	H	YR 1	TBD				• AS NATIVE PRAIRIE LANDSCAPE THE PARK SHOULD BE DESIGNED • TO REQUIRE MINIMAL MAINTENANCE, IRRIGATION • FOR ESTABLISHMENT OF PLANT MATERIALS (2 YRS). • GRASSES MOWN ONCE A YEAR, NO FERTILIZATION OR EDGING
STEP TWO - JOINT DEVELOPMENT AGREEMENTS WITH CENTERPOINT, HCFCD, COH, COWU	X	H	YR 1	TBD				
Coastal Prairie Park - South (Brays Bayou to Bellaire)								
STEP ONE - GRADING, DETENTION, PLANTING, HIKE AND BIKE TRAILS, NEIGHBORHOOD CONNECTIONS		H	YRS 1-5	$4,996,800				• BOTTOM OF DETENTION SWALES MAY NEED SEDIMENT • REMOVAL EVERY TEN (10) TO TWENTY (20) YRS.
STEP TWO - PEDESTRIAN BRIDGE AT BRAYS BAYOU / CONNECTION TO HERMANN PARK		M	YRS 5-10		$1,500,000			
Coastal Prairie Park - North (Bellaire to Westpark)								
STEP ONE - GRADING, DETENTION, PLANTING, HIKE AND BIKE TRAILS, NEIGHBORHOOD CONNECTIONS		H	YRS 10-15			$2,712,240		
STEP TWO - ADVOCATE FOR CONNECTION TO RICHMOND / MEMORIAL PARK WITH COH	X	H	YRS 5-10	TBD				

Typical Section: Coastal Prairie Park

Existing Centerpoint Easements

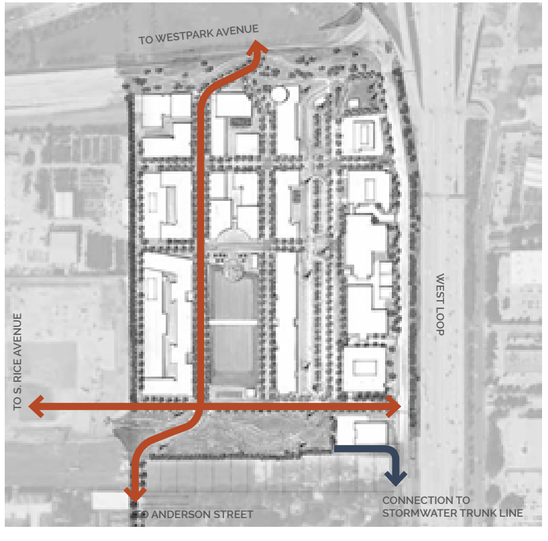


North Livable Center

INITIATIVES & IMPLEMENTATION STRATEGIES	LOW HANGING FRUIT	BANG FOR THE BUCK	TIME FRAME (YRS)	CAPITAL COSTS YRS 1-5	CAPITAL COSTS YRS 5-10	CAPITAL COSTS YRS 10-15	CAPITAL COSTS YRS 10-20	O&M IMPLICATIONS
Planning								
STEP ONE - DEVELOP AN URBAN DESIGN MASTER PLAN WITH STAKEHOLDER INPUT	X	H	YR 1	TBD				
STEP TWO - UPDATE COMPREHENSIVE PLAN TO INCENT MIXED-USE HIGH DENSITY DEVELOPMENT	X	H	YR 1	TBD				
STEP THREE - UPDATE COMPREHENSIVE PLAN REQUIRING EXTENSION OF ANDERSON ST NORTH FROM FOURNACE TO WESTPARK	X	H	YR 1	TBD				
STEP FOUR - UPDATE COMPREHENSIVE PLAN EXTENDING LEHIGH ST WEST TO SOUTH RICE	X	H	YR 1	TBD				
STEP FIVE- UPDATE COMPREHENSIVE PLAN TO DEDICATE NORTHPARK	X	H	YR 1	TBD				
STEP SIX- JOINT DEVELOPMENT AGREEMENTS WITH CENTERPOINT, HCFCD, COH, TXDOT	X	H	YR 1	TBD				

Proposed North Livable Center Conceptual Plan

INITIATIVES & IMPLEMENTATION STRATEGIES	LOW HANGING FRUIT	BANG FOR THE BUCK	TIME FRAME (YRS)	CAPITAL COSTS YRS 1-5	CAPITAL COSTS YRS 5-10	CAPITAL COSTS YRS 10-15	CAPITAL COSTS YRS 10-20	O&M IMPLICATIONS
Infrastructure								
STEP ONE - EXTEND WEST LOOP BOX CULVERT NORTH TO LEHIGH STREET		H	YRS 5-10		$1,542,240			
STEP TWO - CONSTRUCT ANDERSON STREET, A CONNECTOR STREET, BETWEEN FOURNACE AND WESTPARK		H	YRS 5-10		$6,081,134			
STEP THREE - ADVOCATE CONSTRUCTION OF LEHIGH STREET, A CONNECTOR STREET, WEST TO SOUTH RICE		H	YRS 1-5	TBD				
Parks and Open Space								
STEP ONE - BUILD THE NORTH COASTAL PRAIRIE PARK WITHIN CENTERPOINT EASEMENT		H	YRS 5-10		$593,184			• SEE COASTAL PRAIRIE PARK • ADDITIONAL PARKS MAINTENANCE
STEP TWO - BUILD NORTHPARK		H	YRS 10-15			$2,090,400		



Urban Village Downtown

INITIATIVES & IMPLEMENTATION STRATEGIES	LOW HANGING FRUIT	BANG FOR THE BUCK	TIME FRAME (YRS)	CAPITAL COSTS YRS 1-5	CAPITAL COSTS YRS 5-10	CAPITAL COSTS YRS 10-15	CAPITAL COSTS YRS 10-20	O&M IMPLICATIONS
Planning								
STEP ONE - CREATE A UVD REDEVELOPMENT MASTER PLAN WITH STAKEHOLDER INPUT, SITE PLANNING AND DESIGN GUIDELINES	X	H	YR 1	TBD				
STEP TWO - DEVELOP A SHARED PARKING ORDINANCE / DISTRICT	X	H	YR 1	TBD				• IF PARKING IS METERED FUND REQUIRED SUPPORT STAFF
STEP THREE - DEVELOP A SHARED DETENTION ORDINANCE	X	H	YR 1	TBD				
STEP FOUR - UPDATE COMPREHENSIVE PLAN ESTABLISHING A "BUILD-TO LINE" INCENTING ADAPTIVE RE-USE/ DENSITY	X	H	YR 1	TBD				
Complete / Parking Streets and Shared Detention								
STEP ONE - BUILD TRANSITION ALLEY BETWEEN FERRIS AND 5TH (SOUTH OF BELLAIRE)	X	H	YRS 1					• SIDEWALKS, TREES TO BE MAINTAINED BY THE CITY, PAVER • STOCKING AND REPLACEMENT REQUIRED, PRIVATE PROPERTY • COMPENSATES CITY FOR DAMAGE, SHARED DETENTION CELLS • SEDIMENT REMOVAL EVERY TEN (10) TO TWENTY (20) YRS
STEP TWO - BUILD COMPLETE STREETS - SPRUCE, CEDAR, FERRIS AND 5TH (NORTH OF BELLAIRE)		H	YRS 1-5					
STEP THREE - BUILD COMPLETE STREETS - DASHWOOD AND 5TH (SOUTH OF BELLAIRE)		H	YRS 5-10					

Typical Urban Village Downtown, Plan View

IMAGE COURTESY OF BUTLER PLANNING

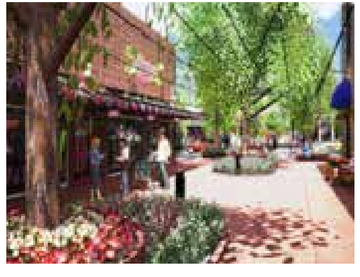
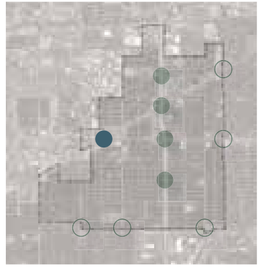


IMAGE COURTESY OF BUTLER PLANNING

City Gateways

INITIATIVES & IMPLEMENTATION STRATEGIES	LOW HANGING FRUIT	BANG FOR THE BUCK	TIME FRAME (YRS)	CAPITAL COSTS YRS 1-5	CAPITAL COSTS YRS 5-10	CAPITAL COSTS YRS 10-15	CAPITAL COSTS YRS 10-20	O&M IMPLICATIONS
West Loop Gateways								
STEP ONE - BELLAIRE BOULEVARD @ WEST LOOP	X	H	YRS 1-5					• PAY FOR POWER AND MAINTENANCE OF COLUMNS AND ART UPLIGHTING • INCREASE SUPPLEMENTAL MAINTENANCE OF UNDERPASSES TO A • QUARTERLY BASIS, CLEAN ART WALLS AS NEEDED, SHEAR GREEN WALLS/COLUMNS • TWICE ANNUALLY, MAINTAIN SPECIAL PAVING AND ANNUALS • IRRIGATE GREEN WALLS AND PLANTINGS
STEP TWO - BISSONNET @ WEST LOOP		M	YRS 5-10					
STEP THREE - FOURNACE PLACE @ WEST LOOP		H	YRS 1-5					
STEP FOUR - EVERGREEN @ WEST LOOP		M	YRS 5-10					
Perimeter Gateways								
STEP ONE - BELLAIRE BOULEVARD @ RR TRACK	X	H	YRS 1-5					• PAY FOR POWER AND MAINTENANCE OF COLUMNS AND GREEN WALLS UPLIGHTING • QUARTERLY BASIS, SHEAR GREEN WALLS/ COLUMNS • SHEAR GREEN WALLS/COLUMNS TWICE ANNUALLY • MAINTAIN SPECIAL PAVING IN STREET • IRRIGATE GREEN WALLS AND PLANTINGS • MEDIAN PLANTINGS LANDSCAPE MAINTENANCE
STEP TWO - SOUTH RICE @ CYPRESS DITCH		H	YRS 1-5					
STEP THREE - BISSONNET @ RR TRACK		H	YRS 5-10					
STEP FOUR - CHIMNEY ROCK @ CYPRESS DITCH		M	YRS 10-15					
STEP FIVE- FERRIS @ CYPRESS DITCH		L	YRS 15-20					

Key Map:



LEGEND:

- West Loop City Gateway
- Perimeter City Gateway
- Bellaire Water Gardens — West City Gateway

Initiative Cost Estimates

Initiative: Bury Overhead Power Lines

Step One - Bellaire @ South Rice Intersection

ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
BELLAIRE POWER LINES	980	LF	$500	$490,000	
SOUTH RICE POWER LINES	1300	LF	$500	$650,000	
HARD COSTS TOTAL				$1,140,000	
SOFT COSTS @20%				$228,000	
TOTAL PROJECT COST				**$1,368,000**	

Step Two - Bellaire Blvd, Bissonnet, South Rice, Chimney Rock

ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
BELLAIRE BLVD	9250	LF	$500	$4,625,000	
BISSONNET	11950	LF	$500	$5,975,000	
SOUTH RICE	10275	LF	$500	$5,137,500	
CHIMNEY ROCK	2600	LF	$500	$1,300,000	
HARD COSTS TOTAL				$6,437,500	
SOFT COSTS @20%				$1,287,500	
TOTAL PROJECT COST				**$7,725,000**	

Step Three - Fournace, Newcastle, Evergreen, Ferris, Ave B

ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
FOURNACE	4850	LF	$500	$2,425,000	
NEWCASTLE	12100	LF	$500	$6,050,000	
EVERGREEN	10100	LF	$500	$5,050,000	
FERRIS	8450	LF	$500	$4,225,000	
AVE B	10800	LF	$500	$5,400,000	
HARD COSTS TOTAL				$9,625,000	
SOFT COSTS @20%				$1,925,000	
TOTAL PROJECT COST				**$11,550,000**	

Initiative: Neighborhood Streets

Sidewalks (200' Segment)

ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
CONCRETE SIDEWALKS	900	SF	$11	$9,900	4.5' WIDE WINDOW PANE FINISH, TURNDOWN EDGE AT BIO-RETENTION GARDENS
REPAIR ADJACENT LANDSCAPE	800	SF	$10	$8,000	LANDSCAPE, WALKS, DRIVES,
HARD COSTS TOTAL				$17,900	
SOFT COSTS @20%				$3,580	
TOTAL PROJECT COST				**$21,480**	
COST PER FOOT				**$107**	

Bellaire Intersection without Art (1 Corner)

ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
REMOVE EXISTING CURB AND GUTTER	54	LF	$5	$270	
REMOVE EXIST PAVING / LANDSCAPE	800	SF	$3	$2,400	
REMOVE / RELOCATE EXIST SIGNAGE	1	LS	$500	$500	
ADJUST UTILITY BOXES TO GRADE	1	LS	$1,500	$1,500	
NEW CURB AND GUTTER	98	LF	$18	$1,764	
DETECTABLE PAVERS	18	SF	$10	$180	
CORNER PLAZA PAVERS	195	LF	$18	$3,413	
SIDEWALK CURB RAMPS	2	EA	$1,000	$2,000	
BACK EDGE CURB	32	LF	$18	$576	
PLANTING AND IRRIGATION	255	SF	$8	$2,040	
BELLAIRE SIGNAGE	1	LS	$3,000	$3,000	
HARD COSTS TOTAL				$14,973	
SOFT COSTS @20%				$2,995	
TOTAL COST EACH CORNER				**$17,967**	
NUMBER OF CORNERS	300				
TOTAL PROJECT COST				**$5,390,100**	

THIS ESTIMATE INCLUDES RECONSTRUCTION OF THE STREET AND UTILITIES AT A COST OF $4.3M PER MILE FOR A 3-LANE SECTION AND $3.8M PER MILE FOR A 2 LANE SECTION. SIDEWALKS, PARKWAY GREEN SPACES, DEDICATED BIKE LANES, BIO-RETENTION GARDENS CAN BE IMPLEMENTED WITHOUT RE-CONSTRUCTING THE STREET DRAMATICALLY LOWERING COSTS

Initiative: Neighborhood Streets (cont'd)

Bellaire Intersection with Art (1 Corner)

ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
REMOVE EXISTING CURB AND GUTTER	54	LF	$5	$270	
REMOVE EXIST PAVING / LANDSCAPE	800	SF	$3	$2,400	
REMOVE / RELOCATE EXIST SIGNAGE	1	LS	$500	$500	
ADJUST UTILITY BOXES TO GRADE	1	LS	$1,500	$1,500	
NEW CURB AND GUTTER	98	LF	$18	$1,764	
DETECTABLE PAVERS	18	SF	$10	$180	
CORNER PLAZA PAVERS	195	LF	$18	$3,413	
ART WALL	196	SFF	$75	$14,700	42" HIGH - MOSAIC TILE OVER PRE-CAST CONCRETE
BENCH	18	LF	$200	$3,600	WOOD OR WROUGHT IRON
SIDEWALK CURB RAMPS	2	EA	$1,000	$2,000	
BACK EDGE CURB	32	LF	$18	$576	
PLANTING AND IRRIGATION	255	SF	$8	$2,040	
BELLAIRE SIGNAGE	1	LS	$3,000	$3,000	
HARD COSTS TOTAL				$33,273	
SOFT COSTS @20%				$6,655	
TOTAL COST EACH CORNER				**$39,927**	
NUMBER OF CORNERS	300				
TOTAL PROJECT COST				**$11,978,100**	

THIS ESTIMATE INCLUDES RECONSTRUCTION OF THE STREET AND UTILITIES AT A COST OF $4.3M PER MILE FOR A 3-LANE SECTION AND $3.8M PER MILE FOR A 2 LANE SECTION. SIDEWALKS, PARKWAY GREEN SPACES, DEDICATED BIKE LANES, BIO-RETENTION GARDENS CAN BE IMPLEMENTED WITHOUT RE-CONSTRUCTING THE STREET DRAMATICALLY LOWERING COSTS

Bio-Retention Gardens (200' Segment - Existing Street)

ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
REMOVE EXISTING CURB AND GUTTER	200	LF	$5	$1,000	
REMOVE EXIST PAVING / LANDSCAPE	1200	SF	$3	$3,600	
REMOVE / RELOCATE EXIST SIGNAGE	1	LS	$500	$500	
ADJUST UTILITY BOXES TO GRADE	1	LS	$3,000	$3,000	
EXCAVATE SOIL TO SUB-GRADE	178	CY	$15	$2,670	
CATCH BASIN & OVERFLOW PIPE	1	EA	$2,500	$2,500	
4" PERFORATED PIPE IN BRG (3)	600	LF	$8	$4,800	
CIP CONC GUTTER WITH TURN DOWN EDGE	200	LF	$30	$6,000	
PRE-CAST CONCRETE SLOTTED CURB	144	SF	$18	$2,592	
DRIVEWAY APRON	200	LF	$15	$3,000	
GRAVEL BACKFILL	111	CY	$30	$3,330	2.5' DEEP, GRADATED WRAPPED IN FILTER FABRIC
PREPARED SOIL	67	CY	$50	$3,350	
PLANTING, MULCH, FINE GRADING	1200	SF	$8	$9,600	
IRRIGATION ADJUSTMENTS	1200	SF	$1	$1,200	
HARD COSTS TOTAL				$47,142	
SOFT COSTS @20%				$9,428	
TOTAL PROJECT COST				**$56,570**	
COST PER FOOT				$282.85	
LINEAL FEET OF BIO-RETENTION GARDENS	212,500				
TOTAL PROJECT COST				**$60,106,050**	

THIS ESTIMATE INCLUDES RECONSTRUCTION OF THE STREET AND UTILITIES AT A COST OF $4.3M PER MILE FOR A 3-LANE SECTION AND $3.8M PER MILE FOR A 2 LANE SECTION. SIDEWALKS, PARKWAY GREEN SPACES, DEDICATED BIKE LANES, BIO-RETENTION GARDENS CAN BE IMPLEMENTED WITHOUT RE-CONSTRUCTING THE STREET DRAMATICALLY LOWERING COSTS

Initiative: Neighborhood Streets (cont'd)

Bio-Retention Gardens (200' Segment - New Street)

ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
REMOVE EXIST PAVING / LANDSCAPE	1200	SF	$3	$3,600	
EXCAVATE SOIL TO SUB-GRADE	178	CY	$7	$1,246	
CATCH BASIN & OVERFLOW PIPE	1	EA	$2,500	$2,500	
4" PERFORATED PIPE IN BRG (3)	600	LF	$8	$4,800	
CIP CONC GUTTER WITH TURN DOWN EDGE	200	LF	$20	$4,000	
PRE-CAST CONCRETE SLOTTED CURB	144	SF	$12	$1,728	
DRIVEWAY APRON	200	LF	$15	$3,000	
GRAVEL BACKFILL	111	CY	$30	$3,330	2.5' DEEP, GRADATED WRAPPED IN FILTER FABRIC
PREPARED SOIL	67	CY	$50	$3,350	
PLANTING, MULCH, FINE GRADING	1200	SF	$8	$9,600	
IRRIGATION ADJUSTMENTS	1200	SF	$1	$1,200	
HARD COSTS TOTAL				$38,354	
SOFT COSTS @20%				$7,671	
TOTAL PROJECT COST				**$46,025**	
COST PER FOOT				$230.12	
LINEAL FEET OF BIO-RETENTION GARDENS	212,500				
TOTAL PROJECT COST				**$48,901,350**	

Step Two - Prototypical Neighborhood Street (600' Length, One Block, Two intersections)

ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
SIDEWALK	1080	LF	$90	$96,660	BOTH SIDES OF STREET 4.5' WIDE
BIO-RETENTION GARDENS	1010	LF	$236	$238,067	
BELLAIRE INTERSECTIONS WITHOUT ART	4	EA	$14,973	$59,892	
BELLAIRE INTERSECTIONS WITH ART	4	EA	$33,272	$133,088	
STREET LIGHTING (120' O.C.)	5	EA	$5,500	$27,500	
SIGNAGE	1	LS	$50,000	$50,000	
HARD COSTS TOTAL				$605,207	
SOFT COSTS @25%				$151,302	
TOTAL PROJECT COST				**$756,509**	
COST PER FOOT				**$3,782.54**	

THIS ESTIMATE INCLUDES RECONSTRUCTION OF THE STREET AND UTILITIES AT A COST OF $4.3M PER MILE FOR A 3-LANE SECTION AND $3.8M PER MILE FOR A 2 LANE SECTION. SIDEWALKS, PARKWAY GREEN SPACES, DEDICATED BIKE LANES, BIO-RETENTION GARDENS CAN BE IMPLEMENTED WITHOUT RE-CONSTRUCTING THE STREET DRAMATICALLY LOWERING COSTS

Initiative: Connector Streets

Streetscape Elements Fournace, Ferris, Evergreen (200' prototype)

ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
DEMOLITION	6600	SF	$3	$19,800	200
REMOVE / RELOCATE EXIST SIGNAGE	1	LS	$500	$500	
ADJUST UTILITY BOXES TO GRADE	1	LS	$1,500	$1,500	
SIDEWALKS	1800	SF	$10	$18,000	
BIKE LANE	1200	SF	$12	$14,400	
DRIVEWAY REPLACEMENTS	480	SF	$10	$4,800	
TREES	10	EA	$450	$4,500	
PLANTING AND IRRIGATION	2400	SF	$3	$7,200	
BIO-RETENTION GARDEN	200	LF	$282	$56,400	
BELLAIRE SIGNAGE	1	LS	$5,000	$5,000	
HARD COSTS TOTAL				$132,100	
TOTAL COST				**$132,100**	
COST PER FOOT				**$660.50**	

Streetscape Elements Newcastle (200' prototype)

ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
DEMOLITION	4000	SF	$3	$12,000	200
REMOVE / RELOCATE EXIST SIGNAGE	1	LS	$500	$500	
ADJUST UTILITY BOXES TO GRADE	1	LS	$1,500	$1,500	
SIDEWALKS	900	SF	$10	$9,000	
DRIVEWAY REPLACEMENTS	480	SF	$10	$4,800	
TREES	10	EA	$450	$4,500	
PLANTING AND IRRIGATION	1000	SF	$3	$3,000	
BIO-RETENTION GARDEN	200	LF	$345	$69,000	
BELLAIRE SIGNAGE	1	LS	$5,000	$5,000	
HARD COSTS TOTAL				$109,300	
TOTAL COST				**$109,300**	
COST PER FOOT				**$546.50**	

THIS ESTIMATE INCLUDES RECONSTRUCTION OF THE STREET AND UTILITIES AT A COST OF $4.3M PER MILE FOR A 3-LANE SECTION AND $3.8M PER MILE FOR A 2 LANE SECTION. SIDEWALKS, PARKWAY GREEN SPACES, DEDICATED BIKE LANES, BIO-RETENTION GARDENS CAN BE IMPLEMENTED WITHOUT RE-CONSTRUCTING THE STREET DRAMATICALLY LOWERING COSTS

Initiative: Connector Streets (cont'd)

Fournace

ITEM	QTY	UNIT	$/UNIT	SUB-TOTAL	REMARKS
STREETSCAPE ELEMENTS	4691	LF	$660	$3,096,060	
INTERSECTIONS W/O ART	8	EA	$18,000	$144,000	
INTERSECTIONS W/ ART	8	EA	$40,000	$320,000	
HARD COSTS TOTAL				$3,560,060	
SOFT COSTS @20%				$712,012	
TOTAL COST				**$4,272,072**	

Evergreen

ITEM	QTY	UNIT	$/UNIT	SUB-TOTAL	REMARKS
STREETSCAPE ELEMENTS	9087	LF	$660	$5,997,420	
INTERSECTIONS W/O ART	40	EA	$18,000	$720,000	
INTERSECTIONS W/ ART	40	EA	$40,000	$1,600,000	
HARD COSTS TOTAL				$8,317,420	
SOFT COSTS @20%				$1,663,484	
TOTAL COST				**$9,980,904**	

Ferris

ITEM	QTY	UNIT	$/UNIT	SUB-TOTAL	REMARKS
STREETSCAPE ELEMENTS	5826	LF	$660	$3,845,160	
INTERSECTIONS W/O ART	35	EA	$18,000	$630,000	
INTERSECTIONS W/ ART	35	EA	$40,000	$1,400,000	
HARD COSTS TOTAL				$5,875,160	
SOFT COSTS @20%				$1,175,032	
TOTAL COST				**$7,050,192**	

Newcastle

ITEM	QTY	UNIT	$/UNIT	SUB-TOTAL	REMARKS
STREETSCAPE ELEMENTS	8124	LF	$546	$4,435,704	
INTERSECTIONS W/O ART	54	EA	$18,000	$972,000	
INTERSECTIONS W/ ART	54	EA	$40,000	$2,160,000	
HARD COSTS TOTAL				$7,567,704	
SOFT COSTS @20%				$1,513,541	
TOTAL COST				**$9,081,245**	

Initiative: Bellaire Boulevard

Bellaire Blvd West Street / Streetscape Elements (200' prototype)

ITEM	QTY	UNIT	$/UNIT	SUB-TOTAL	REMARKS
STREET RECONSTRUCTION	400	LF	$815	$326,000	BASED ON 4.3M PER MILE
SIDEWALKS	3200	SF	$10	$32,000	
BIKE LANE	2400	SF	$12	$28,800	
DRIVEWAY REPLACEMENTS	480	SF	$10	$4,800	
TREES	10	EA	$450	$4,500	
PLANTING AND IRRIGATION	2400	SF	$3	$7,200	
BIO-RETENTION GARDEN	400	LF	$230	$92,000	
BELLAIRE SIGNAGE	1	LS	$5,000	$5,000	
HARD COSTS TOTAL				$500,300	
TOTAL COST				**$500,300**	
COST PER FOOT				**$2,501.50**	

Bellaire Blvd Middle Street / Streetscape Elements (200' prototype)

ITEM	QTY	UNIT	$/UNIT	SUB-TOTAL	REMARKS
STREET EDGE RECONSTRUCTION	2400	SF	$20	$48,000	6' ON EDGE OR ROADS REMOVED, INLETS ADJUSTED, NARROWER LANES RE-STRIPPED
SIDEWALKS	2400	SF	$10	$24,000	
BIKE LANE	2400	SF	$12	$28,800	
DRIVEWAY REPLACEMENTS	480	SF	$10	$4,800	
TREES	10	EA	$450	$4,500	
PLANTING AND IRRIGATION	2400	SF	$3	$7,200	
BIO-RETENTION GARDEN	400	LF	$230	$92,000	
BELLAIRE SIGNAGE	1	LS	$5,000	$5,000	
HARD COSTS TOTAL				$214,300	
TOTAL COST				**$214,300**	
COST PER FOOT				**$1,071.50**	

THIS ESTIMATE INCLUDES RECONSTRUCTION OF THE STREET AND UTILITIES AT A COST OF $4.3M PER MILE FOR A 3-LANE SECTION AND $3.8M PER MILE FOR A 2 LANE SECTION. SIDEWALKS, PARKWAY GREEN SPACES, DEDICATED BIKE LANES, BIO-RETENTION GARDENS CAN BE IMPLEMENTED WITHOUT RE-CONSTRUCTING THE STREET DRAMATICALLY LOWERING COSTS

Initiative: Bellaire Boulevard (cont'd)

Bellaire Blvd East Street / Streetscape Elements (200' prototype)

ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
STREET EDGE RECONSTRUCTION	400	LF	$815	$326,000	3 LANE STREET BASED ON 4.3M PER MILE
SIDEWALKS	2400	SF	$10	$24,000	
BIKE LANE	2400	SF	$12	$28,800	
DRIVEWAY REPLACEMENTS	480	SF	$10	$4,800	
TREES	10	EA	$450	$4,500	
PLANTING AND IRRIGATION	2400	SF	$3	$7,200	
BIO-RETENTION GARDEN	400	LF	$230	$92,000	
BELLAIRE SIGNAGE	1	LS	$5,000	$5,000	
HARD COSTS TOTAL				$492,300	
TOTAL COST				**$492,300**	
COST PER FOOT				**$2,461.50**	

Bellaire West Streets / Streetscape (South Rice - Chimney Rock)

ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
STREETS - STREETSCAPE ELEMENTS	3064	LF	$2,502	$7,666,128	
PAVER INTERSECTIONS TYPICAL	7680	SF	$18	$138,240	1920 SF EACH SIDE
PAVER INTERSECTIONS PASEO	640	SF	$18	$11,200	320 SF EACH CROSSING
INTERSECTIONS W/O ART	0	EA	$18,000	$0	
INTERSECTIONS W/ ART	0	EA	$40,000	$0	
HARD COSTS TOTAL				$7,815,568	
SOFT COSTS @20%				$1,563,114	
TOTAL COST				**$9,378,682**	

Paseo Park West

ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
PARK DEVELOPMENT	162500	SF	$12	$1,950,000	
BELLAIRE WATER GARDENS	1	LS	$1,000,000	$1,000,000	
MEDIAN BISSONNET TO CHIMNEY ROCK	1274	LF	$383	$487,942	BIO-RETENTION
ARTS AND ACTIVATORS	1	LS	$250,000	$250,000	
HARD COSTS TOTAL				$3,687,942	
SOFT COSTS @20%				$737,588	
TOTAL COST				**$4,425,530**	

THIS ESTIMATE INCLUDES RECONSTRUCTION OF THE STREET AND UTILITIES AT A COST OF $4.3M PER MILE FOR A 3-LANE SECTION AND $3.8M PER MILE FOR A 2 LANE SECTION. SIDEWALKS, PARKWAY GREEN SPACES, DEDICATED BIKE LANES, BIO-RETENTION GARDENS CAN BE IMPLEMENTED WITHOUT RE-CONSTRUCTING THE STREET DRAMATICALLY LOWERING COSTS

Bellaire Middle Streets / Streetscape (South Rice - West Loop)

ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
STREETS - STREETSCAPE ELEMENTS	2594	LF	$1,072	$2,780,768	
PAVER INTERSECTIONS TYPICAL	59370	SF	$18	$1,068,660	1920 SF EACH SIDE
INTERSECTIONS W/O ART	6	EA	$18,000	$108,000	
INTERSECTIONS W/ ART	6	EA	$40,000	$240,000	
HARD COSTS TOTAL				$4,197,428	
SOFT COSTS @20%				$839,486	
TOTAL COST				**$5,036,914**	

Paseo Park Middle

ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
PARK DEVELOPMENT	207875	SF	$12	$2,494,500	
ART / ACTIVATORS	1	LS	$300,000	$300,000	
MEDIAN 1ST STREET TO WEST LOOP	7350	SF	$8	$58,800	
HARD COSTS TOTAL				$2,853,300	
SOFT COSTS @20%				$570,660	
TOTAL COST				**$3,423,960**	

Bellaire East Streets / Streetscape / Medians (West Loop - RR Tracks)

ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
STREETS - STREETSCAPE ELEMENTS	2594	LF	$1,072	$2,780,768	
PAVER INTERSECTIONS TYPICAL	30800	SF	$18	$554,400	RR TACKS, NEWCASTLE, AVE. B
MEDIAN LANDSCAPE	148160	SF	$8	$1,185,280	
INTERSECTIONS W/O ART	7	EA	$18,000	$126,000	
INTERSECTIONS W/ ART	7	EA	$40,000	$280,000	
HARD COSTS TOTAL				$4,926,448	
SOFT COSTS @20%				$985,290	
TOTAL COST				**$5,911,738**	

THIS ESTIMATE INCLUDES RECONSTRUCTION OF THE STREET AND UTILITIES AT A COST OF $4.3M PER MILE FOR A 3-LANE SECTION AND $3.8M PER MILE FOR A 2 LANE SECTION. SIDEWALKS, PARKWAY GREEN SPACES, DEDICATED BIKE LANES, BIO-RETENTION GARDENS CAN BE IMPLEMENTED WITHOUT RE-CONSTRUCTING THE STREET DRAMATICALLY LOWERING COSTS

Initiative: South Rice Avenue

South Rice Street / Streetscape Elements (200' prototype)

ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
NEW STREET RECONSTRUCTION	400	LF	$720	$288,000	2 LANES = $720 / LF
SIDEWALKS	2400	SF	$10	$24,000	
BIKE LANE	1600	SF	$12	$19,200	
DRIVEWAY REPLACEMENTS	480	SF	$10	$4,800	
TREES	10	EA	$450	$4,500	
PLANTING AND IRRIGATION	2400	SF	$3	$7,200	
BIO-RETENTION GARDEN	300	LF	$240	$72,000	75% OF STREET LENGTH
PERVIOUS PAVING PARALLEL PARKING	100	LF	$140	$14,000	25% OF STREET LENGTH
BELLAIRE SIGNAGE	1	LS	$5,000	$5,000	
HARD COSTS TOTAL				$438,700	
TOTAL COST				$438,700	
COST PER FOOT				**$2,193.50**	

South Rice - South - Streets / Streetscape (Bellaire Blvd - Cypress Ditch)

ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
STREETS - STREETSCAPE ELEMENTS	5598	LF	$2,194	$12,282,012	
PAVER INTERSECTIONS TYPICAL	11,680	SF	$18	$210,240	CITY GATEWAY / CYPRESS DITCH 200', PINE, EVERGREEN, ANDERSON
MEDIAN PLANTING	4638	LF	$40	$185,520	4' WIDE ROSES
INTERSECTIONS W/O ART	26	EA	$18,000	$468,000	
INTERSECTIONS W/ ART	25	EA	$40,000	$1,000,000	
HARD COSTS TOTAL				$14,145,772	
SOFT COSTS @20%				$2,829,154	
TOTAL COST				**$16,974,926**	

South Rice - North - Streets / Streetscape (Elm- Bellaire Blvd)

ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
STREETS - STREETSCAPE ELEMENTS	2563	LF	$2,194	$5,623,222	
PAVER INTERSECTIONS TYPICAL	2,640	SF	$18	$47,520	ELM
MEDIAN PLANTING	2143	LF	$40	$85,720	4' WIDE ROSES
INTERSECTIONS W/O ART	9	EA	$18,000	$162,000	
INTERSECTIONS W/ ART	9	EA	$40,000	$360,000	
HARD COSTS TOTAL				$6,278,462	
SOFT COSTS @20%				$1,255,692	
TOTAL COST				**$7,534,154**	

THIS ESTIMATE INCLUDES RECONSTRUCTION OF THE STREET AND UTILITIES AT A COST OF $4.3M PER MILE FOR A 3-LANE SECTION AND $3.8M PER MILE FOR A 2 LANE SECTION. SIDEWALKS, PARKWAY GREEN SPACES, DEDICATED BIKE LANES, BIO-RETENTION GARDENS CAN BE IMPLEMENTED WITHOUT RE-CONSTRUCTING THE STREET DRAMATICALLY LOWERING COSTS

Initiative: Chimney Rock Road

Chimney Rock Street / Streetscape Elements (200' prototype)

ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
NEW STREET RECONSTRUCTION	400	LF	$720	$288,000	2 LANES = $720 / LF
SIDEWALKS	2400	SF	$10	$24,000	
BIKE LANE	1600	SF	$12	$19,200	
DRIVEWAY REPLACEMENTS	480	SF	$10	$4,800	
TREES	10	EA	$450	$4,500	
PLANTING AND IRRIGATION	2400	SF	$3	$7,200	
BIO-RETENTION GARDEN	400	LF	$240	$96,000	
BELLAIRE SIGNAGE	1	LS	$5,000	$5,000	
HARD COSTS TOTAL				$448,700	
TOTAL COST				**$448,700**	
COST PER FOOT				**$2,243.50**	

Chimney Rock - South - Streets / Streetscape (Evergreen - Cypress Ditch)

ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
STREETS - STREETSCAPE ELEMENTS	3069	LF	$2,194	$6,733,386	
PAVER INTERSECTIONS TYPICAL	5,400	SF	$18	$97,200	EVERGREEN
MEDIAN PLANTING	2589	LF	$40	$103,560	4' WIDE ROSES
INTERSECTIONS W/O ART	3	EA	$18,000	$54,000	
INTERSECTIONS W/ ART	3	EA	$40,000	$120,000	
HARD COSTS TOTAL				$7,108,146	
SOFT COSTS @20%				$1,421,629	
TOTAL COST				**$8,529,775**	

Chimney Rock - North - Streets / Streetscape (Dashwood - Bissonnet)

ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
STREETS - STREETSCAPE ELEMENTS	1457	LF	$2,194	$3,196,658	
MEDIAN PLANTING	1277	LF	$40	$51,080	4' WIDE ROSES
INTERSECTIONS W/O ART	0	EA	$18,000	$0	
INTERSECTIONS W/ ART	0	EA	$40,000	$0	
HARD COSTS TOTAL				$3,247,738	
SOFT COSTS @20%				$649,548	
TOTAL COST				**$3,897,286**	

THIS ESTIMATE INCLUDES RECONSTRUCTION OF THE STREET AND UTILITIES AT A COST OF $4.3M PER MILE FOR A 3-LANE SECTION AND $3.8M PER MILE FOR A 2 LANE SECTION. SIDEWALKS, PARKWAY GREEN SPACES, DEDICATED BIKE LANES, BIO-RETENTION GARDENS CAN BE IMPLEMENTED WITHOUT RE-CONSTRUCTING THE STREET DRAMATICALLY LOWERING COSTS

Initiative: Bissonnet Street

Bissonnet Street / Streetscape Elements (200' prototype)

ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
NEW STREET RECONSTRUCTION	400	LF	$720	$288,000	2 LANES - $720 / LF
SIDEWALKS	5200	SF	$15	$78,000	PAVERS
BIKE LANE	0	SF	$12	$0	ON STREET
DRIVEWAY REPLACEMENTS	480	SF	$10	$4,800	
TREES	16	EA	$450	$7,200	25' OC
PLANTING AND IRRIGATION	0	SF	$3	$0	
INFILTRATION PLANTERS	16	LF	$3,000	$48,000	25' OC
BELLAIRE SIGNAGE	1	LS	$5,000	$5,000	
HARD COSTS TOTAL				$431,000	
TOTAL COST				**$431,000**	
COST PER FOOT				**$2,155.00**	

Bissonnet - Middle - Streets / Streetscape (Chimney Rock - West Loop)

ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
STREETS - STREETSCAPE ELEMENTS	5581	LF	$2,155	$12,027,055	
INTERSECTIONS W/O ART	6	EA	$18,000	$108,000	
INTERSECTIONS W/ ART	6	EA	$40,000	$240,000	
HARD COSTS TOTAL				$12,375,055	
SOFT COSTS @20%				$2,475,011	
TOTAL COST				**$14,850,066**	

Bissonnet - East - Streets / Streetscape (West Loop - RR Tracks)

ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
STREETS - STREETSCAPE ELEMENTS	4492	LF	$2,155	$9,680,260	
PAVERS IN STREET AT CITY GATEWAY	8800	SF	$18	$158,400	200' LONG X 44' WIDE
INTERSECTIONS W/O ART	8	EA	$18,000	$144,000	
INTERSECTIONS W/ ART	8	EA	$40,000	$320,000	
HARD COSTS TOTAL				$10,302,660	
SOFT COSTS @20%				$2,060,532	
TOTAL COST				**$12,363,192**	

THIS ESTIMATE INCLUDES RECONSTRUCTION OF THE STREET AND UTILITIES AT A COST OF $4.3M PER MILE FOR A 3-LANE SECTION AND $3.8M PER MILE FOR A 2 LANE SECTION. SIDEWALKS, PARKWAY GREEN SPACES, DEDICATED BIKE LANES, BIO-RETENTION GARDENS CAN BE IMPLEMENTED WITHOUT RE-CONSTRUCTING THE STREET DRAMATICALLY LOWERING COSTS

Bissonnet - South - Streets / Streetscape (Alder - Renwick)

ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
STREETS - STREETSCAPE ELEMENTS	1510	LF	$2,155	$3,254,050	
INTERSECTIONS W/O ART	1	EA	$18,000	$18,000	
INTERSECTIONS W/ ART	1	EA	$40,000	$40,000	
HARD COSTS TOTAL				$3,312,050	
SOFT COSTS @20%				$662,410	
TOTAL COST				**$3,974,460**	

Initiative: West Loop Motor Courts

West Loop Motor Court West

ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
REMOVE EXISTING CURB AND GUTTER	200	LF	$5	$1,000	
REMOVE EXIST PAVING / LANDSCAPE	2700	SF	$3	$8,100	
REMOVE / RELOCATE EXIST SIGNAGE	1	LS	$500	$500	
ADJUST UTILITY BOXES TO GRADE	1	LS	$1,500	$1,500	
NEW CURB AND GUTTER	98	LF	$18	$1,764	
MOTOR COURT PLAZA PAVERS	4600	SF	$18	$80,500	
SIDEWALK CURB RAMPS	2	EA	$1,000	$2,000	
POCKET PARK	800	SF	$15	$12,000	20' X 40'
COURT WALL AND GATE	120	LF	$200	$24,000	20' X 40'
PLANTING AND IRRIGATION	5055	SF	$8	$40,440	
BELLAIRE SIGNAGE	1	LS	$3,000	$3,000	
HARD COSTS TOTAL				$165,704	
SOFT COSTS @20%				$33,141	
TOTAL COST EACH				**$198,845**	
NUMBER OF COURTS	7				
TOTAL PROJECT COST				**$1,391,914**	

THIS ESTIMATE INCLUDES RECONSTRUCTION OF THE STREET AND UTILITIES AT A COST OF $4.3M PER MILE FOR A 3-LANE SECTION AND $3.8M PER MILE FOR A 2 LANE SECTION. SIDEWALKS, PARKWAY GREEN SPACES, DEDICATED BIKE LANES, BIO-RETENTION GARDENS CAN BE IMPLEMENTED WITHOUT RE-CONSTRUCTING THE STREET DRAMATICALLY LOWERING COSTS

West Loop Motor Court East

ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
REMOVE EXISTING CURB AND GUTTER	200	LF	$5	$1,000	
REMOVE EXIST PAVING / LANDSCAPE	2700	SF	$3	$8,100	
REMOVE / RELOCATE EXIST SIGNAGE	1	LS	$500	$500	
ADJUST UTILITY BOXES TO GRADE	1	LS	$1,500	$1,500	
NEW CURB AND GUTTER	98	LF	$18	$1,764	
MOTOR COURT PLAZA PAVERS	4600	SF	$18	$80,500	
SIDEWALK CURB RAMPS	2	EA	$1,000	$2,000	
POCKET PARK	800	SF	$15	$12,000	20' X 40'
COURT WALL AND GATE	120	LF	$200	$24,000	20' X 40'
PLANTING AND IRRIGATION	5055	SF	$8	$40,440	
BELLAIRE SIGNAGE	1	LS	$3,000	$3,000	
HARD COSTS TOTAL				$165,704	
SOFT COSTS @20%				$33,141	
TOTAL COST EACH				**$198,845**	
NUMBER OF COURTS	8				
TOTAL PROJECT COST				**$1,590,758**	

THIS ESTIMATE INCLUDES RECONSTRUCTION OF THE STREET AND UTILITIES AT A COST OF $4.3M PER MILE FOR A 3-LANE SECTION AND $3.8M PER MILE FOR A 2 LANE SECTION. SIDEWALKS, PARKWAY GREEN SPACES, DEDICATED BIKE LANES, BIO-RETENTION GARDENS CAN BE IMPLEMENTED WITHOUT RE-CONSTRUCTING THE STREET DRAMATICALLY LOWERING COSTS

Initiative: Coastal Prairie Park

South

ITEM	*QTY*	*UNIT*	*$/UNIT*	*UNIT TOTAL*	*REMARKS*
EARTHWORK					
DEMOLITION & GRADING	2,400,000	SF	$0.50	$1,200,000	BRAYS TO BELLAIRE
HARDSCAPE					
6' CONCRETE WALK	7,500	LF	$60.00	$450,000	BRAYS TO BELLAIRE; 6' WIDE
10' BIKE LANE	7,500	LF	$100.00	$750,000	BRAYS TO BELLAIRE; 10' WIDE
N'HOOD CONNECTIONS	3	EA	$100,000.00	$300,000	BRAYS TO BELLAIRE; 150 LF AVG. +RR X-ING
PAINT/MARKINGS/SIGNAGE	1	LS	$30,000.00	$30,000	BRAYS TO BELLAIRE
PLANTING & IRRIGATION					
SEED - NATIVE TRAIL MIX	1,800,000	SF	$0.44	$792,000	BRAYS TO BELLAIRE; 1/3 OF AREA
SEED - COMMON BERMUDA	200,000	SF	$0.06	$12,000	BRAYS TO BELLAIRE; ALONG TRAILS
DRAINAGE					
ALLOWANCE	1	LS	$50,000.00	$50,000	BRAYS TO BELLAIRE
LIGHTING & SITE FURNISHINGS					
SITE FURNISHINGS	1	LS	$30,000.00	$30,000	
PED LIGHTING	100	EA	$5,500.00	$550,000	75' OC

HARD COSTS TOTAL	$4,164,000
SOFT COSTS @20%	$832,800
TOTAL COST	**$4,996,800**

North

ITEM	*QUANTITY*	*UNIT*	*UNIT COST*	*UNIT TOTAL*	*REMARKS*
EARTHWORK					
DEMOLITION & GRADING	723,000	SF	$0.50	$361,500	BELLAIRE TO WESTPARK
HARDSCAPE					
6' CONCRETE WALK	6,500	LF	$60.00	$390,000	BRAYS TO BELLAIRE; 6' WIDE
10' BIKE LANE	6,500	LF	$100.00	$650,000	BRAYS TO BELLAIRE; 10' WIDE
N'HOOD CONNECTIONS	2	EA	$100,000.00	$200,000	BELLAIRE TO WESTPARK; 150 LF AVG. +RR X-ING
PAINT/MARKINGS/SIGNAGE	1	LS	$20,000.00	$20,000	BELLAIRE TO WESTPARK
PLANTING & IRRIGATION					
SEED - NATIVE TRAIL MIX	530,000	SF	$0.44	$233,200	BELLAIRE TO WESTPARK
SEED - COMMON BERMUDA	50,000	SF	$0.06	$3,000	BELLAIRE TO WESTPARK; ALONG TRAILS
DRAINAGE					
ALLOWANCE	1	LS	$25,000.00	$25,000	BELLAIRE TO WESTPARK
SITE FURNISHINGS					
SITE FURNISHINGS	1	LS	$20,000.00	$20,000	
PEDESTRIAN LIGHTING	65		5500	$357,500	

HARD COSTS TOTAL	$2,260,200
SOFT COSTS @20%	$452,040
TOTAL COST	**$2,712,240**

Initiative: North Livable Center

Extend West Lop Box Culvert

ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
9' X 7' R C BOX CULVERT	840	LF	$1,050	$882,000	BASED ON REYTECH BID, BEGIN AN GLENMONT
DEMO SURFACE	10080	SF	$10	$100,800	12' WIDE CORRIDOR
RESTORE SURFACE CONDITION	10080	SF	$20	$201,600	
MISC	10080	SF	$10	$100,800	
HARD COSTS TOTAL				$1,285,200	
SOFT COSTS @20%				$257,040	
TOTAL COST				**$1,542,240**	

Extend Anderson Street (Fournace to West Park)

ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
STREET / STREETSCAPE ELEMENTS	3438	LF	$1,474	$5,067,612	200
HARD COSTS TOTAL				$5,067,612	
SOFT COSTS @20%				$1,013,522	
TOTAL COST				**$6,081,134**	

Initiative: North Livable Center (cont'd)

Coastal Prairie Park

ITEM	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
EARTHWORK				
DEMOLITION & GRADING	SF	$1.00	$160,000	
HARDSCAPE				
6' CONCRETE WALK	LF	$60.00	$48,000	BRAYS TO BELLAIRE; 6' WIDE
10' BIKE LANE	LF	$100.00	$80,000	BRAYS TO BELLAIRE; 10' WIDE
PAINT/MARKINGS/SIGNAGE	LS	$20,000.00	$20,000	BELLAIRE TO WESTPARK
PLANTING & IRRIGATION				
SEED - NATIVE TRAIL MIX	SF	$0.44	$63,360	BELLAIRE TO WESTPARK
SEED - COMMON BERMUDA	SF	$0.06	$960	BELLAIRE TO WESTPARK; ALONG TRAILS
DRAINAGE				
ALLOWANCE	LS	$25,000.00	$25,000	BELLAIRE TO WESTPARK
SITE FURNISHINGS				
SITE FURNISHINGS	LS	$20,000.00	$20,000	
PEDESTRIAN LIGHTING		5500	$77,000	
HARD COSTS TOTAL			$494,320	
SOFT COSTS @20%			$98,864	
TOTAL COST			**$593,184**	

BUILD NORTHPARK

ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
PARK DEVELOPMENT	87100	SF	$20	$1,742,000	
HARD COSTS TOTAL				$1,742,000	
SOFT COSTS @20%				$348,400	
TOTAL COST				**$2,090,400**	

IMAGE COURTESY OF BUTLER PLANNING

Initiative: Urban Village Downtown

Complete Street / Streetscape Elements (200' prototype)					
ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
NEW STREET RECONSTRUCTION	200	LF	$690	$138,000	3 LANES
PAVER SIDEWALKS	2200	SF	$10	$22,000	
DRIVEWAY REPLACEMENTS	480	SF	$10	$4,800	
PERVIOUS PAVING PARALLEL PARKING	3200	SF	$18	$57,600	
SUB-GRADE DETENTION CELLS	200	LF	$240	$48,000	10' WIDE 3' DEEP
TREES	12	EA	$750	$9,000	
PLANTING AND IRRIGATION	240	SF	$8	$1,920	
LIGHTING BETTERMENTS	18	LS	$5,500	$99,000	
BELLAIRE SIGNAGE / FURNISHINGS	1	LS	$10,000	$10,000	
HARD COSTS TOTAL				$390,320	
TOTAL COST				**$390,320**	
COST PER FOOT				**$1,951.60**	

South Rice - South - Streets / Streetscape (Bellaire Blvd - Cypress Ditch)					
ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
STREETS - STREETSCAPE ELEMENTS	5598	LF	$2,194	$12,282,012	
PAVER INTERSECTIONS TYPICAL	11,680	SF	$18	$210,240	
MEDIAN PLANTING	4638	LF	$40	$185,520	
INTERSECTIONS W/O ART	26	EA	$18,000	$468,000	
INTERSECTIONS W/ ART	25	EA	$40,000	$1,000,000	
HARD COSTS TOTAL				$14,145,772	
SOFT COSTS @20%				$2,829,154	
TOTAL COST				**$16,974,926**	

THIS ESTIMATE INCLUDES RECONSTRUCTION OF THE STREET AND UTILITIES AT A COST OF $4.3M PER MILE FOR A 3-LANE SECTION AND $3.8M PER MILE FOR A 2 LANE SECTION. SIDEWALKS, PARKWAY GREEN SPACES, DEDICATED BIKE LANES, BIO-RETENTION GARDENS CAN BE IMPLEMENTED WITHOUT RE-CONSTRUCTING THE STREET DRAMATICALLY LOWERING COSTS

Initiative: Urban Village Downtown (cont'd)

Step Two - Complete Streets - Spruce, Cedar, Ferris and 5th (North of Bellaire Blvd)

ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
SPRUCE - STREETS - STREETSCAPE ELEMENTS	1573	LF	$2,194	$3,451,162	
CEDAR - STREETS - STREETSCAPE ELEMENTS	1567	LF	$2,194	$3,437,998	
FERRIS - STREETS - STREETSCAPE ELEMENTS	1077	LF	$2,194	$2,362,938	
5TH STREET - STREETS - STREETSCAPE ELEMENTS	966	LF	$2,194	$2,119,404	
INTERSECTIONS W/O ART	16	EA	$18,000	$288,000	
INTERSECTIONS W/ ART	16	EA	$40,000	$640,000	
HARD COSTS TOTAL				$12,299,502	
SOFT COSTS @20%				$2,459,900	
TOTAL COST				**$14,759,402**	

Step Two - Complete Streets - Spruce, Cedar, Ferris and 5th (North of Bellaire Blvd)

ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
SPRUCE - STREETS - STREETSCAPE ELEMENTS	1573	LF	$2,194	$3,451,162	
CEDAR - STREETS - STREETSCAPE ELEMENTS	1567	LF	$2,194	$3,437,998	
FERRIS - STREETS - STREETSCAPE ELEMENTS	1077	LF	$2,194	$2,362,938	
5TH STREET - STREETS - STREETSCAPE ELEMENTS	966	LF	$2,194	$2,119,404	
INTERSECTIONS W/O ART	16	EA	$18,000	$288,000	
INTERSECTIONS W/ ART	16	EA	$40,000	$640,000	
HARD COSTS TOTAL				$12,299,502	
SOFT COSTS @20%				$2,459,900	
TOTAL COST				**$14,759,402**	

Initiative: Paseo Park: Bellaire Boulevard Middle

Step x - Paseo Park, Bellaire Blvd; First St. to South Rice Intersection 100' Width Typical

ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
DG PAVING, 3" DEPTH X 20' WIDTH	1	LF	$100	$100	20SF X $5.00 SF
STEEL EDGE	1	LF	$10	$10	3/16" STEEL EDGE @ $5.00 LF
GENERAL LANDSCAPING	1	LF	$160	$160	PLANTING, SOIL IMPRVTS, IRRIGATION
HARD COSTS TOTAL				$270	
SOFT COSTS @20%				$54	
TOTAL PROJECT COST				**$324**	

Step x - Bellaire Blvd, Intersections at Paseo Park

ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
BELLAIRE CONCRETE PAVER	15000	SF	$17	$255,000	PAVER ON VEHICULAR CONCRETE
CROSSWALK STRIPING	180	LF	$6	$1,080	
HARD COSTS TOTAL				$256,080	
SOFT COSTS @20%				$51,216	
TOTAL PROJECT COST				**$307,296**	

Step x - Objects, Art, Features

ITEM	*QTY*	*UNIT*	*$/UNIT*	*SUB-TOTAL*	*REMARKS*
ALLOWANCES	3	LS	$7,500	$22,500	
NEWCASTLE	12100	LF	$500	$6,050,000	
EVERGREEN	10100	LF	$500	$5,050,000	
FERRIS	8450	LF	$500	$4,225,000	
AVE B	10800	LF	$500	$5,400,000	
HARD COSTS TOTAL				$9,625,000	
SOFT COSTS @20%				$1,925,000	
TOTAL PROJECT COST				**$11,550,000**	

First Steps

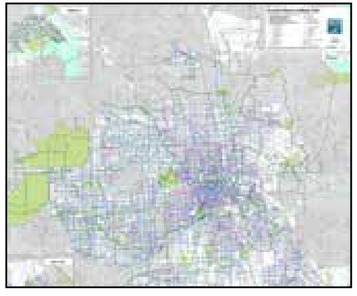
1	BUILD NEWCASTLE STREET LIGHTING *AND URBAN ELEMENTS DETAILED DESIGN*		$185,000
2	BUILD ONE BLOCK NEIGHBORHOOD STREET PROTOTYPE *AND URBAN ELEMENTS DETAILED DESIGN*		$756,500
3	BUILD CITY GATEWAY BELLAIRE BOULEVARD AT RAILROAD TRACKS		$852,720
4	BUILD CITY GATEWAY BELLAIRE BOULEVARD AT WEST LOOP		$1,674,000
5	BUILD COASTAL PRAIRIE PARK SOUTH AND STORMWATER DETENTION		$5,000,000
6	BUILD BELLAIRE BOULEVARD AND PASEO PARK		$13,804,212

APPENDIX

On-Going/Parallel Efforts

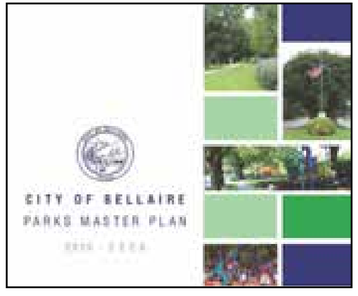
In preparing the Conceptual Master Plan, the planning team reviewed and incorporated many recently completed studies and City plans, including the following:

- City Of Houston Bicycle Master Plan, 2016
- City Of Bellaire Municipal Buildings Plan, 2008
- City Of Bellaire Parks Master Plan 2015-2025
- Evergreen Park Master Plan, 2016
- City Of Bellaire Comprehensive Plan,2015
- City Of Bellaire, Economic Development Workshop, 2012
- City Of Bellaire, Framework For Desirable Growth, 2005



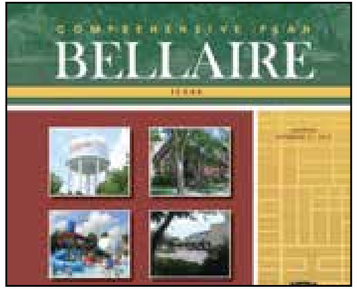
CITY OF HOUSTON BICYCLE MASTER PLAN, 2016

CITY OF BELLAIRE MUNICIPAL BUILDINGS PLAN, 2008

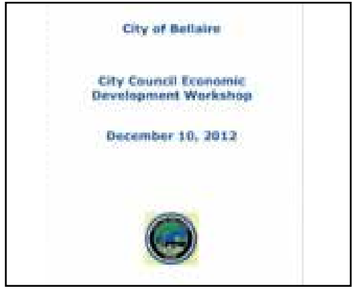


CITY OF BELLAIRE PARKS MASTER PLAN 2015-2025

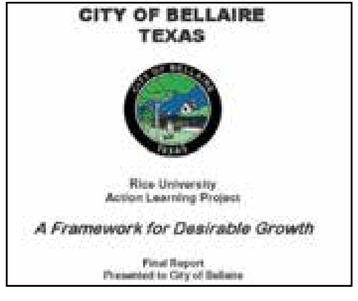
EVERGREEN PARK MASTER PLAN, 2016



CITY OF BELLAIRE COMPREHENSIVE PLAN, 2015



CITY OF BELLAIRE, ECONOMIC DEVELOPMENT WORKSHOP, 2012



CITY OF BELLAIRE, FRAMEWORK FOR DESIRABLE GROWTH, 2005

ACKNOWLEDGEMENTS

ACKNOWLEDGMENTS:

In addition to the 1,021 residents who responded to the Citizens for a Beautiful Bellaire's Citizen's Survey and the many who participated in the nine (9) workshops and presentations conducted during the planning and design process as well as members of City of Bellaire Boards and Commissions we would like to recognize the contributions of the following individuals to this plan:

CITY COUNCIL

City of Bellaire Mayor	Andrew S. Friedberg
City of Bellaire Council Members	Roman F. Reed
	Trisha S. Pollard
	Gus Pappas
	Pat McLaughlan
	Michael Fife
	David Montague

CITY OF BELLAIRE STAFF

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Public Works Director	Brant Gary
Parks, Recreation & Facilities Director	Karl Miller
Parks, Recreation & Facilities Assistant Director	Cheryl Bright
Parks, Recreation & Facilities Director	Michelle Jordan
Development Services Director	John McDonald

CITIZENS FOR A BEAUTIFUL BELLAIRE

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Citizen Volunteer	Christopher Butler

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Landscape Designer	Rebekah Dye
Landscape Designer	Lana Merrill
Landscape Designer	Bei Zhang
Landscape Designer	Dongwan Xie
Landscape Designer	Yuening Pu

terrain

landscape architecture - planning - urbanism

San Francisco, California

Houston, Texas