

Comprehensive Plan 2035
 Updated June 2013

LEAGUE CITY





TABLE OF CONTENTS

1 - Introduction & Community Profile 1-1

2 - Issues & Opportunities 2-1

3 - Guiding Principles 3-1

4 - Growth Analysis 4-1

5 - Land Use 5-1

6 - Mobility 6-1

7 - Parks & Recreation 7-1

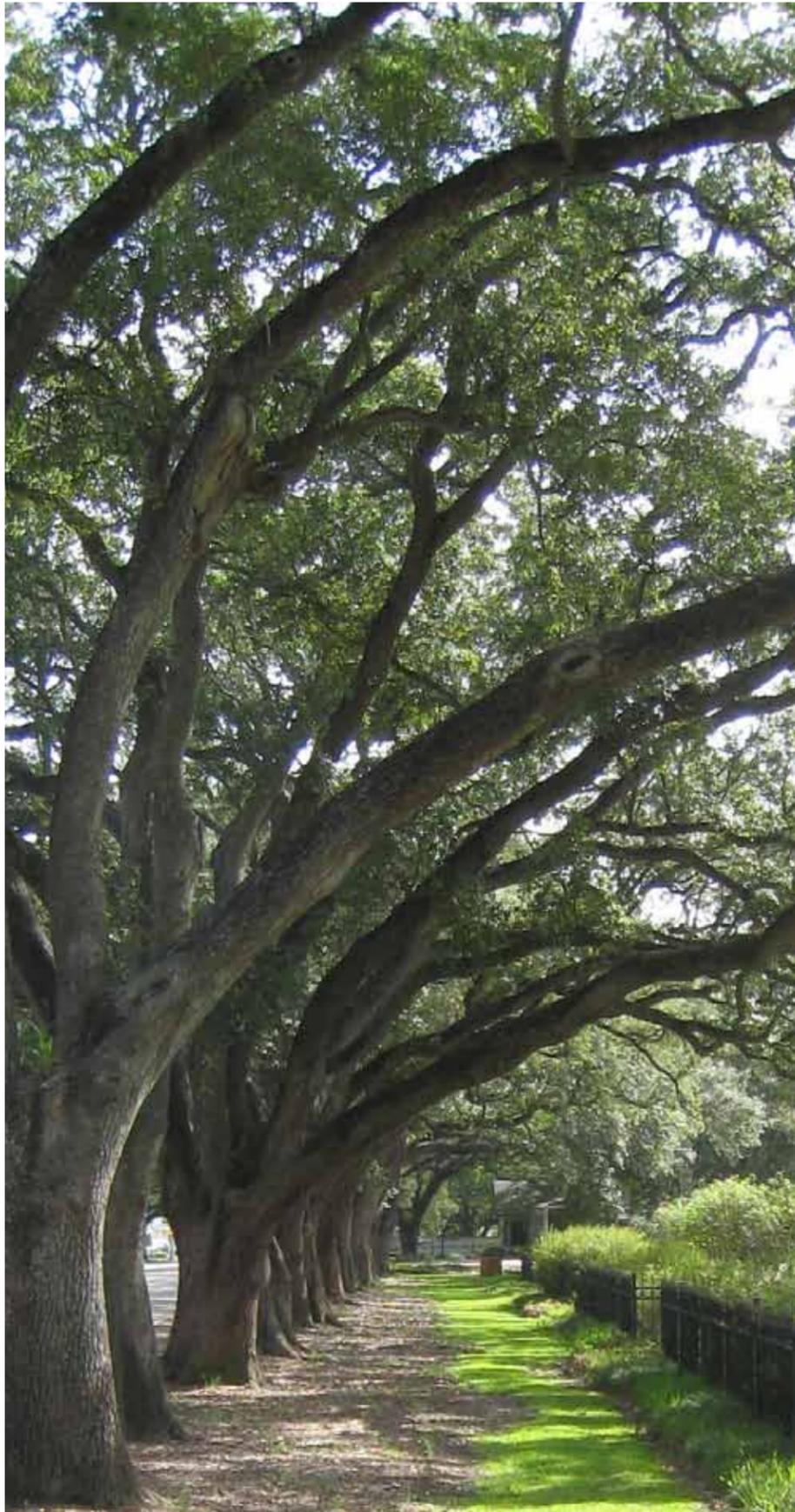
8 - Hazard Mitigation 8-1

9 - Community Facilities 9-1

10 - Infrastructure 10-1

11 - Economic Development 11-1

1 – INTRODUCTION



Plan Responsibly and Act Decisively. One of four Organizational Values established by City Council in 2009 set the tone for an aggressive effort to fully understand the needs and desires regarding League City’s future and seize upon a common vision. Responsible planning means taking an honest look at current conditions, establishing a clear direction for the future and making the tough decisions needed to get there. The legacy of planning responsibly and acting decisively will be the League City of 2035.

Between 2009 and 2010, League City embarked upon updates to a number of plans that allowed staff to simultaneously address key issues related to land use, community character, mobility, water, wastewater, stormwater, economic development, and hazard mitigation. The effort to update nearly all of the city’s major plans at the same time provides League City with a substantial advantage. It has provided a rare opportunity to truly glimpse “under the hood” at all of the issues facing the community, particularly in comparison to goals of the community.

As part of this effort, the City decided to revise the plan that recognizes and synthesizes the relationship between all of these issues - the Comprehensive Plan.

The Comprehensive Plan is the one tool that translates the vision of the community into neighborhoods, open spaces, streets, trails, commercial

centers, gathering spaces, and the myriad other features that make up the community. It guides the manner in which development (and redevelopment) occurs, where development should go (and should not go), and the type of development defined as “desirable.” It serves as a “blueprint” for responsible growth as determined by the residents, business owners and community leaders of League City.

In this manner, the Comprehensive Plan is a “form-based” interpretation of the community’s goals for economic development, community character, mobility, water, and more. It seeks to create the “great places” that are desirable to current and future residents, employees and guests, while also appreciating the limitations faced by the community. Even in constraint it creates advantage. Mobility issues result in creative solutions that, by themselves, could become marketable attractions. Stormwater issues could result in a green approach to development that is also desirable to a growing segment of the community.

The Comprehensive Plan builds around a “preferred growth scenario” that highlights the desired character and development patterns in the community. It supports the preferred growth scenario with development-related policies, including those related to Parks, Infrastructure, Mobility, Community Facilities, Hazard Mitigation and Economic Development. In each case, the Comprehensive Plan embraces the intentions and

recommendations of other plans and serves as a bridge tying the solutions of these plans together through development.

The Planning Process

The process of updating the Comprehensive Plan involved addressing four questions: where are we now, what do we want to be, how do we get there, and how do we make it happen?

WHERE ARE WE NOW?

The planning process began with looking at League City today and understanding the community, its history, its residents and how it functions. This initial phase included a review of development considerations such as existing development patterns, growth trends, infrastructure systems and capacities, and key issues facing the community. Analysis of existing characteristics and systems resulted in a solid understanding of the community’s assets, needs and opportunities. This analysis was used in developing a growth scenario for League City following current trends. The community profile in Chapter 1 along with Chapter 4 – Growth Analysis describes League City today and highlights the findings of the existing conditions analysis.

WHAT DO WE WANT TO BE?

The next step in the planning process involved determining what League City should be like in the future. A visual preference survey, (discussed in Chapter 2 – Issues), was conducted at the beginning of the planning process to determine the types of developments desired in League City. A public workshop was held to identify and validate key issues facing the community and opportunities for the future. In synthesizing all the input received, several core values and themes emerged, and from this a series of guiding principles were developed. These guiding principles, identified in Chapter 3 – Guiding Principles, reflect and summarize the shared vision of the community over the next 25 years and were used, along with other information, to develop three additional growth scenarios, including the “preferred growth scenario” (Chapter 4 Growth Analysis) and subsequent plan policies.

HOW DO WE GET THERE?

The Plan is divided into the following core elements:

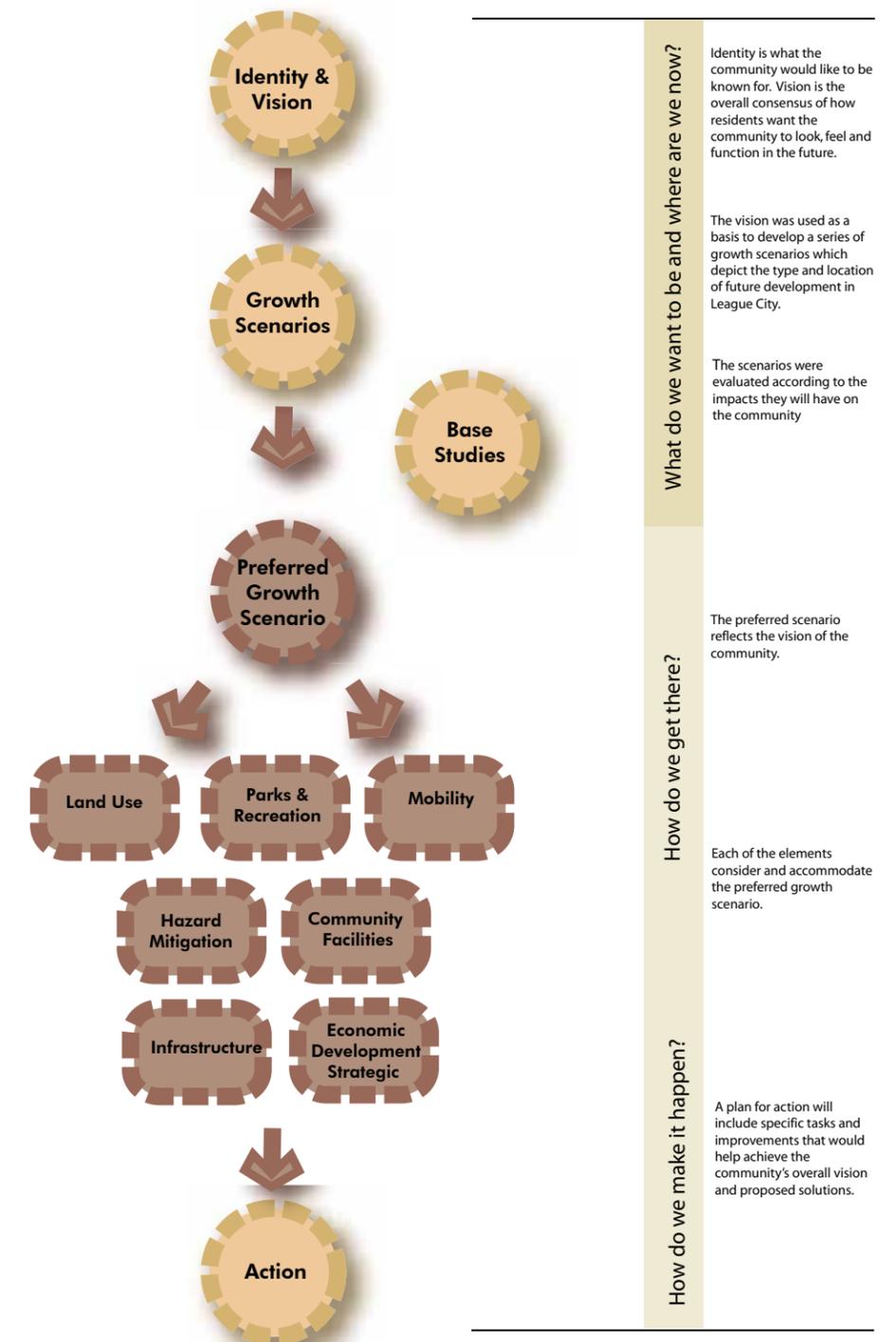
- Chapter 5 – Land Use
- Chapter 6 - Mobility
- Chapter 7 – Parks and Recreation
- Chapter 8 – Hazard Mitigation
- Chapter 9 – Community Facilities
- Chapter 10 - Infrastructure
- Chapter 11 – Economic Development

Each of the core plan elements includes a series of policies that support the preferred growth scenario and provide direction in making “form based” decisions related to land development, mobility, parks and recreation, infrastructure, community facilities, hazard mitigation and economic development. Adoption and implementation of these policies along with implementation of specific actions recommended in plans such as the Master Mobility Plan and the Master Wastewater Plan will allow League City to achieve its desired vision for the future.

HOW DO WE MAKE IT HAPPEN?

Planning Responsibly ensures that the community has a vision for the future. However, moving to reality requires Acting Decisively. In many ways, establishing the vision is the easy part. Action requires bold steps - some of which may be unpopular or uncomfortable. The Policies established in the Comprehensive Plan require substantial changes to current development codes that are necessary if the community intends to manage its resources responsibly, implement a destination-based approach to growth, or become a full reflection of the “Recreation Lifestyle” brand. Complementary plans recommend a number of infrastructure and mobility improvements, park improvements, streetscape enhancements, open space acquisitions, along with numerous other activities and projects. Each of these recommendations plays a role in realizing the vision for the community. Finally, the success of the Comprehensive Plan depends upon the community’s willingness to support and defend the vision for the future.

Figure 1-1, Planning Process



How the Plan Works

Each of the core plan elements includes a series of goals and policies. Goals are the foundation of the Comprehensive Plan and state the desired outcomes that support the community's vision and guiding principles. Goals are broad and begin to answer the question "How will the vision be implemented?"

Policies are intended to guide daily decisions by staff and elected officials to see that the goals of the Comprehensive Plan are achieved. They provide a basis for evaluating development proposals, zoning changes and other land development decisions to ensure consistency with the guiding principles and Future Land Use Plan.

The policies will serve as the basis for code revisions and updates that will occur following adoption of this plan. Some of the policies will evolve into code language while others will be used in making daily decisions. For example in Chapter 5 – Land Use, one of the character related policies states "eliminate minimum lot size and configuration requirements in favor of density requirements...", this policy can simply be turned into code by replacing the current minimum lot size requirements with average lot size requirements. Other policies such as "new development on sites adjacent to existing infrastructure is preferable to "leapfrog" development" can be used when making decisions regarding the extension of utilities and other infrastructure systems.

The Comprehensive Plan intentionally does not include specific action items beyond policies. Rather, it builds upon the actions recommended in the other plans referenced throughout this document and identified below:

Other plans completed or currently being completed by League City:

- Master Mobility Plan (2011)
- Main Street Plan, Existing Conditions Report (2010)
- Water Master Plan (2010)
- Wastewater Master (2010)
- League City Assessment Finding and Suggestions Report (2010)
- Branding, Development and Marketing Action Plan (2010)
- League City Economic Development Strategic Plan (2011)
- Local Hazard Mitigation Plan (2010)
- Parks Master Plan (2006)
- Trails Master Plan (2010)
- The City of League City Feasibility Study (2008)

Who We Are?

REGIONAL CONTEXT

League City is located in northwestern Galveston County and southern Harris County, equal distance from Houston and Galveston off of Interstate 45. The northern border fronts Clear Lake and to the south the city borders Dickinson. The boundaries to the east and west respectively are the cities of Kemah and Friendswood. Sitting at an elevation of 20 feet, the city is comprised of 52.3 square miles, 2% of which is water.

ACCESSIBILITY

The City is bisected by Interstate 45 which serves as the main transportation corridor through Houston's metropolitan region all the way to Galveston. There are three beltways (Loop 610, Beltway 8 and Grand Parkway) around Houston that intersect with Interstate 45, giving access to all major cities in Texas. Located within twenty miles of League City to the north there are two airports, William P. Hobby, which is a major hub for Southwest Airlines and Ellington Field, which is used by NASA and private operators. The Union Pacific Railway operates one main line through League City, running parallel to I-45, and transporting goods to the midwest, southeast and west coast.

THE ECONOMY

League City is considered a "bedroom-community" that has less taxable retail sales per capita than its neighboring communities to the north. In the past there has been lack of retail facilities in League City and residents were spending their retail sales dollars elsewhere in the region. This and the shortage of quality employment opportunities within League City has had a marked effect on the city's tax base and its ability to fund capital programs, but, within the past 5 years, commercial activity at FM 646 and I-45 has started to change this trend. League City is slowly becoming a practical destination for new businesses that will expand the economic base.

The area's economic base includes aerospace (NASA), petrochemicals, health care (UTMB and Texas Medical Center), upscale commercial, boating and visitor attractions.

League City's central location is prime for research support and development firms and branch locations from the Texas Medical Center, the University of Texas Medical Branch (UTMB), the University of Houston, and Rice University. A branch of UTMB for specialty care along with numerous outpatient clinics are now located within League City.

Reasons that make the area's workforce attractive to business and industry are its low unionization and a high percentage of technicians compared to the total labor market. League City employees tend to be younger, and well educated.

THE PEOPLE

To get a better understanding of the people in League City, ESRI's Tapestry Segmentation was used to identify the top 10 "groups of people" with similar interests and lifestyles living in the community. Tapestry segmentation is a system used to classify neighborhoods in the US into 65 segments based on their socioeconomic and demographic compositions. Neighborhoods with the most similar characteristics are grouped together, while neighborhoods showing different characteristics are separated. Neighborhoods are analyzed and sorted by more than 60 attributes including income, employment, home value, housing type, education, household composition, age, and other key determinants of consumer behavior.

The information provided through assessment of different groups gives a good sense of the types of people living in League City, what their lifestyle is like, the activities they like to participate in, where they shop, the types of homes, neighborhoods, and amenities they prefer, and purchases they like to make. All of which is important in determining the types of places, neighborhoods and amenities residents desire. Based on a 5 mile radius ring around a central point on Walker Street, League City's top 10 Tapestry Segments are shown in Table 1-1.

As shown League City primarily consists of affluent, educated households consisting of married couples with children. Other groups include empty nesters, singles or married couples without children. Each of the groups differ in their lifestyle which translates into different amenities, places and neighborhoods they would desire. For example the singles or married couples without children identified in the "Young and Restless" and "In Style" groups may prefer living in a condo or townhome in a mixed used development as opposed to a single family home. While the young families in the "Milk and Cookies" and "Up and Coming Families" groups would prefer living in a suburban single family home with trails and parks nearby. Not only can this analysis be used in understanding the people living in the community today, but it can also be used in determining the types of amenities, places and developments needed to attract other segments of the population to League City.

Table 1-1, League City Tapestry Segments

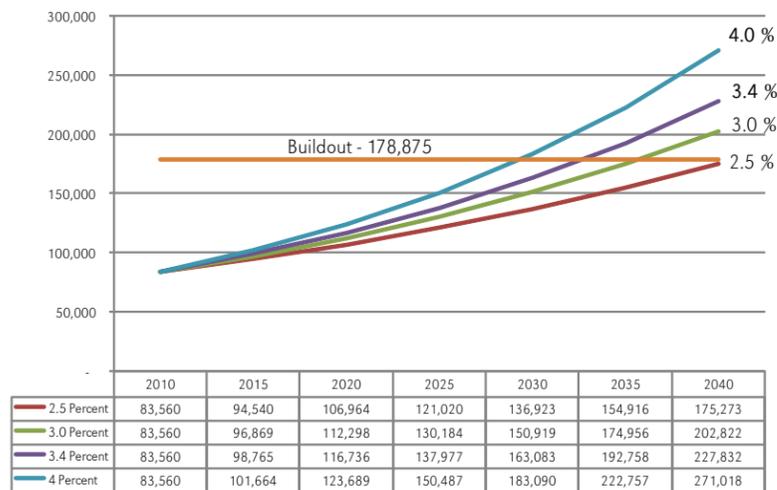
Tapestry Segment by Rank	Description	Median Household Income	Median Age	Education	Median Home Value	Residential	Family Dynamic	Focus	Purchases	Activities
17.3% Milk and Cookies	Young, affluent married couples who are starting their families or already have young children	\$64,527	33.7	>20% have bachelor's degree or higher	\$132,494	Single-family homes in suburbs	Married with children	Family and future	Products for children	Games, TV, theme parks
15.4% Young and Restless	Young on the go population with busy lifestyle	\$45,458	28.6	36% have bachelor's degree or higher	85% rent	Apartments	23% with children	Single professionals pursuing career	Shop online, domestic vehicles	Magazines, internet, movies, gym
12.1% Up and Coming Families	A mix of Generation Xers and Baby Boomers. Young, affluent families with younger children	\$78,189	31.9	1 in 5 have bachelor's degree	\$182,628	New single family housing	Young, married, half with children	Family and home	Products for home and family i.e. baby products, home furnishings	Eat out, zoo, theme parks, sports
8.1% Aspiring Young Families	Young, startup families, married couples with or without children, and single parents	\$52,036	30.4	24% have bachelor's degree or higher	\$141,309	Moderately priced apartments, single-family houses, and startup townhouses	66% with children	Family and home	Products for children and adults	Eat out, theme park, TV, movies, biking
7.1% Boomburbs	Affluent young families, highest concentrations of young families with children.	\$123,091	33.8	50% have bachelor's degree or higher	\$289,813	Single-family homes	Married with children	Family and vacations	Home furnishings, games, electronics, cleaning services	Computers, family vacations, tennis, golf, ski
3.9% Exurbanites	Mix of empty nesters and families with children. Affluent lifestyle in open spaces beyond urban fringe.	\$87,339	45.1	>40% have bachelor's degree or higher	\$256,321	Single family homes	40% empty nest 32 % married with children at home	Financial security	Lawn/garden products	Physically active, charities, active vacations
3.8% Prosperous Empty Nesters	Married couples with no children living at home. Residents are enjoying the move from child-rearing to retirement.	\$69,227	48.6	41% have bachelor's degree or higher	\$197,617	Single-family homes in established neighborhoods	40% empty nesters	Health, financial well-being	Home improvements, remodeling, luxury car	Exercise, golf, sports events, travel
3.5% Midland Crowd	62% are married couple families; half of them have children. 20% are singles who live alone	\$50,518	37	16% have bachelor's degree or higher	\$124,088	Single-family homes and mobile homes in rural villages and towns	50% with children/20% single	Politically active	Fast-food, satellite dish TV, trucks, tires	Home improvements, listen to country music, hunting and fishing
3.4% Cozy and Comfortable	Middle-aged married couples comfortable in their homes in older neighborhoods.	\$66,327	42	N/A	\$158,486	Single-family homes in older neighborhoods	Married with or without children	Financial well-being, television	Car and home improvement	Television, golf, home improvement projects
3.3% In Style	Live in the suburbs but prefer the city lifestyle	\$71,177	39.9	42% have bachelor's degree or higher	\$224,030	Townhomes and single-family homes	Married or single without children	Future, financial well-being	Computers, cleaning services, contractors for home projects	Online daily, exercise, eat healthy, live concerts, gambling, hiking, backpacking

Source: Tapestry Segmentation Resource Guide, ESRI

POPULATION PROJECTIONS

Recognizing the importance of current population projections and anticipated growth in the city will help to plan and prepare for adequate land use, infrastructure, and community facilities and services. Over the past twenty years League City has sustained an annual population growth rate of 4 to 6 percent. The population has grown from 16,578 in 1980 to 83,560 today (2010). Based on market conditions and recent trends, housing and population is anticipated to grow at an annual rate of 3.4%. However the actual rate and timing of growth may be slower, for example at 2.5 or 3 percent, depending on sufficient infrastructure capacity, construction of the Grand Parkway, housing market conditions, and the regional, national and international economy. Figure 1-2 displays population projections for League City that range from an annual growth rate of 2.5 percent to 4 percent.

Figure 1-2, Population Projections



Notes:

The 3.4 percent growth rate was anticipated by CDS Market Research through 2014 and was continued to 2040.

HOW LEAGUE CITY FUNCTIONS?

Before planning for the future it is important to have an understanding of the community including its physical layout and function. In order to get a better understanding of League City, how it functions, and what makes it unique, four distinct features were identified as shown on Figure 1-2. These features include paths, edges, districts, and nodes.

Nodes/Activity Centers are significant destinations that regularly attract people in League City. They typically include a focused concentration of land uses such as shopping areas, major parks or employers in one location.

Districts are identifiable areas within a neighborhood or community. Each has a distinct character that is separate from other areas.

Paths are channels for traveling from one destination to another. Paths create the framework for the community on which all other components fit.

Edges create a distinct sense of division between places. On the community wide scale edges create a physical and psychological sense of separation. Edges can be man made such as a highway or major railroad or they can be natural areas or waterways.

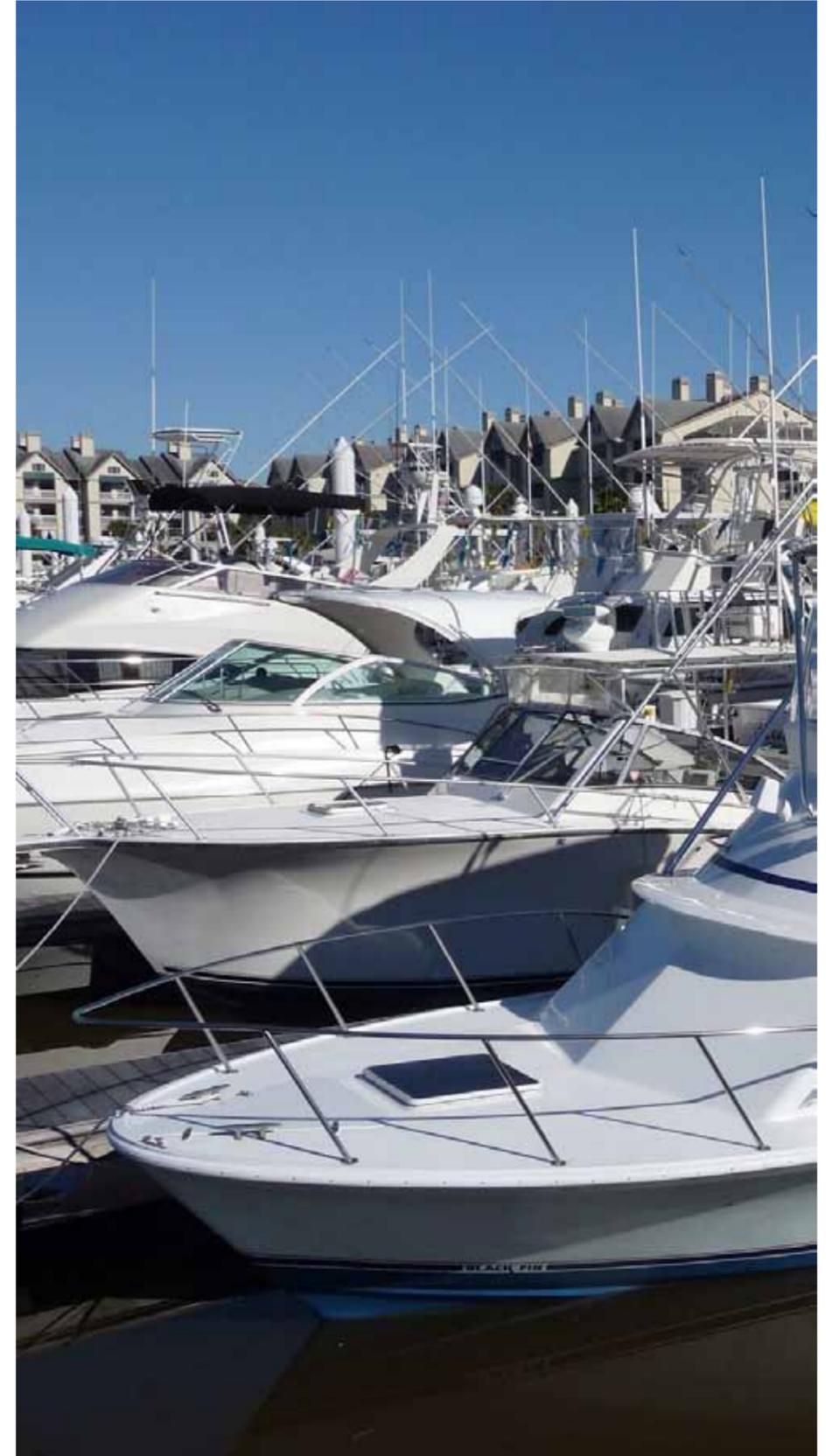


Figure 1-2, How League City Functions

- Districts**
- Main Street
 - Historic District
 - South Shore
 - Town Centers/UTMB
- Nodes**
- ✳ Shop
 - ✳ Work
 - ✳ Play
 - ✳ Learn
- Paths**
- Roads
 - | | | | Rail
 - Trail
- Edges**
- | | | | | | | |



2 - ISSUES & OPPORTUNITIES



This chapter provides a summary of planning issues and opportunities that were identified at various public meetings. Also included are the results of a Visual Preference Survey that was conducted at the beginning of the planning process to gain insight on the types of developments desired in League City.

The Bottom Line

DIFFICULT TO SUSTAIN DEVELOPMENT PATTERNS

League City has grown from a farming and ranching town into a bedroom community comprised largely of single family homes in modern subdivisions with complementary apartment complexes, strip commercial retail and retail “power centers”. On their own, most of the subdivisions in the community offer an attractive, highly accessible and convenient lifestyle. However, this same series of development patterns has a tendency to create many of the problems that are currently being experienced in League City. Stormwater damage is, in some part, the result of historic decisions to allow development to occur within flood-prone areas. Increased cost of providing infrastructure and services, as well as difficulty in attracting major commercial retail activity, is partially attributable to decisions to allow sprawling, low density development.

FAILURE OF TRANSPORTATION AND STORMWATER INFRASTRUCTURE TO KEEP PACE

Many residents (and some developers) acknowledge that the City of League City grew at a pace that was difficult to maintain and support. Perhaps most obvious to residents and visitors were the growing mobility issues. Limited transportation alternatives, connectivity and capacity are, in large part, the result of poor planning and failure to follow the master thoroughfare plan. They are also the result of the fact that the majority of major roadways within League City are outside of municipal control. Stormwater follows a similar pattern to transportation in regards to increasing issues as limited facilities attempt to meet rising demand.

INADEQUATE WATER CAPACITY

Unlike transportation, water infrastructure delivers a limited commodity. More, water is a shared resource that all growing communities are seeking to acquire. Recent events have proven that water pressure and capacity are critical issues, even without growth. While community leaders make every effort to acquire additional capacity, it appears increasingly unlikely that League City can or should continue to support current water consumption practices or development patterns that do not incorporate techniques to conserve water.

LACK OF COMMON FOCUS, SENSE OF IDENTITY AND COMMUNITY OWNERSHIP

A major problem that is typical of bedroom communities is a pattern of growth that results in homogenous development with few distinctive features, landmarks, attractions or overall sense of community identity. As a result, residents are as likely to associate with a particular subdivision as they are to the community. More, bedroom communities tend to be relatively transient. As a result, residents often find it difficult to feel a sense of investment beyond personal property. League City has particularly struggled to establish a unique identity around which to build a common focus - a fact that is evident in all aspects of the community ranging from lack of a strong economic development focus to lack of attractive gateways properly welcoming guests.

MISSING GREAT PLACES

League City has a number of local attractions, including parks, museums, a resort and marina, and a growing commercial center; however, the community lacks any attractions or destinations sufficient to be a regular draw to local residents or guests. This is, in part, a direct result of the inability to establish a strong brand around which to focus attractions or events. However, it also reflects a hesitancy by local leadership to fully commit to investing resources to build destinations. Private investment has equally failed to in efforts to create places unique to League City. No retail location has incorporated the features needed to establish a destination with the attractions or features needed to draw residents or visitors on a regular basis and in preference to competing centers. Similarly, results from a visual preference survey confirm that residents living in League City would prefer to see a wider variety of development options, including efforts to better incorporate League City’s natural assets.

RETAIL AND EMPLOYMENT LEAKAGE

Another unfortunate trait common among bedroom communities is a substantial exodus of residents traveling outside of the community to work, shop or recreate. Substantial outmigration plays a substantial role in traffic congestion, the ability to spur economic development or positively impact local revenue streams. League City offers relatively few opportunities for employment, shopping or entertainment, despite the fact that the community is now the largest in Galveston County. The lack of employment and shopping centers, as well as attractions or events to draw people to the area relates directly to the need to establish “places”. It also speaks to the lack of common focus or a unique community identity.

Stated Issues and Opportunities

MOBILITY

- Traffic Congestion
- 5-points
- I-45/FM 518 intersection area (east & west)
- 518 in Historic District
- Intersection improvements: FM 646 & I-45, FM 270 & Webster Street, LC Pkway & I-45, I-45 & 518, 518 & Palamino, I-45 & SH 96
- Lack of sufficient east-west thoroughfares
- Too many school zones
- Insufficient north/south routes over Clear Lake/Clear Creek
- Traffic near the high school, need to coordinate school times with traffic flow
- 518 westbound at 2094, center lane backs up in morning and blocks left lane
- Streets need to be maintained (Houston, Hewitt, East Main, Texas, Galveston, Louisiana)
- Difficulty in navigating through the city
- Lack of connectivity
- Slow down traffic in neighborhoods
- Cut through traffic
- Make community more pedestrian friendly/walkable
- Need sidewalks along Main Street, Newport, along SH 96, Davis Road, around Clear Creek Intermediate, Palamino
- Need sidewalks in the vicinity of schools
- Need for dedicated bike lanes on streets, not just bike trails
- Need pedestrian and bike paths along FM 270 between FM 518 and FM 528 (NASA Rd 1)
- Limited access across railroad tracks
- Trucks on FM 518
- Light synchronization throughout city
- There is a need for a north-south route
- Lack of public transit options including pedestrian facilities and amenities
- Not enough ways to access I-45

- Too many left turn opportunities
- Central train station for commuter rail/mass transit
- Need for more handicap spaces
- Hurricane evacuation

INFRASTRUCTURE

- Growth has outpaced infrastructure (traffic, water, wastewater)
- Lack of infrastructure in Shellside (drainage, water, wastewater)
- Repetitive flooding (Clear Creek Village, Glen Cove, Shellside, N.E. of Third St. Oaks of Clear Creek, Mary Lane)
- Storm Water–Lack of regional detention, maintenance of drainage ditches and culverts, and lack of long term planning
- Centralized detention on SW side
- Wastewater – cost of large scale improvements to plants, lack of capacity for new developments, and lack of capacity for redevelopment
- No wastewater on SW side
- Water – summer shortages, lack of capacity for new developments, and lack of capacity for redevelopment

ECONOMIC DEVELOPMENT

- More retail and office (near Sedona and Brittany Lakes, along SH 96, west side of town)
- Lack of resources to attract office and retail
- Need for aggressive economic tools
- Lack of strong focused marketing theme or effort
- No identity, sense of place
- Lack of cohesiveness in the city
- Need shopping, dining, entertainment (more chain restaurants, fine dining, movie theatre, cultural activities, amphitheater, cultural festivals, farmers market)
- Entertainment options for all demographics
- One stop shopping
- Build stronger tax base by being less dependent on residences and more dependent on commercial
- Need more housing options. Add density where appropriate

PARKS/OPEN SPACE

- Need more trails, open space, parks
- Take advantage of Clear Creek and Clear Lake
- Preserve trees, particularly “Butler Oaks” and other large (non-invasive) trees
- Preserve green spaces, including natural prairie lands
- Preserve floodplain and wetlands
- Joint use of recreation facilities
- Indoor pool
- Dog Park

AESTHETICS

- More attractive signs, eliminate visual clutter
- Additional trees, landscaping along roadways
- Landscaping around buildings
- Enforce codes
- Screen parking lots and buildings with shrubs, trees and other landscaping

GROWTH

- Diversify the tax base
- Too many apartments
- Manage new growth
- Protect existing neighborhoods
- Mixed use developments
- Need a new library
- Neighborhood services in walking distance
- Stricter guidelines for developers

MAIN STREET

- Remove abandoned buildings
- Create architectural standards
- Reduce visual clutter
- Wide sidewalks and bike trails along Main Street
- Lack of parking, parking standards inappropriate to character of area, particularly historic district
- Bury utility lines

- Fill in ditches in Historic District with drainage and sidewalks
- Protect character of historic district, including roads and ditches
- New water lines
- Trim oaks (overhang & power cables)
- Cross access between properties
- Prohibit left turns from Main Street in places with no center turn lane
- Limit bottlenecks and speed zones
- Limit large truck traffic along Main Street
- Limit traffic from Wisconsin to Coryell
- Slow traffic along Main Street
- Sync the traffic lights
- Create new routes around Main Street to preserve as is
- Encourage through-traffic to use Route 96 to get to Kemah
- Need stop sign at the intersection of Coryell and Wisconsin
- Beautification efforts
- Non-invasive access to Clear Creek

Visual Preference Survey

During the month of February the City conducted a visual preference survey as a way to solicit input from the public on development alternatives. Participants were asked to indicate their preference for a series of images on a scale of -2 to +2. The survey was posted on-line and distributed at a community meeting on February 25th. A total of 165 surveys were completed. The results were summarized and evaluated based on three figures: the total score each image received, the mean/average score and the mode. Looking at all three numbers gives you a more accurate and complete look at the results. The total score shows which image ranked the highest and lowest, the mean/average score provides an overall preference of the image and the mode identifies the ranking (-2, -1, 0, 1, 2) most often chosen.

OVERALL RESULTS:

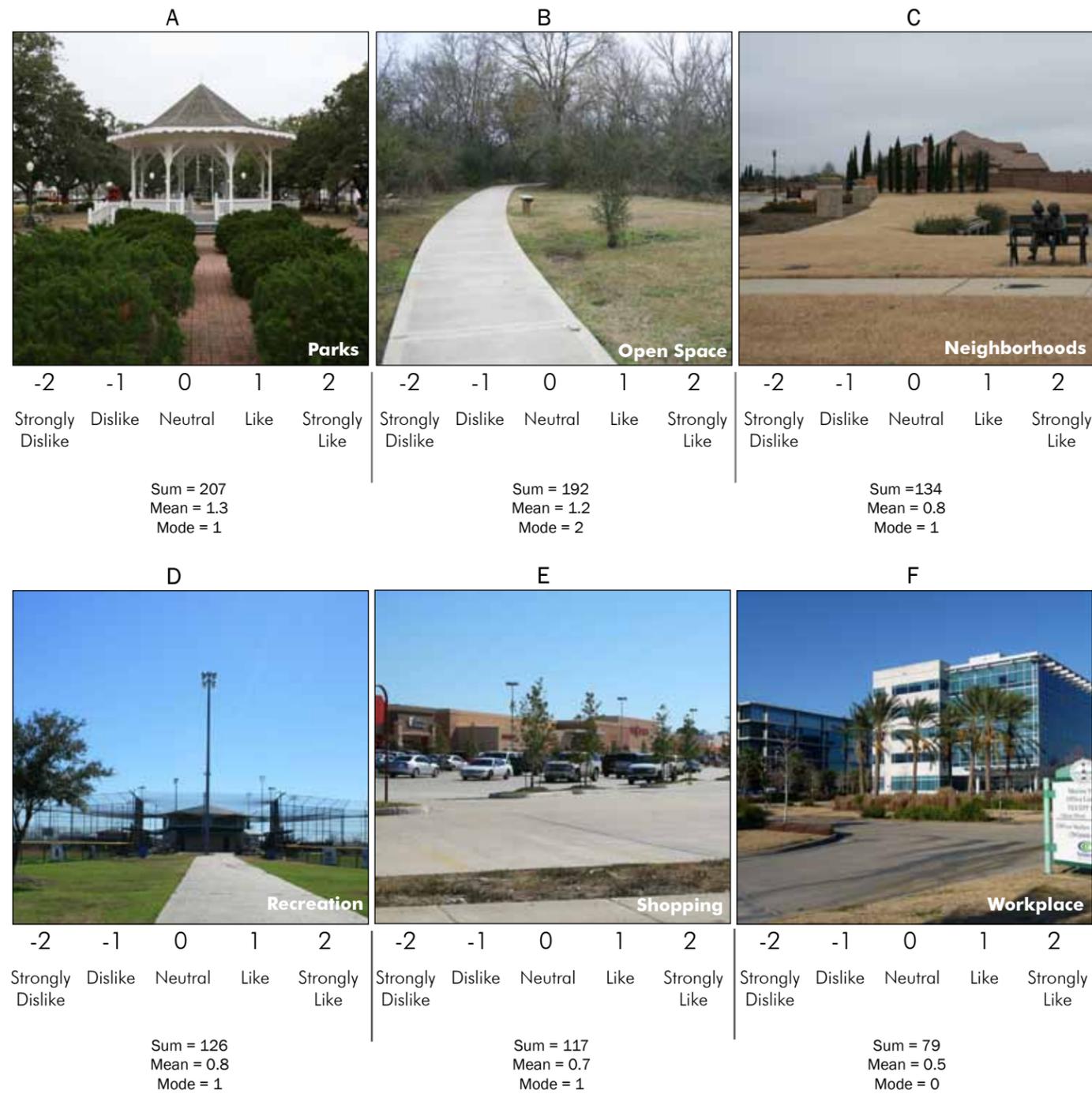
- There is a clear preference for “suburban” development for residential, commercial and office uses.
- There is a clear dislike for “auto dominant” development for residential, commercial and office uses.
- Valued amenities include open space/natural areas, parks and walkability.
- Strong desire for more community parks/greens, cafes and plazas.

- Almost half of the respondents favored mixed use developments.
- Almost half of the respondents favored townhomes, lofts and mixed use developments as options for multi-family developments.

Results for each individual question are shown on the following pages.



1. Rank what you like most about living in League City?



All images were ranked favorably with images A (Parks), and B (Open Space) ranked the highest followed by images C (Neighborhoods), D (Recreation) and E (Shopping).

2. There are a number of options for how single family residential housing and neighborhoods can be developed. Evaluate the following examples and indicate what you find appealing.



Images A (Rural), B (Estate), C (Suburban) and E (Traditional) were all ranked favorably. Image D (Auto Dominant) was ranked negatively. The majority of respondents ranked image F (Urban) negatively, however a large number also ranked it favorably, placing it in the neutral range.

3. There are a number of options for how multi-family residential housing and neighborhoods can be developed. Evaluate the following examples and indicate what you find appealing.

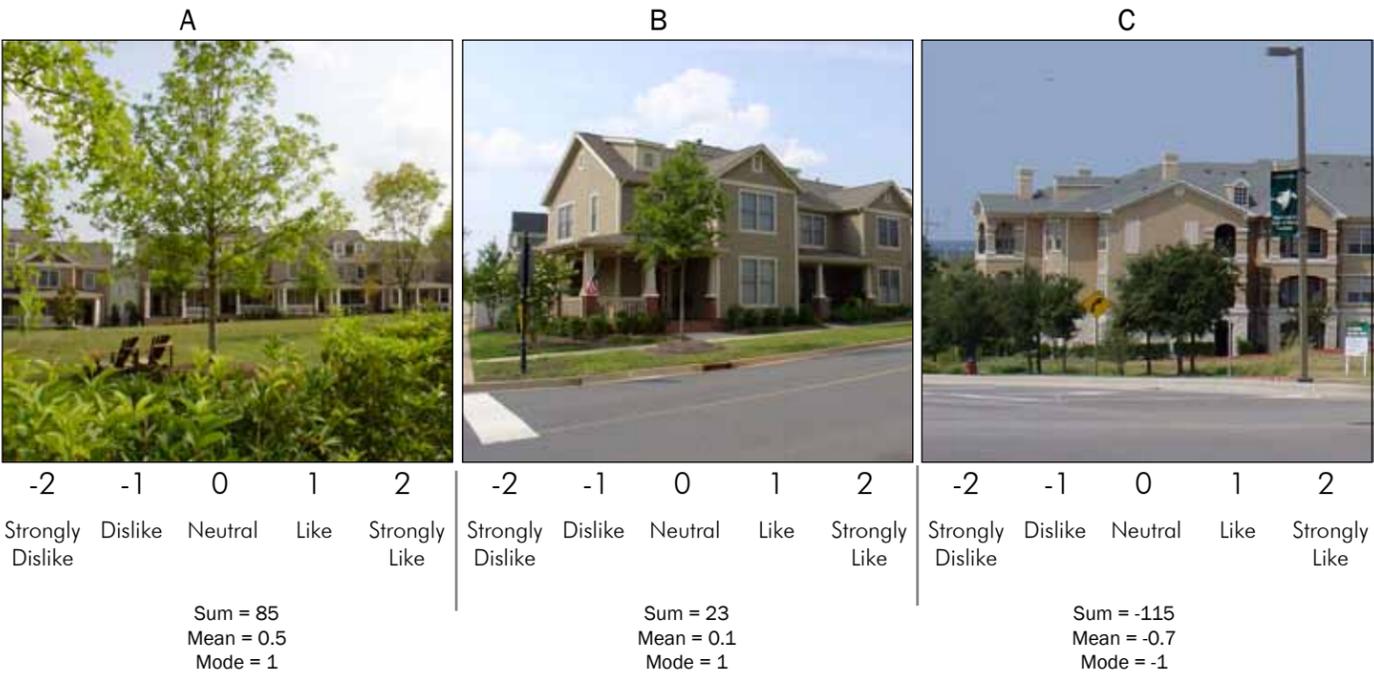


Image A (Suburban) was ranked favorably. Images C and E (Auto-Dominant Apartments) were ranked negatively. The majority of respondents ranked images D (Townhomes) and F (Mixed Use) negatively, however a large number of respondents also ranked the images favorably placing them in the neutral range.

4. Different families have different needs. What housing types would you like to see in League City other than single family homes?



Image A (Home with "Granny Flat") was the clear favorite. Images B (Duplex) and C (Quadplex) were ranked negatively. Images D (Townhome), E (Loft), and F (Mixed Use) were placed in the neutral range with almost an even split between those respondents that disliked and liked the image.

5. Evaluate the following amenities you value in a neighborhood.



All images were ranked favorably with images B (Open Space/Natural Areas) and E (Walkable) ranked the highest followed by images F (Trails) and D (Parks).

6. Commercial development can occur in many different forms, from large strip shopping centers to small neighborhood uses, to walkable mixed used centers. Evaluate the following images based on how you would like to see commercial areas be developed or redeveloped.



Images D (Cottage/Neighborhood shopping) and E (Lifestyle Center) ranked the highest. The majority of respondents ranked images A (Power Center) and F (Mixed Use) favorably, however a large number also ranked them negatively, placing them in the neutral range.

7. Office spaces can be designed in a number of ways from campus style development, to multi-story office buildings, to single story uses. Please evaluate the following examples and provide your opinion of what is appropriate for League City.



Images A (Suburban) and C (Stand Alone) were ranked the highest. Image E (Industrialized Office) was ranked negatively. The majority of respondents ranked images B (Campus), D (Urban) and F (Mixed Use) favorably, however a large number of respondents also ranked them negatively, placing them in the neutral range.

8. Street design has an important impact on the character of an area, its functionality and overall experience for its users. Evaluate the following **residential street designs** and provide your opinion on what you find appealing.



Images A (Village Street) and B (Suburban Parkway) were ranked the highest. Image D (Auto-Dominant Street) was ranked negatively. Images C (Suburban Street), E (Traditional Street) and F (Urban Boulevard) were placed in the neutral range with a large number of respondents ranking the images both favorably and negatively.

9. Evaluate the following **commercial street designs** and provide your opinion on what you find appealing.

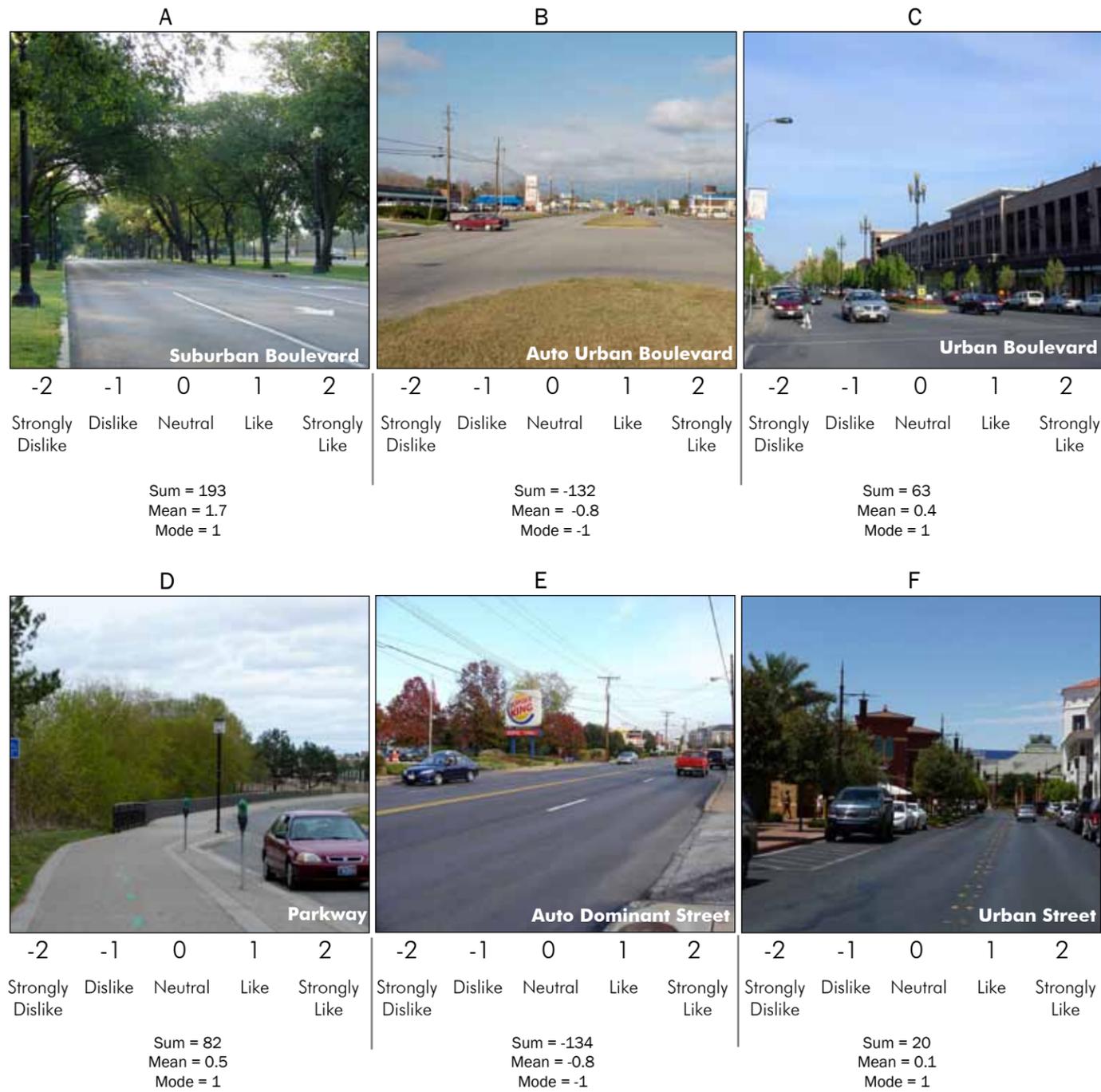


Image A (Suburban Boulevard) was ranked the highest. Images B (Auto-Dominant Boulevard) and E (Auto-Dominant Street) were ranked negatively. The majority of respondents ranked image F (Urban Street) favorably, however a large number also ranked the image negatively, placing it in the neutral range.

10. Rank each photo of a public space/gathering place needed in League City.



Each image was rated favorably with Community Parks/Greens ranked the highest followed by Plazas and Cafes.

3- GUIDING PRINCIPLES



There were a number of issues and opportunities identified by the community during the public involvement process. In synthesizing all the input received, several core values and themes emerged, and from this a series of guiding principles were developed. These guiding principles reflect and summarize the shared vision of the community over the next 25 years and were used, along with other information, in developing the growth scenarios, plan policies and actions.

Guiding Principles

A CITY OF “GREAT PLACES”

- Vibrant Main Street that is walkable, has a mixture of uses and showcases the community’s historic village character.
- Compact and dynamic destinations that are enticing for residents and visitors alike.
- A wide array of gathering places with cultural and recreational opportunities.
- Attractive neighborhoods that offer a distinct identity, housing options, and incorporate natural spaces, parks, trails, and sidewalks.
- Embrace the community’s natural assets, particularly Clear Creek, but also floodplains, wetlands, prairie lands and other sensitive sites.

ADEQUATE AND EFFICIENT USE OF INFRASTRUCTURE, SERVICES AND PUBLIC FACILITIES

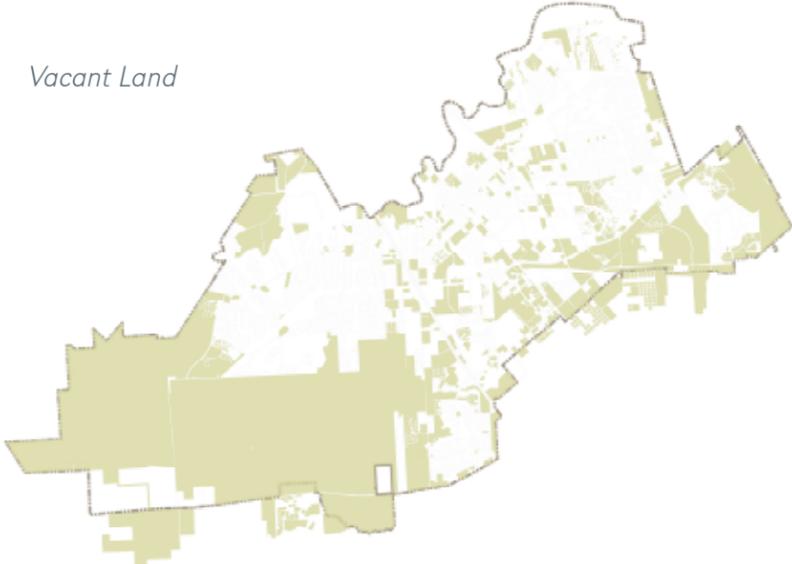
- Rate of growth that allows water, wastewater and drainage systems to creatively meet the demands of current and future population.
- A complete mobility system that offers choice of travel and multiple connections for walking, biking, golf carts and the automobile.
- A system of trails and greenways that connect neighborhoods with parks, schools, local shopping areas and other civic facilities.
- Protect people and structures from flooding and other potential hazards through sound development and building practices.

ECONOMICALLY SUSTAINABLE COMMUNITY

- Single, cohesive and marketable identity.
- Complement existing economic clusters including Aerospace, Medical, Energy and Tourism.
- Create and expand small businesses and entrepreneurs.
- Capitalize on “place based” opportunities including Main Street, Commuter Rail, Big League Dreams/UTMB, South Shore Harbor and Clear Creek.

4 - GROWTH ANALYSIS

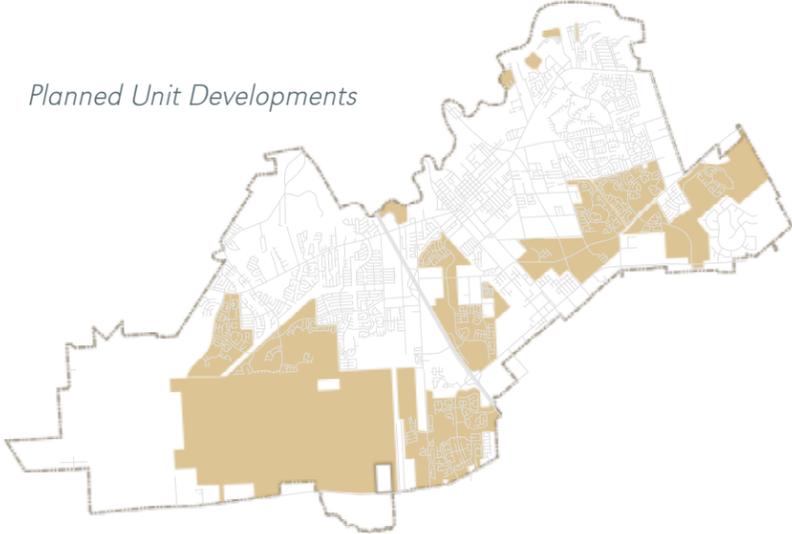
Vacant Land



Redevelopment Areas



Planned Unit Developments



The focus of this element is two fold - first, to identify and assess current conditions and key issues in League City that may influence where and how future development occurs, and second, to develop a series of scenarios that reflect different ways the city could potentially grow.

- This element includes:
- Analysis of current conditions, issues and growth trends
 - * Sensitive Sites
 - * Infrastructure
 - * New Development, Redevelopment and Maintenance Areas
 - * Planned Developments
 - Overview of existing development patterns and community character
 - * Existing character
 - Development and analysis of growth scenarios

Development Considerations

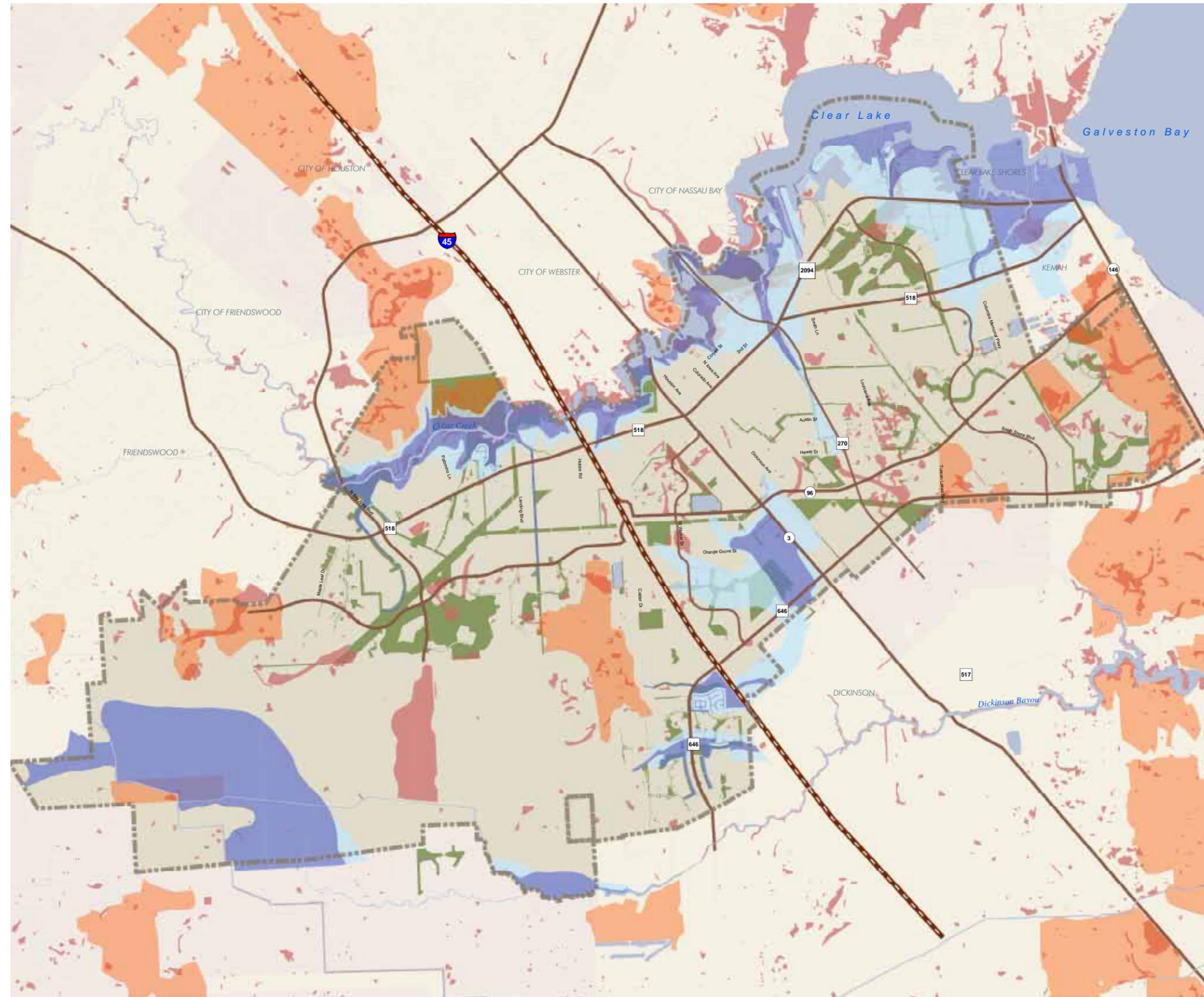
Before deciding how and where future growth should occur, it is important to review existing development patterns, growth trends and key issues facing the community. Two of the biggest issues facing League City are infrastructure and water to support continued development, and flooding. These factors along with other development considerations influence

the type, amount, location and character of future development in the community. The overall assessment of these factors helps determine appropriate areas for new development, redevelopment and preservation, and the desired development patterns for League City.

SENSITIVE SITES

- As shown in Figure 4-1, sensitive sites in League City include Clear Creek, floodplains, wetlands, native habitat areas and open spaces.
- These sites contribute to the character and desired “look and feel” of the community.
- Conservation of these sites help meet character, aesthetic, drainage, water quality, and recreational objectives.
- Sensitive sites can be classified as primary and secondary conservation areas. Primary conservation areas include the 100 year floodplain while secondary conservation areas include the 500 year floodplain, coastal prairie areas and wetlands.

Figure 4-1, Sensitive Sites



- 100 Year Floodplain**
 The calculated area which is anticipated to be flooded every 100 years. There is a 1% chance that a flood this size would occur any year. Source: FEMA

- 500 Year Floodplain**
 The calculated area which is anticipated to be flooded every 500 years. There is a 0.2% chance that a flood this size would occur any year. Source: FEMA

- Coastal Prairie PP1, PP2**
 The salient and most recognizable prairie habitat on the Upper Texas Gulf Coast is the prairie pothole – pimple mound complex. The Prairie Pothole complexes are found largely on ancient meander ridges of the ice-age rivers that laid down most of the sediments of the Upper Gulf Coast of Texas. Source: Texas Coastal Watershed Program

- Wetlands**
 Areas that are inundated or saturated by water and support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas. Source: National Wetlands Inventory/EPA

- Parks and Open Space**

INFRASTRUCTURE

- Water capacity is the City’s biggest issue, even without additional growth. As shown in Figure 4-3, average daily water consumption is currently 9.7 mgd, with a peak of 18.5 mgd. Current supply is 21.5 mgd.
- Recent improvements have greatly expanded wastewater capacity. However, the ability to handle future growth may be dependent upon maintenance of infrastructure.
- Flooding/drainage issues are prevalent in the community and will continue to be a concern as growth occurs.

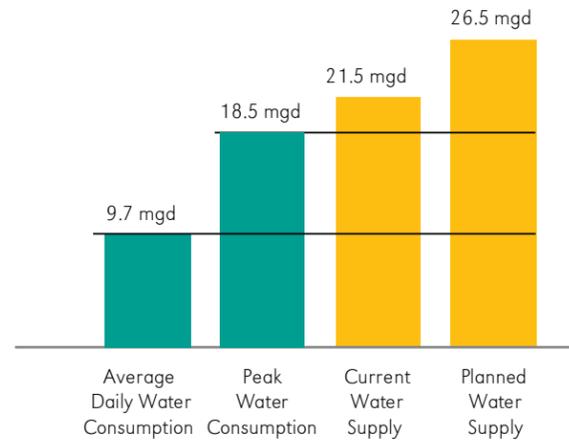


Figure 3-3: Water

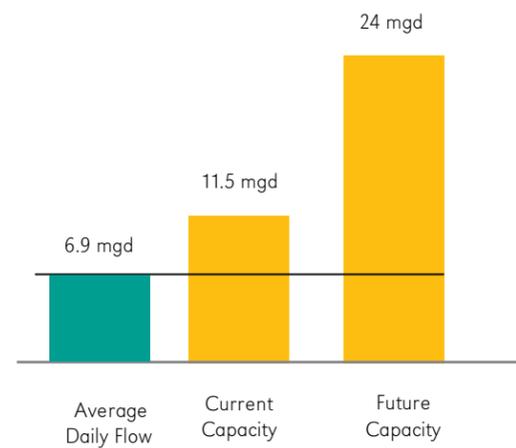
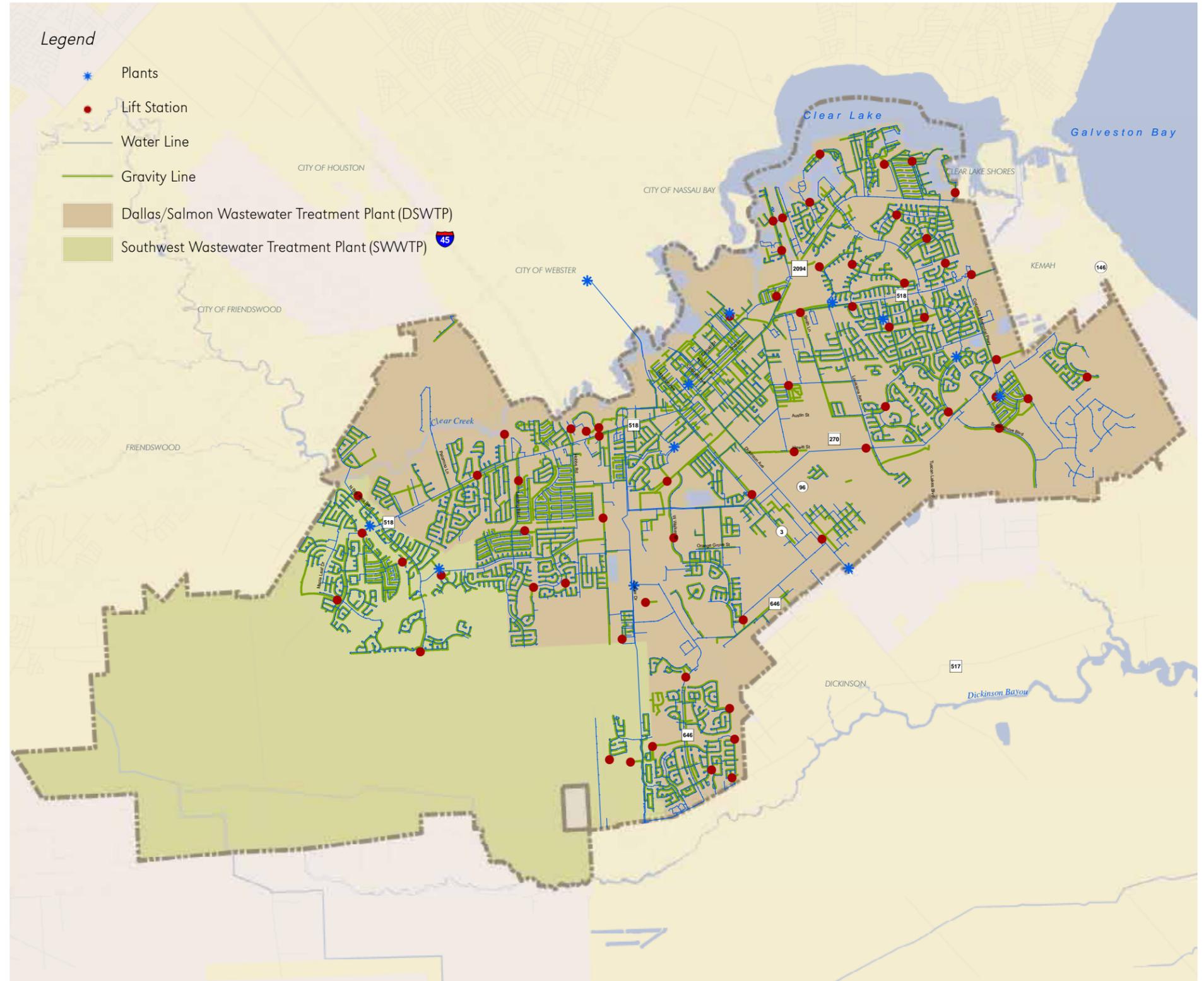


Figure 3-4: Wastewater

Figure 4-2, Infrastructure



NEW DEVELOPMENT, REDEVELOPMENT & MAINTENANCE AREAS

Figure 4-5 shows areas appropriate for new development, redevelopment and maintenance. As shown:

- Over 50 percent of the land is undeveloped offering tremendous opportunity for future development.
- Significant portions of vacant land are part of existing Planned Unit Developments (PUDs) and are therefore already committed.
- In addition to vacant land, new growth can be directed to redevelopment areas including Main Street and the “Town Centers”.

Different Solutions for Different Places

Future policies and standards may vary for different parts of the community based on their own unique needs and characteristics. For example planning for the Historic District, Town Centers and vacant land on the westside would each require a different set of solutions appropriate for that area. The community has been divided into three areas:

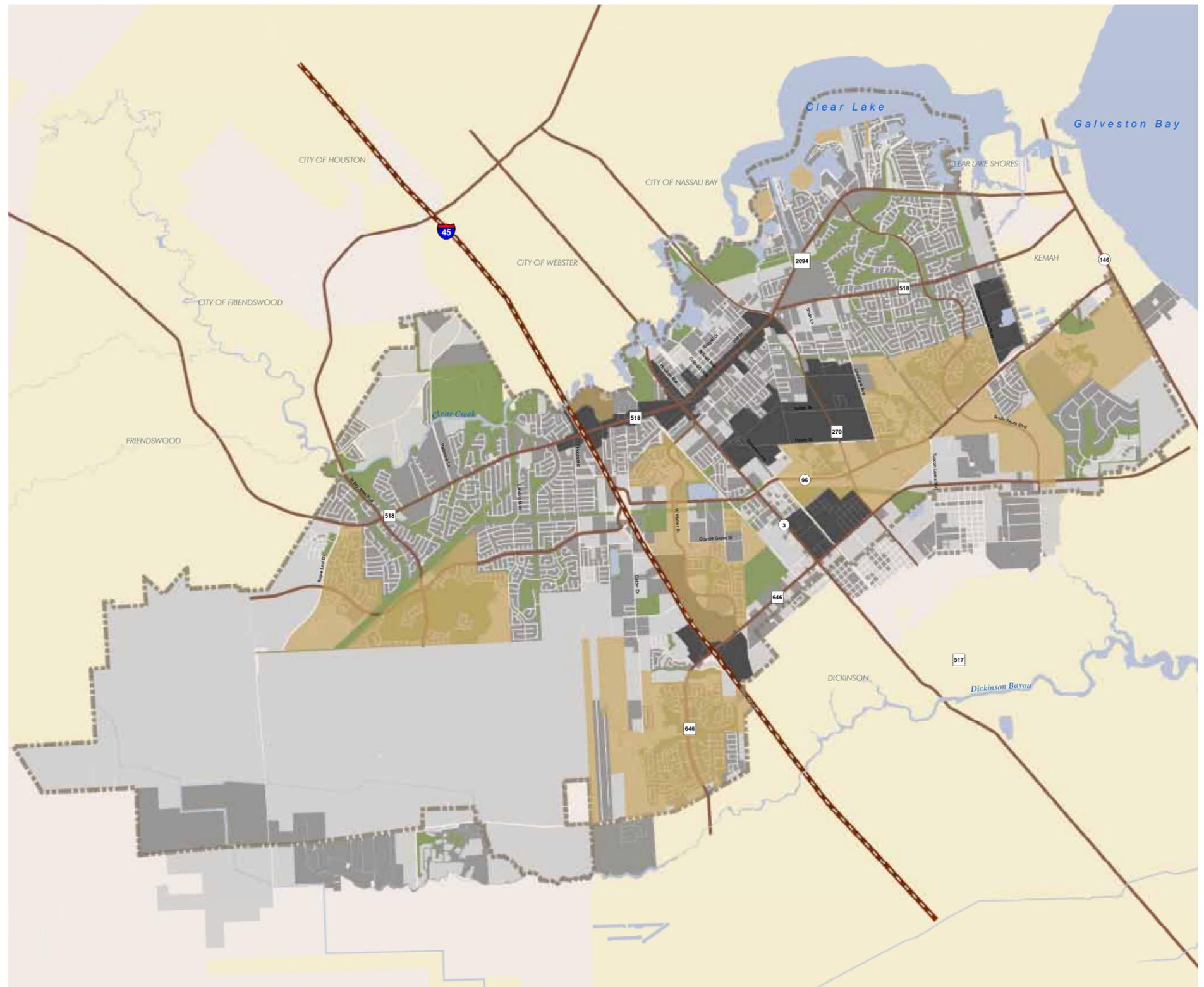
- **Areas to Maintain & Enhance** - Existing developed areas that are envisioned to remain the same over time. The intent for these areas is to preserve and enhance the existing character and form. Any new development or redevelopment that will occur will be consistent with surrounding development. However, additional standards may be required for landscaping, signage, and other items with the intent of enhancing the area without changing overall character.
- **Areas to Revive & Revitalize** - Existing developed areas where it is envisioned that land uses, form and/or character will change over time. New growth will be directed to these areas.
- **Areas to Grow** - Areas that are currently vacant and where new growth will occur.

Legend

- Redevelopment
- New Development
- Maintenance
- Open Space/Park
- PUD*

**Does not include Lloyd, McAlister or Duncan Tracts*

Figure 4-5, New Development, Redevelopment & Maintenance



Community Character

The existing development pattern in League City was inventoried based on “Community Character” versus land use. Community Character is a system for evaluating developments that goes beyond the “use” of the land. Community Character focuses on how a development “looks and feels” with regards to open space and vegetation, amount of imperviousness, building orientation, height and scale in relation to the site, setbacks and overall density/intensity. With community character two developments may have the exact same use but differ drastically in terms of their character. For example single family homes can be developed on large acre tracts with expansive front yards and side setbacks, giving the homes a “rural/estate” character. Or single family homes could be developed on small lots with minimal setbacks and open space in a very walkable mixed use “urban” setting.

Community Character can be defined on a spectrum from Natural to Urban.

Natural - Areas best suited to remain undeveloped for purposes of preservation, conservation or aesthetics. Natural areas often include streams, floodplains and densely vegetated areas.

Rural/Estate - Agricultural and farming activity, also includes low density single family residential. Structures are in the background and open spaces

and landscaping are the predominant features. Typically there is extensive building separation and no sense of “enclosure”. Rural developments have a high open space ratio, low building coverage and often use natural drainage systems.

Suburban - Conventional suburban development with a garden like setting and tamed nature. Open spaces and landscaping are the predominant features. Developments typically have low/medium lot coverage and great building separation, extensive landscaping and/or open space.

- **Suburban Village** - The purpose of this sub-district is to preserve the character of the community’s original town site. This area is unique given the grid street pattern, broad variety of home styles, varying lot sizes and setbacks, and different building orientations and means of (or no) garage access. They are characteristic of the suburban class due to the larger lot sizes and the relative amount of openness, together with a canopy of mature vegetation.

Auto-Dominant - Modern blend of urban and suburban traits focused on convenient movement by car, including subdivisions, “strip” development & shopping malls. The primary focus is the car, garage, parking and pavement. Landscaping and open spaces are minimal and if present are in the background.

Urban - Relatively dense residential development with a mix of housing types. Also includes commercial and mixed use developments. Developments have minimal setbacks and streets are typically framed by buildings which create a sense of enclosure and pedestrian environment. Buildings and people are the focus.

EXISTING LAND USE

The current pattern of development in League City can be characterized as Auto-Dominant. The community consists primarily of single family subdivisions with commercial strip centers and big boxes located along major corridors. Neighborhoods are designed with the automobile in mind and offer minimal opportunities for housing options, mixture of uses, open spaces, and connectivity. One exception to this pattern of development is the historic district which has been designated as a “Suburban Village”. This unique area has evolved from the original town site and offers a mixture of uses, a village grid pattern and garden like setting. Over 50 percent of the land in the City is undeveloped offering tremendous opportunity for future development.



Natural

Rural/Estate

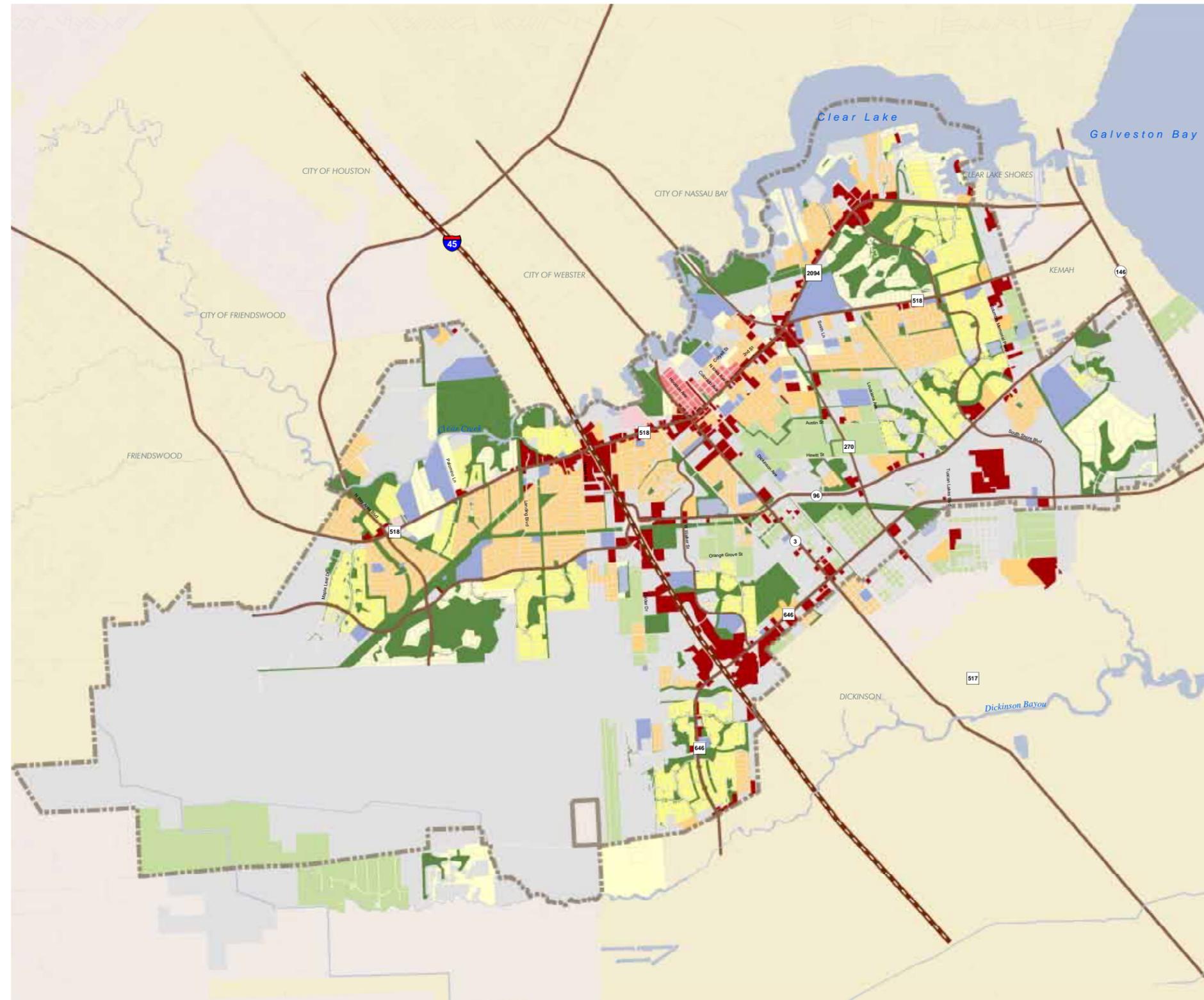
Suburban

Auto Dominant

Urban

Community Character focuses on how a development “looks and feels” with regards to open space and vegetation, amount of imperviousness, and orientation of buildings (scale/bulk) to the site. Character defines classes of development along on a spectrum ranging from Natural to Urban.

Figure 4-4, Existing Community Character



Impacts

Total Land Area (acres)	33,794
Percent Vacant	53%
Dwelling Units	26,492
Population ¹	71,530
Employment ²	14,004
Jobs to Housing Balance	0.53
Water (MGD) ³	9.7
Sewer (MGD) ⁴	6.9

¹ CDS 2009 population estimate

² Travel Demand Model 2007 base year

³ Monthly Daily Average, 2009, City of League City

⁴ Annual Daily Average, 2009, City of League City

Legend

- Rural/Estate Residential
- Park/Open Space/Natural
- Suburban Residential
- Suburban Village
- Suburban Commercial
- Enhanced Auto Dominant Residential
- Auto Dominant Residential
- Auto Dominant Commercial
- Public/Institutional
- Vacant

Table 4-1, Developed Land Uses

Natural	
Parks and Open Space	24.2%
Rural	
Rural/Estate	17.6%
Suburban	
Suburban Residential	10.7%
Suburban Village	0.6%
Suburban Commercial	0.3%
Auto Dominant	
Enhanced Auto Dominant Residential	30.2%
Enhanced Auto Dominant Commercial	9.3%
Urban	
Urban Low/High	0%
Public/Institutional	
	7%

Growth Scenarios

SAVES MODEL

In order to better understand the impacts of different development patterns and resulting land use decisions, a land use model, SAVES, was used to evaluate future growth scenarios in League City. Impacts evaluated through the model include population, dwelling units, employment, water and sewer. The SAVES model is designed and predicated on community character types, which effectively translates standard land use classifications into more definable categories that can be measured and thus, quantified for impact analysis. Because SAVES is integrated with GIS mapping, it streamlines the planning process by recalculating the impacts as future land development or redevelopment scenarios are generated. This allowed City staff to collaborate with elected officials and citizen groups to prepare, evaluate, and adjust multiple development scenarios. *(Source: Kendig Keast Collaborative/Master Mobility Plan)*

Process

In League City, the SAVES model was designed to meet the data input requirements of TransCAD, a GIS-based transportation modeling software. SAVES outputs were organized into 135 Transportation Analysis Zones (TAZs) within the City and ETJ.

In the first stages of model development, League City was divided into 15

character types. Each type related to a specific density/intensity factor and had an assumed (and verified) per acre impact multiplier that translated the amount of developed land into a range of impact categories. For the existing land use model, each parcel was assigned a character type, and SAVES converted the community character data received from the GIS database into the desired output parameters. In most instances, the calculations involved the multiplication of land acreages by appropriate density, floor area ratio (FAR), family size, or employment intensity ratios for the assigned type. Each multiplier was calibrated and re-calibrated to match or approximate existing observed conditions.

Once the existing land use model was finalized, three future land use and development scenarios were created to project “full buildout” of undeveloped areas. The fourth and final scenario reflects community input and refinement of the previous iterations.

LAND USE SCENARIOS

Four land use scenarios were developed based upon different policy and density assumptions on how the City should grow over the next 25 years. Scenario 1 was developed to meet a build out population of approximately 199,000 people and 56,052 employees, which reflects the build out currently allowed by the zoning ordinance. The remaining three scenarios differ with regards to the persons to employees ratio and how the community develops, the amount of open space preserved, and resulting overall character. The scenarios allow one to visualize how different policies and development patterns impact overall character and infrastructure needs. For example accommodating the future population can be accomplished by continuing to develop as the City has been, resulting in sprawling auto dominant subdivisions, or as an alternative, clustering can be promoted and higher density development can be targeted in designated areas (Urban High/Urban Low). This second alternative requires less land and therefore allows for open space preservation and a more “rural/estate” character.

Scenarios 2, 3, and 4 were all developed with the City’s comprehensive guiding principles in mind. The scenarios promote open space preservation, connectivity, walkable mixed use centers, transit supportive development and a stronger job/housing balance. These scenarios were also designed to minimize impacts to infrastructure and flooding and preserve and enhance developed neighborhoods and commercial centers. The four scenarios were modeled and the resulting impacts for population, households, employment, water and sewer are shown in Table 4-2. The land use composition is shown in Table 4-3. Each of the scenarios is described in further detail below.

Scenario 1 – Current Zoning Maximized

Scenario 1 assumes no change in the current growth pattern. The City will continue to develop as it is today with build out based on the current zoning ordinance.

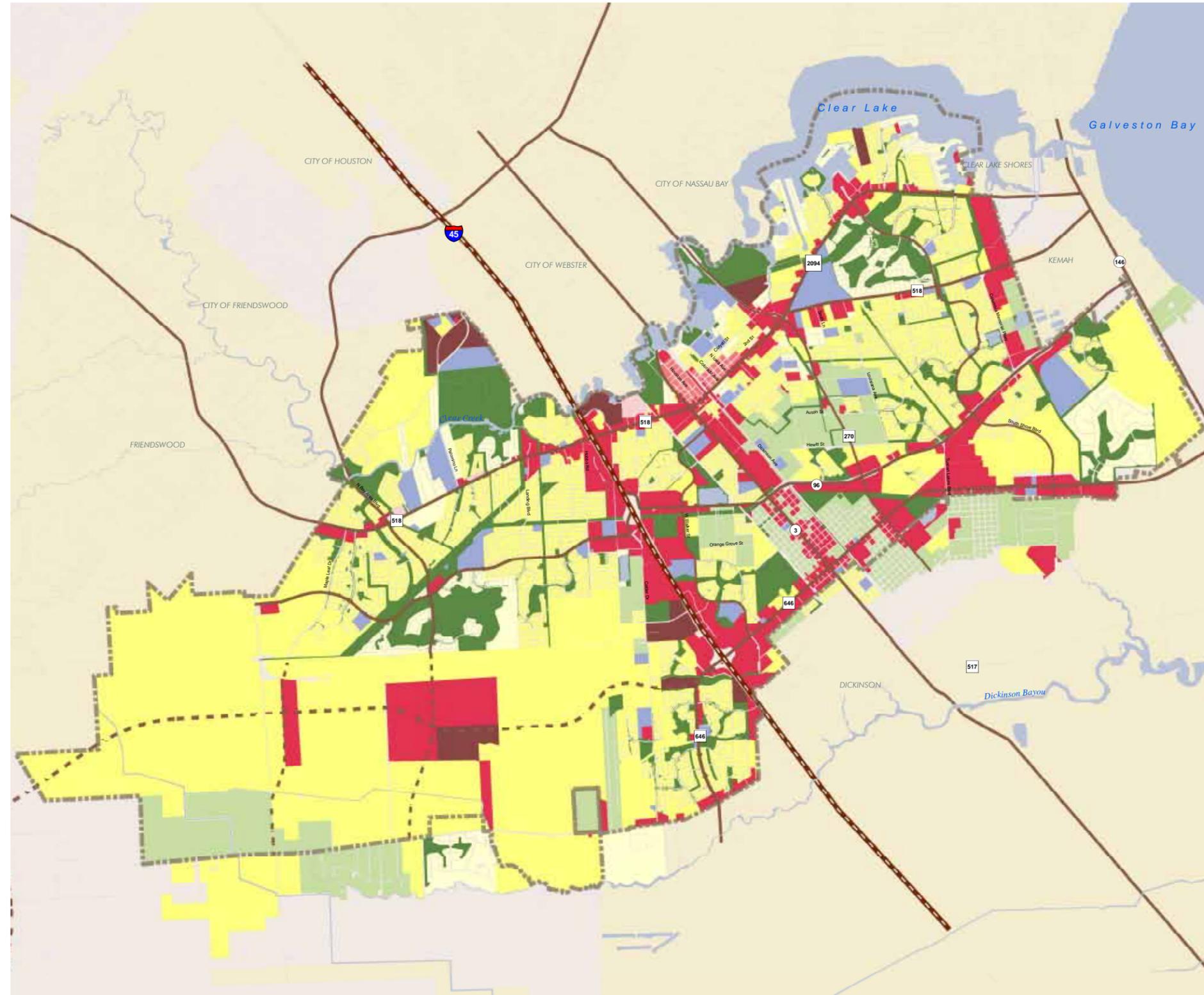
Key characteristics:

- Primarily consists of auto-dominant development which is what is currently found in League City and promoted by the City’s current codes and policies.
- Very little true “Suburban” development existing or promoted by the ordinance.
- Suburban Village around historic district.
- Pockets of “Urban” may occur based on current Commercial Mixed Zoning.

Results:

- Development pattern that does not reflect the open space, rural and suburban characteristics desired and valued by League City residents.
- Lack of urban development limits local job creation and retail growth.
- Auto-dominant development comes at a cost:
 - * higher costs for building and maintaining infrastructure including water, wastewater, drainage, and roads
 - * travel will continue to be primarily by car with limited opportunities for other modes
 - * increase in urban development/pavement and resulting drainage problems
- Planned water capacity insufficient to support future development.

Figure 4-5, Scenario 1 - Current Zoning Build Out



Impacts

Dwelling Units	76,400
Population	199,291
Employment	56,052
Jobs to Housing Balance	0.73
Water (MGD)	23.30
Sewer (MGD)	19.34

Legend

- Rural/Estate Residential
- Park/Open Space/Natural
- Suburban Residential
- Suburban Village
- Suburban Commercial
- Enhanced Auto Dominant Residential
- Enhanced Auto Dominant Commercial
- Urban
- Public/Institutional

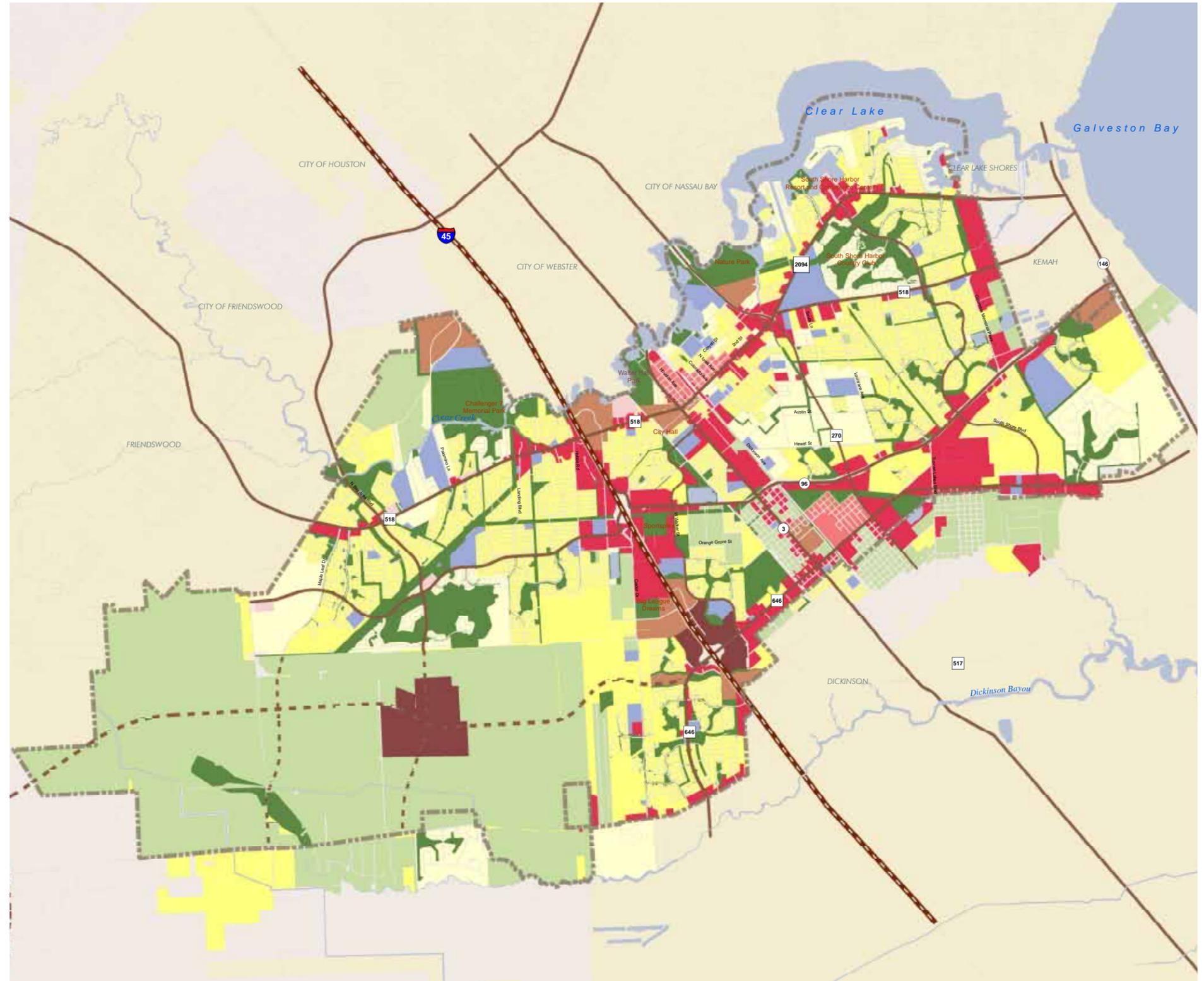
Figure 4-6, Scenario 2 - Lowest Impact/Highest Reward

Impacts

Dwelling Units	77,681
Population	177,810
Employment	74,217
Jobs to Housing Balance	0.96
Water (MGD)	27.70
Sewer (MGD)	23.90

Legend

- Rural/Estate Residential
- Park/Open Space/Natural
- Suburban Residential
- Suburban Village
- Suburban Commercial
- Enhanced Auto Dominant Residential
- Enhanced Auto Dominant Commercial
- Urban High
- Urban Low
- Public/Institutional



Scenario 2 – Lowest Impact/Highest Reward

Scenario 2 reflects build out based on development patterns the community said it would like to see in League City.

Key characteristics:

- Residential areas primarily consist of rural/estate and suburban character promoting clustered villages.
- Concentrated mixed use centers:
 - * Urban High – SW part of town, I-45/FM 646 intersection
 - * Urban Low – Riverbend, FM 518 (west of Historic District), area surrounding I-45/FM 646 intersection, north of Challenger 7 Memorial Park, SH 96/SH 146 intersection, FM 270 (south of Nature Park), Shellside
- Suburban Village around Historic District and Shellside.

Results:

- Minimizes impacts to sensitive sites.
- Maximizes open space preservation and rural atmosphere.
- Maximizes the development of walkable mixed use centers, which promote walking, biking, use of golf carts & transit.
- Requires less land to accommodate the same population.
- Promotes efficient use of infrastructure.
- Provides environmental benefits including stormwater management and wildlife habitat.
- Results in insufficient water capacity to support future development.
- Requires changes to codes that promotes creativity and flexibility, while strongly addressing impacts.

Table 4-2, Impacts

	Existing	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Dwelling Units ¹	26,492	76,400	77,681	80,136	77,446
Population	71,530 ²	199,291	177,810	185,203	178,875
Employment	14,004 ³	56,052	74,217	74,528	54,931
Water (MGD)	9.7 ⁴	23.30	27.70	28.70	28.53
Sewer (MGD)	6.9 ⁵	19.34	23.90	24.90	24.37
Jobs to Housing Balance	0.53	0.73	0.96	0.93	0.71

1 - Dwelling Units are based on CDS's 2009 population estimate of 71,530 and a pph of 2.7
 2 - CDS 2009 population estimate
 3 - Travel Demand Model 2007 base year
 4 - Monthly Daily Average, 2009, City of League City
 5 - Annual Average, 2009, City of League City

Table 4-3, Land Use Acreages

	Existing	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Rural/Estate	8.3%	10.5%	33.1%	18.4%	27.2%
Suburban Residential ¹	5.1%	6.2%	10.4%	25.0%	14.7%
Suburban Village	0.3%	0.3%	0.7%	0.7%	0.7%
Enhanced Auto Dominant Residential ²	14.3%	52.9%	25.9%	27.0%	27.0%
Enhanced Auto Dominant Commercial	4.4%	12.4%	8.8%	8.8%	8.8%
Suburban Commercial	0.2%	0.2%	0.2%	0.5%	0.9%
Urban Low	0.0%	0.0%	2.6%	2.3%	3.0%
Urban High	0.0%	1.9%	2.2%	1.1%	1.6%
Public/Institutional	3.3%	3.5%	3.5%	3.5%	3.5%
Parks/Open Space/Natural	11.4%	12.2%	12.7%	12.7%	12.7%
Vacant	52.8%				
Total	100.0%	100.0%	100.0%	100.0%	100.0%

1 - Includes suburban single family and multi-family
 2 - Included auto dominant single family, multi-family, manufactured homes and enhanced auto dominant single family

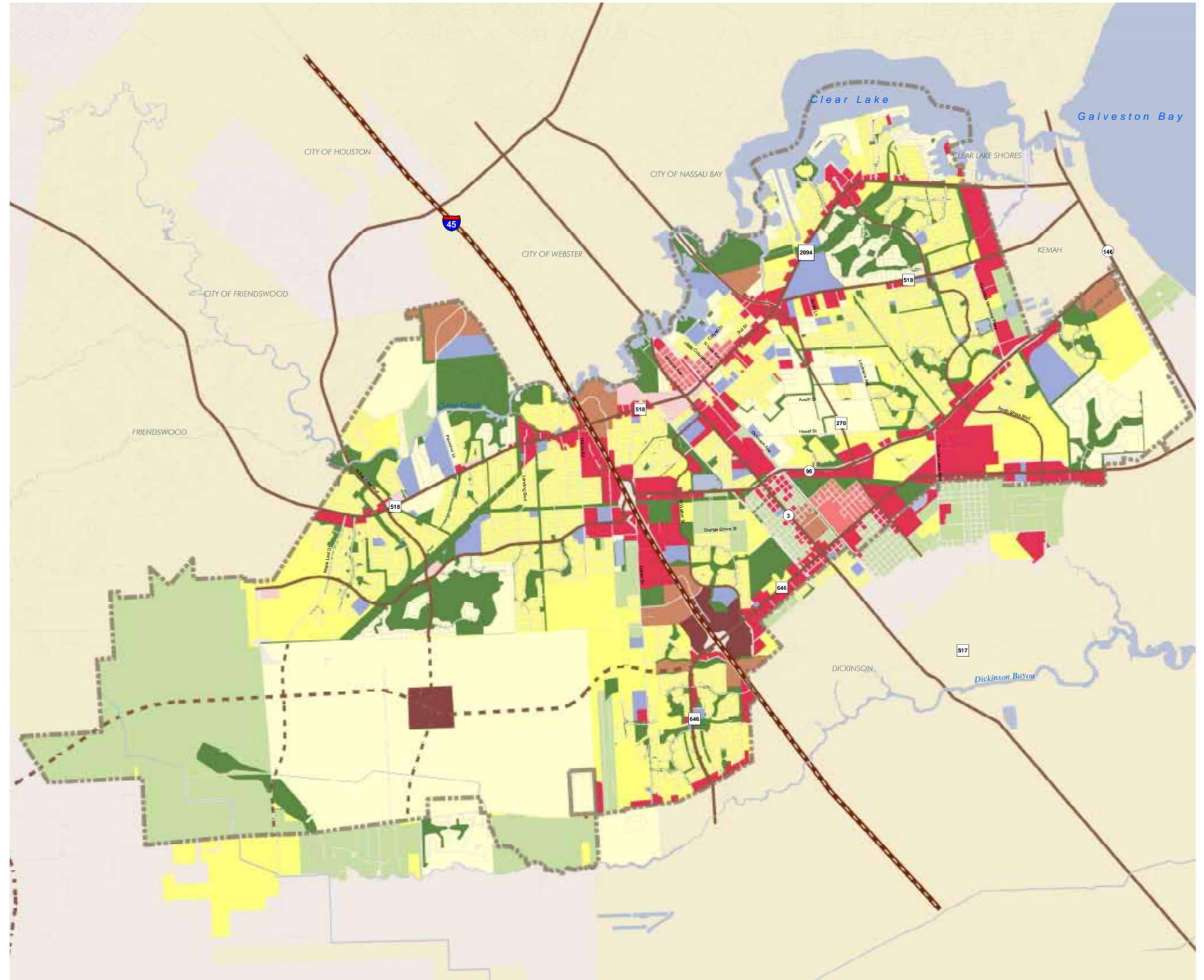
Figure 4-7, Scenario 3 - True Suburban

Impacts

Dwelling Units	80,136
Population	185,203
Employment	74,528
Jobs to Housing Balance	0.93
Water (MGD)	28.70
Sewer (MGD)	24.90

Legend

- Rural/Estate Residential
- Park/Open Space/Natural
- Suburban Residential
- Suburban Village
- Suburban Commercial
- Enhanced Auto Dominant Residential
- Enhanced Auto Dominant Commercial
- Urban High
- Urban Low
- Public/Institutional



Scenario 3 – True Suburban

Scenario 3 reflects a growth scenario that falls between Scenarios 1 and 2. Scenario 3 shares many of the same characteristics as Scenario 2 but allows for more suburban development and promotes smaller scale mixed use centers.

Key characteristics:

- Residential areas primarily consist of suburban and enhanced auto-dominant character promoting clustered villages.
- Rural/Estate residential on the outskirts of the city.
- Smaller scale mixed use centers:
 - * Urban High - SW part of town, I-45/FM 646 intersection
 - * Urban Low - Riverbend, area surrounding I-45/FM 646 intersection, north of Challenger 7 Memorial Park, SH 96/SH 146 intersection, FM 270 (south of Nature Park), Shellside
- Suburban Village around Historic District and Shellside.

Results:

- Reflects a suburban development pattern that people are familiar and comfortable with.
- Can promote preservation of open spaces through conservation easements and clustering.
- Promotes walking, biking, use of golf carts & transit.
- Results in insufficient water capacity to support future development.

Scenario 4 – Draft Preferred Alternative

Scenario 4 also falls in between Scenarios 1 and 2. Scenario 4 is different from Scenario 3 in that it has a stronger balance of suburban and rural/estate character, with a larger mixed use center in the south west part of town. Scenario 4 also allows for more suburban commercial development than other scenarios.

Key characteristics:

- Residential uses primarily consist of rural/estate and suburban promoting clustered villages.

Mixed use centers:

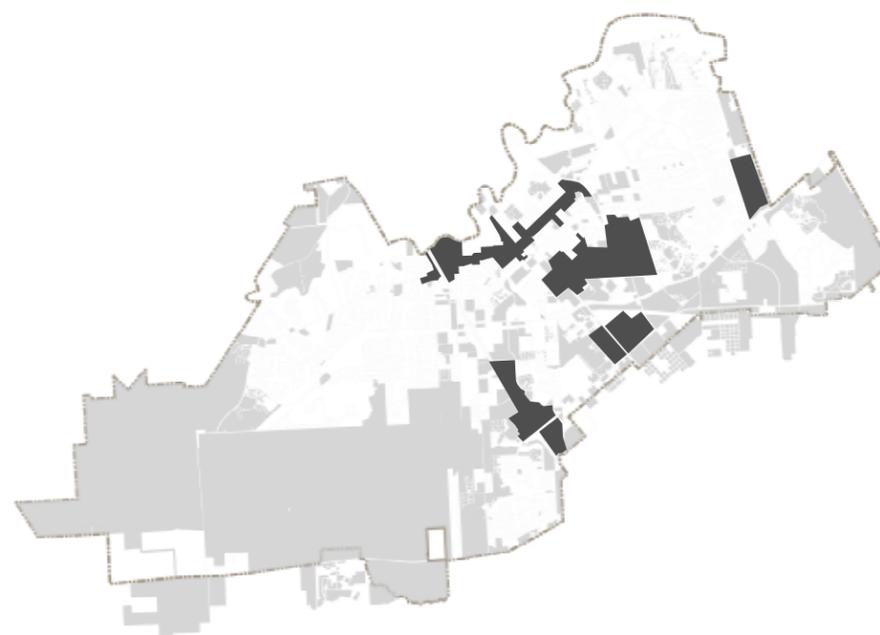
- * Urban High - SW part of town, I-45/FM 646 intersection
- * Urban Low - SW part of town, Riverbend, area surrounding I-45/FM 646 intersection, north of Challenger 7 Memorial Park, SH 96/SH 146 intersection, FM 270 (south of Nature Park), Shellside
- Suburban Village around Historic District and Shellside.

Results:

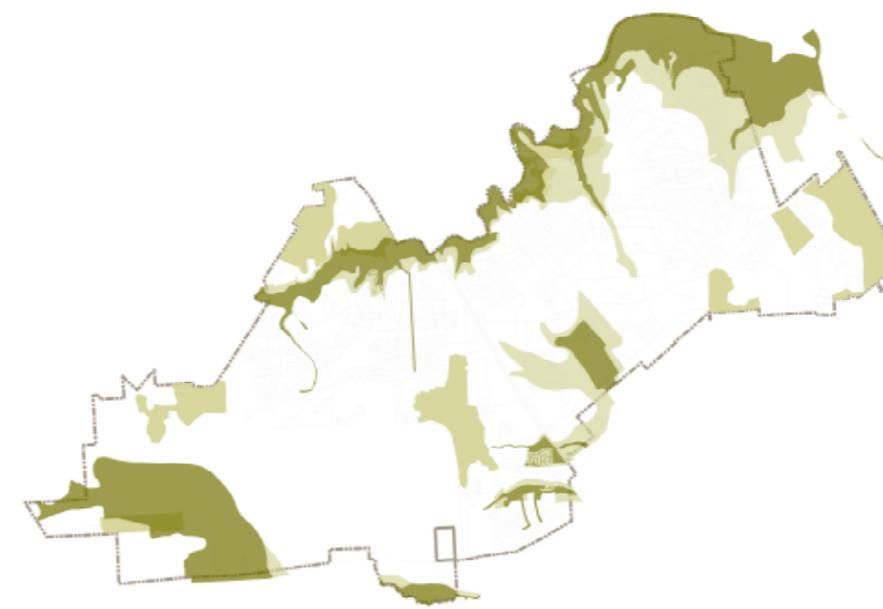
- Requires changes to codes that promotes creativity and flexibility, while strongly addressing impacts.
- Achieve a stronger job/housing balance by providing increased employment opportunities, more local jobs and reduced commute times.
- Promotes efficient use of infrastructure.
- Promotes walking, biking, use of golf carts & transit.
- Results in insufficient water capacity to support future development.



Developed Areas



Growth Areas



Conservation Areas

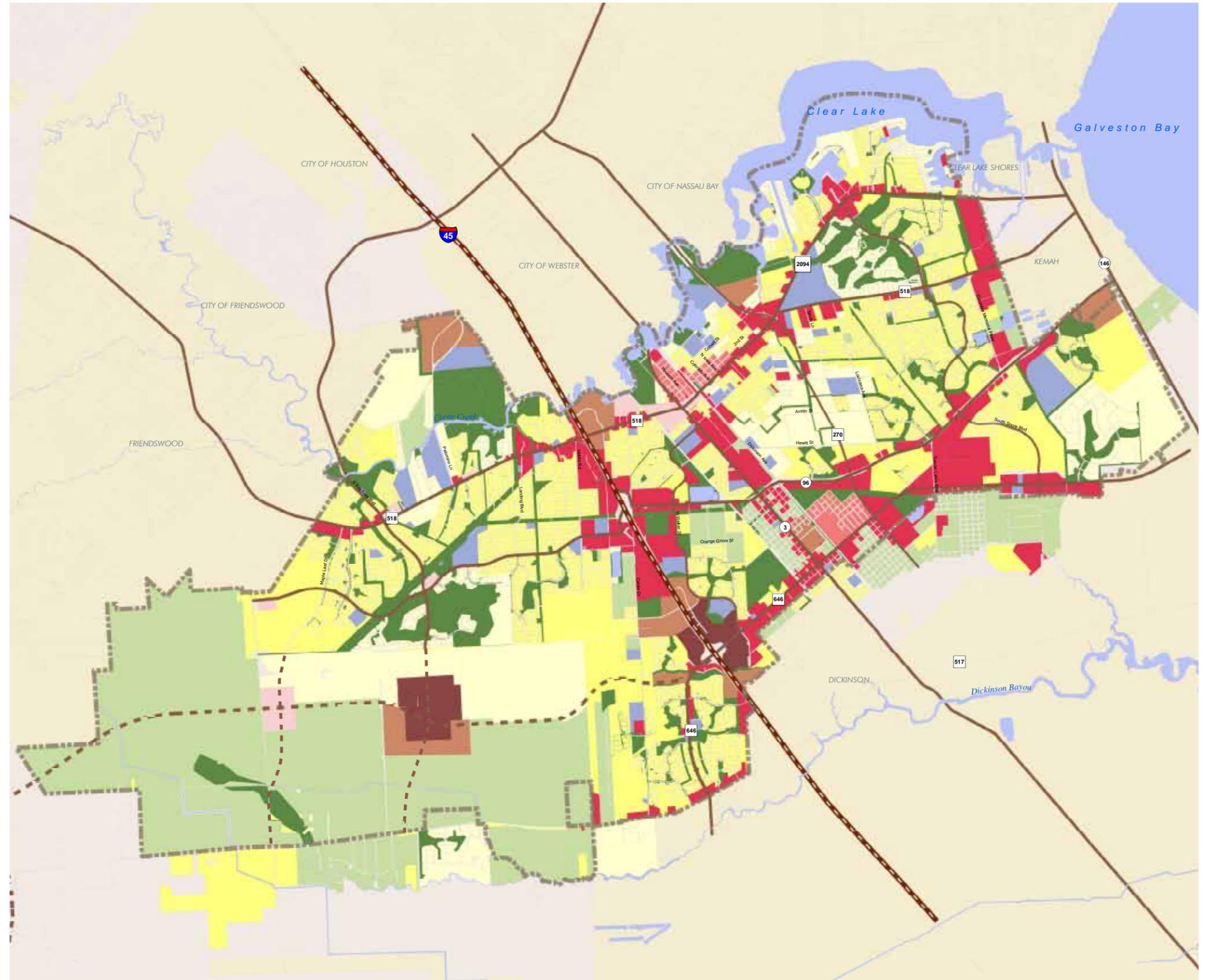
Figure 4-8, Scenario 4 - Preferred Alternative

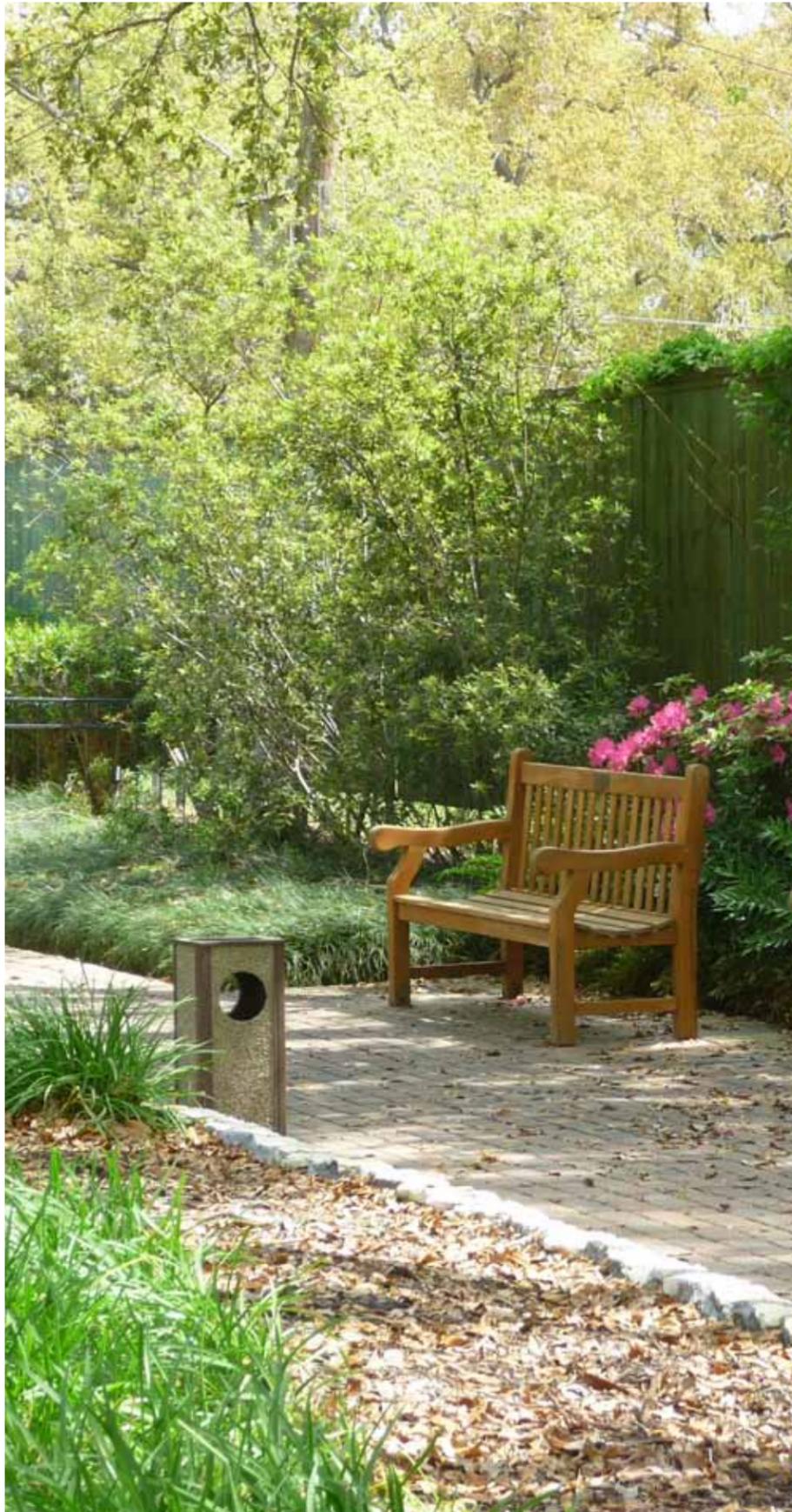
Impacts

Dwelling Units	77,446
Population	178,875
Employment	54,931
Jobs to Housing Balance	0.71
Water (MGD)	28.53
Sewer (MGD)	24.37

Legend

- Rural/Estate Residential
- Park/Open Space/Natural
- Suburban Residential
- Suburban Village
- Suburban Commercial
- Enhanced Auto Dominant Residential
- Enhanced Auto Dominant Commercial
- Urban High
- Urban Low
- Public/Institutional





This chapter discusses methods to manage growth and development in a manner that provides for the desired character, amenities and places envisioned by the community. Included in this element is a Future Land Use Plan which reflects the community's vision and preferred pattern of growth over the next 20 years and beyond. Additionally, this chapter discusses various development alternatives and provides a series of goals and policies for achieving the City's desired character.

Future Land Use Plan

After developing and analyzing the impacts of a variety of growth scenarios in Chapter 4, a preferred scenario was chosen. The preferred scenario is based on the City's comprehensive guiding principles and is designed to actively promote open space preservation, connectivity, walkable mixed use centers, transit supportive development and a strong job to housing balance. The preferred scenario also minimizes impacts to infrastructure, protects residents from increased flooding opportunities, and preserves and enhances existing neighborhoods. This scenario continues to account for a population of up to 178,875 while increasing employment opportunities; however this density can only be achieved if efforts are made to develop in a manner that conserves water capacity.

Key characteristics of this scenario include the following:

- New residential activity that primarily consists of rural/estate and suburban character promoting clustered villages
- A limited number of mixed use centers strategically located throughout the community:
 - * Urban High centers in the currently rural southwest part of town and a reinvented I-45/FM 646 intersection
 - * Urban Low centers in southwest League City (transitioning from the proposed Urban High area), the proposed Riverbend site, area surrounding I-45/FM 646 intersection (transitioning from the proposed Urban High area), north of Challenger 7 Memorial Park along FM 528, the SH 96/SH 146 intersection, FM 270 (south of the Ned and Faye Dudney Nature Center), and a portion of the Shellside neighborhood
- Suburban Villages within and near the Historic District and the Shellside neighborhood
- Suburban commercial development in the southwest part of town

The Future Land Use Plan is shown in Figure 5.1 and is supported by a series of goals and policies that should be used together as a guide for decisions regarding land use and development.

Planned future land uses reflect new patterns that are designed to accommodate the projected growth and redevelopment in new, creative ways, by promoting conservation developments, clustered villages, and compact mixed used areas.

Character of future League City is proposed to range from natural to urban high as defined below.

- Rural/Estate Residential – Takes advantage of the rural look and feel that many League City residents consider to be highly desirable. Rural/Estate places very heavy emphasis on maintaining large open spaces in a variety of forms ranging from natural and agricultural land to well groomed estates. As a result, open space ratios are high and allowable building coverage, height and scale are low. Clustered development gives the impression of small rural villages surrounded by consolidated open space that is valuable for continued agricultural use or preservation as natural areas.
- Suburban Residential – Builds upon the initial intent of Suburban development to provide a blend of Urban and Rural character. The result is a garden setting that focuses upon green space and limited density. In comparison to Rural/Estate character, yards may be smaller, but remain heavily landscaped. The natural focus often makes Suburban Residential neighborhoods pleasantly walkable, although density is not sufficient to make walking a viable alternative to travel unless development is clustered. Homes typically cover a moderate amount of the lot and are generally set back from the road. When clustered, Suburban Residential development takes on the appearance of a village with ample open space that can be naturally preserved or used to provide common parks, ponds or a “village green”. Suburban Residential development allows a limited variety of residential housing types, as well as limited commercial that is most particularly useful when development is clustered.
- Suburban Village – Reflects the character of the community’s original town, now known as the Historic District and provides an opportunity for similar types of developments in other areas of the community. These areas are similar in concept to Suburban Residential, but with greater emphasis on the traits that make the Historic District appealing, including an intimate scale, limited density, a dynamic center and attractions that serve to draw League City residents as well as visitors to the area. The mobility system in an area classified as Suburban Village is extremely well connected, the tree canopy is intended to be substantial and architectural styles vary to give the area a timeless appearance. Suburban Village character promotes a

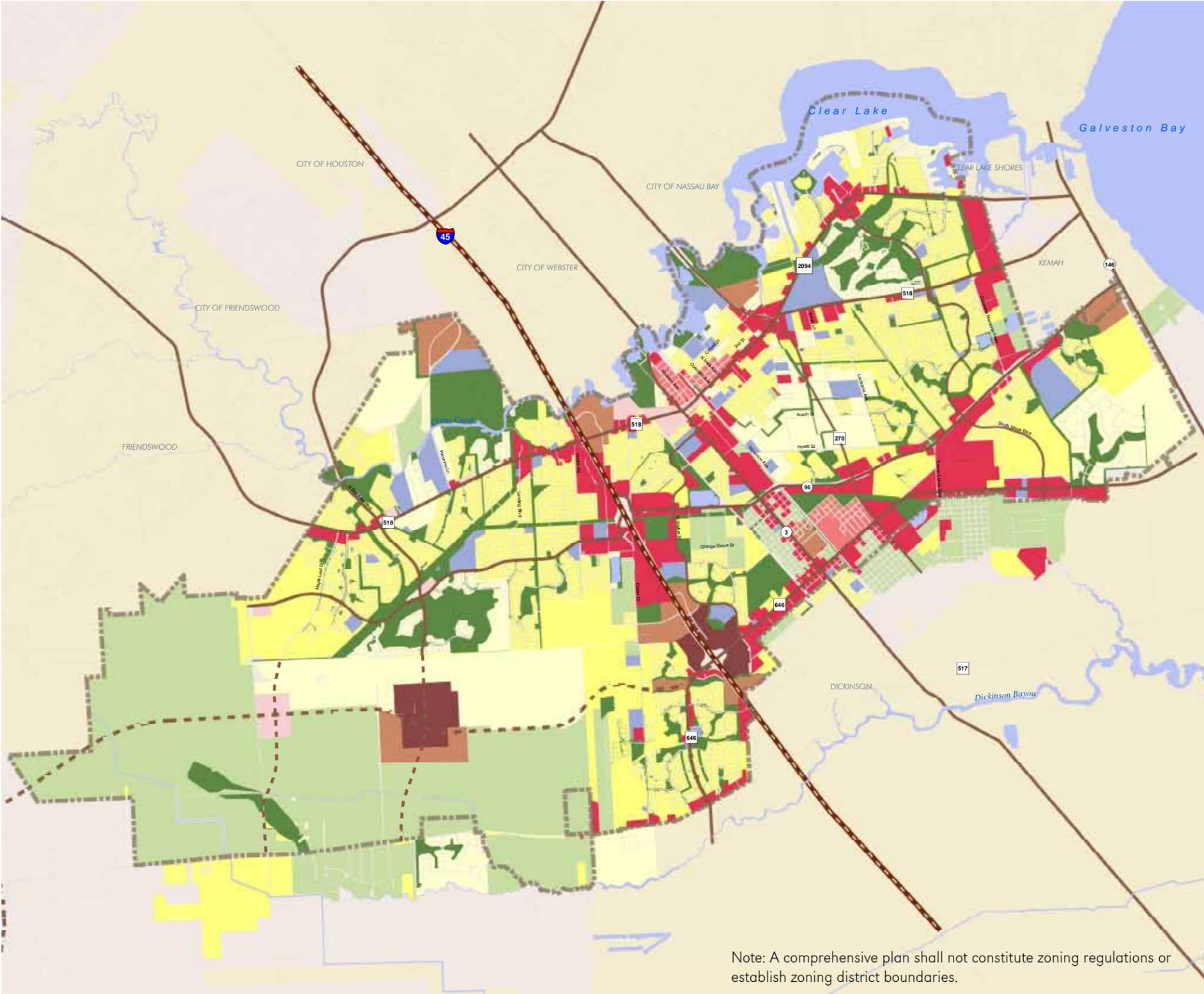
mix of uses, but remains a residential area, particularly outside of the commercial center. Open spaces range from natural areas and parks to active and highly programmed spaces that serve as gathering areas or activity centers.

- Auto-Dominant Residential – Fully accommodates the automobile to the extent that it becomes the factor around which all other traits revolve. The garden concept of Suburban character remains, but in limited form as driveways take up a substantially larger percentage of lots. Front setbacks are typically deep enough to allow for parking. Homes typically become more prominent and the garage becomes a dominant part of the architecture. Lot sizes may be smaller than in Suburban Residential areas but have the appearance of being substantially smaller as homes become larger to accommodate the garage. Overall, lot coverage and the percentage of impervious surface are both higher. The space between buildings is typically smaller and lots are often more shallow. The very vast majority of residential areas in League City are classified as Auto-Dominant.
- Suburban Commercial – Brings the garden concept to areas that are dominated by commercial retail, office or industrial activities. As with Suburban Residential and Suburban Village, the view in areas classified as Suburban Commercial is dominated by green space with structures blended into the landscape, if visible at all. The result is often a “campus” or natural feel. Parking areas are either hidden or blended into the landscaping and signage is complementary to the character. Structures and activity centers within Suburban Commercial space are often connected by trails that allow for enjoyable travel by modes other than the automobile. Architecture is limited in scale and in the amount of total site coverage, as is total impervious surface. Clustering is encouraged as a means of increasing connectivity, sharing parking, creating more successful common areas, and conserving larger areas as unblemished natural space. Residential activity is equally acceptable in Suburban Commercial areas, but is most viable in clustered development and in a multistory (and sometimes mixed use) format.
- Auto-Dominant Commercial – Focuses on convenience and access for customers and employees almost exclusively by automobile. Buildings are typically set back to provide ample view of the parking areas that dominate sites. Architecture is typically single story, although “jumbo story” retail structures can make anchor retail spaces appear to be taller. Auto-Dominant Commercial is primarily linear along major roadways as stand alone or “strip retail” structures or located at major intersections in a commercial “center” format. Mix of uses is generally limited to retail and limited office activity, along with occasional

institutional uses. Walkability, connectivity and common areas are generally minimal. Open space is limited and most often functions only to accent parking areas and structures. Signage typically is highly visible along corridors and serves as the primary means of luring customers. Uses are very rarely mixed.

- Urban Low – Traditionally serves as a destination, at minimum, for local residents, employees and guests. Urban Low emphasizes the relationship between buildings and pedestrians. Lot coverage and the amount of impervious surface are high. Structures are typically multiple stories but limited in scale to an average of four stories or less. Setbacks are minimal, if existent, along the front and sides of buildings and most structures have sufficient detail to maintain the interest of pedestrian traffic. Open space is typically highly functional as common areas, park space or natural areas. It may serve as gathering places for events or may include attractions sufficient to draw visitors to the area. Uses are actively mixed to meet a range of retail, office, civic, institutional, and residential needs. Urban Low character is highly connected and the close proximity of structures, as well as incorporation of active common areas, encourages travel without an automobile. Parking is typically located on-street or to the rear of structures and, when possible, shared and structured. Density within areas classified as Urban Low is sufficient to support transit service.
- Urban High – Captures the full and dynamic essence of an Urban environment. Intensity of use of land is very high. Structures are almost exclusively multiple stories with a scale that may reach up to ten stories. Setbacks are nearly nonexistent and parking is almost exclusively located on-street or in parking structures. As with Urban Low, the emphasis in an Urban High environment is between buildings and pedestrians with numerous amenities and activities located near or within the right of way as means of encouraging walking traffic. Buildings are highly detailed with high levels of transparency to promote “window shopping”. Urban High character anticipates a broad mix of uses sufficient to become fully transit supportive as a residential, office, retail and possibly civic center. Attractions are critical to Urban High character as a means of complementing the role of the area as a location to live, work and shop. Green spaces and landscaping are intended to be highly functional as spaces for gathering, entertaining or possibly as a natural escape. Due to the intensity of use, Urban High character should be limited to strategic locations.

Figure 5.1 Future Land Use Plan



Impacts

Dwelling Units	77,446
Population	178,875
Employment	54,931
Jobs to Housing Balance	0.71
Water (MGD)	28.53
Sewer (MGD)	24.37

Land Use Acreages

Rural/Estate	27.2%
Suburban Residential	14.7%
Suburban Village	0.7%
Enhanced Auto Dominant Residential	27.0%
Enhanced Auto Dominant Commercial	8.8%
Suburban Commercial	0.9%
Urban Low	3.0%
Urban High	1.6%
Public/Institutional	3.5%
Parks/Open Space/Natural	12.7%
Total	100.0%

Legend

- Rural/Estate Residential
- Park/Open Space/Natural
- Suburban Residential
- Suburban Village
- Suburban Commercial
- Enhanced Auto Dominant Residential
- Enhanced Auto Dominant Commercial
- Urban High
- Urban Low
- Public/Institutional

Placemaking

Simply stated, a “place” is a location that provides an experience that is memorable and worth repeating. A “great place” is worth selecting first and often above other places, is worth traveling to and, in some cases, waiting for. Most often, great places are described as dynamic, attractive and offer a number of things to do or reasons to be there. A great place can be as small as a plaza, park or street with a row of unique businesses, but it can also be as large as a major commercial center or neighborhood that includes several destinations. No matter the size, “places” are locations where people want to come, hang out, socialize. They can be great places to live, shop, work, play, or gather – and often more than one!

Great places are critical to communities. Often, a community is defined by its great places. Communities such as Branson, Missouri and Gatlinburg, Tennessee have built an entire economic program around great places. Locally, communities like Sugar Land and the Woodlands have created destinations that draw residents from the entire region.

One of the most glaring criticisms of League City has been the absence of great places or a sense of identity. The Comprehensive Plan offers a forum to address both in a manner that is economically sustainable and unique to the community.

WHAT MAKES A GREAT PLACE?

A great place is the sum of its many parts. The result is unique to the area. Neighborhoods can be great places in their own right, but most often discussion of a great place refers to a commercial or cultural area. The place typically begins as an area interesting to local residents and, if unique and interesting enough, grows in popularity over time to become a regional draw. Key ingredients to creating great places include:

Attractions

Every great place has at least one major draw that attracts people to the location. It may be a gathering place for major events such as a stadium or theater hall. It may be a major commercial retail location or an active park space that is a daily draw. Not every trip to the area will occur as a result of a major attraction, but it is typically the primary reason for an initial visit and a strong cause for repeat trips. Economically, an attraction may or may not be the primary generator of revenue for the great place. However, it is certainly a primary catalyst that results in surrounding economic activity. Attractions may include:

- Stadiums or major sports centers
- Concert halls, theaters, amphitheaters
- Major parks and plazas
- Conference centers
- Museums or similar cultural attractions
- Major retail locations and markets



Pikes Place, Seattle, Washington

Complementary Functions

An attraction may draw people to an area but complementary functions are the likely reason that guests or residents will stay for an extended period of time. Complementary functions may also serve as attractions at a smaller level, particularly if they also add to the unique experience provided by the area.

- Stores and galleries
- Restaurants, cafes and wine rooms
- Parks, plazas and squares
- Recreation facilities such as soccer fields
- Educational facilities such as local museums or the local library
- Trails, waterfront and natural areas
- Hotels and bed and breakfast facilities
- Major landmarks that attract interest



Coconut Grove, Florida

Activities and Events

A first experience to an area may be sufficient to lure a guest back, but after a while, experiencing the same activity can lose its appeal. Great places typically offer a variety of activities or events that may include:

- Sports activities, such as a triathlon or soccer tournament
- Parades and festivals
- Plays, concerts, dances, poetry reading, and historic reenactments
- Trade shows, art shows and craft shows
- Water-based activities such as swimming, boating or kayaking
- Land-based activities such as biking and bird-watching
- School and civic functions
- Weddings and reunions



Bayou City Art Festival, Houston, Texas

Connections/Linkages

An experience is assessed by more than the entertainment, it is also judged by the ease with which guests could find the location and, once there, navigate the area. In this regard, placemaking must result in a place that is accessible, convenient, safe and easy to recognize. Attractions and complementary functions need to be within close proximity to each other or reached in a way that is enjoyable. Finally, it should be physically and visually connected to other places. Considerations include:

- Gateways and interesting edges that inform a guest of arrival or departure from the place
- Wayfinding improvements that guide guests to the area, to destinations within the area, and to other great places
- Streetscape improvements such as landscaping, street furniture and monumentation
- Landmarks and points of interest within or adjacent to the right of way that make a corridor equally interesting and attractive
- Methods of transportation within and to the place
- Parking at appropriate locations
- Clear connection and ease of access from surrounding neighborhoods



Community Gateway, Columbus, Indiana



Market Street, Woodlands, Texas

Theme and Appearance

Almost every successful place has a unique and identifiable message. Downtown Annapolis, Maryland builds upon its heritage as one of the oldest cities in America by offering a mix of shopping and history in storefronts that are nearly 300 years old. The message is accented by the occasional patriot in colonial garb that stops his Segway to talk to tourists. The message throughout downtown Annapolis is a deep and wholesome appreciation for our nation's past. New Orleans' French Quarter also offers a rich heritage, but the message is much more unkempt and presented by street musicians playing jazz. In each case, the message is clear and details maintained to ensure that the storyline is constantly reinforced. Factors that help to reinforce the message include:

- Overall urban form, including architecture, landscaping, setbacks, scale, the relationship between buildings, and the relationship to the street
- Gateways, street furniture, signage, landscaping and other features within the right of way
- Landmarks and public art
- Maintenance and upkeep of the area
- Preservation of area history and historic spaces
- Presentation of "storefronts", including the use of appropriate signage, landscaping, window displays, outdoor seating, and other methods of enticing guests to the area

Guests

No place can be successful without visitors. Each of the components of placemaking is intended to entice guests to the area and keep them interested once they've arrived. In some instances, friends are just seeking a location to relax and "hang out". In others, they are interested in entertainment or a specific event. Understanding guests and meeting their needs is critical to maintaining the sustainability and attractive nature of a great place. Guests may include:

- Residents or employees from the community
- Residents or employees from the region
- Friends or family visiting the region
- Business or event travelers within the community or region
- Tourists traveling to the area to visit other attractions
- Tourists traveling to the area specifically to visit a great place
- A "target market" such as a particular age group, gender, income level, or other groups

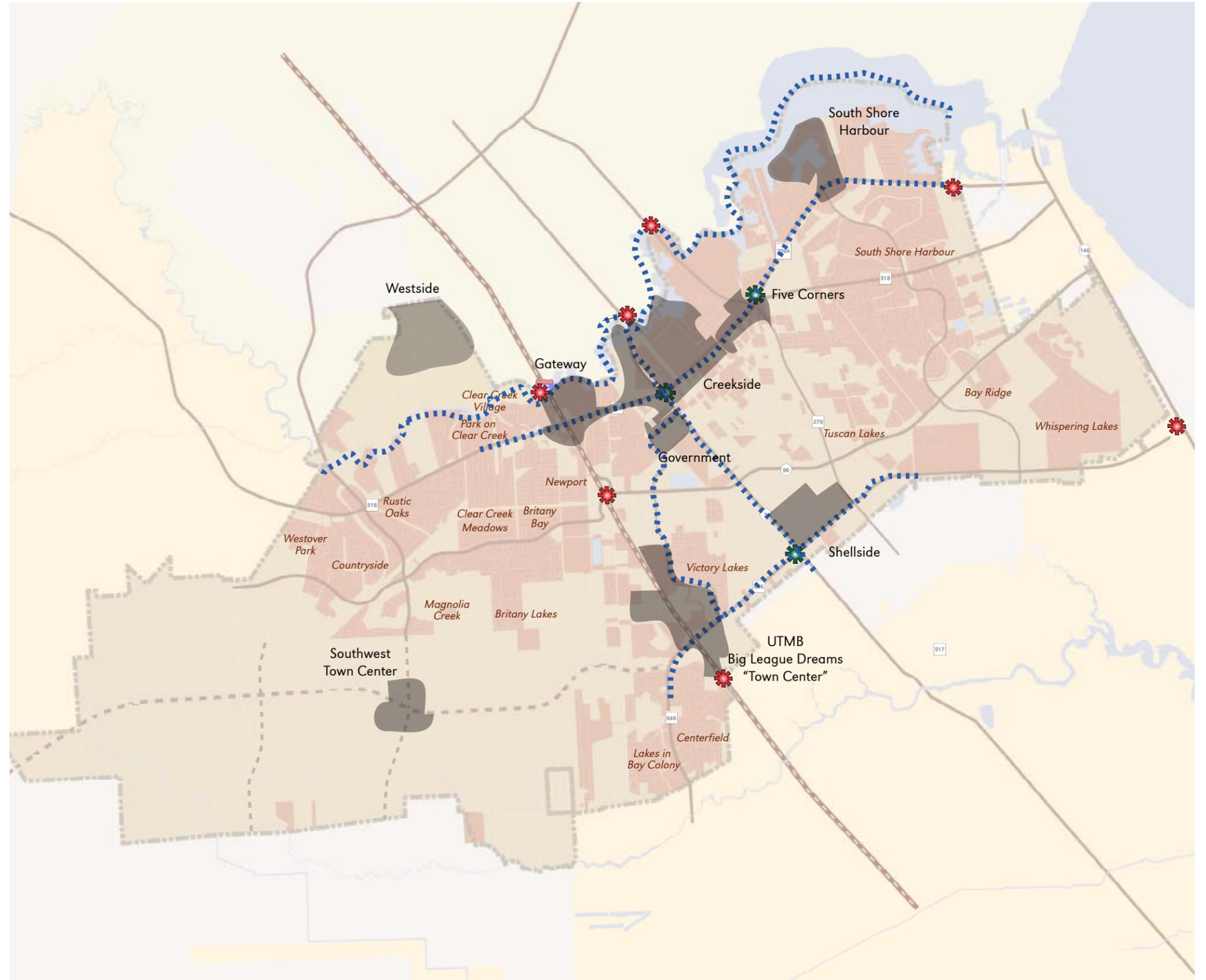


Conroe, Texas

Figure 5.2 Districts, Linkages & Gateways

A series of future districts, linkages, and gateways were identified in League City as shown in Figure 5.2. The proposed districts have the potential to become distinct places each with their own unique theme and identity. The City has identified five “main” districts which are discussed in further detail on the following pages.

- Legend*
- Neighborhoods
 - City Limits
 - Districts
 - Linkages
 - Primary Gateway
 - Secondary Gateway



UTMB/Big League Dreams/Town Centers District

Strengths

- Big League Dreams (attracts outside guests)
- Town Centers (has national brand shopping)
- UTMB
- Access and frontage along major roadways I-45, SH 646
- Park and Ride connection to Galveston
- Distance from Baybrook Mall (improved market capture)
- Office space

Weaknesses

- Existing auto dominant retail development
- I-45, separates the district (difficult to create a single district)
- Traffic/congestion, poor access management, high rate of collision
- Lack of density keeps return on investment low and capture cone (market area) large

Opportunities

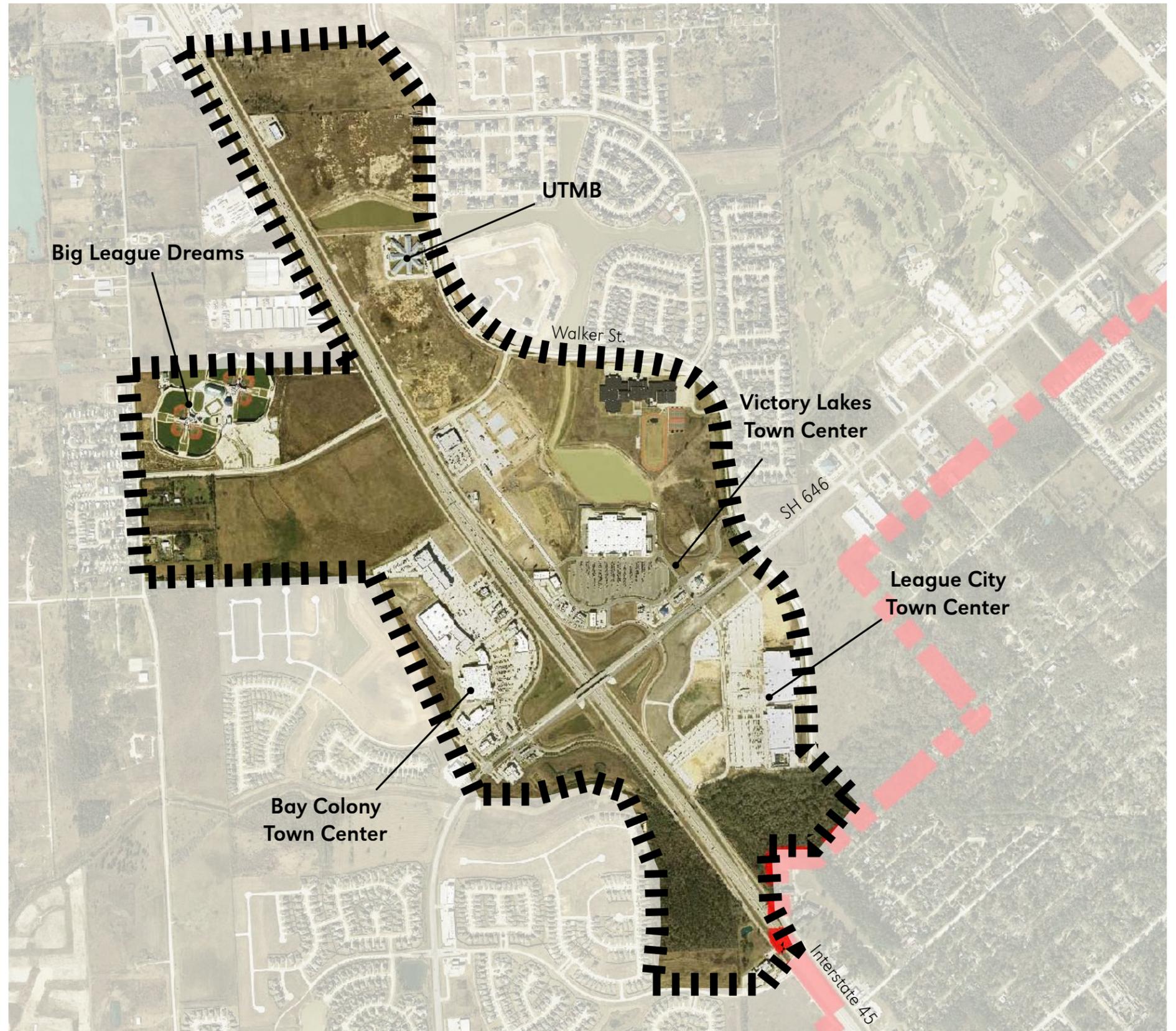
- Redevelop as a mixed use, walkable area (higher return on investment, smaller capture cone, more amenities/interesting places)
- SPORTS + MEDICINE theme
 - Offices, research and development, manufacturing/assembly, laboratories
 - Active recreation opportunities around Big League Dreams
 - Therapeutic facilities (trails, pools, equipment)
 - Amenities/Features/Sponsors appropriate to a Sports Medicine cluster
- National Brand Retail/Entertainment Center
 - Increase intensity through potential office, residential and amenities
 - Hotels

Threats

- Market conditions
- Infrastructure/mobility capacities
- 10 year flip cycle (low return on investment allows for frequent movement by leap frog development)

Proposed Character

- 4 to 6 story buildings which could include a mixture of uses
- Mixture of Urban and Suburban characteristics
- Walkable and bike friendly, golf cart accessible to the extent possible



Creekside

Strengths

- Amenities, history and culture
- Clear Creek
- Small town, village character and grid pattern
- Butler Oaks
- Locally owned businesses, no boxes
- Invested neighbors
- Vacant parcels for infill development

Weaknesses

- Infrastructure improvements (drainage/roadways), Flood prone
- Lack of cohesiveness (character)
- Traffic/access/parking
- Condition and appearance of buildings/homes
- Location of Dallas Salmon Wastewater Treatment Plant
- Lack of signage/way finding
- Lack of linkages between amenities
- Railroad is divider
- Lack of gathering places or major attractions

Opportunities/Catalysts

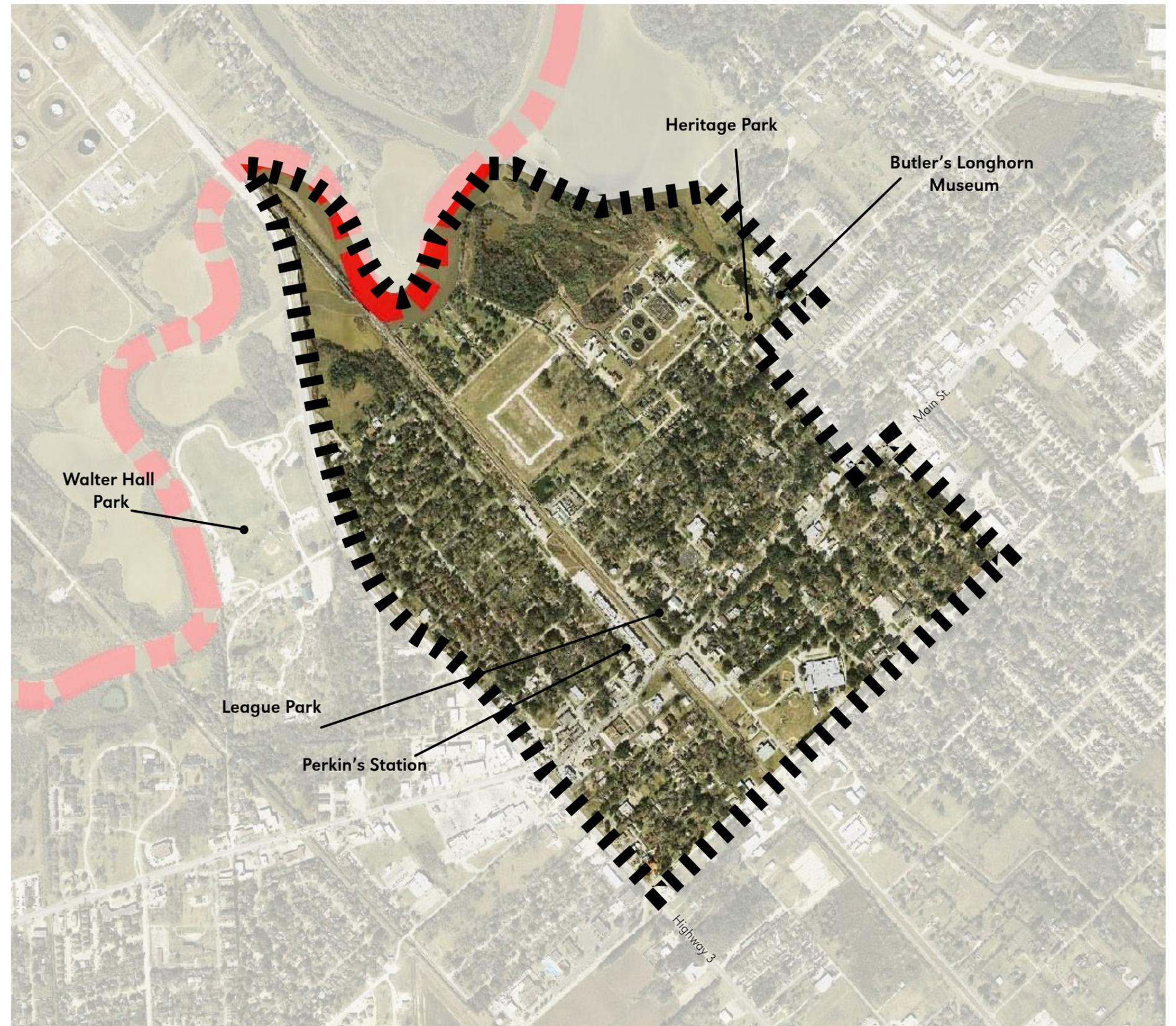
- Cultural/entertainment activities and amenities (music, plays, art)
- Small businesses, unique shops and local restaurants
- Amphitheater (large and small)
- Community Market
- Niche in wedding industry
- Redeveloped and reprogrammed League Park and Heritage Park

Threats

- TxDOT
- Politics (neighborhood and city-fighting change)
- Financing
- Lack of common brand/theme
- City/neighbor commitment

Character/Theme

- Mixture of residential and commercial uses within walking distance
Cottage style retail, office
- Plazas, parks and natural open spaces
- Suburban with the majestic Oak Trees and landscaping
- Village like street grid pattern, walkable and bike friendly, Golf Cart accessible to the extent possible



Southshore Harbour District

Strengths

- Resort
- Marina
- Clear Lake/Waterfront access
- Class A large scale office space

Weaknesses

- Limited infill space
- Proximity to interstate
- Aging facilities (as compared to competition)

Opportunities

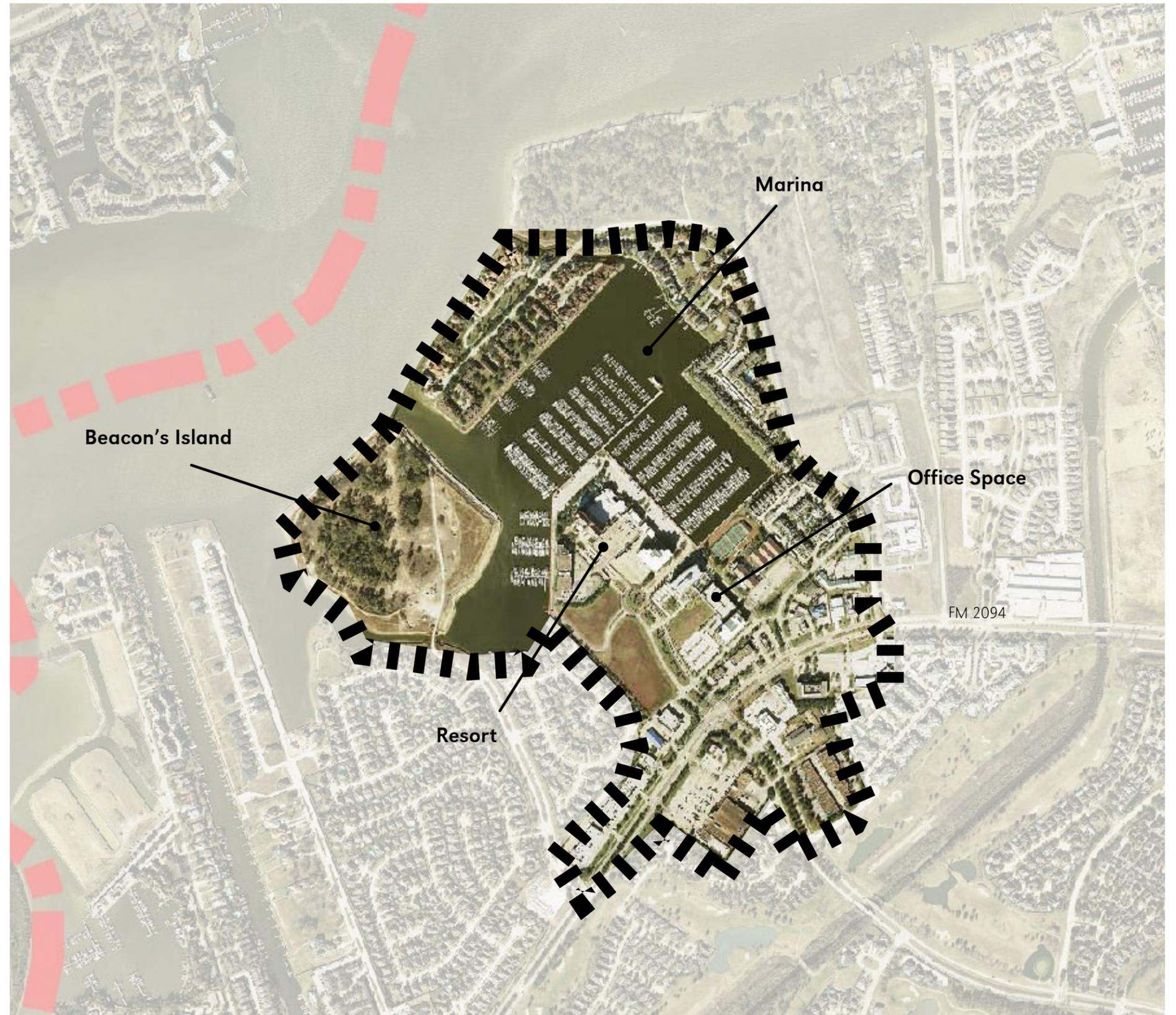
- Conference/Hotel Center for Bay Area
- Marina Center
- Class A Office Hub
- National brand and local shops and restaurants
- Development of Beacon Island

Threats

- Potential competition for conference activity

Character/Themes

- Mix of unique stores and restaurants and national brands
- Suburban with open space and landscaping
- Up to 6 story office buildings
- Walkable and bike friendly
- Golf Cart accessible to the extent possible
- Resort/Maritime theme, play on water, flags, sails



Gateway Corridor District

Strengths

- Clear Creek
- I-45 frontage & access
- Riverbend potential mixed use development
- Walter Hall Park
- Vacant land along Wesley

Weaknesses

- Strip development along corridor
- Traffic congestion
- Appearance and condition of properties and buildings
- Fall within Baybrook Mall's capture cone for national brand retail

Opportunities

- Gateway to League City
- Clear Creek paddle trail
- Riverbend development
- Marina/amphitheater (as part of Riverbend)
- Redevelopment of major centers (Kroger, Academy, Palais Royale)
- Cottage office space (replacing strip retail commercial)
- Improved access management
- Consolidation/redevelopment of strip retail
- Mixed use (retail, office)

Threats

- Market conditions
- Quick in/quick out (10 year flip cycle) financial development pattern, (does not lend itself to sustainable long term development)

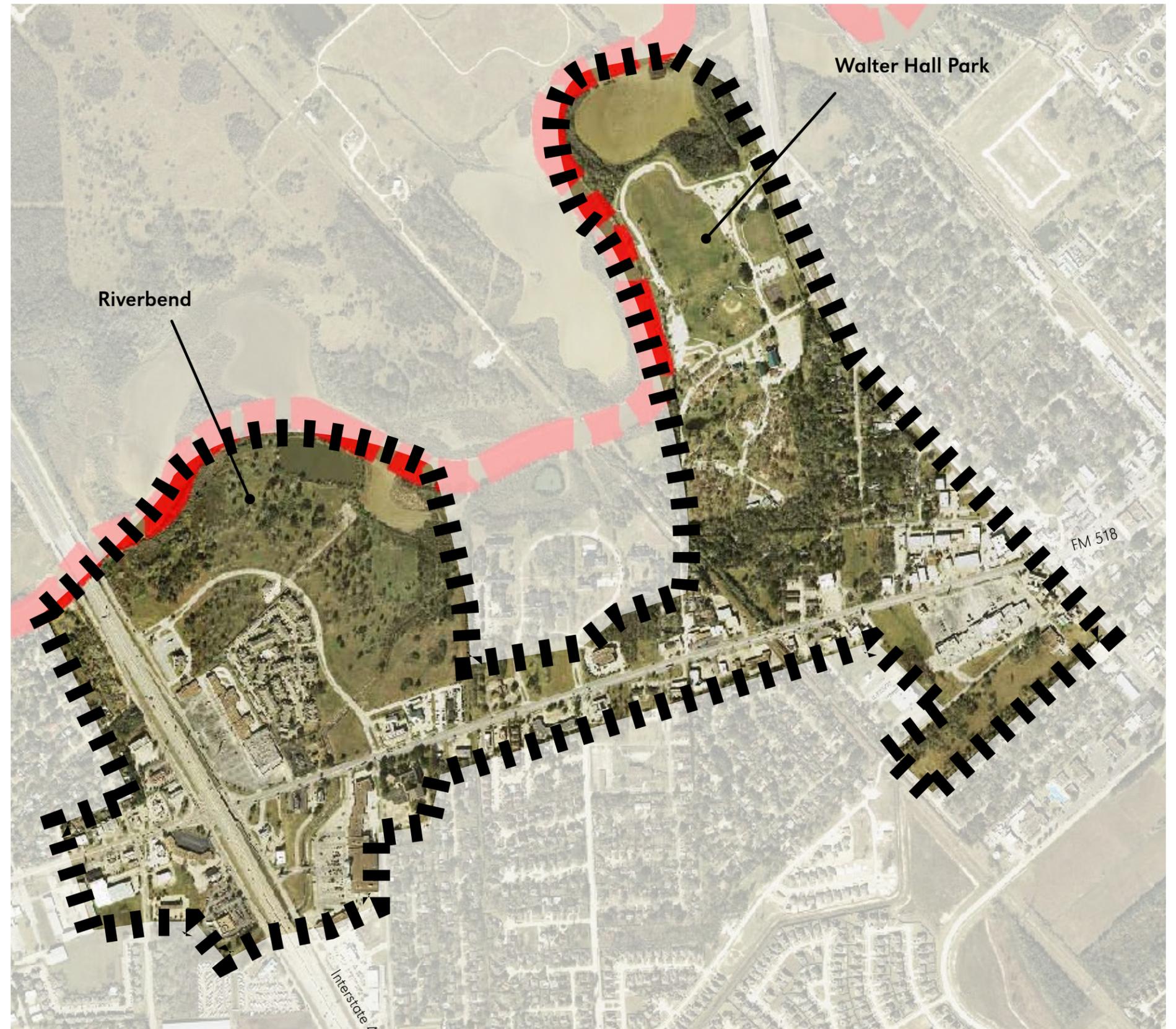
Character

Riverbend

- Urban (Low/medium intensity)
- Walkable and bike friendly
- Golf Cart accessible to the extent possible
- Strong relationship to Clear Creek - water front restaurants, trails, paddle trail, marina

518 Corridor

- Daily services, Retail
- Cottage offices replacing existing strip retail
- Suburban with open space and landscaping
- Linkages with Historic District, Government Center and other districts
- Walkable clusters Golf Cart accessible to the extent possible
- Resort/Maritime theme, play on water, flags, sails



Government District

Strengths

- Vacant land for expansion
- Existing government and community facilities in central location
- Proximity to Main St.
- Limited ownership (largely city-owned)

Weaknesses

- Aging existing facilities
- May require land acquisition

Opportunities

- Collaboration with other institutions
- Local, county, state agencies
- Educational institutions
- True town center
- Public/private partnerships to add retail, office and recreational opportunities
- Amenities, park land/open spaces/plazas
- Linkages to Main Street area

Threats

- Funding
- Piecemeal instead of cohesive common design
- Politics/commitment to long term vision for public facilities
- Public perception regarding civic priorities

Character

- Urban or suburban in character



Community Character & Development Patterns

As previously discussed in Chapter 4, the land use scenarios developed for League City not only shows the use of land (e.g. residential, commercial, industrial), but also reflect the intended character of development. This approach called “community character” goes beyond typical categorization of land—such as single and multiple family residential, office and retail commercial, and light and heavy industrial—to account, as well, for the physical traits and design attributes that together, contribute to its “look and feel”. (*Kendig Keast Collaborative*)

A character-based system focuses on how a development looks and feels with regards to open space and vegetation, amount of imperviousness, building orientation, height and scale of building in relation to the site, setbacks and overall density/intensity.

Community Character is defined in five categories: Natural, Rural, Suburban, Auto-Dominant and Urban. These categories are furthered divided into subtypes. *Table 5.1* summarizes the character types for League City.

As shown in *Table 5.1* within each district, different development patterns are allowed. The patterns demonstrate different ways a development can be laid out while achieving the same overall character. A variety of development patterns are described in *Table 5.2*. Some of these patterns are standard and commonly found in League City while others represent more innovative and preferred practices which can be achieved and encouraged through incentives. The proposed development patterns vary in terms of open space requirements, density/intensity and allowed housing and building types.

The following development patterns are proposed for League City:

Rural

- Linear
- Cluster
- Village

Suburban

- Linear
- Conventional
- Cluster
- Village
- Office Park

Auto-Dominant

- Linear
- Conventional
- Strip Center
- Power Center

Urban

- Urban High
- Urban Low

While the development patterns within each character district allows the community to achieve a consistent and desired “look and feel”, there are certain development patterns that are preferred over others. For example in the rural and suburban categories the cluster and village patterns are preferred and encouraged over the linear and conventional patterns. Rural and cluster patterns offer greater open space preservation, protection of sensitive sites, less impervious surface, reduced infrastructure costs, and environmental benefits including storm water management and wildlife habitat. The preferred development patterns can be encouraged through incentives.

Community Character is a system for evaluating developments that goes beyond the “use” of the land. Community Character focuses on how a development “looks and feels” with regards to open space and vegetation, amount of imperviousness, and orientation of buildings (scale/bulk) to site.

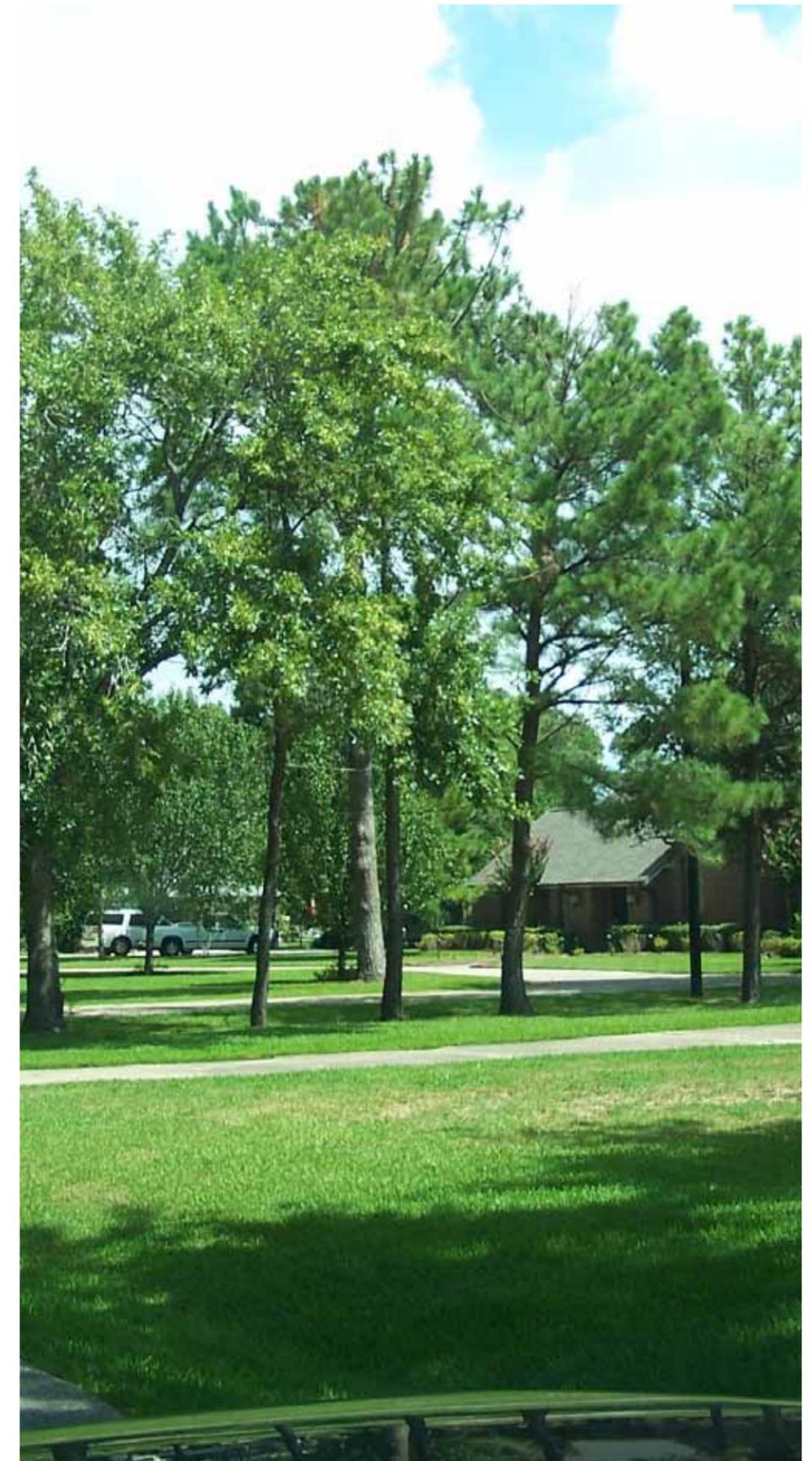


Table 5.1 Community Character

Transect	T1	T2	T3	T3B	T4/T5
Community Character	Natural	Rural	Suburban	Auto-Dominant	Urban
	"Natural"	"The Country"	"The Garden"	"The Compromise"	"The City"
Character Type	Natural Open Space	Rural Residential Rural Estate	Suburban Residential Suburban Village Suburban Commercial Parks Public/Institutional	Auto-Dominant Residential Auto-Dominant Commercial Enhanced Auto-Dominant Residential Parks Public/Institutional	Urban Urban Low Urban High Parks Public/Institutional
Description	Areas best suited to remain undeveloped for purposes of preservation, conservation or aesthetics	Scattered homesites/farming Low density large lot residential development	Suburban Residential/Commercial Developments with larger lots or smaller lot developments with preserved open space Suburban Village Eclectic suburban development with single family homes and commercial activities. Preserves the character of the city's original town site.	Smaller lot sizes, reduced dimensions around and between homes, consistent front and side setbacks and limited amount of on lot or common open space.	Relatively dense residential development with a mix of types. Also includes commercial and mixed use developments.
Focus	Untamed Nature	Agriculture/Open Space	Open space, tree canopy, garden setting/vegetation	Garage, cars, and parking	Buildings and people
Development Patterns	None	Agriculture, Village, Linear Residential (large lot), Cluster Subdivision	Linear Residential (large lot), Village, Conventional Subdivision, Golf Course Community, Cluster Subdivision, Neighborhood Center, Campus/ Park	Linear Residential, Conventional Subdivision, Golf Course Community, Big Box, Strip Center, Neighborhood Center, Power Center, Office/Industrial Park	Mixed Use, Traditional Neighborhood Development, Lifestyle Center Urban Center



Table 5.1 Community Character Continued

Transect	T1	T2	T3	T3B	T4/T5
Community Character	Natural	Rural	Suburban	Auto-Dominant	Urban
General Land Use Mix		Rural Estate	Suburban Residential	Enhanced Auto Dominant Residential	Urban Low
			Suburban Village	Enhanced Auto Dominant Commercial	Urban High
			Suburban Commercial		
Open Space	100 Percent	0 to 44 percent	12 to 35 percent	12 to 25 percent	15 to 20 percent (Green Space)
Housing Types: Typical Development	None	Single Family, Granny Flat	Single Family, Granny Flat	Single Family, Duplex, Granny Flat	Single Family, Granny Flat, Townhomes, Triplex, Quadplex, 4 story multi family (urban low), 6 story multi family (urban high)
Cluster/Planned Development		Single Family, Granny Flat, Duplex, Triplex, Quadplex, Townhomes, 2 story multi family	Single Family, Granny Flat, Duplex, Triplex, Quadplex, Townhomes, 2 story multi family	Single Family, Granny Flat, Duplex, Triplex, Quadplex, Townhomes, 2 story multi family	
Commercial Types	None	Home Office, Office/Retail Cottage, Neighborhood Center, Market	Home Office, Incubator, Shared Space, Office Condo, Retail/Office Cottage, Retail/Office Stand Alone, Big Box, Lifestyle Center, Industrial/Office Park, Office Building	Home Office, Incubator, Shared Space, Office Condo, Retail/Office Cottage, Retail/Office Stand Alone, Big Box, Lifestyle Center, Power Center, Office Building	Office Building, Lifestyle Center, Live Work, Mixed Use

Table 5.1 Community Character Continued

Transect	T1	T2	T3	T3B	T4/T5
Community Character	Natural	Rural	Suburban	Auto-Dominant	Urban
Buildings	Utility plants and camp buildings	Utility plants, agriculture buildings and farmhouses, campgrounds, countryside homes, single family homes, random commercial/ industrial facilities	Single family homes, duplexes, (less likely are low-scale apartments/condos and townhomes), office or civic campus, neighborhood stores	Single family homes, duplexes, apartments/condos (townhomes less likely), strip retail/office, office towers, "big box" retail, power centers, shopping malls, civic buildings	Single family homes, duplexes, townhomes, apartments/condos, neighborhood and retail stores, offices
Structure Shape & Height	N/A	Square to horizontal appearance from street, typically 1 to 2 stories	Square to horizontal appearance from street, typically 1 to 2 stories (with exceptions for apartment structures, office structures and occasional hotels which may be 4 to 6 stories)	Square to horizontal appearance from street with limited (or fake) vertical differentiation, typically 1 to 2 stories (with exceptions for hotels, apartment structures and some office structures)	Vertical to square appearance from street, typical averages of 1 to 4 stories with differentiation at the top, limited exceptions to height for hotels and occasional apartments/offices towers
Residential Garage	N/A	Commonly separate and set back behind or away from structure. Not a prominent feature.	Commonly separate and set back behind or away from structure. Occasionally entered through an alley to avoid visual impact.	Prominent part of primary structure. Often the most recognizable feature equal to or before the rest of the structure.	If available, to the rear of the structure with limited/no front access. Often entered through an alley.
To Enter Building	N/A	Walkway from drive	Walkway from sidewalk/road	Walkway from drive or parking lot	Walkway or directly from sidewalk
Facade	N/A	Simplified/functional	Simplified	Very simplified for visibility at high speeds. Often little (or fake) delineation of base/top	Detailed for pedestrian interest
Setbacks	None	Large/Gaps between buildings and building/road much more important than structures	Medium to Large	Medium	Limited to Medium
Private Frontages	Natural landscape, often with very strong tree canopy	Natural landscape, groomed/ungroomed yards, porches, fences, naturalistic or formalized tree planting and strong tree canopy	Groomed yard, porches, fences, relatively strong tree canopy	Groomed to nonexistent yard or commercial landscaped area, parking area, fences, limited tree canopy	Porches, fences, terrace, stoops, dooryards, forecourts, shopfronts, galleries, arcade, limited groomed yard, commercial landscaped areas and tree canopy
Public Frontages (right of way)	Open swales and natural landscape with optional trails connecting places	Open swales, naturalistic tree plantings (possibly remnants of the natural landscape) with optional trails	Raised curbs and sidewalks optional, bike lanes, trails, naturalistic or formal street trees/landscaping optional	Raised curbs, sidewalks, bike lanes, formalized landscaping and street trees, public art limited to work that can be interpreted at high speeds	Raised curbs, sidewalks with limited street furniture, bike lanes, formalized landscaping/ street trees, public art
Typical Thoroughfares	Roads	Roads & Lanes	Streets, Roads & Lanes	Boulevards, Avenues, Streets, Lanes	Boulevards, Avenues, Streets, Lanes & Alleys

Table 5.1 Community Character Continued

Transect	T1	T2	T3	T3B	T4/T5
Community Character	Natural	Rural	Suburban	Auto-Dominant	Urban
Roadway Purpose	Driving and biking (limited bike lanes)	Driving, biking (bike lane preferred), limited walking, playing	Driving, biking (bike lane preferred) walking, parking, playing	Driving, biking (limited to bike lanes outside of subdivisions), and limited parking (in subdivisions)	Driving, biking, parking, and limited playing
Pedestrian Paths	Limited to regional or site-exclusive trails	Trails preferred along roadway, natural corridor or green space complement ability to walk along road	Sidewalks or trails complement ability to walk along the roadway	Sidewalks and crosswalks needed to protect very limited pedestrian traffic in heavily auto-centric environment. Limited width and multiple safety features needed. Connectivity using trails along natural corridors or green spaces preferred	Standard to extended width sidewalks and crosswalks needed for active pedestrian movement. Pedestrian traffic management features may be needed. Connectivity using trails along natural corridors or green spaces preferred.
Parking	On Site	On Site	Predominantly on-site, difficult to see from the roadway (often located away from roadway) and often shared outside of neighborhoods. On street only in neighborhoods.	Almost exclusively on-site, prominent from the roadway, and sometimes shared outside of neighborhoods. On street only in subdivisions. Parking garage parking is typically impractical due to limited density.	On street parking typical. Sometimes complementary limited on-site parking accessed from rear of site to avoid interruption of pedestrian flow. Parking garages within or near structures support larger scale parking needs.
Open Space Types	Floodplain, forest, wetland, wildlife corridor, sensitive natural area, and limited regional park/open space	“Urban” farming, floodplain, forest, wetland, wildlife corridor, sensitive natural area, park/greenway, and playground	Sensitive/set-aside natural area, forest, wetland, limited to moderate incorporation of park, greenway and playground	Limited to moderate incorporation of park, greenway and playground areas with limited consideration for sensitive/set-aside natural area, forest, wetland	Moderate to high incorporation of green space, squares, parks, and playgrounds as relief from urban environment. Conservation of limited floodplain, wetland and sensitive natural area
Residential Density	N/A	Low	Low to Medium	Low to Medium	Medium to High
Utilities	Well/Septic	Well/Septic or Utilities Optional	Utilities Preferred	Utilities Required, Curb and Gutter	Utilities Required, Curb and Gutter
Max. Coverage: Structural	Very Low	Low	Low to Moderate	Low to Moderate	Moderate to High
Impervious Surface	Very Low	Low	Moderate	High to Very High	High
Connectivity	N/A	Limited to Moderate	Moderate to Connected	Limited to Moderate	Connected
Streetscape viewshed	Defined by open space or natural amenities. Unlimited view to natural areas occasionally framed by natural amenities such as trees or a mountain face. Trees can sometimes expand across the space to become a “ceiling”. Street wall ranges from solid to nonexistent.	Defined by groomed open space. Structures in distance occasionally interrupt otherwise unlimited view of natural areas. Individuals owners may line street with trees to establish a brief “wall” or sense of enclosure	Defined first by groomed open space and second by structures. Linear system of street trees provide a limited sense of enclosure that can sometimes expand across the street to form a “ceiling”.	Defined first by parking and accented by structures and landscaping. Linear system of street trees and limited green space is often used to mimic Suburban sense of enclosure. Primary street wall consists of street trees and secondary wall consists of structures. Gaps in between make both highly porous.	Defined by structures and accented by landscaping. Proximity of structures to streetscape and limited gaps provide a relatively strong sense of enclosure. Street trees reinforce the street wall.
Purposes for Walking	Recreation and fitness	Recreation and fitness	Recreation, fitness and alternative travel	Recreation and fitness	Recreation, fitness and alternative travel
Transit Supportive	No	No	No	No	Appropriate

CASE STUDY - ISSAQUAH HIGHLANDS

Issaquah Highlands, located 17 miles east of Seattle, Washington, is an urban village developed following the principles of New Urbanism. This planned development emphasizes sustainable practices that would reduce development impact on resources and the natural environment. The village promotes open space preservation, compact pedestrian-friendly neighborhoods, narrow tree-lined streets, alleys, mixed-use centers, front porch architecture, wide sidewalks, a network of trails, and parks and playgrounds placed within walking distance of homes. Overall this design creates a sense of place, fosters interaction among residents and favors pedestrian movement.

Residential

At build out, is estimated there will be 3,900 homes with a mix of 45% multi-family and 55% single-family detached housing. A wide variety of housing types will exist including traditional front-porch, single-family homes; condominiums; apartments; townhomes; live/work lofts; and custom luxury homes.

Commercial

Along Highlands Drive is a vibrant mixed use neighborhood with a planned lifestyle retail center that will include a collection of national and local retailers, an office campus, regional hospital, restaurants, professional office, an upscale grocer, drug store, hotel and multi-screen theater. This mixed use neighborhood will have approximately 3 million square feet of office space and 600,000 square feet of retail space. A portion will include residential above retail.

Water Conservation

A major requirement for both the City of Issaquah and King County were development measures to reduce water consumption and to protect water quality, specifically reducing run-off that could contaminate Lake Sammamish, two miles to the west as well as surrounding wetlands and salmon-bearing tributaries that feed Lake Sammamish. Strategies include the creation of ponds using natural vegetation to capture sedimentation and filter vehicle oils and other pollutants.

Parks, Trails and Open Spaces

Neighborhood sidewalks connect with more than 10 miles of hiking trails and lead to over 100 acres of parks, recreation and sports fields which are located every 0.25 miles, favoring for pedestrian over vehicle access. Residents and the surrounding community can also access 1,450 acres of permanent open space and 120 acres of protected wetlands.



Source: http://en.wikipedia.org/wiki/Issaquah_Highlands

Table 5.2 Development Patterns

NATURAL	RURAL	
<p>Original Site</p> <p>Typically “natural” is designated for areas best suited to remain undeveloped for purposes of preservation, conservation or aesthetics. In this case “natural” reflects the original site prior to development.</p>	<p>Linear</p> <p>Single family homes on large lots, providing a rural character/atmosphere. This development pattern occurs in a “strip” along a roadway.</p> <ul style="list-style-type: none"> • Typically residential lots greater than one acre • Sense of “rural living” provided by large, private lots • Commercial viability limited to minimal, automobile-only, daily services based upon “rooftops” 	<p>Cluster</p> <p>Protects the most desirable natural and historical features of the development site by clustering homes and placing open space within a conservation easement. Rearranges a development so a portion of the buildable site is set aside as open space. This approach balances development and conservation objectives by allowing the same number of homes (or more) to be built on a site in a less land consumptive manner.</p> <p>Key Characteristics</p> <ul style="list-style-type: none"> • Remaining open space is permanently protected through a local land trust or homeowner’s association • Permanently captures and preserves natural, rural character • Clustered housing reduces street and infrastructure costs

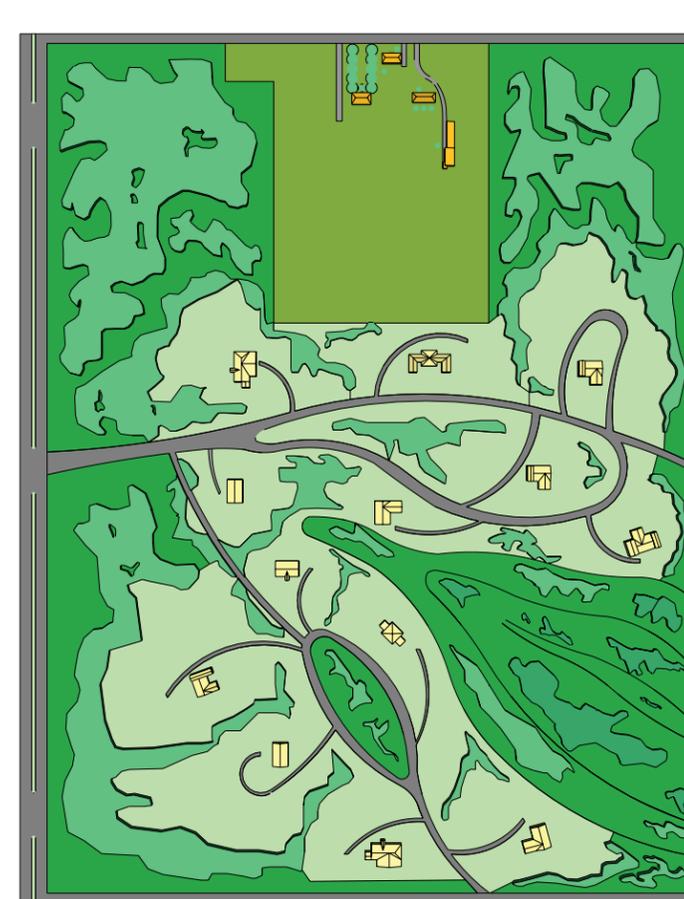
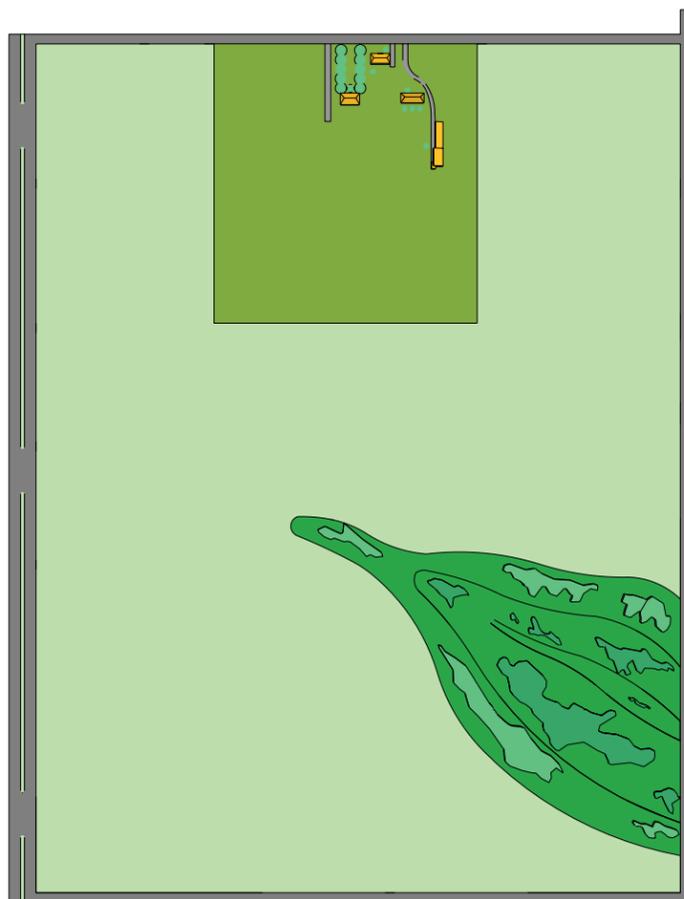


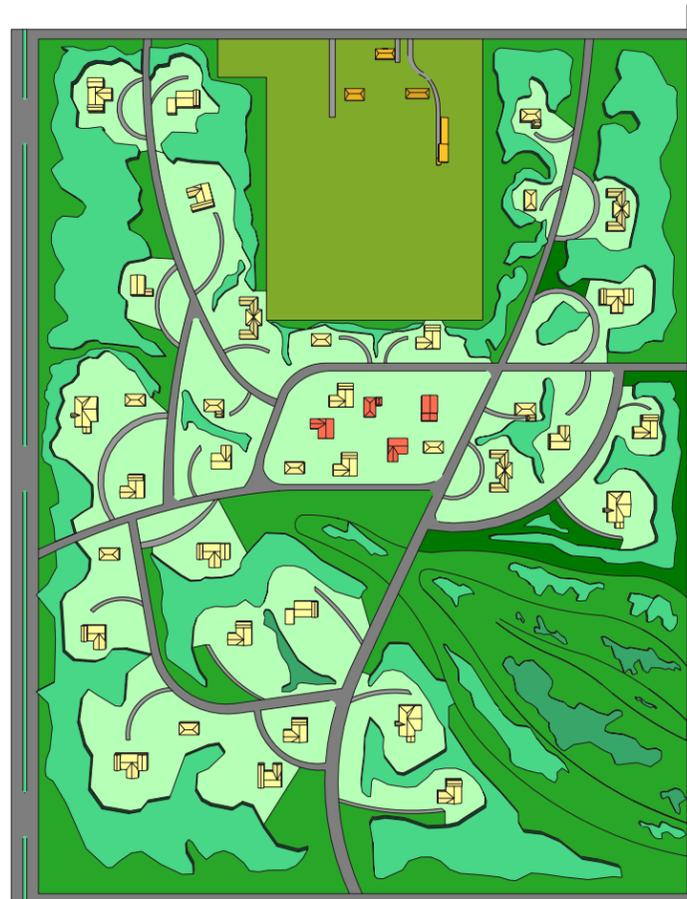
Table 5.2 Development Patterns Continued

RURAL

Village

Clustered, relatively small lot residential development in a traditional village format with the possibility of limited, centralized supportive commercial activity for daily retail and service needs.

- Builds upon growing Traditional Neighborhood Design and New Urbanism movements to recapture a lost “sense of community”
- Allows for evolution into larger communities or could utilize Conservation Easements in surrounding rural areas to maintain character as “villages”
- Villages may include “commons” or “greens”
- Roadway network focuses upon “connection” instead of “collection” and is typically narrower
- On-street parking is an option that is often encouraged
- Walking and bicycling are viable alternatives for casual trips and recreation
- Greenways or conservation areas could be used as open space, farmland, recreation, stormwater retention or other low-impact uses desired by the community

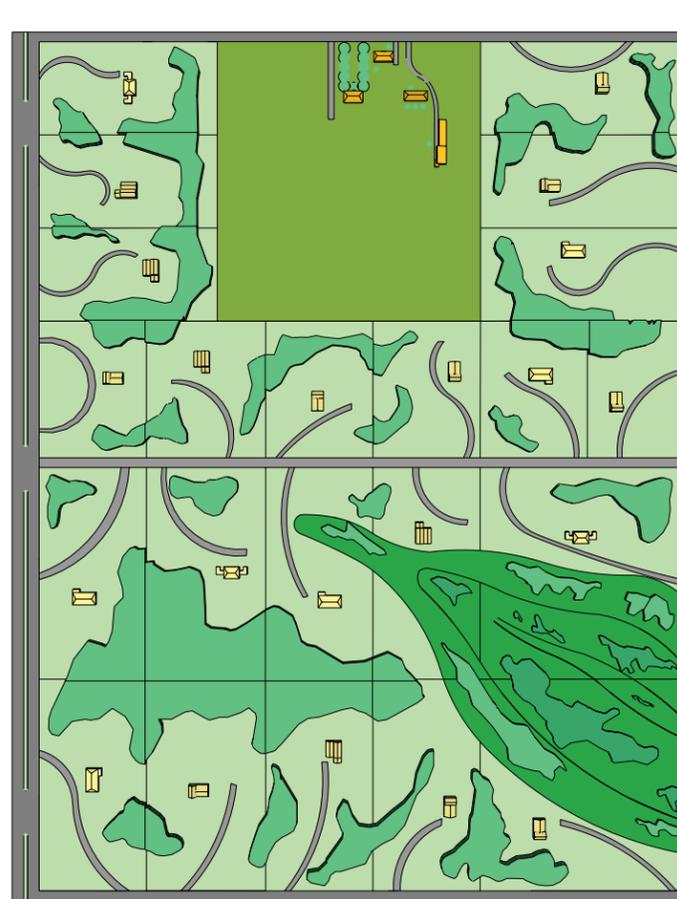


SUBURBAN

Linear

This development alternative consists of single family homes on medium/large lots located along a roadway in a “strip fashion”. Front yards, trees and landscaping are a prominent feature of this development type.

- Single family development on large/medium lots
- Commercial retail and office space is rarely directly associated with suburban development, but occurs along traffic routes as the number of “rooftops” increase
- Pedestrian activity and bicycling are optional, but commonly limited to purposes of health and recreation rather than commuting
- Streetscape typically consists of relatively expansive front yards with sidewalks – on-street parking is usually permitted but is considered a traffic interruption



Conventional

Modeled after single family development patterns occurring in League City. Typically includes limited commercial activities accessible by car. Includes little relationship/connection with surrounding areas.

- Single family development on smaller lots with occasional mix of residential, commercial, and institutional land uses. Housing consists primarily of single family detached units of similar sizes, but could vary in size and could include limited multifamily development
- Commercial retail/office space is rarely directly associated with this development, but occurs along traffic routes as the number of “rooftops” increase
- Green space typically consists of private neighborhood parks complemented by larger public facilities
- Pedestrian activity and bicycling are optional, but commonly limited to purposes of health and recreation rather than commuting
- Streetscape typically consists of relatively expansive front yards with sidewalks. On-street parking is usually permitted but is considered a traffic interruption

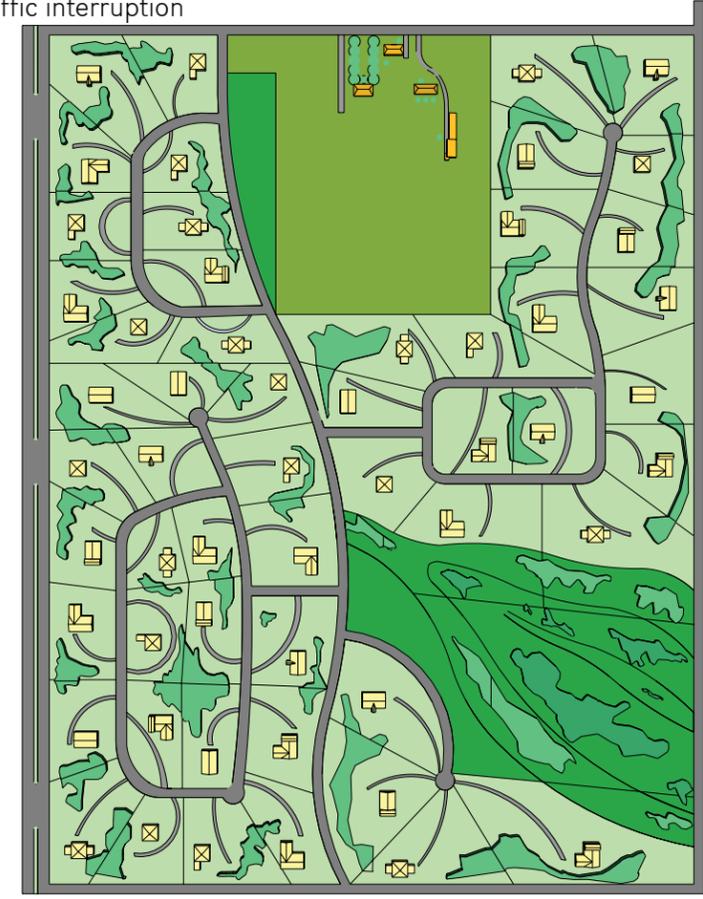


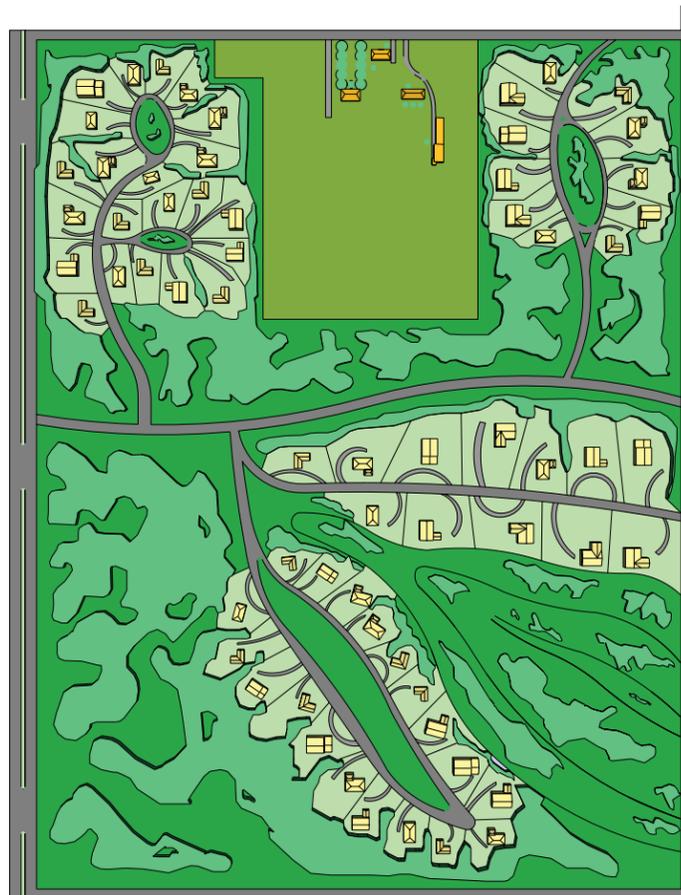
Table 5.2 Development Patterns Continued

SUBURBAN

Cluster

Suburban “clustered” communities are similar in form and function to Suburban Conventional subdivisions except they cluster residential units around open space, golf course or other amenity. These communities are sometimes gated and primarily consist of single family homes.

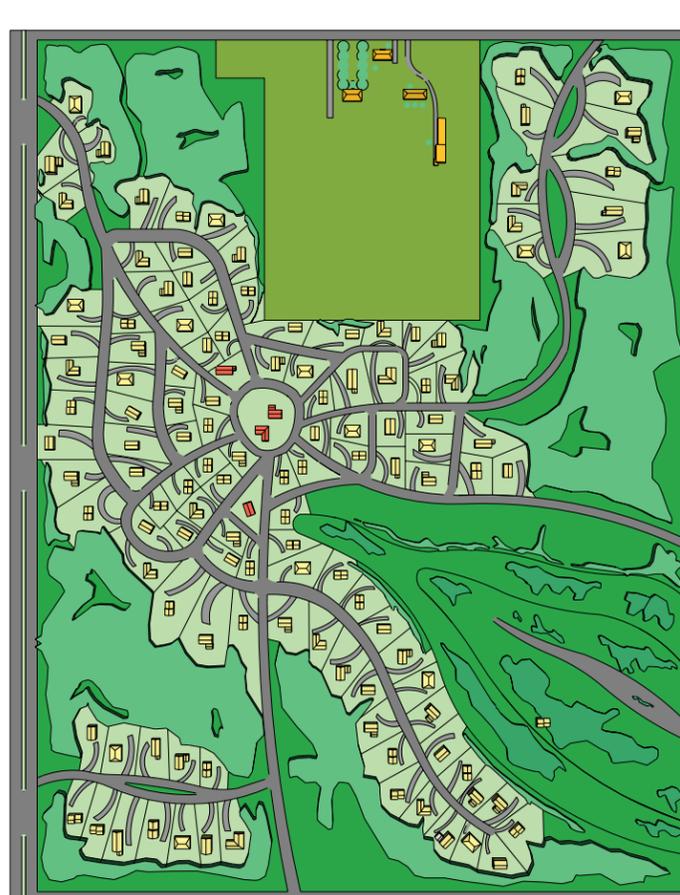
- Single family development clustered around open space
- Open space can consist of golf course, lakes, and/or natural areas
- Housing consists primarily of single family detached units of similar sizes, but could vary in size and could include limited multifamily development
- Open space provides for suburban character and garden like setting
- Commercial retail and office space is rarely directly associated with suburban development, but occurs along traffic routes as the number of “rooftops” increase
- Pedestrian activity and bicycling are optional, but commonly limited to purposes of health and recreation rather than commuting



Village

Clustered, relatively small lot residential development in a traditional village format with the possibility of limited, centralized supportive commercial activity for daily retail and service needs.

- Builds upon growing Traditional Neighborhood Design and New Urbanism movements to recapture a lost “sense of community”
- Includes a variety of housing types including single family homes, granny flats, duplexes, triplexes, quadplexes
- Limited commercial core for daily services
- Utilize Conservation Easements to maintain village character
- Villages may include “commons” or “greens”
- Roadway network focuses upon “connection” instead of “collection” and is typically narrower
- On-street parking is an option that is often encouraged
- Walking & bicycling are viable alternatives for casual trips and recreation
- Greenways/conservation areas could be used as open space, farmland, recreation, stormwater retention or other low-impact uses



Office Park

Places emphasis upon green space between structures in a pattern that is often associated with a college campus, research center or industrial “park”. The intent of this development is to establish a theme or commonality among structures and open spaces. An office park may be a single company with multiple structures or a series of subdivided lots in a single development (as is common in industrial parks).

- A series of common themes in structures and site design that may include materials, height, architectural style, landscape design, style of open spaces, and amenities
- Shared on-site amenities including signage, detention, parking and lighting and an emphasis on connectivity through common “gateways”, streets and sidewalks/trails
- Similar or complimentary uses (including densities) throughout the development that may include residential, public/institutional, commercial, or industrial
- Emphasis commonly on open space between structures



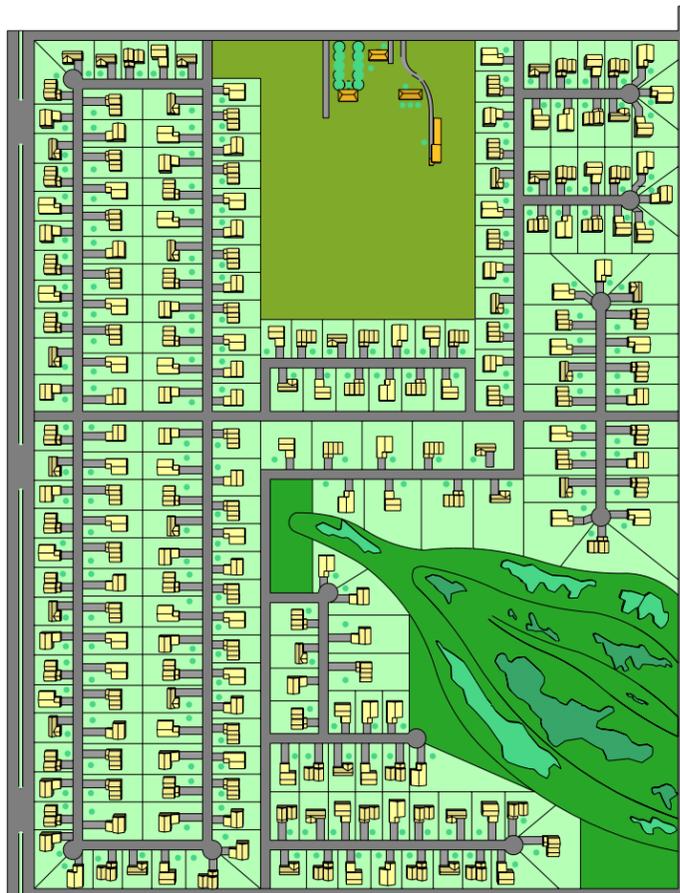
Table 5.2 Development Patterns Continued

AUTO DOMINANT

Linear

This development pattern can be characterized by single family homes on smaller lots, with minimal setbacks and open space. There is often little or no relationship to surrounding land uses.

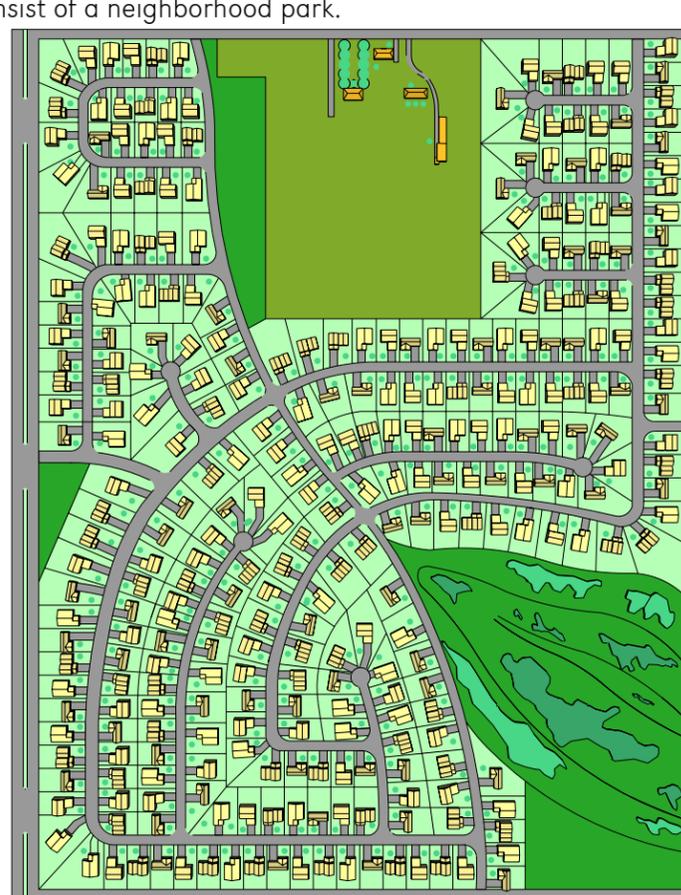
- Single family homes, with similar setbacks/dimensions located on smaller lots; may also include multi family developments
- Commercial retail and office space is rarely directly associated with this development, but occurs along traffic routes as the number of “rooftops” increase
- Streetscape has a strong focus on garage and parking
- While sidewalks may be present, little or no emphasis is placed on connectivity, walking or biking
- Very little landscaping and open space. Open spaces would typically consist of a pocket or neighborhood park



Conventional

This development pattern is what is typically found in League City. Similar to the Linear pattern it can be characterized by single family homes on smaller lots, with minimal setbacks and open space. Unlike the Linear pattern, the street network is more curve linear, with numerous cul de sacs.

- Single family homes, with similar setbacks/dimensions located on smaller lots, can also sometimes include multi family developments
- Commercial retail and office space is rarely directly associated with this development, but occurs along traffic routes as the number of “rooftops” increase
- Not much emphasis on connectivity, curve linear street pattern with cul de sacs
- Streetscape has a strong focus on garage and parking
- While sidewalks may be present, minimal emphasis is placed on walking or biking
- Very little or no landscaping and open space. Open space would typically consist of a neighborhood park.



Strip Center

A common form of commercial development found along busy arterial roads and highway corridors. Buildings are placed in a linear arrangement and set back from the road to provide ample and visible parking space.

- Single use, single story buildings that are most typically commercial
- Exclusively auto-oriented and located along high traffic roads
- Pedestrian activity is discouraged by conflict with auto traffic, very limited streetscape amenities, expansive parking between the sidewalk and structure, and lack of architectural detail that entices the walking public
- Dependant on parking that is visible from the road to attract customers
- Strip development may include an “anchor” tenant to attract customers to all businesses in the development. Anchor tenants are typically those that generate frequent trips (i.e. pharmacy, or supermarket) or those that attract regional customers (i.e. Best Buy, Home Depot)
- Strip activity tends to be focused upon short term profitability
- Very limited relationship to surrounding uses or structures
- Generally more compatible on high speed roadways than residential



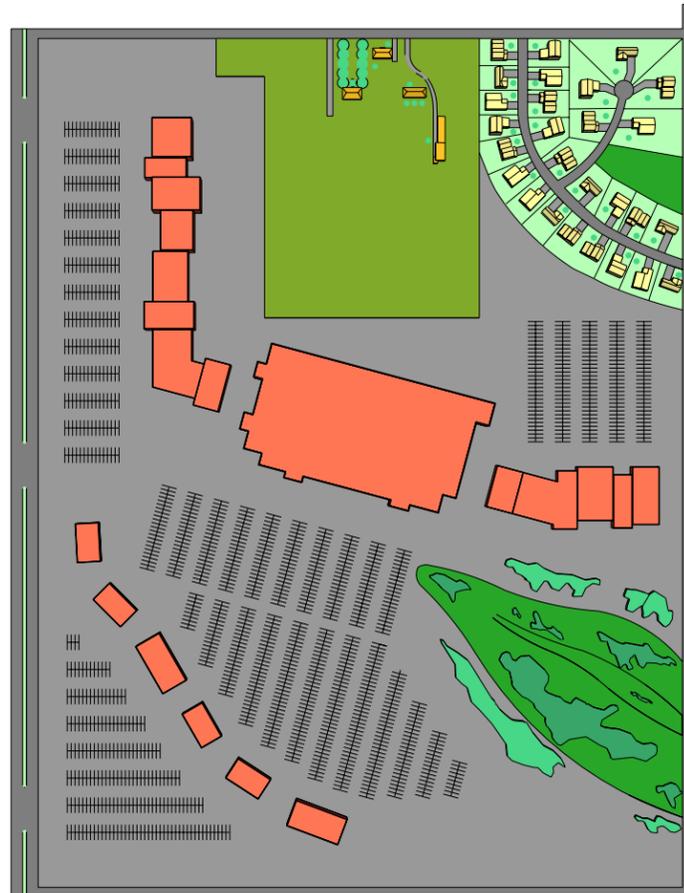
Table 5.2 Development Patterns Continued

AUTO DOMINANT

Power Center

This development alternative is characterized by a node or concentration of commercial uses. Power centers are typically anchored by one or more major retailers and supported by various shops and restaurants. The size of a power center can range substantially between small commercial centers that provide service to the immediate surrounding area to major “Power Centers” with multiple “anchor” tenants.

- Concentration of commercial uses oriented in a node or center
- Auto-oriented and located along high traffic roads such as arterials and highways
- Dependant on ample parking that is shared among tenants of the center
- Retail commercial centers typically rely on having one or multiple regional retailers to anchor the development and attract shoppers to the area



URBAN

Urban High

The intent of this development alternative is to create a vibrant, mixed use center where people have the opportunity to live, work, shop, and recreate within a central area. It is similar in form and function to a traditional downtown with high density office, retail, and residential uses.

- Commercial core supported by relatively high density residential in proximity to commercial activity
- Strong mix of uses (often including lower floor commercial and upper floor residential) with emphasis on mobility choice
- Surrounding areas function as interconnected neighborhoods with reduced setbacks to encourage pedestrian activity and sense of urban community
- Green spaces include central greens, pocket parks, and plazas
- Regional-draw retail, restaurants, entertainment, and office space
- Street network focuses on connectivity and collection, includes large urban sidewalks to accommodate foot traffic.
- On street parking and parking garages are encouraged



Urban Low

Very similar to Urban High in that its purpose is to create a vibrant, mixed use center, however at a less intensive scale.

- Mixture of housing types including single family homes, town homes, urban apartments, lofts
- Commercial core supported by relatively high density residential in proximity to commercial activity
- Strong mix of uses (often including lower floor commercial and upper floor residential) with emphasis on mobility choice
- Surrounding areas function as interconnected neighborhoods compared to subdivisions with reduced setbacks to encourage pedestrian activity and sense of urban community
- Street network focuses on connectivity and collection, includes large urban sidewalks to accommodate foot traffic
- Green spaces include central greens, pocket parks, and plazas
- Parking on street and in shared parking lots adjacent to developments



Goals & Policies

The following goals and policies should be used by the community to ensure that daily decisions related to land development and growth, support the community's long-term vision.

GOALS

- ❖ Achieve the desired character set forth in the Guiding Principles and Future Land Use Plan including the following:
 - Clustered subdivisions/villages surrounded by open space
 - Pockets of urban/mixed use centers
 - Villages around Main Street and Shellside
 - Preservation and enhancement of existing neighborhoods and commercial centers
- ❖ Preserve and showcase the community's amenities and natural assets including Clear Creek, native habitats areas, open spaces/rural areas, and the Historic District.
- ❖ Create memorable places and destinations for residents and visitors to enjoy.
- ❖ Promote a pattern of development that utilizes infrastructure efficiently and wisely.
- ❖ Create "neighborhoods" that offer a mixture of uses, facilities and amenities as opposed to "subdivisions" that are exclusively characterized by single family dwellings.

POLICIES

Character

- All plan approval and rezoning requests should be consistent with the character for the area, policies established in the Comprehensive Plan and the Future Land Use Plan. Any zoning request that does not conform should require a request for a Comprehensive Plan amendment prior to submittal of a rezoning application.
 - * A comprehensive plan amendment should be required for any change in the land use/character designation or for any text amendment.
 - * A comprehensive plan amendment may be submitted concurrent with a rezoning or other development application.
 - * Amendments should clearly describe the need for the proposed change, changing or unforeseen circumstances warranting the

change, the guiding principles or goals the proposed change supports, the effect of the proposed change on city services and facilities, compatibility with surrounding uses and any implications the amendment would have on other plan elements.

- The Comprehensive Plan should be regularly monitored and updated in order to respond to changing needs and conditions and remain useful overtime.
 - * City staff should monitor and report upon plan progress and success every year to at minimum the Planning and Zoning Commission and City Council.
 - * Minor revisions should be compiled and made at regular intervals such as annually, or more often as needed. Revisions that include changes to the future land use plan and/or new or revised policies should be considered major amendments and should be made as the need arises.
 - * The City should conduct a thorough review and potential revision and adoption of the Plan every 5 years. At this the time the base studies, guiding principles, future land use plan and policies should be updated and revised as necessary to reflect changing circumstances and priorities and emerging needs and opportunities.
- Approve and evaluate development requests based on compatibility with "community character", including overall intensity of a site using measures such as open space ratio, density, floor area ratio, setbacks, massing and scale.
- Treatment of the site, particularly open space and impervious/pervious surfaces, and relationship of a structure to its site and surrounding areas, is as important to character the actual structure.
- Designs incorporating best management practices including cluster development, Traditional Neighborhood Development, and Low Impact Development, where appropriate, are encouraged, preferable to typical conventional designs and should be allowed by right.
- Encourage compact, mixed use developments that include a variety of land uses, housing types and higher densities in designated Urban High and Urban Low areas.
- Promote flexibility in development patterns, site designs and uses by right, to the extent practical, and by Special Use Permit to further extent practical. Planned Unit Development should be considered a route of last resort.
- The average per unit value of any new residential development shall exceed the value necessary to cover the total cost of providing city services. The total cost of providing services shall be based upon an annually updated cost of service model that is enforced through the

platting and permitting process.

- Residential standards should be sufficiently flexible to allow developers to respond to the market while still meeting the cost of service and quality demands of the community.
- Eliminate standards such as minimum lot size and configuration in favor of density or yield requirements as a means of allowing maximum flexibility to developers to meet market demands.
- Utilize "build-to" lines in replacement of front setbacks in all but rural character areas. Establish a "build-to" range and percentage of frontage that must be within that range in order to promote continuity but also add flexibility (for example, 60 percent of frontage within 10 to 12 feet of the property line).
- Establish average height limits and increase maximum height to allow flexibility in massing and design, where appropriate.
- A pattern book or design guidelines should accompany major development activity to establish architectural and site design standards for a development project beyond the minimum requirements of the code (and as a means of assisting HOA or COA architectural review committees in making more informed decisions).
- Design standards in Urban areas should address the podium, shaft and top of structures in terms of space, massing and transparency.
- Different uses may be adjacent or mixed if the desired character is achieved and if impacts are appropriately addressed.
- Natural areas such as floodplains, native habitat areas, prairie land and wetlands should be protected and, when appropriate, utilized as amenities in achieving desired character. Natural features should be used as buffers or open space between or around developed areas and incompatible uses.
- Infill development and redevelopment, particularly in designated areas identified on Map 4.5, is preferable to new development in largely undeveloped or agriculturally productive areas.
- All infill development should be compatible with the character and context of surrounding areas.
- New development on sites adjacent to existing infrastructure is preferable to "leapfrog" development.

Steps to Subdivide Land

- Delineate areas unavailable for development (floodplain, certified wetlands) as well as those areas more desirable if not developed (woodlots, attractive view sheds, locations adjacent to less compatible uses).
- Calculate a base "yield plan" based upon the density allowed upon

developable land.

- Place units in locations, patterns and types that are most desirable/ marketable while complementary to the city’s Guiding Principles.
- Take advantage of viewsheds created by protecting undevelopable lands and intrude into areas preferred to be left alone only as needed to enhance site design, meet requirements, and allow for total yield.
 - * Add the pedestrian/bicycle network.
 - * Add street network.
 - * Add lot lines.

Housing/Neighborhoods

- Allow a mix of housing types and densities within the same development by right as appropriate to the desired character for the area. Large scale development should incorporate life cycle housing.
- Reduce monotony within a development by varying lot sizes (average), architectural styles, façade treatments, and scale, but in a manner that respects desired character and maintains compatibility.
- An active mix of housing types throughout a development is preferable to segregation of each type in separate locations.
- Permit a “granny flat” to accompany any single family home by right, assuming that all other requirements (such as impervious surface restrictions) can be met.
- Restrict the number of units in a single multifamily structure to a maximum of 24 units without a special exception, except in Urban High and Urban Low character areas as a means of maintaining scale.
- When designing new neighborhoods, preserve natural areas including prairie land, wetlands and floodplain areas that contribute to neighborhood identity and character.
- Schools, churches and other activity centers should be integrated with residential uses as long as impacts are appropriately addressed.
- Ensure a strong internal network of paths (streets, sidewalks and trails) and linkages, as well as with nearby neighborhoods, destinations and activity centers.
- Take every opportunity to reduce the amount of impervious surface in developments and on individual sites, including use of pervious pavement where appropriate.
- Allow industrialized housing (prefabricated and manufactured) to be located in any area in which single family residential structures are allowed provided that they meet city wide general design standards established for all single family structures or neighborhood standards.

Minimum General Design Standards for all Single Family Structures

- Criteria established in a pattern book or accepted design standards for a neighborhood should be considered in addition to an established set of Minimum General Design Standards. In areas of duplication, an approved pattern book or design standards should supersede the Minimum General Design Standards.
- Primary entry into all residential structures shall face the adjacent roadway, unless the primary entry for the majority of surrounding structures is located otherwise.
- Roof type, details, materials, slope and overhang shall be similar to surrounding structures (for example, in all directions for 300 feet) in conformance with current zoning standards.
- Architectural design, door details, window details, massing, accessories, and materials shall be similar to one of the styles of surrounding structures that are in conformance with current zoning standards.
- Small deviations from the Minimum General Design Standards or from a neighborhood pattern book may be approved by staff, but major deviations should require a variance for hardship or a Special Use Permit.
- Water conservation, stormwater management and energy conservation, as well as improvement to the existing neighborhood housing stock may be acceptable causes for deviation from the Minimum General Design Standards.

Neighborhood Protection

- Preservation and enhancement of existing neighborhoods is critical to the future of League City and will be a primary consideration in future land use and community character decisions.
- Compatibility of uses should first focus on performance and impacts; however, it should also recognize that some uses are simply incompatible by community standards.
- Development regulations should utilize a table of uses that are permitted by right (assuming that they meet any necessary impact requirements), “special uses” permitted only after approval by Council, and uses that are not approved.
- Some uses may be determined to be acceptable by right, but only after mitigation of regularly anticipated impacts or provision for regularly anticipated conditions. In those cases, conditions for use by right should be established in advance and included as part of development regulations.
- Consider preservation and enhancement of the current mix of uses, character, development patterns and architectural design of

established neighborhoods through use of a “conservation overlay”.

- Infill activity should follow the mix of uses, character, development patterns and architectural design defined by a pattern book or set of accepted design standards for the area, if those standards were previously established and are publicly enforceable. If no pattern book or accepted design standards are available, then infill development in established neighborhoods should meet standards derived from other sites and structures along the shared block face and two adjacent block faces that are located in the established neighborhood.

Commercial

- Discourage strip commercial development as a development pattern in order to improve traffic safety, visual impact and to maximize use of the land and long term return on investment.
- Encourage redevelopment of strip commercial sites as residential, office or institutional uses.
- Take every effort to reduce “isolationist” design in existing strip commercial sites, including shared parking, access (to the street and between sites), and shared landscaping.
- Cluster commercial activity to maximize pedestrian and vehicular access. Amenities such as entries, parking, detention and signage should be connected and shared to enhance on-site convenience and pedestrian traffic.
- Neighborhood centers should be integrated with residential uses with emphasis on convenient access by area residents, including those traveling by foot, bike or another alternative to an automobile. Impacts created by neighborhood centers should be creatively mitigated, as opposed to simply screened and isolated.
- Concentrate the highest densities of employment, commercial, residential, and mixed-use development and other planned major activity centers in the designated Urban High/Urban Low areas.
- Promote commercial “districts” that offer the ingredients needed to entice people to the area and keep them interested for an extended period of time. Districts should include a minimum of one major landmark, gathering place or attraction in addition to commercial retail or office activity.
- Commercial districts should offer a “theme” or “experience” that is unique to the particular district that may be derived by form, mix of uses, attractions, district amenities, and/or architecture and site design.
- Districts should be well connected by a series of paths and linkages, both internally and with other districts, including systems of wayfinding, street furniture, lighting and landscaping.

Parking

- Parking requirements should allow for flexibility based upon market demand while also respecting community character.
- Off-street parking should be shared to the greatest extent possible, particularly in instances of complementary uses.
- Structured parking is preferable in Urban areas, particularly in areas characterized as Urban High.
- When possible, structured parking should be integrated into structures with commercial retail activity on the first floor.
- On-street parking is encouraged as appropriate to area character and context.
- Public parking should be promoted as a viable means of spurring economic activity and, when appropriate, should be counted toward parking requirements of surrounding uses.
- Public parking should be strategically located for purposes of promoting pedestrian activity.
- Reduce parking and space requirements for development that installs bike racks (where appropriate).
- Location and design needs for parking, like parking type, should differ according to character area.
- The percentage of off-street parking allowed in front of a structure should decrease as intensity of character increases from Rural to Urban.
- Encourage low impact design in parking areas, including use of pervious pavement, rain gardens, and naturalized parking techniques such as cellular grass paving.

Open Space

- All open spaces, green belts, parks, trails, playgrounds and other recreational facilities which are open to the public will be included in the city's parks and green space calculation.
- Open space should be functional for purposes of enhancing recreation, character, connectivity, conservation, wildlife habitat and/or stormwater management.
- Open space should be promoted in meeting several urban design needs, including creation of landmarks, gathering spaces/destinations, paths, or edges.
- Open space should be prominent in site design and development/redevelopment efforts in a manner appropriate to area character and intensity of development.
- Residual space resulting from poor site design should not be considered acceptable for meeting open space requirements.

- Alternative housing types may be used to achieve greater design flexibility in preserving and taking advantage of opportunities related to open space.
- Open spaces should be connected within a development as well as with open spaces on adjacent sites. Linkages between open spaces and with other destinations should be considered a critical component of good site design.
- Primary conservation areas, such as floodplains, should be maintained in a natural state, free from development with the exception of recreation or other low-impact uses. Secondary conservation areas should be preserved and utilized in site development to the extent practical.
- Primary and secondary conservation (see Map 4.1) areas should be preserved through dedication, conservation easements or other means of acquisition and management.
- Open space is best maintained in a coordinated, connected and accessible system of natural areas, greenways and recreation spaces.
- Conservation subdivision techniques offer an optimal tool that creatively allows for both development and preservation (and full and marketable use of) of sensitive areas such as wetlands and other existing natural areas.
- Encourage creation of natural wetland areas (as opposed to lakes) as an amenity or to compensate for native areas (including prairie lands) that have been destroyed during development.
- If open space is to remain private, then require assurance that it will remain protected and maintained in an appropriate condition.
- Consider conservation easement as a tool for protecting natural areas with maintenance through a land trust or homeowners association.
- Innovative techniques for increasing open space, such as development of a green roof or naturalized parking areas, should be encouraged and should count toward meeting a portion of open space requirements and as tools for reducing impervious surfaces.
- Enhance and expand, to the greatest degree possible, linkages and access to Clear Creek and adjacent sensitive areas.

Bufferyards

- Promote architectural and natural solutions for noise issues, including berms, mounds, vegetative walls/screens.
- Bufferyards are a better means of addressing impacts than setbacks and/or simple vegetative screens. Bufferyards should include a mix of landscaping, berms, and walls (including noise reducing materials), in addition to setbacks.

- Bufferyard standards should vary based on the level/type of impact, intensity, and compatibility of adjacent uses.
- Water conservation and stormwater drainage systems, may be integrated into required bufferyards, if designed appropriately.
- Bufferyards should complement existing natural areas.

Responsible Growth

- Development should, at worst case, run concurrent with the availability of infrastructure and acceptable levels of service.
- Municipal Improvement Districts are not an appropriate substitute for municipal infrastructure and service and should be discouraged, if not fully avoided.
- Total population and employment upon buildout should not be allowed to exceed the ability to adequately provide water, stormwater, wastewater, and transportation services, with particular emphasis on the most finite of these resources - water.
- Ordinances should be revised to ensure that population and employment do not exceed the capacity.
- Ordinances should not allow short term development to render additional sites unavailable for development because water capacity has been reached.
- Water management is critical to growth and water conservation practices can substantially reduce water consumption, particularly during peak periods.
- Development patterns, intensity, and design standards can all play a role in impacting water consumption.

Impacts

- Establish noise mitigation measures that maintain the ambient noise level in existence prior to development of a project (or better).
- Lighting should be designed to promote the objectives of the International Dark Sky Association.
- Minimize the impact of tall buildings upon adjacent shorter buildings through use of a Sky Exposure Angle in addition to setback requirements.
- Promote the use of innovative methods of addressing impacts, particularly if such methods are successful without creating additional impacts that cannot be successfully mitigated.
- Consider construction impacts, particularly in situations that require construction outside of daylight hours, separately from post-construction impacts.
- Distance is typically a poor means of addressing impacts in comparison

to other methods.

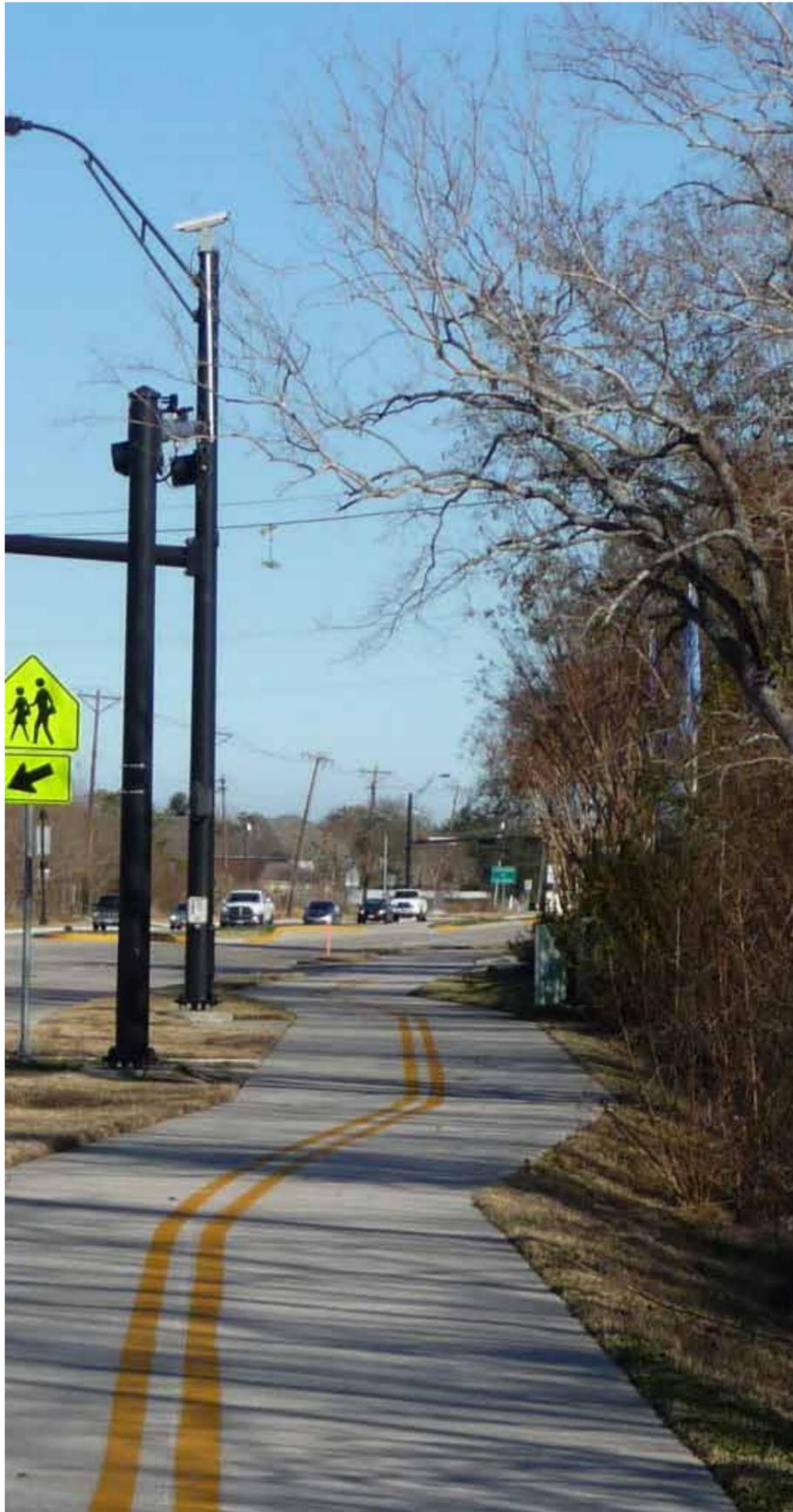
Water Management and Energy Conservation

- Promote development patterns and architecture that reduce the need for energy and water consumption.
- Encourage development patterns to take advantage of sun angles and natural wind flow.
- Encourage an intense tree canopy as a tool for reducing energy consumption and thermal pollution while also increasing value.
- Native grasses and groundcovers should be encouraged instead of turf to reduce water usage.

Annexation

- Annex remaining lands in the extraterritorial jurisdiction only as appropriate and feasible.
- Ensure that a plan is provided at the time of annexation that clarifies appropriate character for the area.

6 – MOBILITY



The mobility network plays an essential role in virtually all aspects of League City. It is most obviously the means by which people and product flow within and through the community. It also heavily influences the character of an area, economic potential, and the community's marketability. For those reasons, mobility is not simply a focus on the ability to move people and goods, it is also the experience that residents, employees, guests and potential investors have while moving within the community, including convenience, safety, time, cost and entertainment along the way.

The mobility network is focused on roadways with limited alternatives. However, as League City grows it has the potential to offer a variety of ways to move around, including walking, biking, transit, golf cart and other neighborhood electronic vehicles (NEVs), even travel by water. This is not to say that people will give up automobile travel. Simply put, League City is a community of "drivers" and, in the future, it will continue to rely on the automobile for large majority of movement with three distinct differences:

- The destination-based development approach along with substantially increased employment opportunities promoted in the Land Use chapter are expected to result in fewer reasons to leave town and more reasons to work, shop and play in League City.
- Residents, employees and guests that decide to stay local should have

options for travel, depending upon their preference. They may choose to ride a bike to dinner or drive the golf cart to the store – or not.

- As a result of the city's effort to create interesting places, more people will be interested in traveling to League City and some of those anticipating driving through on the way to another destination, will want to stop and visit.

The Mobility chapter examines the movement of goods and people in the context of both existing circumstances and the vision for the future. In doing so, it recognizes that the system currently struggles in certain locations and at certain times (particularly peak hours for commuting to and from work) while also recognizing that the population and employment of League City are expected to more than double upon full "build-out". In light of this, the mobility network must evolve into a system that effectively provides a relatively positive experience. Two documents, the Master Mobility Plan that is currently near completion and the recently approved Master Trails Plan provide a number of recommendations for improvement. The Master Mobility Plan is summarized in this chapter while the Master Trails Plan is discussed in the Parks and Open Space chapter. The Mobility chapter utilizes the results of these documents, including the resulting Thoroughfare Plan, and bolsters them with discussion of roadway design, particularly relative to community character. It also provides goals and policies intended to guide decisions made daily about the transportation system.

Master Mobility Plan 2011

The Master Mobility Plan is a multi-modal plan that takes a comprehensive look at all transportation options and modes available to the city. The plan assesses current conditions and makes short and long term recommendations related to roadway improvements, pedestrian and bicycle facilities and transit. The Plan serves as a step-by-step implementation tool for improving traffic flow, connectivity and mode choice in the community.

EXISTING CONDITIONS AND ISSUES

Roadway Network

- Major roadways in the community include I-45/Gulf Freeway, FM 518/Main Street, FM 646, SH96/League City Parkway, FM 2094/Marina Way Drive, and Bay Area Boulevard.
- The roadway network is primarily hierarchical meaning that traffic flows onto a relatively small number of arterial streets that are designed to carry high traffic volumes at high speed.
- A general lack of connectivity results in few options for continuous travel other than on the arterials, mobility is vulnerable to disruptions on major streets.
- Future opportunities for connectivity are limited as a result of existing subdivision design.
- Traffic is concentrated onto a few main arteries. FM 518, is considered the primary artery of League City. It connects neighborhoods with the Gulf Freeway and significant retail/commercial development along the corridor. FM 518 currently exhibits:
 - * A high density of signalized intersections, some of which operate at Level of Service (LOS) “E” or “F” during peak travel times.
 - * Entire roadway sections that operate over capacity.
 - * An unacceptably high crash rate
- The roadway network in the Historic District and Shellside area are the only areas in the community configured in the connected grid format that has proven to be more supportive of pedestrian and bicycle activity and more efficient with higher development densities than the areas served by the hierarchical network.
- League City has adopted Level of Service “D” as the minimum standard for acceptable roadway performance.
- The community’s desired level of service results in classification of roadways with an existing LOS of “E” or “F” as deficient. Likewise, signalized intersections operating at worse than LOS D are also deficient. Figure 6-1 shows the locations of these deficient roadway

segments and signalized intersections.

- Intersection analysis shows the intersections of FM 518 and Hobbs Road, FM 518 and the I-45 frontage road north, and FM 646 and the I-45 southbound ramps regularly operate at a level of service “F”.

Accidents

- The number of crashes on League City roadways has been trending upward, with a 32% increase between 2003 and 2008. FM 518 and FM 646 produce the highest number of serious accidents, combining for nearly half of all serious accidents on League City roadways.
- The crash rate along the entire FM 518 corridor (including portions in Pearland, Friendswood, League City, and Kemah) is approximately one-third higher than the statewide average for similar roads. However, the crash rate along FM 518 between I-45 and the “Five Corners” intersection in League City is more than double the statewide average and nearly two-thirds higher than the FM 518 corridor average.

Pedestrian/Bicycle Network

- League City’s existing pedestrian network is largely incomplete and discontinuous. Many of the subdivisions in the community have sidewalks, but even there they are not always complete. Outside of neighborhoods, presence of sidewalks is sporadic, including on public property. The resulting “gaps” significantly affect the overall effectiveness of League City’s pedestrian network.
- League City currently does not have any on-street bicycle lanes.
- The City of League City does offer a few shared use paths, including a major pathway located along the FM 518 corridor from the CCISD campus south to SH 146.

Transit

- There is existing park & ride commuter bus service available to League City residents, although not within League City’s boundaries. METRO’s Bay Area Park & Ride is located at the corner of Bay Area Boulevard and Feathercraft Lane, approximately 4.5 miles north of the heart of League City. In addition to this lot, commuter buses serving the Bay Area Park & Ride also stop at a park & pool lot at the corner of Bay Area Boulevard and IH 45, before proceeding northbound via the IH 45 High-Occupancy Vehicle (HOV) lane.
- Plans are underway for southbound park & ride service from League City, located at University of Texas Medical Branch (UTMB) Victory Lakes medical campus. This park & ride facility is currently under development and completion is estimated in mid- to late 2011. For the first time, the facility will provide League City residents with regional

transit service that travels southbound to Galveston.

- There is currently no local, fixed route transit service available in League City. However, there is existing service in many of the surrounding communities and additional routes in the planning stages. Dickinson, Texas City, La Marque, Seabrook, Kemah, and the Clear Lake/NASA Parkway areas are some of the places where fixed route transit is or will be operating.
- Demand response transit is currently available to League City residents through Connect Transit. Demand-response service, also known as paratransit or dial-a-ride, is a transit service in which the rider calls the transit provider to request a ride from a specific origin to a specific destination.

Roadway Design Standards

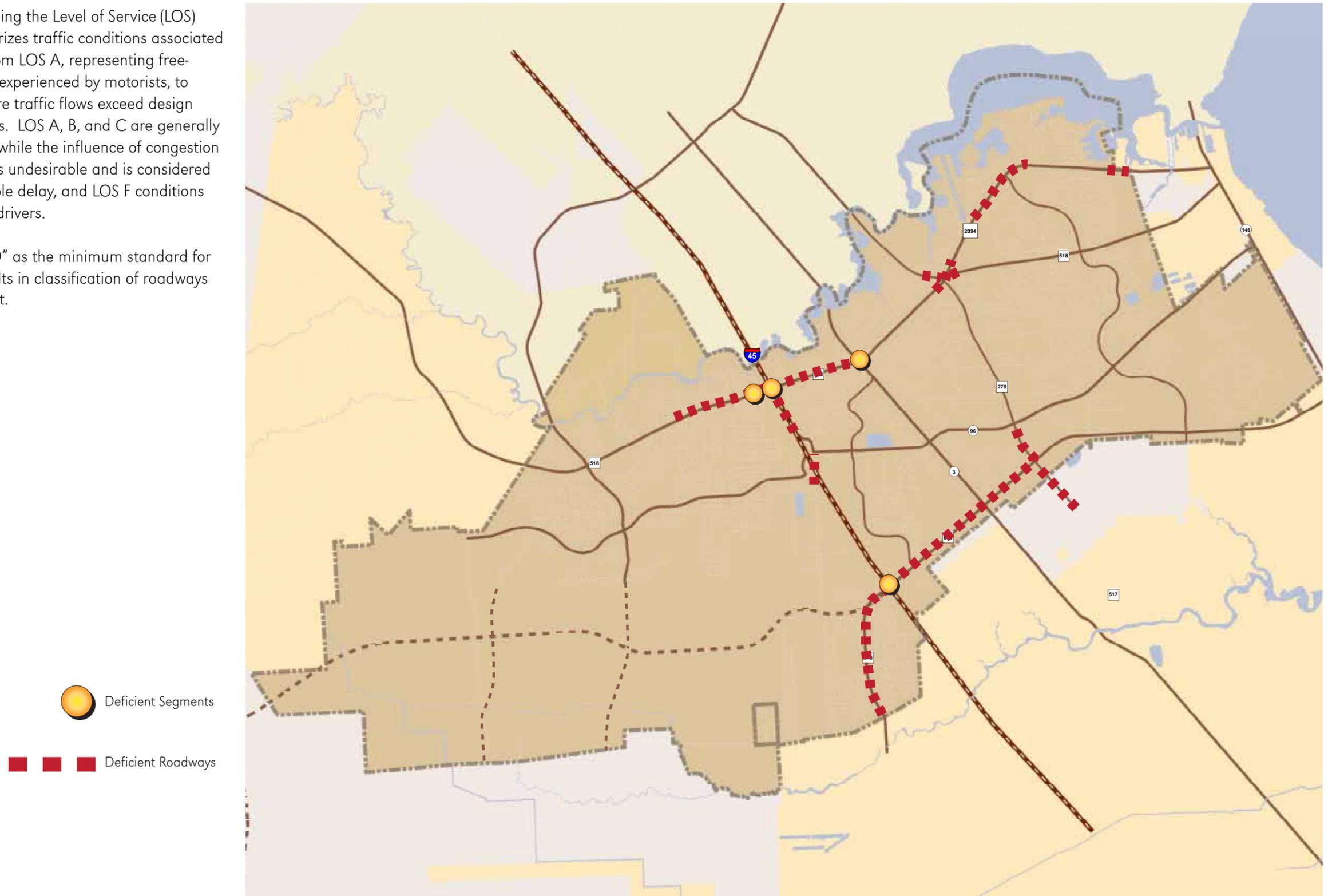
- The criteria represent vehicle-oriented thoroughfare configurations only. For example, in all sections, sidewalk widths are suggested to be four feet rather than the recommended five feet specified by ITE for a vehicle-oriented thoroughfare and well under the nine to twelve feet specified for a walkable thoroughfare.
- The criteria do not provide guidance to reflect the relationship between the roadway and the adjacent community character or development context, nor do they offer consideration for multi-modal improvements.
- The criteria do not provide guidance for decision-making where an element of the thoroughfare has a range of widths. In fact, right-of-way width may be the sole determinant of space allocation.

LEVEL OF SERVICE

Roadway performance is often measured using the Level of Service (LOS) grading system which qualitatively characterizes traffic conditions associated with varying levels of traffic. LOS ranges from LOS A, representing free-flow traffic conditions with little or no delay experienced by motorists, to LOS F, describing congested conditions where traffic flows exceed design capacity, resulting in long queues and delays. LOS A, B, and C are generally considered to be satisfactory service levels, while the influence of congestion becomes more noticeable at LOS D. LOS E is undesirable and is considered by most agencies to be the limit of acceptable delay, and LOS F conditions are considered to be unacceptable to most drivers.

League City has adopted Level of Service "D" as the minimum standard for acceptable roadway performance. This results in classification of roadways with an existing LOS of "E" or "F" as deficient.

Figure 6-1, Deficient Roadways and Intersections



INTRODUCTION TO MOBILITY CHARACTER

Historically, roadways have been typically designed according to their functional classification which groups roadways according to the service they are intended to provide as part of the overall network. The functional classification system typically divides roadways into Arterial, Collector and Local roads. These functional classifications describe roadways based upon the degree to which the roadway provides mobility, through movement and land access. This system is used for establishing speed limits, design standards, and access controls.

The concept of context sensitive design expands roadway design and configuration beyond the traditional functional classification system to take into account the surrounding character of the area through which a roadway passes. In this way the streetscape becomes an integral part of the built environment that fully complements surrounding activities. A context sensitive thoroughfare in an urban area might include parallel parking, public spaces designed into the roadside and a wide sidewalk for outdoor cafes. As the context changes from urban to suburban or rural the design of the thoroughfare would change as well.

In addition to functional classification, thoroughfares can be classified by character using names that are common such as Expressway, Highway, Boulevard, Avenue, Street, Road and Alley. Today, these titles are used interchangeably, but they historically signified roadways with markedly different traits. Each was appropriate in specific areas. For example, an Avenue may be common in an urban area, but would not be found in a rural area. Likewise, a Road was typically found in rural areas.

The following typology is used to define roadways according to character:

Freeway/Expressway/Parkway represents large volume limited access roadways that allow for a high rate of speed and serve to move cars through an area.

- Freeways are high speed (50 mph or higher), controlled-access thoroughfares with grade-separated interchanges and no pedestrian access.
- Expressways and parkways are high- or medium-speed (45 mph or higher), limited-access thoroughfares with some at-grade intersections.
- Parkway generally allow a rate of speed similar to Expressways and have landscaping (most often naturalized) located on each side of the roadway, as well as a wide landscaped median.

Rural Highway is intended as a high speed (45 mph +) thoroughfare designed

to carry traffic and to provide access to abutting property in rural areas. Intersections are generally at grade with occasional deceleration lanes and often include wide shoulders to allow for passing.

High Speed Boulevard serves as a high speed (40 to 45 mph) divided arterial in urban and suburban environments designed to carry primarily higher speed, long distance traffic and serve large tracts of separated single land uses (for example, residential subdivisions, shopping centers, industrial areas and business parks). High speed boulevards may be long corridors, typically 4 to 8 lanes and provide very limited access to land. High speed boulevards may be transit corridors and accommodate pedestrians with sidewalks or separated paths, but some may not provide any pedestrian facilities. Location of a sidewalk is dependent upon surrounding character with separation from the roadway increasing as character becomes less urban. High speed boulevards emphasize traffic movement, and signalized pedestrian crossings and cross-streets may be widely spaced. Bicycles may be accommodated with bike lanes or separate, shared use paths. Buildings or parking lots adjacent to boulevards typically have large landscaped setbacks. They are primary goods movement and emergency response routes and widely use access management techniques to maintain speed with limited interruption.

Low Speed Boulevard represents a walkable, low speed (35 mph to 40 mph) divided arterial in urban environments designed to carry through and local traffic, pedestrians and bicyclists. Sidewalks may be adjacent to the roadway or separated by a landscaped strip. Boulevards may be long corridors, typically consisting of four lanes, but may sometimes be wider, serve longer trips and provide limited access to land. Low Speed Boulevards may be high ridership transit corridors. Boulevards are primary goods movement and emergency response routes and use access management techniques. Curb parking may be allowed on boulevards.

Avenue describes a walkable, low-to-medium speed (25 to 35 mph) urban arterial or collector that offers access to abutting land. Avenues serve as primary pedestrian and bicycle routes and may serve as local transit routes. Avenues are traditionally two to four lanes with access to land as a primary function. Goods movement is typically limited to local routes and deliveries. Some avenues feature a raised landscaped median. Avenues may serve commercial or mixed-use sectors and usually provide curb parking.

Street is intended to be a walkable, low speed (25 to 30 mph) roadway, primarily serving abutting property. A street is typically two lanes and is designed to connect residential neighborhoods with each other, connect neighborhoods with commercial and other districts, and connect local streets

to arterials. A street may serve as the main roadway of commercial or mixed-use sectors and emphasize curb parking. Goods movement is restricted to local deliveries only.

Rural Road is a low speed (25-30 mph) thoroughfare in rural areas primarily serving abutting property.

Alley/Rear Lane is described as a very low-speed (5-10 mph) vehicular driveway located to the rear of properties, providing access to parking, service areas and rear uses such as secondary units, as well as an easement for utilities.

Character and functional classifications tend to be complementary. A roadway with a functional classification of “arterial” may be designed as a boulevard or avenue, for example, depending upon the development context that roadway serves. Table 1 shows the relationship between functional classification and thoroughfare types. As shown an arterial roadway could have cross-sections that vary from two to six lanes, depending upon the context through which it operates.

Context Sensitive Solutions (CSS)

CSS is a different and increasingly popular approach to the planning and design of mobility projects that is a direct extension of the discussion of character. However, rather than just defining roadways according to character typologies and general Community Character categories, CSS also builds upon the unique traits and identity of a particular area, such as a trail through wetlands or an area with specific history, such as the Main Street in the Historic District. CSS also plays a major role in functional issues, particularly in instances of conflicts or the need for interaction between modes that can result in intersection improvements, installation of crosswalks at critical locations, or traffic calming. Often, the solution is both functional and intended to enhance character, such as installation of the proposed paddle trail along Clear Creek.

In total, CSS:

- Publicly establishes the goals that a project is intended to accomplish such as improved access, congestion mitigation, enhanced safety, or increased travel options;
- Couples the goals of the project with an understanding of the current and desired physical, social and economic conditions of the areas through which a project passes;
- Involves the public and stakeholders early and continuously throughout the planning and project development process;

Table 6-1, Functional Classification and Thoroughfare Types

Functional Classification	Freeway Expressway Parkway	Rural Highway	Boulevard	Avenue	Street	Rural Road	Alley Rear Lane
Principal Arterial	■	■	■	■			
Minor Arterial		■	■	■	■		
Collector				■	■	■	
Local					■	■	■

Source: Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities, ITE, 2006

- Establishes criteria for determining if a project design should be considered “successful”;
- Utilizes an interdisciplinary team tailored to addressing both project and area-specific needs;
- Considers all appropriate modes of travel and the relationship between modes;
- Applies creative solutions and applies flexibility to design standards, where appropriate; and
- Incorporates aesthetics as an integral part of good design.

Putting It All Together

The mobility system is a sum of its parts. If all of those parts function together seamlessly and they fit well within the context of the surrounding area, then a traveler’s experience will likely be positive. Transit operators have a motto of “first mile to last mile” that neatly summarizes expectations of the mobility network. Every aspect of the travelers experience should be considered from the moment that person exits the door of the home to the moment he or she arrives at the destination. Ironically, Walt Disney applied the same principles in Walt Disney World. If an experience is positive, it will likely be repeated.

In typical communities, simply ensuring that people and goods can move through the city without a problem is enough. However, the destination-based approach to development anticipated in League City is dependent upon creating positive experiences. In this manner, a seamless mobility system that is effective and contributes to the character of the area plays a key role in the city’s marketability to residents, employees and guests. For that reason, every detail counts and it counts for every trip from the most mundane to the most unique. A child may choose to ride a bicycle to school on a particular

Case Study - Context Sensitive Solutions A Avenue, Lake Oswego, OR

A Avenue, is a major arterial located in Lake Oswego’s downtown. The downtown area can be characterized as low/medium density commercial mixed use with low/medium density residential located one block from A Avenue. There are several free-standing office buildings and the city’s civic center is located at one end of the study corridor. The downtown contains ground floor retail with cafes with street seating. Retail consists of local specialty shops and some national retailers. Upper floors are a mix of professional offices and personal services. Downtown is surrounded by low density single-family homes and medium density multi-family units.

In 1986 The East End Redevelopment Plan was adopted and included a beautification plan for A Avenue. The plan called for landscaped medians to “soften the perceived barrier, which this very wide street creates between two main commercial areas of the East End.”

The beautification plan included:

- Modifications to the left turn system (lanes in medians);
- Traffic signal system improvements;
- Overall circulation of commercial and residential streets and alleys;
- Curb extensions to reduce crossing width;
- Special pavement to “improve the visual and psychological connection between the two sides of the street;”
- Undergrounding of utilities;
- Sidewalk extensions/improvements with pedestrian amenities; Street trees, furniture, pedestrian scaled lighting and directory signage.

The A Avenue reconstruction was completed in the 1990s and today it is a functional and highly attractive major urban thoroughfare.

Thoroughfare Elements of the Roadway:

- Functional class: Major arterial
- Through lanes: 4
- Turn lanes: Center left-turn lane
- Median: Raised
- Sidewalks: Both sides
- Planting strip: Tree grates in sidewalk and planting strips
- Speed limit: 25 mph
- Drainage: Urban, curb and gutter
- Parking: Parallel
- Transit: Local/limited routes
- ADT: 24,000

Land Use/Street Integration Features:

- Sidewalks vary from 8 to 15 ft. in width.
- Each block contains several pieces of public art.
- Ample and well-placed street furniture, benches.
- Most building entries at back of sidewalk.
- Good street connectivity on older grid of streets.
- Some cafes with outdoor seating (mostly on side streets).
- Pedestrian scaled lighting/urban design features including monuments, walls and built in plazas.
- Well-maintained street trees and indigenous landscaping in median, planting strips and grated treewells.
- On-street parking, street trees and urban design features buffer sidewalk from travel lanes.
- Attention to detail in streetscape amenities.
- Public and private investment in streetscape, including private provision and maintenance.
- Local bus routes.
- Access management (buildings are rear accessed, median, grid system and some alleys).
- Access to historic Willamette Trolley connecting Lake Oswego to Portland.

Source: Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities, ITE, 2006

day. If all needs are considered, upon leaving the house that child can expect to travel along a well marked mix of bike lanes, trails or shared use paths that are designed appropriately to match surrounding context and consider the needs of potential users. The trip will inevitably require interaction with cars that may involve a simple crosswalk at an intersection, but given travel behavior at that location, it may also involve a number of additional improvements including signage, rumble strips, specialized signals, a raised crosswalk, or other amenities intended to provide the rider a sense of safety. Once at school, the child will need a safe place to store the bicycle. If every facet is considered and seamlessly implemented, the child reaches school safe and happy.

On a broader scale, if fully seamless and well planned mobility system can actually become a complementary attraction to the extent that traveling to a destination or within the destination becomes an activity of its own. The paddle trail along Clear Creek, as proposed in the Master Trails Plan, can be an exciting venture on its own. However, that activity could become a much larger engagement if a traveler could stop at Heritage Park and, for a small fee, rent a bicycle or Segway to ride into the Historic District for lunch and an opportunity to enjoy the latest festival held in League Park.

Each travel mode requires a number of ingredients that, together, make up the “sum of its parts”. Tables 6-2 and 6-3 note the basic ingredients that go into each mode. By no means should this table be considered more than an initial list, but it is the beginning of understanding the items necessary to establish seamless service in each of the major travel modes.

Table 6-2, Primary Ingredients of Each Travel Mode

Pedestrian	Bike	Golf Cart/LSV	Neighborhood Electric Vehicle	Transit	Car
Appropriate Pathways					
Sidewalks					
Trails	Trails				
Shared Use Paths	Shared Use Paths	Shared Use Paths	Shared Use Paths		
	Bike Lanes				
		Local Streets, 35 mph and below*	Streets, 45 mph and below	Streets	Streets
Additional Network Needs					
Crosswalks (Path Crossing, Intersection and Midpoint)	Crosswalks (Path Crossing, Intersection and Midpoint)	Crosswalks (Path Crossing)	Crosswalks (Path Crossing)		
Trailheads	Trailheads	Trailheads	Trailheads		
				Transit Stop/Station	
Traffic Signs	Traffic Signs	Traffic Signs	Traffic Signs	Traffic Signs	Traffic Signs
		Traffic Signals	Traffic Signals	Traffic Signals	Traffic Signals
Storage					
	Bike Racks	Parking	Parking	Commuter Parking	Parking
General Traffic Management Requirements					
Very Low	Low	Medium	Medium	High	Very High
Signage Design Speed					
3.5 mph	15 mph	25 mph	35 mph	45 mph or more	45 mph or more

* In accordance with State Law and if permitted by League City (currently not permitted beyond areas allowed by State Law)



Table 6-3, Secondary Ingredients of Each Travel Mode

Pedestrian	Bike	Golf Cart/LSV	Neighborhood Electric Vehicle	Transit	Car
Conflict Point Modifications with Cars					
Enhanced Crosswalks	Enhanced Crosswalks	Enhanced Path Crosswalks	Enhanced Path Crosswalks		
Refuge Islands in Medians	Refuge Islands in Medians	Refuge Islands in Medians			
Bulbouts at intersections and midpoints	Bulbouts at midpoints	Bulbouts at midpoints	Bulbouts at midpoints		
				Transit "Pullout"	
					Other Traffic Calming Measures
Household Storage					
None	Bike Rack	Large Shed, Port or Garage with Electrical Outlet	Large Shed, Port or Garage with Electrical Outlet	None	Port or Garage
Amenities/Enhancements					
		Remote Charging Stations	Remote Charging Stations		Remote Charging Stations*
	Rental Stations	Rental Stations	Rental Stations		Rental Stations
Benches, Kiosks and other Street Furniture				Transit Stop Shelters and Enhanced Stations	
Incorporated artwork and landscaping	Incorporated artwork and landscaping	Incorporated artwork and landscaping	Incorporated artwork and landscaping	Incorporated artwork and landscaping	Incorporated artwork and landscaping

* Future need if the city wishes to promote electrical vehicles

Goals and Policies

The following goals and policies provide staff and elected officials direction in maintaining and developing a multi modal transportation system.

GOALS:

- ❖ Movement of people and goods in a safe, efficient and convenient manner.
- ❖ A well connected mobility system that considers all aspects of a trip, which begins at the front door and ends at the destination.
- ❖ A multi-modal transportation system that offers choices in traveling to destinations.
- ❖ Transportation facilities designed within the context of the surrounding environment and compatible with adjacent uses and character.
- ❖ Transportation improvements that enhance the traveling experience and marketability of the community.

POLICIES

Connectivity

- Pedestrian connectivity and circulation supersedes vehicle connectivity and circulation.
- Site design and development plans should emphasize connectivity between places. Adjacent sites should allow for off-road connectivity and account for connectivity in circulation/parking plans.
- Vehicular connectivity should meet a Roadway Connectivity Index of 1.4 (connectivity measured by the number of roadway links divided by the number of roadway nodes).
- Pedestrian and bicycle connectivity should offer a minimum Accessibility Index of 1.5 (determined by dividing direct travel distance to a destination by the actual travel distance).
- Cul-de-sacs and dead-end roadways should be minimized and, if possible, avoided. Horseshoe roadways provide a well-connected alternative.
- Cul-de-sacs and dead-end roadways that are permitted should incorporate pedestrian and bicycle connections to other roadways or trails.
- Gates reduce connectivity and should be avoided.
- New development and redevelopment should connect to any adjacent roadways, trails or other mobility features that were "stubbed" to allow

future connectivity.

- Every effort should be made to ensure that roadways ended for purposes of connection with adjacent future development are marked or otherwise delineated as “future connecting roadways” or similar for purposes of informing the public, particularly impacted property owners.
- Blocks should be appropriately sized to allow for convenient vehicular and nonvehicular connectivity.

Pedestrian and Bicycle Network

- Site plans and master plans should consider pedestrian and bicycle use as a viable alternative to the automobile for distance-appropriate trips.
- Pedestrian and bicycle networks should be designed prior to placement of roadways.
- Pedestrian routes should deviate from vehicle routes if the alternative offers greater convenience, increased safety, a better user experience and/or better meets the Accessibility Index (described above).
- Sidewalks and trails should be designed according to character and anticipated traffic.
- Where appropriate, sidewalks should be separated from the roadway by a minimum of three feet, except in areas of urban character.
- Sidewalk design should account for four zones as appropriate: the curb zone (if the sidewalk abuts the roadway), furnishings zone, pedestrian zone and frontage zone (in areas where the sidewalk abuts structures).
 - * Typical sidewalk obstructions such as street lights, fire hydrants, benches, kiosks, landscaping, signage and more should occur in the furnishings zone or adjacent landscaped areas.
 - * The pedestrian zone should be sized to be appropriate to anticipated traffic volume.
 - * The frontage zone should be sufficient to allow for door openings, but may also be expanded to allow for sidewalk cafe’s, benches, tables, sidewalk vendors, sales racks, art features, or other amenities, depending upon character of the area.
- Sidewalks that would not be completed by builders (such as in front of parks or other open spaces) should be completed by the developer prior to acceptance of infrastructure.
- Trails and other off-road mobility improvements should be completed prior to acceptance of infrastructure.
- Sidewalks, trails and shared use paths should be maintained in a

manner equal to roadway corridors (or better).

- Crosswalks should be delineated with striping, at minimum, that is regularly maintained and clearly visible. Crosswalks could also include aesthetic treatments. Additional treatments, such as signage, pedestrian crossing signals, walk phases at intersections, street bollards, landscaping, curb extensions/bulbouts, raised intersections, or other innovative additions should be considered based upon need.
- Midblock crosswalks should be added when block length exceeds 600 feet (or in a manner that the distance between crosswalks are no greater than 300 feet in high volume areas) and it is warranted by pedestrian volume.
- Consider additional treatments to ensure awareness of a midblock crosswalk including signage, advanced warning rumble strips (typically low level), signals, lighting and landscaping, or curb extensions/bulbouts (sidewalk extensions that narrow the road width and slow traffic).

Roadway Design

- All new and reconstructed roadways in League City should meet Complete Streets criteria appropriate to surrounding character and context. Exceptions to incorporation of bike lanes, sidewalks or similar paths can be made if improvements for pedestrian and bicycle traffic outside of the right of way are more desirable.
- Right of Way should be sufficient to allow for the anticipated roadway type at buildout to meet Complete Streets criteria appropriate to future surrounding character and context.
- Lane width should match the intended design speed of the roadway for purposes of managing traffic speed and safety. No more or less.
- Consider the impact of corridor width - typically the space between structures that includes the road right-of-way and setbacks - on traffic speed in roadway design and land development.
- Roadways should be named according to character (for example, no street should be called “XX Boulevard” unless it is designed as a boulevard).
- Incorporate alleys into the mobility network, particularly for purposes of utilities, services and garage access.

Intersection Design

- Free flow traffic, even at relatively slow speeds, is generally preferable to stop-and-go traffic.
- Roundabouts and traffic circles should be considered prior to stop signs

(and sometimes traffic signals) to improve free flow circulation.

- T-intersections should be appropriately separated to avoid “corner cutting” and other safety and traffic flow concerns.
- Intersections should occur at or near 90 degree angles for full traffic visibility.
- Clear sight distance for traffic safety supersedes aesthetics.
- The curb radius of any intersection should balance desired design speed of the intersection and the need to shorten pedestrian crossing width.
- Pedestrian refuge islands should be incorporated into intersections where necessitated by efforts to allow free flow of vehicular traffic or increased intersection speed.

Street Trees and Vegetation within the ROW

- Consider use of street trees to reduce the perception of corridor width and separate the vehicular and pedestrian realms, but only where appropriate.
- Street trees should be selected from a list of trees specifically recommended for tolerance to roadway conditions, maintenance requirements, and root structure growth, among other criteria. Trees should be addressed according to size at maturity (small, medium and large).
- Street trees should be planted and maintained in a manner that promotes downward growth of roots, including installation of root barriers when appropriate.
- Avoid placing street trees within unacceptable distances to critical streetscape elements such as:
 - * Underground Utilities: 5 to 10 feet
 - * Sidewalks: 2 to 4 feet
 - * Fire Hydrants: 5 to 10 feet
 - * Driveways: 5 to 10 feet
 - * Water Meters and Utility Boxes: 5 feet
 - * Utility Poles (in instances that utilities are not below ground): 5 to 10 feet
 - * Stop Lights: 10 to 30 feet
 - * Driveways and Intersections: 35 feet or as needed to avoid the Clear Vision Zone
- Rain gardens and low maintenance, native, drought tolerant vegetation are preferable to turf within the right of way, including spaces between

sidewalks and the street.

- When possible, promote swales and native, drought tolerant vegetation rather than raised medians.
- Vegetation should not obstruct the Clear Vision Zone at intersections, crosswalks and other critical locations and potential conflict points. Within the Clear Vision Zone, street trees should be avoided and vegetation should not exceed a height of two feet.
- Street trees should be avoided in medians less than 10 feet in width.
- Street trees should be spaced appropriately to permit mature growth, typically 30 linear feet (range depends upon types of trees)

Access Management

- Medians with managed turn lanes are preferable to continuous turn lanes. Existing continuous turn lanes should be replaced with medians with appropriate access management.
- Medians should be sufficiently wide to serve their intended purpose and meet the intended character for the roadway, as follows:
 - * Pedestrian refuge only: 6 feet
 - * Simple traffic separation: 10 feet
 - * Median with turning lanes: 14 to 16 feet
- Landscaped medians are preferable to barren concrete or painted/striped roadway for purposes of aesthetics and safety. Trees within the median can act as psychoperceptive traffic calming devices that slow traffic, particularly if coupled with street trees.
- New curb cuts, particularly along major roadways, should be minimized to improve traffic movement.
- Efforts to improve roadway efficiency should include an effort to reduce or eliminate the number of sites with multiple or extended curb cuts (i.e. curb cuts wider than needed for simple ingress and egress).

Mobility Planning

- Streets should be spaced appropriately based upon functional classification.
- All development and redevelopment should respect the recommended general location and need for major roadways, trails and other mobility features shown in the Master Mobility Plan, the Master Trails Plan, or required by transportation criteria recognized by city staff.
- Roadways, trails and other mobility features may be moved within a site if the proposed change improves or does not negatively impact

the overall mobility network or intended character of the area and continues to provide connectivity.

- The City of League City should make an effort to acquire land needed for absolutely essential improvements in advance of development to the extent possible.
- Advance efforts to acquire land for mobility improvements should include a transparent process that includes public participation, discussion of alternatives and description of impacts.
- All development and redevelopment should recognize and address impacts on the mobility network.
- Development should not occur unless capacity is either in place or constructed concurrent with development.
- Capacity should be measured according to impact upon one or more recognized measures, such as:
 - * Vehicle Miles Traveled
 - * Vehicle Hours Traveled
 - * Level of Service
- Development and redevelopment shall not be allowed to adversely impact the ability of other sites within a “traffic shed” to development or redevelop.
- Private roadways should be avoided.

On-Street Parking

- Promote incorporation of on-street parking into design of collector and local roadways as appropriate. On-street parking along arterial roadways should be avoided unless fitting to the character of the surrounding area and area speed limit.
- Balance the need for on-street parking with traffic needs.
- On-street parking should generally be parallel parking.

Context Sensitive Solutions

- All roadways should be designed to correspond to local community character as well as travel demand.

Traffic Calming

- Traffic calming is most effective if incorporated during the design of the mobility network.
- Stop signs should not be used as traffic calming devices.
- Traffic calming (after a roadway is in place) should be a staged process

beginning with the least intrusive techniques, unless implemented as part of a traffic calming plan.

- “After the fact” traffic calming is best performed on a “trial and error” basis using temporary devices to determine if the technique offers the desired impact.
- Consideration should be given to the impact of a traffic calming measure upon the surrounding area as well as the immediate problem area.
- Utilize the entire “toolbox” of traffic calming devices and apply the most appropriate device or set of devices.

Mobility Improvements

- Mobility Improvements should strike a balance between the needs of economic development, community character and mobility.
- When possible, parallel alternate routes are preferable to adding travel lanes beyond two in each direction.
- Prior to making a roadway improvement, the Engineering Department should establish Measures of Effectiveness (MOE) for determination of an improvement to successfully address an issue.
- MOEs should include before and after measures. After measures should be taken after a given time to allow for travel behavior to accurately adjust.

7 - PARKS, RECREATION & OPEN SPACES



Parks, Recreation and Open Spaces are essential in meeting a number of community wide goals and objectives. These spaces and facilities not only enhance local quality of life through providing recreation and social opportunities but also provide benefits related to community character, economic development, mobility and the environment. Proper investment and design of public parks and open spaces can help meet multiple objectives and goals. For example, natural areas or environmental art within parks and open spaces can serve as green infrastructure that supports stormwater functions while also providing recreation opportunities for residents and visitors. Likewise, parks can incorporate event spaces or activity centers that serve to attract residents and guests to an area on a regular basis, thereby serving as an economic catalyst for surrounding businesses.

In fact, parks and other open spaces can serve a broad number functions, including:

- Passive and active recreation
- Spaces and facilities for festivals, events, and activities
- Complementary commercial activity such as vendors, bike rental, artists, or street performers
- Gathering spaces to play or simply “hang out”
- Association with Clear Creek and water-based activities

- Connection between other places, particularly linear parks, trail systems, waterways, or natural corridors
- Protection of natural areas, sensitive sites and waterways, particularly along Clear Creek
- Stormwater management and water conservation
- Tree canopy for beautification, air quality and reduction of thermal pollution
- Wildlife habitat and corridors
- Contribution to community character through design, location and purpose
- Buffer between incompatible uses
- Education, as it relates to the environment & natural sciences
- Location for artwork or landmarks
- Overflow parking using naturalized parking materials

This element includes the following:

- Summary of the City’s Parks and Open Space Master Plan (2006)
- Summary of the Trails Master Plan (2010)
- Parks and Open Space Typology
- Goals and Policies

Other Plans & Studies

PARKS MASTER PLAN

The City adopted a Parks Master Plan in 2006. The plan assesses the city’s needs through the year 2025 and demonstrates how resources can be used in the most efficient way to remedy deficiencies in the provision of parkland by acquiring, developing and managing land for different types of public parks that would serve all sections of the community. It also deals with the integration of private sector parks into the City’s parks system. The Plan provides:

- An overview of the city and existing parks system
- Typology of parks by size, function and facilities
- An assessment of current and future needs
- The type of parklands and facilities, the park acreage to be acquired and developed, and the location for future acquisition in order to satisfy the needs of the projected population by planning areas
- Financial requirements, potential sources of funding as well the policies and actions that will be required to support a program of successful implementation

Needs Assessment:

Three techniques were used to determine current and future needs in the community as related to parks, recreation opportunities and open spaces.

Demand Based - A survey was used to understand the residents current perception of the parks system and identify future priorities. The survey indicated concern with the lack of open space/natural areas and trails.

Resource Based Needs - Three aspects of the city’s physical resources were found to affect the future provision of parks and open spaces. 1) Clear Lake and Clear Creek are distinct assets in terms of riparian vegetation, habitat, and scenic beauty as well as recreational potential. Drainage easements create an additional opportunity for creating a linked trails network. 2) The City has stands of fine Live Oaks, other hard woods and coniferous trees and heavily wooded sites along Clear Creek. 3) League City has a generous supply of available land suitable for park use.

Standard Based Needs - A Level of Service (LOS) of 10 acres of parkland per 1,000 residents was determined to be appropriate for League City. Based on this standard the City is deficient in the provision of parks especially in the

east planning area.

Recommendations based simply upon needs include:

- Develop approximately 1,050 acres of parkland (including land acquired but not developed)
- Acquire and develop 69 acres of city wide/special parks plus develop an additional 10 acres of space already acquired
- Acquire and develop 339 acres of community parks. Develop 258 acres that have already been acquired
- Acquire and develop 265 acres of neighborhood parks/greenways/trails. Develop 188 acres that have been acquired

The Parks Master Plan further prioritized needs that include:

- Meeting the established Level of Service standards for each park type in each planning area through a park acquisition and development program that serves to increase park provision in underserved planning areas
- Development of a comprehensive citywide greenway and trail network that links parks, schools, and other major destinations
- Preservation of the city’s physical resources—its hydrologic system, its tree cover, and portions of its undeveloped lands—as the city grows, while developing appropriate passive recreational opportunities for citizens to enjoy these resources
- Expansion of the City’s active public recreational facilities so as to maintain a high level of service as the City’s population grows
- Management of storm water in a manner that provides large-scale recreational and open space benefits, particularly in the Southwest planning area



Table 7-1, Existing Parks & Recreation Facilities

Developed City Parks	Acreage
Bay Ridge Park	1.82
Big League Dreams*	13.61
Boat Ramp	1.47
City Pool	1.87
Countryside Park	68.00
Dr. Ned and Fay Dudley Clear Creek Nature Center	148.00
Helens Garden	1.47
Heritage Park	10.40
League Park	2.18
Newport	9.00
Rustic Oaks Park	35.47
Sportsplex	54.00
Total	347.29
Acquired Land for City Parks	Acreage
Bay Colony West	106.00
Kilgore Tract	28.47
Meadows	3.00
Myrtle Park (Erickson Tract)	50.91
Pine Gully Park	44.28
Eastern Regional Park	28.71
Total	261.37
Developed County Parks	Acreage
Challenger Park (Harris)	326.00
Lobit Park (Galveston)	28.00
Walter Hall Park (Galveston)	78.58
Total	432.58
Totals	Acreage
City Developed/Acquired	608.66
County Developed/Acquired	432.58
Total	1041.24

*Big League Dreams is counted at 60% of its actual acreage-22.68 acres- due to limited periods of public access.

2013 Parks Inventory & Needs

The existing parks inventory and surplus/deficits calculations were updated in September 2013 to reflect the following:

- the latest parks inventory
- HOA parks accounted for at 100 percent
- needs assessment based on the 2013 population of 90,234 and build-out population of 178,175

The 2013 existing inventory is shown in Table 7-2. The surplus/deficits calculations are shown in tables 7-3 and 7-4.

Table 7-2, Existing Parks

Park	Acres
Regional	485.67
Challenger 7 Park	337.27
Dr. Ned & Fay Dudney Clear Creek Nature Center	148.40
Citywide/Special Parks	136.73
Big League Dreams	39.99
Boat Ramp	1.47
City Pool	1.87
Hometown Heroes Park	28.71
Helen's Garden	1.47
Heritage Park	9.50
League Park	2.18
Chester L. Davis Sportsplex	51.53
Community	385.66
Bay Colony West	106.64
Countryside	5.81
Countryside Park	48.60
Kilgore Tract	26.46
Lobit Park	27.24
Myrtle Park	50.91
Dick Benoit League City Prairie Preserve	44.39
Walter Hall	75.65
Neighborhood	21.89
Bayridge Park	1.82

Park	Acres
Centerpointe	8.07
Ghirardi WaterSmart Park	3.00
Newport	9.00
HOA	287.53
Amber Lane	0.87
Austin Park	0.93
Bay Colony	4.53
Bay Colony Pointe	4.01
Bay Colony Pointe West	3.04
Bay View	7.81
Bayou Brae	0.97
Birdsong	0.76
Brittany Bay	2.40
Brittany Lakes	16.67
Casa Marina Del Sol	0.06
Cedar Landing	9.97
Centerfield	5.13
Centerpointe	2.21
Claremont Park	9.11
Clear Creek Village	4.09
Compass Rose	0.37
Coronado Subdivision	1.49
Countryside North	2.76
Countryside South	2.34
Creekside Estates	5.72
Cypress Bay	1.36
Dove Meadows	1.73
Glen Cove	2.27
Greenridge	1.08
Harbour Park	1.84
Hidden Lakes	2.39
Lakes of South Shore	2.46
Leisure Lakes	2.67
Magnolia Creek	4.51
Magnolia Estates	6.56
Mar Bella	7.42

Park	Acres
Marina Bay Park	1.66
Marina Del Sol	1.51
Mariners Park	0.79
Meadow Bend	4.54
Oak Creek	11.78
Oaks of Clear Creek	5.64
Palm Key	0.42
Park on Clear Creek	53.53
Park on Egret Bay	1.84
Peninsula	1.01
Sabal Park	2.57
Sedonna	21.82
South Shore	1.22
South Shore Harbour	3.68
South Shore Village	2.78
The Landing	1.85
The Township	2.44
Tuscan Lakes	4.64
Twin Oaks	1.56
Victory Lakes	2.39
Village of Tuscan Lakes	2.44
Villages of Oak Creek	12.16
Waterford Harbour	3.36
Waterford Oaks	1.09
Westover	3.16
Westover Park	8.92
Westover Park Community Assoc	0.86
Westwood	5.06
Whispering Lakes Ranch	3.11
Wilshire Place	0.20
Greenways	76.60
Rustic Oaks	46.97
Magnolia Creek	29.63
Total	1,394.08

Table 7-3, Acreage Standards and 2013 Park Acreage Surpluses/Deficits

2013 Population 90,234

	Existing Total (acres)	Developed (acres)	Required (acres)	Surplus/Deficiency Total	Surplus/Deficiency Developed
Citywide/Special 1 acre/1,000 residents	136.63	136.63	90.23	46.40	46.40
Community 5 acres/1,000 residents	385.66	157.26	451.17	-65.51	-293.91
Neighborhood * 3 acres/1,000 residents	309.42	176.17	270.70	38.72	-94.53
Greenway/Trails 1 acre/1,000 residents	76.60	76.60	90.23	-13.63	-13.63
Total 10 acres/1,000	908.31	546.66	902.34	5.97	-355.68

*Neighborhood parks includes HOA parks

Table 7-4, Acreage Standards and Build Out Population Park Acreage Surpluses/Deficits

Build Out Population: 178,175

	Existing Total (acres)	Developed (acres)	Required (acres)	Surplus/Deficiency Total	Surplus/Deficiency Developed
Citywide/Special 1 acre/1,000 residents	136.63	136.63	178.18	-41.55	-41.55
Community 5 acres/1,000 residents	385.66	157.26	890.88	-505.22	-733.62
Neighborhood 3 acres/1,000 residents	309.42	176.17	534.53	-225.11	-358.36
Greenway/Trails 1 acre/1,000 residents	76.60	76.60	178.18	-101.58	-101.58
Total 10 acres/1,000	908.31	546.66	1781.75	-873.44	-1235.09

*Neighborhood parks includes HOA parks

TRAILS MASTER PLAN

In May 2010, the City adopted a Trails Master Plan that would expand the current trails system from 11.5 to 212 miles and include a paddle trail along Clear Creek. The Master Plan was developed based on four principles: promoting connections to schools, parks, neighborhoods, and business centers; providing an alternative way to commute and reach destinations; creating healthy recreation and exercise opportunities; and providing for athletic training.

The proposed trails system is divided into the following four themes or “areas of interest”. Each area showcases the varied plant and wildlife in the community, economic and cultural influences and athletic and sporting opportunities.

Clear Creek Connections will be located along Clear Creek along the northern edge of the city. This zone will be characterized by a strong signature trail, Clear Creek Trail that will enable citizens to connect and enjoy the waterfront of the creek. Some of the stories that will be told in this zone include early Indian settlements, wetland preservation, waterway usage and wildlife.

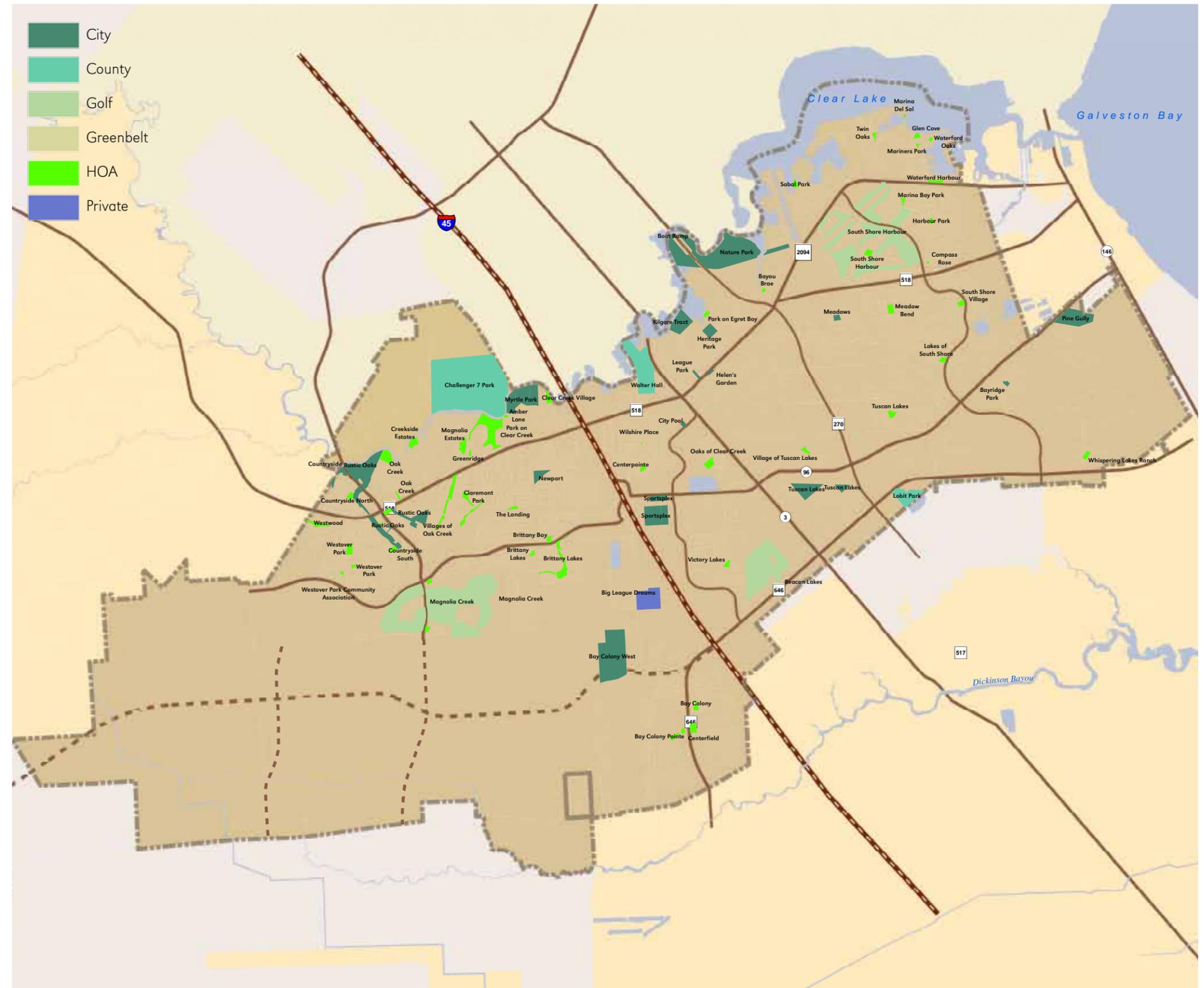
League City Heritage will be located in the heart of the city. This section of the trail system will overlap with the most historic areas of the early days of League City. The signature trail will be called the Heritage Trail and will tell stories about the early founders of the city, historic sites and museums.

The Coastal Plains zone will be located in the eastern side of the city. The signature trail will be called the Tall Grass Prairie Trail and will highlight the preservation of the tall grass prairie and migratory birds.

Texas Traditions zone will be located in the southwest area of the city which includes a largely undeveloped portion of the city. The signature trail will be named the Texas Traditions Trail, and it will be the training ground for long distance runners and bikers. When constructed it will consist of a 13-mile, off-road trail. This trail is proposed as a combination of hard trail and soft surface trail. Some of the stories that will be highlighted include those relating to the early history of cattle ranching, farming and orchards.

The trails will be constructed out of a mix of materials including concrete, decomposed granite, pavers and asphalt to accommodate the needs of varied users. They will also vary in size from 6 to 10 feet based on the type and location of the trail. Ten foot trails will be located along major thoroughfares and serve as the spine of the trails system. Eight foot trails will serve as connections to schools and parks and six foot trails will be used as connections

Figure 7-1, Existing Parks & Recreation Facilities



to neighborhoods. All trails will be separated from the roadway and located in existing city, state or county right of way, drainage or utility easements, city/county open/green space and civic places.

Typology

The Parks and Open Space Master Plan categorizes the City’s parks and recreation facilities into five types; Regional, Citywide/Special, Community, Neighborhood and Greenway. The Comprehensive Plan expands this list to accommodate gathering and socializing spaces more common in walkable environments and urban areas, including greens/commons, squares and plazas, as well as a series of flexible open spaces that may have different functions and uses.

PARKS

Regional Parks refer to large open space preserves often developed around a specific natural resource, amenity, or other special feature that draws visitors from an entire region. Given the open space orientation of these parks, passive recreational activities consistent with resource preservation are often the predominant use, though limited areas of active recreational facilities may be developed.

Citywide/Special Parks contain one or more unique features that attract residents, employees or guests from throughout the city because of local historic or civic value or a specific function. Citywide/special parks may include: civic and event spaces, sports complexes, swimming pools, fitness centers, community centers, senior centers, youth/teen centers, historic or cultural sites of local interest.

Community Parks provide a mixture of active and passive facilities that primarily serve residents, employees or guests within a particular section of the City. Community parks may include sports fields, basketball, tennis, or volleyball courts, open play fields, playgrounds, running tracks, walking trails and picnic areas. Community parks are generally larger than 10 acres and are often intended to serve multiple functions, including a balance between active and passive recreational uses.

Neighborhood Parks are intended to meet the most immediate recreational needs of city residents within a particular neighborhood. Neighborhood parks may include: playgrounds, picnic areas, walking trails, basketball, tennis or volley ball courts, open play fields, and practice or limited sports fields. Neighborhood parks are intended to be well integrated into residential neighborhoods and to accommodate day-to-day recreational activities,

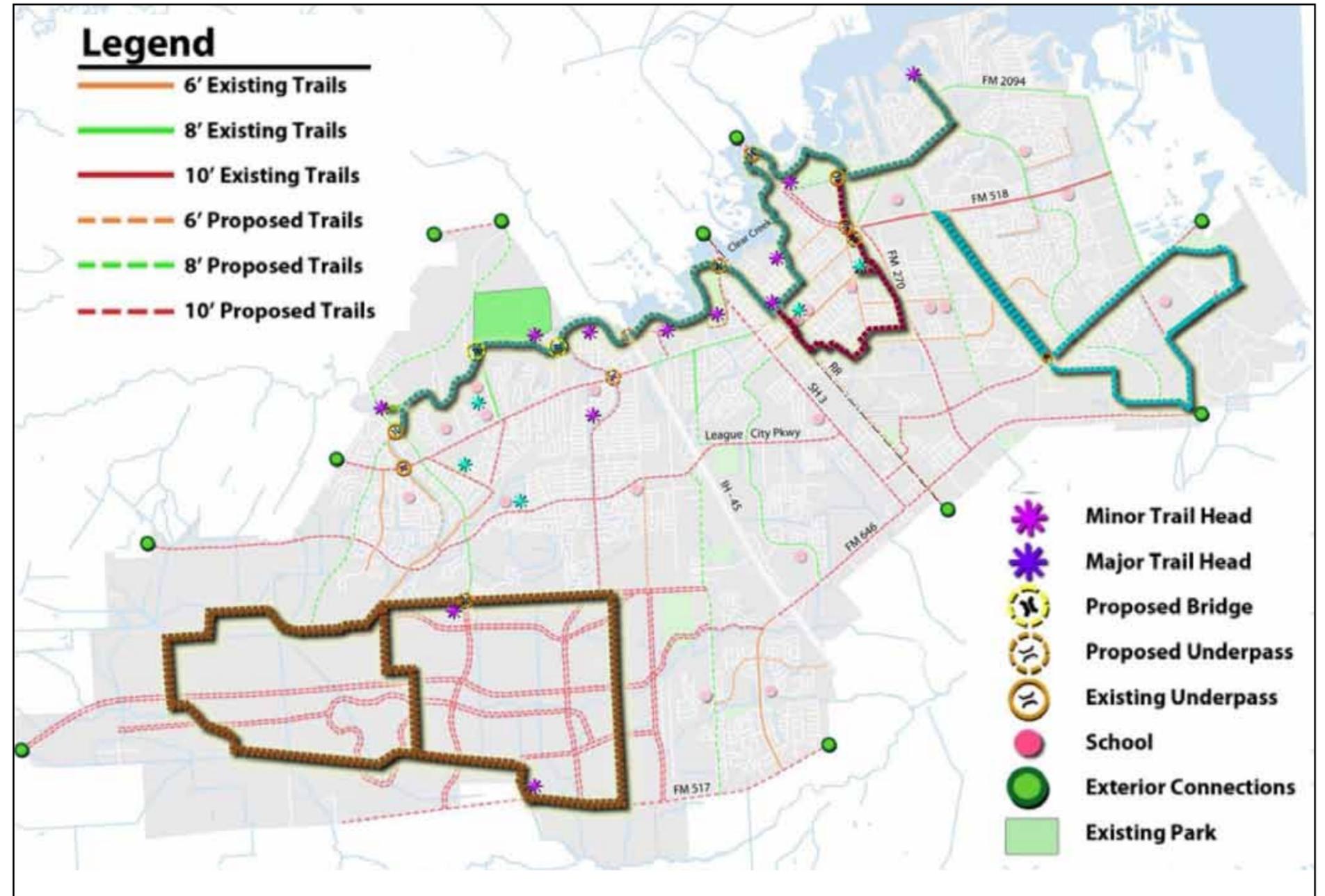


Figure 7-2, Trails Master Plan

such as unstructured sports that require more space than is available in the typical League City backyard. Neighborhood parks are intended to be reached on foot and bicycle; thus, safe pedestrian and bicycle connections, particularly for unaccompanied youth, are essential. Neighborhood parks are generally less than 10 acres but greater than 5 acres. Many of League City’s neighborhood parks are held privately by subdivision homeowner’s associations.

Greenways/Trails are linear parks designed to protect a linear resource, such as a stream or other habitat corridor, and/or provide linkage to other parks and other destinations via multi-use trails that allow pedestrian, bicycle, and other non-motorized use. Greenways/trails typically include shared use paths, interpretative elements, picnic areas, stream or drainage corridors, habitat movement corridors, limited active recreational facilities. Greenways/trails are unique park facilities in that they are also part of the transportation

network that can be designed to allow for safe non-motorized travel between homes and parks, schools, workplaces, and shops.

URBAN SPACES

Village Greens are traditionally simple open spaces available for unstructured recreation that serve as focal points or green centers for tightly clustered development. Purposes for a village green tend to include active play space and gathering. Because they are also often a focal point of development, they may also include landscaping, artwork, monumentation or another means of establishing a landmark. Otherwise, with the exception of benches or other minimal park furniture, a village green usually consists of lawn and naturally placed trees. Direct and immediately visible access makes the green an ideal replacement for large yards. The size of a village green can range from 1/2 to 8 acres. The shape of a village green can be perfectly geometrical but more often is wandering and natural.

Squares are formal interpretations of the village green, but are typically associated with a higher level of density than a village. The square serves as a resource for unstructured recreation and civic purposes. While it remains a great place to play or gather, the more formal role of the square also makes it an attractive location for events. A square is spatially defined by surrounding building frontages, and is sometimes directly associated with a civic facility such as a county courthouse or city hall. It typically consists of paths, lawns and trees that are often formally placed and may be accompanied by a scale appropriate event facility, artwork, monumentation or another form of landmark. A square may serve as a center focal point or may be located at the intersection of important roadways. A square is highly geometrical and may be 1/2 to 5 acres in size.

Plazas are urban open spaces available for civic purposes and commercial activities. A plaza is defined by building frontages and other clear edges such as waterfront, although in less urbanized areas, a plaza can also take on less formal edges. A plaza is almost exclusively comprised of hard surfaces such as bricks or pavement. Trees and other landscaping are optional. A plaza is a relatively poor play area, but the large open space lends itself very well to major events such as festivals or markets. Monumentation, a fountain, artwork or another form of landmark is sometimes present as a social draw. Chairs or formal seating may be present, as is the possibility of one or more vendors. A plaza may be located at the intersection of important streets, but it may also be located along a single major roadway and nestled between other activities. A plaza typically has a strong geometric form and ranges in size from 1/2 to 2 acres.

NATURAL OPEN SPACES

Preservation Areas consist of natural areas that are fully preserved with limited access by the public and limited or no recreation opportunities. Preservation areas may include marshes, wetlands and other sensitive sites, as well as historically or culturally critical areas. Preservation areas may also include spaces set aside under conservation easement or some other protective safeguard for contribution to stormwater management, water conservation or wildlife habitat. Preservation areas typically require a minimum size of 1/2 acre to perform effectively and are almost natural in form.



Case Study - Bellevue, Washington Merging Stormwater Features with Parks and Recreation

The City of Bellevue uses an interconnected system of natural areas and existing drainage features to manage stormwater and flooding in their community. The City's stormwater management program is designed to meet multiple objectives including flood control, improving water quality, preserving open space, and providing recreational opportunities.

In the 1970s, the City's Storm and Surface Water Utility (Utility) was formed to fund stormwater management activities. The Utility acquired land for stormwater management and flood control. Open space areas were designated for water quantity and quality control, and stream corridors and steep slopes were protected from development. The open spaces were connected via a network of neighborhood parks. To ensure that these lands offered multiple benefits to the community, the Utility installed stormwater facilities to enhance drainage and water treatment, and residents shared the costs to install recreational facilities. Subsequently, the Utility and the Parks and Community Services Department (Parks) formed a partnership in which the Utility purchased the land and built stormwater management features, and the Parks built and maintained recreational facilities at each location.

The Lakemont Stormwater Treatment Facility is an example of a joint project between the Utility and developer of the Lakemont residential and commercial development. The stormwater management features at this site include a gross pollutant trap, a grit chamber, a dry pond, and two amended sand filter traps. Recreational amenities include picnic sites, tennis courts, basketball courts, a playground, and a running track. The parking lot covers the stormwater facility, and signs educate the public about the park's function.

Source: Water Environment Research Foundation - WERF 2010 , http://www.werf.org/livablecommunities/studies_bell_wa.htm

Table 7.5 - Predominant Parks, Urban Spaces and Open Spaces within each Character District

	Natural	Rural	Suburban	Suburban Village	Auto Dominant	Urban Low/High
Park						
Regional						
Citywide/Special						
Community						
Neighborhood/HOA						
Greenway/Trail						
Urban Spaces						
Village Greens						
Squares						
Plazas						
Open Spaces						
Natural Open Space						

Goals & Policies

The following goals and policies should be used by the community to ensure that daily decisions related to parks and recreation development and open space preservation support the community’s long-term vision. The policies provide direction to create a vibrant parks and trails system that meets the varying needs of the community.

GOALS

- ❖ A development and investment program that clearly considers the community’s green spaces and waterfront among the most marketable assets of League City.
- ❖ A coordinated system of fully functional open spaces and greenways that provide multiple benefits including preserving natural areas and ecologic systems, protecting wildlife habitat and providing land for recreation.
- ❖ A “green” network of trails, shared-use paths, sidewalks, and crosswalks that connect places and provide a convenient, exciting and safe alternative to automobile travel.
- ❖ A series of parks and recreational facilities that actively contribute to creation of “great places” or serve as attractions to an area.
- ❖ Recreational programs that expand upon current amenities and facilities including Big League Dreams, the Sportsplex, the Ned and Faye Dudney Nature Center and Clear Creek.

POLICIES

Parkland Acquisition, Dedication and Fees

- When possible, acquire land in advance of demand, i.e. “land banking”.
- Utilize parks and open spaces as a means to preserve and promote natural open space and local habitat.
- Place an emphasis on acquiring land along Clear Creek when it is appropriate and the land meets the needs of Parks Master Plan, Master Trails Plan or Comprehensive Plan.
- Dedicated parkland should be fully suitable to complement and enhance the overall parks and open space network, should be clearly accessible by the public, have access to utilities (if performing a function beyond conservation), and be strategically located to serve as a link between other open spaces and parks.
- Land that is set-aside as open space through the subdivision process may be used to meet a certain percentage of the park dedication



requirements if the open space is greater than 10 acres or part of a larger system that can be protected such as a wildlife habitat, floodplain, wetland or other sensitive system.

- Partial credit should be given for park fees if a developer establishes a trail in a development that provides connectivity to the rest of the community, meets a need established in the Parks Master Plan or the Trails Master Plan, is available for public use without restriction, is suitably located, and meets the quality standards of the public parks system.
- Maximize protection and, to the extent appropriate, public use of floodplains and drainage easements for both active and passive recreation while safeguarding the requirements to manage surface water runoff.

Park Standards & Design

- All parks should be developed according to the standards and needs identified in the Parks Master Plan and the Trails Master Plan.
- Maintain a standard of 10 acres of parkland per 1,000 persons. This includes special, community, and neighborhood parks and trails.
- Location, function and connectivity of parks and open spaces with other areas within a development should be an obvious and integral component of site design, including design of multifamily development and commercial sites. Design should indicate the role of parks and open spaces within a development as well as connection to parks resources outside of a development.
- Parks should serve as focal points with a proven purpose and functionality. Remnants from poor design as well as sites that are not clearly and carefully integrated into the surrounding area are not acceptable locations for parks, unless other factors such as preservation of sensitive areas, deem them appropriate.
- Parks and recreation areas should be located in such a manner as to be highly accessible by all residents of the area for which they are serving. No home within a subdivision or neighborhood should be beyond walking distance from a neighborhood park.
- Park design, including selected amenities, physical design and programming, should be appropriately based on the intended functions/roles of the space and relations to its users.
- Parks, particularly Community Parks, should be uniquely designed with different elements that provide for social and recreational needs of the community, but also make each location distinctive.
- Community wide location and function of parklands and facilities

should ensure equal distribution among League City residents.

- Park types, function, and amenities should reflect the intended form and character of the area.
- Integrate urban-scale parks into mixed-use developments or major employment centers as an initial requirement of site design or redevelopment.
- Actively encourage and seek out opportunities to incorporate landmarks into parks and recreation areas, including artwork, monumentation, unique landscaping, water amenities or other distinctive features.
- Artfully complement wayfinding programs or other efforts to establish visual linkages within or between places.
- Establish distinctive gathering places appropriate to the scale and intent of the park that will draw residents, employees or guests.
- Where appropriate, ensure adequate and appropriately located space and facilities to accommodate active social uses such as festivals, markets, performances, and other scheduled events.
- Require village greens, squares, neighborhood parks or similar activity centers within multifamily development, in addition to open space required for beautification or as a buffer.
- When developing parks and preserving open spaces, existing trees, vegetation, views and other amenities, should be retained.



- Utilize parks, recreation facilities and open spaces as a tool for increasing the community's tree canopy.
- Mitigate adverse impacts from park activities on surrounding neighborhoods through careful park planning, site design, management and operations.
- Where appropriate and feasible, apply better site design and low-impact development (LID) techniques in park development to reduce environmental impacts of development.
- Where feasible and practical develop partnerships with the counties, school districts and other entities for joint use and maintenance of park facilities and athletic fields.
- Encourage the use of "green" building practices in designing and developing park and recreation facilities. To the extent practical, establish a standard of LEED Silver certification for new and redeveloped facilities.
- When possible, incorporate access to the waterfront and related amenities, such as docks, paddle trail stations, fishing piers, birding stations, or other distinctive features.
- Treat waterfront as a critical viewshed and gateway into parks facilities.

Trails and Shared Use Paths

- When practical, trails should be developed as Shared Use Paths that promote use by a variety of modes, including their possible use by golf carts or neighborhood electronic vehicles.
- Require easements for trails identified on Trails Master Plan during the subdivision process. Easements for trails should count toward meeting open space requirements.
- Utilize easements/rights way and natural drainage courses for trails and greenways and linkages between destinations.
- Utilize the floodplain for trails to create a pedestrian corridor network.
- Require trails/greenways to connect neighborhoods, major natural areas, parks, and recreation facilities, and education centers to enhance and extend the recreational experience.
- Encourage the development and design of trails that accommodate a high level of use and preserve scenic views while minimizing impacts to the environment
- The Master Trails Plan and associated improvements should be considered critical components of the Master Mobility Plan with expectation for construction by a developer similar to expectation for construction of major roadway improvements.

- The major pedestrian network should be constructed at the same time as the roadway network.
- The pedestrian network should be designed independently from the roadway network in context (and location, when appropriate) and as an integral part of site/project design.
- The pedestrian network should connect to surrounding pedestrian networks and should be designed to be naturally extended into surrounding areas as they develop.
- Utilize connectivity requirements to promote connection through trails and shared-use paths in addition to roadway connectivity.
- Internal pedestrian networks must connect to the Master Trails Network (Master Trails Plan) when possible.
- The pedestrian network should be compatible with surrounding context and purpose, yet allow for creative flexibility.
- Trails and shared use paths may be more compatible with a rural or naturalized design than incorporation of sidewalks.
- Where appropriate, a larger shared use path or trail along one side of a roadway could replace sidewalks on both sides.
- In areas where the roadway is designed to be completely multi-functional (i.e. designed in the right context and with the appropriate width, design speed, segment length, and pattern for driving, parking, walking, biking, playing such as in the Historic District) then trails and shared-use paths should be complementary and sidewalks not necessary.
- In planning and designing future transportation improvements or reconstructing existing facilities, roadway corridors should be adequately sized and designed to include bike, pedestrian and or trail facilities, as appropriate.

Open Space

- Utilize parks and natural areas as one means of creating a buffer between incompatible uses or as a means of maintaining a “natural view shed” between developed areas.
- Bufferyards may be considered as a portion of the area needed to meet open space requirements if the bufferyard has sufficient depth, vegetation and connectivity as to be functional beyond service as a means of reducing impacts or beautification.
- If wetlands cannot be protected or preserved they should be mitigated. Mitigated wetlands should be located on site and integrated into a development’s storm water system or network of bufferyards.

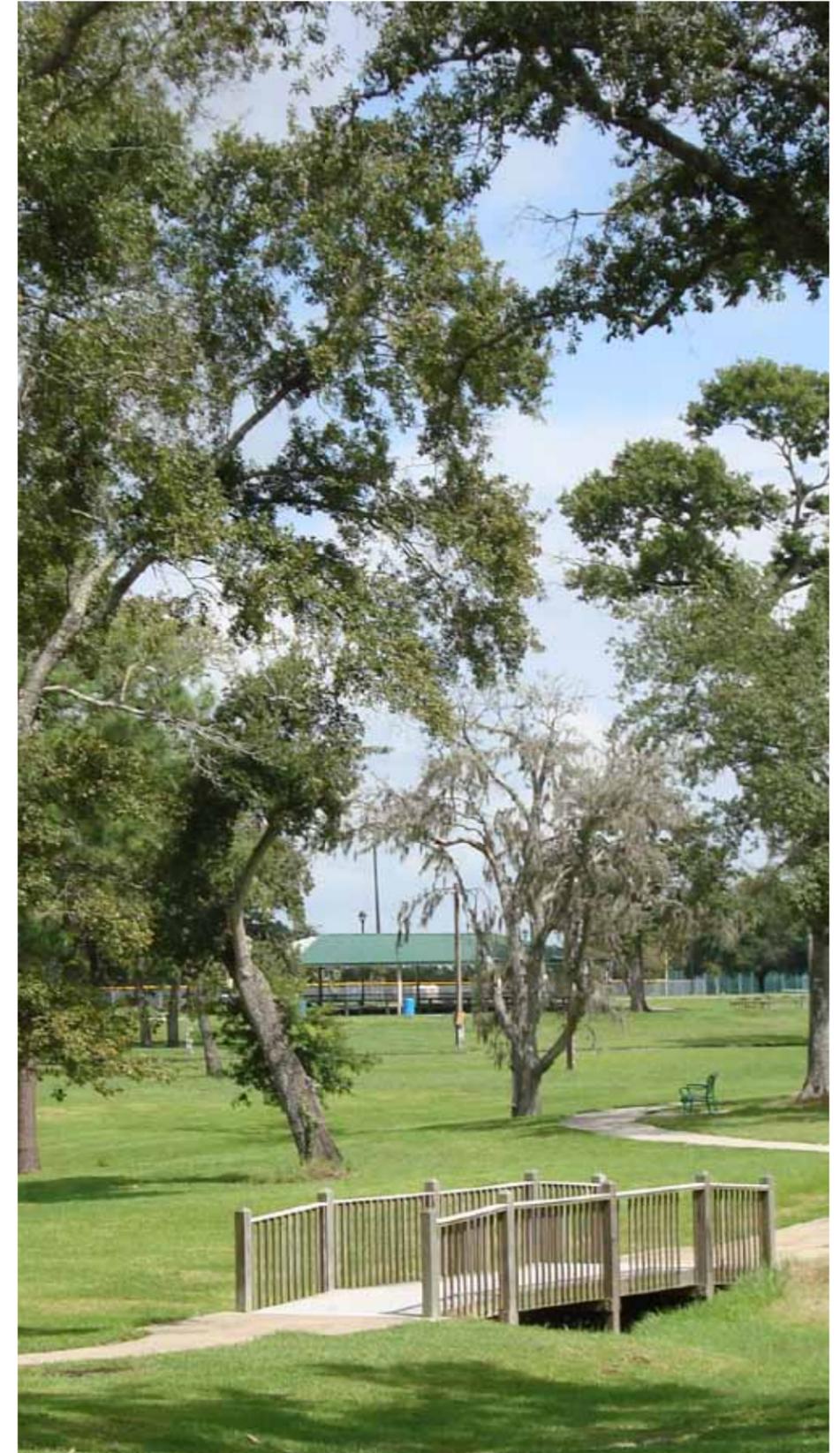
- Require a protective buffer around wetlands and sensitive sites, as well as along Clear Creek.
- Where feasible and suitable provide access to open spaces for all residents.

Stormwater

- Site storm water management facilities on parklands only when a benefit to parklands, the surrounding area and water quality is demonstrated.
- Encourage the use of vegetative swales to intercept and slow runoff. These plantings are ideal treatments within parks to mitigate impervious surfaces such as parking lots and roadways.
- Incorporate rain gardens, planting beds and shade trees into park design and development.
- Incorporate detention/retention facilities as an amenity or usable recreational facility. Detention facilities should receive partial credit toward open space requirements if creatively incorporated as an amenity or recreational facility.

Other

- Reduce the negative impacts of recreational marinas and boating on water quality through best management practices, including Low Impact Design.
- Support private citizen initiatives to preserve natural habitat and enhance the City’s open space.
- Regularly review and modify programs and services as needed to reflect changing community values, interests, and resources.
- Prepare and fund recreation, cultural, and educational programs that draw intended populations into parks and the surrounding areas.



8- HAZARD MITIGATION



League City is susceptible to both human and natural events including hazardous spills, hurricanes, and flooding that can result in people and structures being in harm's way. The City's low lying location near the Gulf Coast makes it especially vulnerable to severe weather, particularly tropical storms and hurricanes. While League City has relatively minimal industrial activity, it enjoys proximity to the Port of Houston and virtually all aspects of the petrochemical industry, including refineries, numerous pipelines and a few remaining pockets of oil and gas that rest below the ground. Hazards arising from spills or problems with the network of pipelines, as well as the occasional well sites are unlikely but remotely possible. As development continues and more people come to League City to take advantage of the community's tremendous assets, the impact of potential events and associated losses will increase without vigilance and intervention. League City residents, employees and guests may not be able to completely avoid hazards. However, by mitigating issues in advance and planning in advance for events, it is very possible to protect people and structures and, in doing so, minimize potential loss of lives, damage to property and infrastructure, and the costs associated with recovery.

Natural disasters can be mitigated by "getting out of the way", protecting and enhancing natural features, making structures more resistant to flood and wind damage, and managing the development and redevelopment of land. Risks associated with the petrochemical industry can be minimized

by appropriately managing and monitoring the system of wells, pipelines, transport vehicles and other features within League City. In the case of both potential natural and man-made events, appropriate land use strategies and best management practices can help reduce, if not nearly eliminate, hazards and substantially reduce the community's overall vulnerability. Doing so, however, will require a willingness on the part of the community to understand risks and accept solutions.

The Comprehensive Plan has shown that, in many cases, what is seen as a weakness can also be a more powerful asset if appropriately addressed. Hazard mitigation is certainly no different. The policies in the Community Character chapter that recognize the importance of the waterfront, sensitive sites, natural areas, and tree canopy to the marketability of the community can also serve to mitigate hazards and buffer potentially incompatible uses. Similarly, the Economic Development chapter recognizes the importance of building upon the community's relationship with the petrochemical industry and its greater family, the overall energy industry, but in a manner that doesn't diminish the community's marketability through undue negative impacts. This chapter complements these and other goals and policies throughout the plan in order to ensure that the growth of League City occurs in a way that limits the potential for damage to property and public facilities, avoids development in hazardous areas, provides for adequate public shelters (in the event that it may be needed), facilitates the ability to move

people safely out of harm’s way, and reduces recovery time and cost.

As with the majority of chapters of the Comprehensive Plan, the Hazard Mitigation chapter builds upon a document intended to address emergency planning in detail, the 2010 City of League City Local Hazard Mitigation Plan. In doing so, it weaves the recommendations of the Local Hazard Mitigation Plan directly into the goals and policies that guide growth in League City while also expanding the scope of what is traditionally considered hazard mitigation.

Land Development Tools That Can Be Used For Hazard Mitigation

- Zoning regulations;
- Overlay districts;
- Setbacks and buffers;
- Subdivision and PUD regulations;
- Cluster development;
- Site design regulations and performance standards;
- Incentive zoning;
- Fee-simple property acquisition;
- Purchase-and-sellback or leaseback;
- Transfer of development rights;
- Capital expenditure policies; and
- Education and information.

2010 League City Local Hazard Mitigation Plan

The Local Hazard Mitigation Plan is developed in response to requirements established by the Disaster Mitigation Act of 2000, in recognition that each year disasters kill hundreds of people and injure thousands more throughout the United States. Taxpayers pay billions of dollars annually to help communities, organizations, businesses and individuals recover from disasters. These monies only partially reflect the true cost of disasters, because additional expenses to insurance companies and non-governmental organizations are not reimbursed by tax dollars. The Federal Emergency Management Agency (FEMA) has made a priority of reducing losses from disasters and determined that hazard mitigation planning and subsequent

implementation of projects, measures, and policies developed through hazard analysis and mitigation plans can have a major impact if appropriately developed and utilized. An acceptable Local Hazard Mitigation Plan allows League City to remain eligible for certain federal disaster assistance and hazard mitigation funding programs. Additionally, proactive mitigation planning at the local level can help reduce the cost of disaster response and recovery to property owners and governments, by protecting critical community facilities, reducing liability exposure, and minimizing overall community impacts and disruption.

The 2010 Local Mitigation Plan (LMP) is an update to the 2005 Hazard Assessment and Mitigation Plan and is intended to mitigate hazards classified as “moderate” or “highly likely” in occurrence and risk. Classification was determined through a detailed risk assessment conducted in the 2005 Hazard Assessment and Mitigation Plan. Hazards classified as “unlikely” of occurring or with “limited” risk were not cited for mitigation. Rather, those hazards are to be monitored and evaluated during future updates of the Local Hazard Mitigation Plan for future action in the event that they become elevated to a higher risk level. This enables the city to prioritize mitigation actions based on those hazards understood to present the greatest risk to lives and property.

The initial City of League City 2005 Hazard Assessment and Mitigation Plan was prepared in accordance with guidelines provided by FEMA, advice from the Texas Division of Emergency Management (TDEM), and support from the Texas Water Development Board (TWDB). The 2010 Local Hazard Mitigation Plan update meets requirements to update the hazard mitigation plan every five (5) years.

This 2010 Local Hazard Mitigation Plan was developed to assist local officials meet the following four objectives:

- Protect life and property by reducing the potential for damages and economic losses resulting from natural disasters.
- Qualify for pre- and post-disaster grant funding.
- Increase recovery and redevelopment efforts following disaster events.
- Comply with state and federal legislative requirements for local hazard mitigation plans.

Local Hazard Mitigation Plan defines mitigation goals and identifies current risk reduction efforts, risk reduction strategies for each of the significant hazards that threaten the city, future risk reduction efforts, cost of efforts, a source of funding options to implement the action items, and individuals

responsible for the entire process. By its very nature, the plan is intended to address natural hazards. As a result it does not address potential man-made hazards. The 2010 Local Hazard Mitigation Plan specifically addresses circumstances caused by hurricanes and tropical storms (considered to be highly likely), flood events, thunderstorms (including hail and lightning), tornadoes, and extreme heat.

League City has approximately 4,614 acres of land located in the 100-year floodplain. The total acreage includes 481.68 acres of parkland, which leaves 4,132.74 acres of developed (or potentially developed) land in the 100-year floodplain. While properties within the 100-year floodplain are more likely to experience flooding, all of League City is prone to flash flooding.

LOCAL HAZARD MITIGATION PLAN GOALS AND OBJECTIVES

Goal 1 - Reduce flooding by continuing to maintain a capital improvement fund (CIP)

Objectives

- Maintain and enhance security at city wastewater and water facilities so as to remain compliant with TCEQ and Homeland Security guidelines and requirements.
- Continue conversion of open ditch roadways to internal curb and gutter roadways to improve flood protection.
- Continue to support local developers in facilitating inter-local and cooperative efforts to improve and maintain downstream drainage structures in small, adjacent jurisdictions and nearby unincorporated areas.

Goal 2 - Fire protection/reduction – lives and loss prevention

Objectives

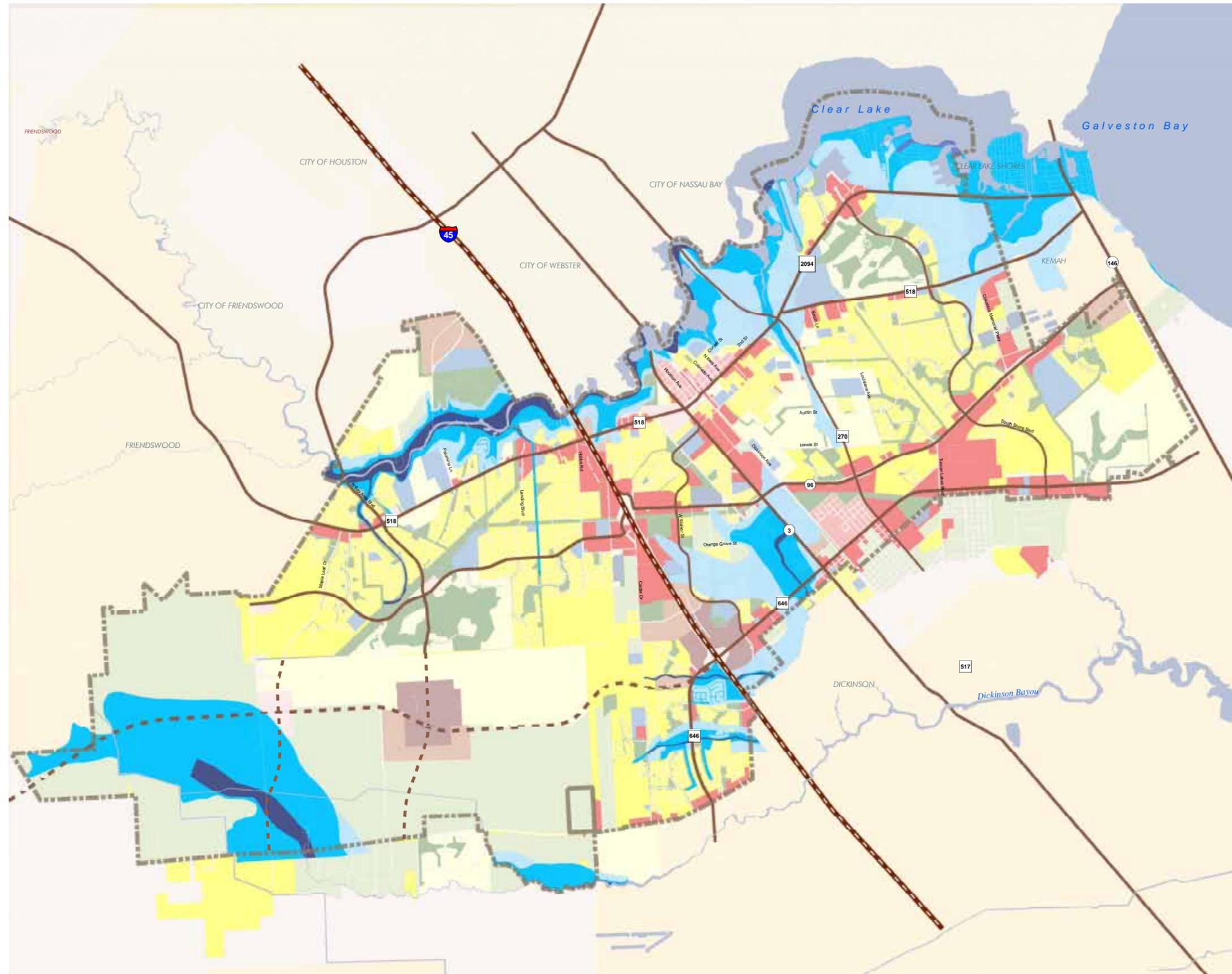
- Increase inter-city communications to continue to alleviate known hazards.
- Prepare quarterly reports to incorporate newly developed areas into the proposed Mitigation Action Plan (MAP) and distribute as is appropriate.

Goal 3 - Reduce flood damage to city/decrease repetitive flood losses

Objectives

- Reduce flood damage to city/decrease repetitive flood losses.
- Continue to update and maintain the Flood Protection and Prevention Regulations.
- Update, as needed, a Repetitive Flood Loss Program that indicates a firm commitment to reduction of flood losses.
- Increase participation in various elements of the Community Rating

Figure 8.1 Floodplain & Future Land Use Plan



The City has 4,614.42 acres of land located in the 100-year floodplain. The total acreage includes 481.68 acres of parkland, which leaves 4,132.74 acres of developed (or potentially developed) land in the 100-year floodplain.

Legend

Community Character

- Rural/Estate Residential
- Suburban Residential
- Suburban Village
- Enhanced Auto Dominant Residential
- Enhanced Auto Dominant Commercial
- Urban High
- Urban Low
- Suburban Commercial
- Public/Institutional
- Park/Open Space/Natural

Floodplain

- Velocity Zone
- Floodway
- 100 Year Floodplain
- 500 Year Floodplain

System Program so that our classification is increased in the next Community Assistance Visit (CAV).

Goal 4 - HAZMAT incident prevention

Objectives

- Increase enforcement efforts by police to ensure the continuation of low or no truck related HAZMAT accidents.
- Increase enforcement efforts to ensure low numbers of accidents by using existing resources and incorporating other existing efforts into an integrated program.

Goal 5 - Minimize flood damage in the city

Objectives

- Expand the GIS Department to the point that allows all city departments to use spatial data in their everyday activities.
- Increase use of interactive maps on the city’s website by public.
- Increase public understanding of flood zones and other data as it relates to their homes or businesses.

Goal 6 - Fire protection and loss prevention

Objectives

- Continue to ensure funds to upgrade existing facilities and water lines.
- Enhance fire protection through Capital Improvement.

2010 MITIGATION GOALS – STATEMENTS

Public Awareness

- Increase public awareness to the risks that are associated with the area’s hazards categorized as having “high priority”, through information dissemination and outreach programs.
- Provide information on funding resources, partnership opportunities and tools to assist in the implementation of mitigation activities.
- Develop educational training programs and materials residents can utilize to protect property against hazards.

Partnerships and Implementation

- Conduct studies and implement planning processes to increase the resident’s understanding of the city’s hazard vulnerability.
- Strengthen communication and coordinate participation among and within public agencies, residents, non-profit organizations, business, and industry to gain a vested interest in implementation.
- Encourage leadership within public and private sector organizations to prioritize and implement local, county, and regional hazard mitigation activities.

Emergency Services

- Improve evacuation procedures.
- Install auxiliary power generators for all city-owned critical facilities.
- Coordinate and integrate hazard mitigation activities, where appropriate, with emergency operations plans and procedures.

Mitigation Planning

- Improve hazard assessment: propose recommendations for mitigating new development and encourage preventative measures for existing development in areas vulnerable to natural hazards.
- Preserve, rehabilitate, and enhance natural systems to serve natural hazard mitigation functions.
- Evaluate and update the City of League City’s Local Mitigation Plan on an annual basis.

Public Works and Capital Improvement Projects

- Support the development of a new Master Drainage Plan for the City of League City.
- Prioritize drainage projects identified in the Capital Improvements Program according to the number of Repetitive Loss Properties they will benefit.
- Support the design and construction of the Galveston County Consolidated Drainage District (GCCDD) Regional Detention Ponds.
- Support the design and construction of the US Army Corps of Engineers (USACE) Clear Creek Federal Flood Protection Project.

Floodplain Management

- Support the development of a Floodplain Management Plan.
- Improve the city’s Community Rating System Classification.
- Maintain up-to-date records of Repetitive Loss Properties for future FEMA/TWDB Mitigation Grant Programs.
- Encourage all League City property owners, especially those located within the Special Flood Hazard Area (SFHA), to purchase flood insurance.

The Petrochemical Industry

To date, there has been no detailed study on petrochemical industry related activity in League City. Without question the industry has been integral to the success of the entire region. However, recent activity related to oil and gas wells and pipelines have raised awareness of the associated hazards and negative impacts. The result has been substantial discussion about the

relationship between mineral rights and surface rights, safety of operations, and incompatibilities generated by negative impacts such as noise and truck traffic. Other regions of the state have been forced to recently address these issues. However, while some of the information they have gained is applicable to League City, other critical elements are starkly different. For example, sites in the Metroplex are generally focused on gas production in a geology that is entirely different from League City. At the same time, noise impacts are largely similar.

Goals and policies related to oil and gas wells and pipelines represent the result of initial investigations into the manner in which such uses can be managed. What is known about the ability to manage the oil and gas wells, as well as pipelines is as follows:

- League City can address safety, but should also respect the jurisdiction of the Texas Railroad Commission (TRRC) and the Texas Center for Environmental Quality (TCEQ).
- The city can take proactive steps toward managing safety.
- The city may regulate “nuisance” issues created by the construction and operation of oil and gas wells and pipelines.

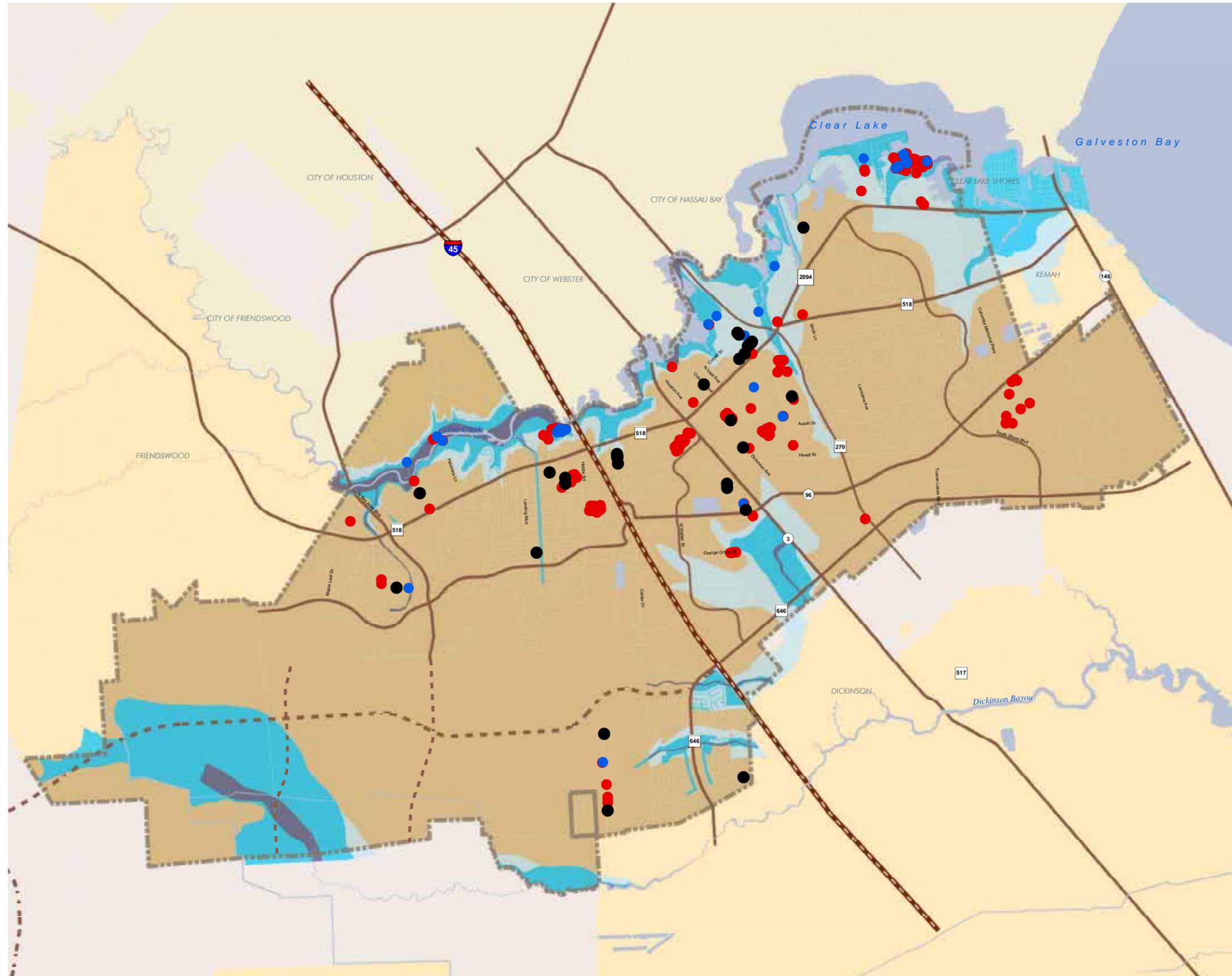


Estimated losses in League City from Hurricane Ike included:

- 648 residential units substantially damaged or destroyed
- \$5.5 million in commercial damage
- \$5.4 million in damage to infrastructure and facilities
- 2,500 employees out of work

Source: LMP, FEMA’s 2008 Hurricane Ike Impact Report

Figure 8.2 Repetitive Loss Properties



Numerous repetitive loss properties are not located within designated FEMA flood zones. The city's low flow (buried conduit) system fills at 2 inches (2") of rainfall per hour. During tropical events and/or severe thunderstorms with heavy rains, the city's drainage system is often overwhelmed, resulting in sporadic flooding.

Legend

- FEMA 04 2009 Repetitive Losses
- FEMA Ike Repetitive Losses
- Flood Damage

Goals & Policies

The following goals and policies provide direction in making land development decisions that minimize threats to public safety and lessen the potential impacts from potentially hazardous events.

GOALS:

- ❖ Protect and enhance natural areas, particularly along the waterfront, as a means of managing the impacts of coastal storms and flooding.
- ❖ Keep future development out of known hazard areas and protect existing developed areas.
- ❖ Protect existing critical community facilities to the extent practical and appropriately site and “harden” future facilities to ensure performance during both an event and recovery.
- ❖ Mitigate existing structures and infrastructure systems from repetitive disaster losses.
- ❖ Ensure a mobility system that allows that is responsive to needs in the event a natural or man-made hazard occurs.
- ❖ Manage and mitigate, to the extent practical and appropriate, the impacts raised through pipelines and oil and gas wells within the boundaries of League City.

Land Development

- Restrict or limit development, to the extent practical, in primary conservation areas such as wetlands, the 100 year floodplain, and other sensitive sites.
- Completely prohibit construction of government buildings and special needs facilities like medical facilities, nursing homes, schools, and day cares within the 100 year floodplain.
- Cluster development outside of the 100 year floodplain (and other primary conservation areas) through the use of conservation subdivision design techniques.
- Consider introduction of innovative techniques such as transfer of development rights as a tool to compensate property owners that are deprived of the ability to build to the fullest extent possible as a result of requirements for preserving sensitive areas.
- Preserve secondary conservation areas including the 500 year floodplain, native habitat areas, and other open spaces to the extent possible.
- Encourage clustering, large-lot development or other creative development patterns in secondary conservation areas, including the possible use of conservation easements as a preservation tool.

- Restore and enhance natural areas and features for purposes of drainage, storm water detention, and retention.
- Promote restoration of natural areas during new development and, to the extent possible, redevelopment.
- Protect Clear Creek from development through preservation requirements, open space standards, buffer yard requirements, setbacks or other regulatory mechanisms.
- Require documentation and steps to avoid complete destruction or removal of vegetation during the development process.
- Utilize open space requirements and performance standards to require preservation or establishment of natural areas.
- Existing native vegetation should be disturbed to the least degree possible and used to meet open space requirements.
- A buffer zone of native plants should be required around wetlands.
- Landscape standards should promote use of storm-resistant vegetation in all new private construction and re-landscaping of existing private property.
- Encourage and, if possible, acquire conservation easements on currently developed land on which the undeveloped portion is within primary conservation areas, particularly wetlands, 100-year floodplains and any other sensitive area that can provide significant storm water management functions and where they are not protected by existing land development regulations.
- Actively promote voluntary retrofit of existing lawns and landscaped areas with native and storm-resistant vegetation.
- Promote and participate in development of storm water detention at critical locations to reduce the possibility of flash floods and, to the extent possible, minimize the impact of major storm events.

Structures:

- Building codes should continue to require all structures to meet or exceed recommended requirements related to wind, debris, flood elevation and “hardening”.
- Owners of older structures should be encouraged to retrofit for purposes of becoming more resistant to damage caused by natural events including the possibilities of wind damage, water/surge damage, fire and, to the extent possible, mold. Cost effective measures such as storm shutters are particularly encouraged.
- Public facilities should be retrofitted to the extent practical to become more resistant to natural disasters, beginning with those that do not currently meet the building code.

- Infrastructure, including the mobility, water and wastewater systems should be designed and “hardened” to withstand the effects of flooding, storm surge, high winds, debris and resulting impacts such as power outage and line breaks.
- Elevate or otherwise creatively flood-proof existing structures that frequently flood.
- If development currently exists in the floodplain, or if development is permitted to a very limited extent, then steps should be taken, to the extent practical, to ensure that the potential for flooding will be minimized, including natural means, elevation of the habitable structure above the Base Flood Elevation (preferably 2 feet above BFE), or other creative methods of flood prevention.
- Appropriate steps should be taken to ensure the most adequate means of fire prevention, particularly in habitable structures.
- Creative architectural techniques and styles that, by design, are more storm resistant, are encouraged.

Evacuation and Emergency Routes

- Emergency routes should be considered to start deep within residential and commercial areas and should extend into arterials and freeways.
- Each new development should include emergency routes as part of development review.
- Emergency routes should be designed accordingly, and, to the extent practical, remain free of obstructions such as street humps.
- Consideration should be given to the impact of each new development, or application to increase density, on evacuation plans and effectiveness of emergency routes.
- Emergency routes and other facilities and programs for managed evacuation should be well publicized and clearly demarcated.
- Travel demand modeling and traffic impact assessments should fully consider any impact on traffic routes.
- Hazard mitigation planning should fully consider recognition, response and recovery related to a chemical spill along League City’s roadways.
- Maintain a Level of Service “D” on all designated emergency routes, to the extent practical.
- Critical weaknesses in the emergency route system should be recognized and, to the extent possible, ameliorated through improvements to the area or establishment of alternative routes.
- Capital improvements associated with establishing and maintaining an effective emergency route network should be given strong consideration when selecting projects for incorporation into the Capital Improvements

Program and in selecting projects for submission for non local funding (including county, state and federal resources).

- Context sensitive design of mobility improvements should include the ability to “harden” the emergency route system.
- Post-storm shelters should be in place and available for League City residents returning to the community but unable to reach or reside in their homes.
- Creative application of remedies such as traffic signalization, ITS and contraflow may bolster the efficiency of local emergency routes during evacuation events.

Oil and Gas Wells and Pipelines

- Mitigation considerations related to wells and pipelines should include nuisance impacts during drilling/construction, use and removal (when removal is considered necessary or required). Impacts should include noise, noxious odors, dust, lighting, traffic congestion and damage, hours of operation, storm water flow, and view shed protection.
- Approval of any application to initiate or expand operation of a well or pipeline should require a Special Use Permit rather than a zoning change to ensure that decisions are fully focused on the ability to ameliorate or minimize impacts to the satisfaction of the City.
- Solutions may be different for addressing temporary issues related to drilling/construction, use and removal.
- Solutions such as buffer yard/screening, distance, noise abatement techniques, among other, should allow for flexibility and, to the extent practical, should be founded on facts. For example, an applicant may be able to reduce distance requirements related to noise if sound-absorbing walls are installed with the appropriate height, materials and surrounding landscaping needed to be as, if not more, effective, while not diminishing visual character of the area.
- Distance requirements established by the City of League City should be related to habitable structures and actively used facilities, but they should also consider actively used portions of a site such as a back yard or park, particularly as it relates to nuisance issues such as noise, odor and visual impact.
- Applications for approval of a well or pipeline should indicate alternative locations or otherwise prove that no other location is appropriate.
- Protection of view sheds and sensitive sites are legitimate factors for consideration of approval of an oil and gas well or pipeline.
- Truck traffic generated by operation of an oil and gas well is not appropriate for local roadways and should be carefully considered

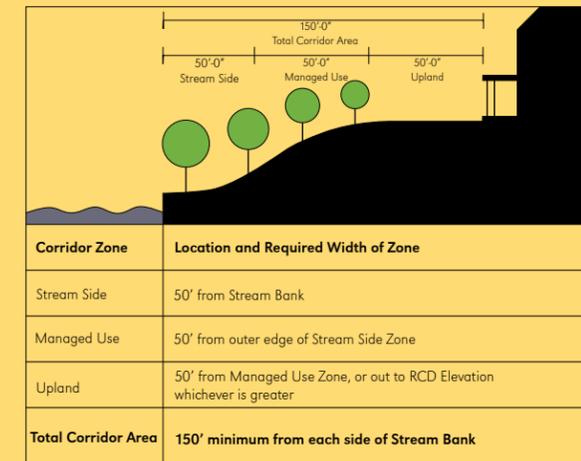
along collector roadways.

- Applicants should be fully expected to cover costs related to damage to roadways resulting from truck traffic generated by an oil and gas well.
- League City should complement safety efforts and regulations performed by state agencies rather than attempting to supersede state requirements.
- League City should establish a means of testing for potential environmental problems, including inspection for potential gas leaks, by first establishing baseline measures as a source of comparison. Staff should maintain a report of findings and notify the appropriate state agency in the event that a potential problem is noted.
- An adequate emergency response plan should be required for approval of a permit related to oil and gas wells and pipelines.
- Operators of oil and gas wells and pipelines should ensure that League City maintains records related to the specific well or pipeline in the event of an emergency, including a full emergency response plan.
- City staff should maintain a current inventory of active and inactive oil and gas wells, as well as all pipelines, and should require operators to provide information, including regular updates, as deemed essential.
- Pipelines should be routed or rerouted to avoid significant risk to populated areas and to minimize negative impacts to the greatest extent possible. Preservation of primary conservation areas and, to the extent practical, secondary conservation areas, should be considered legitimate factors in consideration of an application for approval.
- Ensure proper mitigation if a proposed pipeline is to be located within proximity to another pipeline.
- Coordinate with the Texas Railroad Commission to ensure that applications for oil and gas wells and pipelines are utilizing the most advanced and safest technology available.
- Any applicant for development, including the City of League City, should consult with applicable pipeline operators, including public utilities, during the preparation of development plans and during the early development stages of properties that contain, or are adjacent to gas or oil pipelines.
- The City shall require a minimum setback from the centerline (or possibly the nearest edge) of gas and oil pipelines to prevent damage to pipelines by external forces and to permit operators access for repair, maintenance, survey, and emergency response.
- New pipelines, or relocation of existing pipelines, should include measures to warn outside parties about the presence of a pipeline or inactive well, including proper marking of the right-of-way with signage.

CASE STUDY - HAZARD MITIGATION & PLANNING IMPLEMENTATION TOOLS

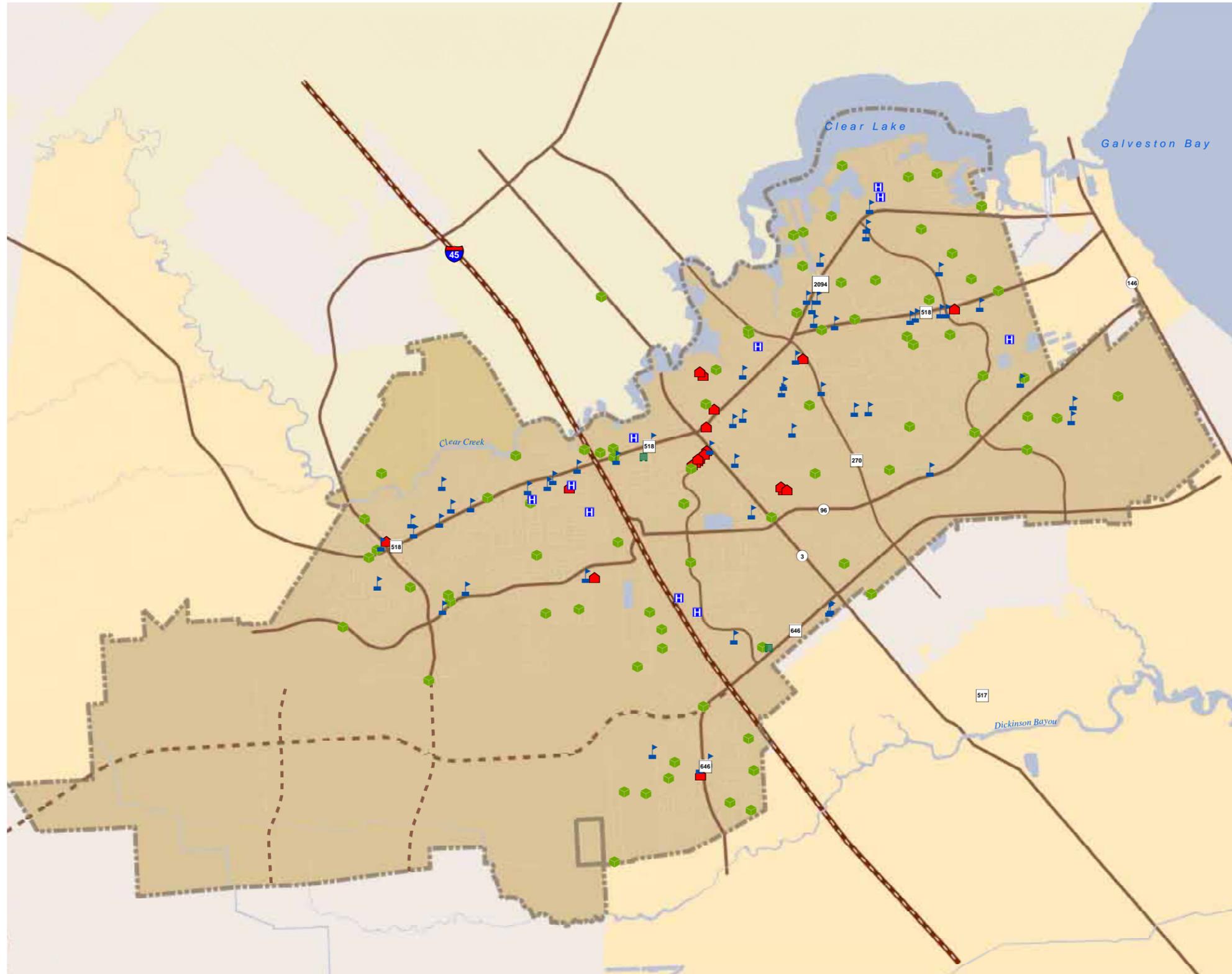
Integrating hazard mitigation into planning implementation tools can help a community achieve its hazard mitigation goals. Zoning ordinances, subdivision regulations and capital improvement programs are all effective tools for limiting damage from hazards. Zoning ordinances can restrict hazardous areas to land uses that would not suffer extensive damage and can encourage growth in safe locations. Subdivision regulations can be used to promote flexible designs such as cluster or conservation subdivisions, which can protect floodplains and other hazardous areas from development.

Chapel Hill Resource Conservation District, Chapel Hill, North Carolina
Chapel Hill created a Resource Conservation District as an overlay zone which is applied to all areas along the watercourses in the town. The intent of this district is to preserve the water quality and carrying capacity of the watercourses, minimize impacts from flooding, retain open spaces and greenways, and preserve and maintain the aesthetic qualities and appearance of the town. The overlay zone restricts permitted uses in the district based upon on location within the three Stream Corridor Zones as shown in the illustration below.



Source: Hazard Mitigation: Integrating Best Practices into Planning, APA 2010

Figure 8.3 Critical and Vulnerable Facilities



The following facilities are designated as critical facilities with their relation to flood zones, delivering essential services, housing essential city documents and personnel:

- all city buildings (City Hall and annexes, police, fire and EMS services)
- water/wastewater facilities
- lift stations
- pump house, ground water tanks, sewer treatment plant, waste water pump stations, etc.
- utilities
- medical and assisted living facilities
- schools and daycare centers
- transportation systems
- water tanks
- communications systems
- hazardous material facilities
- historical and cultural facilities

Legend

-  City Buildings
-  Galveston County Buildings
-  Medical and Assisted Living
-  School/Daycares
-  Water/Wastewater Facilities

9 - COMMUNITY FACILITIES



Community facilities take on a wide variety of functions that can impact residents, businesses and League City’s guests on a daily basis. Each plays a particular role and function in the community, some of which are more glamorous than others. Helen Hall Library is recognized throughout the city as a marvelous resource for residents of all ages. On the other hand, facilities that house the equipment needed to maintain streets and infrastructure go relatively unnoticed, yet the services provided by staff in these facilities ensures that the daily lives of most residents goes on without interruption or major inconvenience. Fire stations are scattered strategically throughout the community to be located in close proximity to neighborhoods, commercial areas and schools. The Animal Control facility, in comparison, is intentionally less obvious.

Community facilities represent a rare opportunity for government to directly play a part in the built environment as examples in quality construction and as landmarks. Equally important, however, they can serve as nodes that draw people to an area, as in the case of schools or City Hall. Together with other resources, community facilities can become attractions capable of enhancing the city’s marketability.

The Community Facilities chapter of the Comprehensive Plan contends that government structures have an important place in League City’s vision for the future by building upon their ability to perform three distinct roles:

- Providing critical services needed or desired by residents;
- Establishing the standard for private development; and,
- Furthering the community’s destination-based approach and building its brand.

By definition, the term “community facilities” can represent an extremely broad group of structures and spaces. A number of community facilities are addressed as part of other chapters. Parks and parks facilities are addressed in the Parks and Open Space chapter, mobility and streetscape improvements are found in the Mobility chapter, and infrastructure improvements are located in the Infrastructure Chapter. Additionally, many of the facilities found in League City today, as well as anticipated in the future, are not municipal structures. To impact various educational institutions or other governmental entities, League City will have to build strong regional partnerships. Regardless, the goals and policies of this chapter are largely applicable.

Inventory and Analysis of Current Facilities

Assessing existing facilities and services and identifying future needs is a necessary first step toward accurately planning for appropriate location and type of facilities. Below is a description of major municipal community facilities in League City, as well as additional county and educational facilities. Municipal facilities include discussion of current conditions, deficiencies, and projected needs, as available. Analysis of existing facilities is largely based on information provided by the League City Feasibility Study completed in 2008, as well as substantial research and discussion with staff.

CITY HALL

300 West Walker

Year constructed: 1969

Size of building: 22,420 square feet

Last renovation: Currently (2010)

Functions: The two story, 20,000 square foot structure currently houses City Administration, City Secretary's Office, Finance, Utility Billing, Public Information Office, Human Resources, Information Technologies, Public Works Administration and Emergency Management. Services offered at City Hall include utility payments, public hearings and visits to the Mayor. Due to space constraints, other activities that would typically be housed within City Hall, including departments that provide planning, engineering, building, and code enforcement services, as well as the Fire Marshal's offices, have relocated to an alternative, temporary space.

Conditions-Inadequacies: The current space is very limited and underutilized, largely due to obsolete design. There is no additional room for storage of documents, filing cabinets or additional staff. The general condition of the building is poor and the interior space is not readily handicap accessible. The mechanical, electrical and plumbing systems are aged and in need of replacement. The exterior of the building contains multiple deficiencies, some of which were the result of damage caused by Hurricane Ike. Water leaks, cracked and broken panels, rusted windows and deteriorating frames and the roof materials reflect the age of the structure.

Needs: The 2008 study of community facilities estimates that a space close to 100,000 square feet will be needed to fully accommodate the growing community's needs for City Hall once the community has reached "build out". In the interim, the need for space and updates to lighting, windows, storage, workable space and technology warrant near-term improvement. More

important, the current space, size and working conditions are inappropriate for today's modern government practices and inconvenient to city residents, contractors and other visitors seeking services.

The study of community facilities proposes creation of an expanded government campus along Walker Street in which City Hall could serve as the anchor facility surrounded by a series of additional structures. While grand in vision, the recommendation for construction of a new municipal complex seemed costly and impractical. As a cost effective short term alternative, in December 2010, the City began renovation efforts to repair damage caused by Hurricane Ike and age, as well as improve functionality of City Hall. Upon likely completion in 2012, the facility will have a stronger "skeleton" that is more resistant to wind damage, in addition to new windows and minor façade improvements. Internally the structure will include an entire remodel of the interior to better accommodate staff and citizens. While space will remain insufficient to accommodate all of the services typically housed in City Hall, it will prolong the life of the existing structure and allow for focus on other major facility improvements, including a new Public Safety building.

MUNICIPAL COURTHOUSE

200 West Walker

Year constructed: 1969

Size of building: 5,600 square feet

Last renovation: Addition in 2000

Functions: The Municipal Courthouse serves as home to the City's municipal court system, as well as City Council Chambers. Additionally, the single court chamber provides space for a number of city boards and commissions.

Conditions-Inadequacies: Built alongside City Hall, the Municipal Courthouse suffers from many of the same problems afflicting that structure. The courthouse is generally small in size and does not have adequate seating for the growing public. The general condition of the building is poor and the mechanical, electrical and plumbing systems are aged and in need of replacement. The exterior has many of the deficiencies of City Hall. More, the interior space is inefficiently designed for an era that requires increased technology and security.

Needs: Because the facilities serves many functions, needs are extensive. Upon "build out" the city is expected to need courthouse space of approximately 25,000 square feet. New technology is critical to safety and

the ability of municipal court staff to meet goals for a more advanced and efficient system. Finally, location of the facility ensures that City Council meetings, as well as meetings of boards and commissions will be increasingly difficult to reach, particularly as population in the western portion of the city grows. To avoid isolation from an increasing portion of League City residents, staff have suggested consideration of a secondary location on the west side of the city to hold City Council meetings, as well as those of some of the boards and commissions.

Currently, the city is proposing a new facility to house a number of public safety related services. A new municipal court facility located within the new Public Safety Building is a part of the discussion. If so, the existing space has the potential to become more strongly focused on service to City Council.

JOHNNIE AROLFO CIVIC CENTER AND ADJACENT RECREATION CENTER

400 West Walker

Year constructed: 1969

Size of building: 14,762 square feet (Civic Center) and 3,534 square feet (Recreation Center)

Last renovation: Addition in 1993

Functions: The Johnnie Arolfo Civic Center is a general purpose hall that provides space for meetings, conferences and local events. A large ballroom occupies the majority of available space, including space for an event of roughly 475 people, as well as a stage for performances. Four adjacent meeting rooms, separated by collapsible partitions, can support groups of roughly 40 people. The recreation center is a separate, adjacent facility that serves as an expansion of the Civic Center. While available to all interested parties, the recreation center is particularly well utilized by the senior population.

The Civic Center and recreation center are very actively used by staff and the general public. Approximately 15 events take place in the ballroom each month. Combined, the spaces within the Civic Center and recreation center service roughly 120 events each month. Activities range from general meetings to weddings.

Conditions-Inadequacies: The general condition of each building is poor with mechanical, electrical and plumbing systems showing signs of age and in need of replacement. The exterior of the buildings likewise show signs of wear. Parking for the facilities is generally inadequate to accommodate the increasing number of patrons using each facility.

Needs: The age and size of the Civic Center are beginning to show signs of obsolescence. Once the city has reached full maturity, it is estimated to require approximately 40,000 square feet of space to host the myriad meetings that will be a part of a large community. The recreation center is insufficient to offer the various requirements of a full senior center, including classrooms, as well as large spaces. Eastern Regional Park, a major new park facility within League City, will provide for many of the activity-related needs of the community, including senior citizens. Parking and accessibility will continue to be an issue.

HELEN HALL LIBRARY

100 West Walker

Year constructed: 1972

Size of building: 29,300 square feet

Last renovation: 1988

Functions: The Helen Hall Library is currently the largest and busiest member of the Galveston County Federated Library System, with over 23,000 patrons every month, 776,647 checkouts per year and 87,135 computer users per year. The library is accredited by the Texas State Library and Archives Commission and is therefore also a member of the Houston Area Library System. The library contains space for story time, a catalog, comfortable chairs for reading, and a bank of computers with internet access for both adults and children to utilize. Study space is also available with tables and chairs.

Conditions-Inadequacies: The library is part of a combined structure shared with City Hall and Municipal Court. It encompasses over 29,000 square feet but the general condition of the building is poor and there is need for additional space based on the increase of population. The interior and exterior of the building is not handicap accessible. The parking area is inadequate for the number of patrons this library serves. The mechanical, electrical and plumbing systems are aged and in need of replacement. The exterior of the building, like the remainder of the structure, contains multiple deficiencies such as water leaks, cracked and broken panels, rusted windows and frames and the roof materials are deteriorating.

Needs: The current building size and condition is inadequate for a city that will double in population over the next 20 years. It lacks space for expanded children's programming, new teen programming or adult programming.

There are no quiet study areas or meeting rooms. There is no space for an enclosed computer lab and inadequate parking. City staff have discussed the concept of "repurposing" the current library building through renovation and bringing the building up to standards as one potential solution, although no recommendation has been made.

Library branches and express libraries have become another means of stretching resources for larger, growing cities. With the majority of the west side of League City still undeveloped, branches could place the library in closer proximity to residents. Branches could offer a number of the amenities of Helen Hall Library, including youth programming with story time, quiet, comfortable reading areas, and a bank of computers used for internet and research. City staff and the 2008 study regarding community facilities together suggest that the future needs of the city for library space could encompass over 100,000 square feet for a central library by the time the population has reached its peak. A branch library could require approximately 25,000 to 35,000 square feet.

PUBLIC SAFETY/EMS

Functions: League City Emergency Medical Services provides emergency medical care for the entire city, as well as medical standby for events such as football games, fairs, concerts, and more. Currently the EMS operates from two locations that house personnel for a fleet of four ambulances, one supervisor response truck, five staff vehicles, a special operations trailer with MCI equipment, and a medical golf cart.

Conditions-Inadequacies: The building located at 260 FM 270 is fairly new with adequate space and amenities. The second location at 409 Newport Boulevard is an older facility that does not have sufficient space for the necessary personnel to man one emergency vehicle. The general condition of the building is poor. The interior of the building is not readily handicap accessible. The mechanical, electrical and plumbing systems are aged and in need of replacement. The Newport location has been slated in the Capital Improvements Program in FY2011 for renovations. At the same time, the City is looking to add a hurricane-ready, hardened facility behind Fire Station #2 on Hobbs Road.

Needs: With two projects currently in the Capital Improvement Program, League City EMS should have adequate facilities and locations to properly serve League City until 2025. As the city expands westward, an additional facility in conjunction with additional fire stations could assist to serve that area of the community.

PUBLIC SAFETY BUILDINGS/POLICE DEPARTMENT

500 / 600 West Walker

Year constructed: 1986 / 1969

Size of building: 24,400 / 8,044 square feet

Last renovation: 2003 / 1995

Functions: The League City Police Department is composed of 111 sworn personnel, providing an average of 1.48 officers per 1,000 citizens. The department provides a variety of services to the community, including patrol, criminal investigations, criminal records maintenance, property/evidence collection, analysis and safekeeping, emergency communications, animal control, and code enforcement. Patrols are provided in six beats, which are divided into sub-districts. Three 8 hour shifts of patrols provide 24-hour coverage to the city. The department also participates in the Combined Agency Response Team (a special weapons and tactics unit that is staffed by participating cities), and maintains a marine unit that patrols the portions of Clear Creek and Clear Lake that are within city limits. The Police Department also plays a large role in Community Involvement projects.

Conditions-Inadequacies: According to the Strategic Plan, the department falls behind the national average of sworn police officers for cities of similar size of 1.8 officers per 1,000 people, and well below the Texas average of 2.21 sworn officers per 1,000 population. Realizing that the population of League City will continue to increase, and desiring to maintain the existing level of service (and intending to improve the level), the Police Department plans to add officers based on needs. It is anticipated in 2027 there will be 264 employees and sworn officers within the department.

Needs: Currently the Police Department is occupying two adjacent buildings, both of which require substantial repair. General mechanical, electrical and plumbing systems are aged. The exterior of the buildings contain multiple deficiencies.

The city is proposing to build a new, fully hardened Public Safety building that would include an Emergency Operations Center for use during major storm events, a new jail and possible space for municipal courts. While the 2008 study of community facilities suggested construction of a new facility as part of a major campus renovation on Walker Street, staff is also researching the possibility of location of the facility on the west side of the city to take advantage of higher elevation and greater distance to the coastline. Additionally, a location on the west side of the city would allow for a stronger municipal presence in an area that currently has very few municipal facilities.

If a new Public Safety building is completed, at least one of the existing two buildings is proposed to be refurbished to house departments that provide planning, engineering, building, and code enforcement services, as well as the Fire Marshal's office.

FIRE PROTECTION

League City's Volunteer Fire Department was established in 1939 and consists of 124 volunteer fire fighters, eighty percent of which actively respond. Five fire stations located throughout the city currently provide adequate fire protection for the City. League City is currently awarded a positive rating of 3 (on a scale of 1 through 10) through the Insurance Service Office (ISO) Public Protection Classification system. The Fire Department has a training facility, but maintenance issues related to the burn building and propane system have limited its usefulness in recent years and forced the department to look elsewhere to conduct live fire training.

To maintain the existing fire rating (or perhaps improve it), the Fire Department has begun looking at space for a sixth fire station, as well as the possibility of relocating some facilities as a means of improving coverage. City staff are actively investigating opportunities to share resources between city departments, particularly by co-housing the Fire Department and EMS in shared stations. The Fire Department has taken a first step in the transition from a fully volunteer organization to one which includes some paid staff by establishing a full time Fire Chief.

PUBLIC WORKS OPERATIONS



Public Works Operations, including but not limited to vehicle maintenance, the tool shop, streets and drainage, and line repair are located on Dickinson Avenue in several adjacent buildings. Any additional space needs for new or existing activities could take place on site. Recycling facilities for the city are also located at this site. Future expansion of the city westward will warrant a need for additional facilities for recycling in order to better serve the community.

ANIMAL SHELTER

The Animal Shelter and Animal Control is located on Kansas Street in the Historic District. The facility was expanded in 2009 to approximately 6,000 square feet. The League City Animal Shelter is different from other municipal shelters in that staff does not take in unwanted animals. The League City Animal Shelter has a high rate of adoption, owner retrieval and transfers of up to 71 percent.

The Animal Shelter houses roughly 90 animals at any one time. As a result, staff place emphasis on reducing the number of sheltered animals by expanding community outreach and promoting responsible pet ownership, thus reducing the amount of strays in the community. The Animal Shelter Advisory Board established by City Council suggests that more space is needed at the shelter as a means of conducting more on-site educational programs.

Staff indicate that, as the city continues to grow, a satellite shelter could improve service and benefit the city. The satellite facility could house strays but also serve as an educational site where various groups could learn about animal care and animal training.

EDUCATIONAL INSTITUTIONS

Clear Creek Independent School District (CCISD)

The majority of League City residents are served by the Clear Creek Independent School District. CCISD, like other school districts, has established a district capital facilities plan that provides a glimpse into anticipated needs and plans for future growth including discussion of enrollment, classroom size, service standards, and financing. Currently CCISD operates 18 facilities within League City and is continuing to prepare plans for expansion to accommodate the anticipated municipal growth.

Most recently, CCISD made history in Texas with establishment of the Educational Village. Built along League City Parkway (SH 96) and stretching over 144 acres, the Village provides a "community" learning atmosphere

by sharing resources and space among Clear Falls High School, Bayside Intermediate School and Sandra Mossman Elementary School, including cooperate use of the kitchen, sports fields and track.

Dickinson Independent School District (DISD)

A southern portion of League City falls within the boundaries of Dickinson ISD. The district currently operates two schools within city limits - Calder Road Elementary and Bay Colony Elementary. While future growth may necessitate additional construction, the district has no plans for expansion in League City at this time.

Santa Fe Independent School District (SFISD)

Santa Fe ISD crosses into League City municipal boundaries along the community's southwest edge. While a limited number of students from the city attend Santa Fe ISD schools, there are no schools managed by SFISD within city limits.

College of the Mainland (COM)

Despite a population of well over 70,000 people, League City offers relatively few higher education opportunities to residents. In fact, the College of the Mainland (COM) North County Learning Center is the only physical facility for higher education in League City. Located just off of FM 518, the North County Learning Center is also one of the few facilities located west of I-45 in League City. The majority of students taking advantage of the facility come from northern Galveston County, including Dickinson, Friendswood, and League City. Enrollment regularly exceeds 2,000 students enrolled each year at the facility. As a result, COM has been forced to use other facilities to meet demand.

The College of the Mainland North County Learning Center provides continuing education classes for personal and professional growth, including classes and workshops in computers, real estate, leadership training, English as a Second Language (ESL), fitness, and more. Adjacent to the Learning Center is COM's Allied Health Center which offers Dental Assistant, Medication Aide, and Nurse Aide courses. COM utilizes Clear Springs High School for evening classes and they have over 100 high school students enrolled in dual credit courses. The Learning Center also utilizes the classrooms as meeting space when classes are not in session.

GALVESTON COUNTY AND STATE OF TEXAS FACILITIES

The Galveston County Annex Building located on Calder Road houses a number of county government services and resources, including accounting, motor vehicle, property tax, and voter registration functions. The facility also serves as offices for County Commissioner for Precinct 4, as well as Texas State Representative for District 24. Like several municipal facilities, the Galveston County Annex Building is an aging facility.

On the other hand, Galveston County has invested substantially in a 23,500 square foot Emergency Management Facility located along FM 646. As noted by the Galveston County Office of Emergency Management, the facility “combines the Galveston County Office of Emergency Management, the National Weather Service, the Galveston County 911 District and members of the Texas Division of Emergency Management National Weather Service.” The structure is designed to withstand the forces associated with a Category 5 hurricane event and act as a regional resource in emergencies.

Community Facilities as Placemakers

Many community facilities serve a secondary purpose as gathering places. This is certainly true of the parks and park facilities discussed in the Parks and Open Space chapter, as well as the Johnnie Arolfo Civic Center, the adjacent recreation center and, to an extent, the Helen Hall Library. However, as a whole, the City of League City has not taken full advantage of community facilities as a means of establishing a destination. As an example, numerous residents make the effort to come to the library and peruse the shelves, but they have no place to go once they have finished. The same can be said of many of other facilities. Even City Hall, to an extent, is a natural draw.

Time is not so far removed from a period when families would picnic on the lawn of the small town city hall or county courthouse and children would regularly play at the neighborhood school.

Placemaking through public facilities complements the destination-based approach recommended in the Land Use chapter. Doing so, however, requires a distinct departure from the current mindset toward community facilities, including:

- aggressively approaching facilities like the civic center and library as major cultural attractions that could be capable of drawing larger audiences if designed and programmed appropriately,
- utilizing City Hall as a potential community landmark, a natural “traffic” generator and one means of establishing critical mass,

- complementing existing facilities with other potential attractions (such as a performance center or amphitheater),
- recognizing that parks and schools are marketable amenities that can play a much larger role in neighborhood and community life,
- reinventing existing facilities to incorporate high quality architecture and site design,
- treating community facilities as economic and marketing amenities complete with appropriate landscaping, parking, signage, art and other features, and
- linking facility based destinations with other districts in the community.

A nearby example of a community that has leveraged public facilities is the City of Sugar Land and the extraordinarily successful Town Square. Beginning in 1996, the City of Sugar Land coordinated with a series of public and private partners to establish a “town square” in an area near First Colony Mall. In 2005, City Hall was relocated to a new facility anchoring the Town Square and including an urban plaza. The 82,000 square foot municipal structure is surrounded by over 160 residential units, 566,000 square feet of office space and 238,000 square feet of retail space, all within an urban footprint. The result is a highly walkable, well programmed destination that draws people to the area and keeps them interested for an extended period of time. Additionally, First Colony Mall has expanded to include lifestyle-center walkable format that connects the mall to the Town Square.

As impressive as the partnership is the attention to detail within the Sugar Land Town Square. The events plaza includes a fountain and artwork, as well as ample room for activities. Pedestrian walkways are heavily landscaped, well ornamented and constructed of bricks. Parking garages are strategically placed to be seen from the entry but only on-street parking is visible from most locations. “Bulbouts” at intersections and midpoints of streets ensure that pedestrians feel comfortable crossing the street to reach other stores.

Community Facilities as the Standard

Without question, the quality of community facilities send a message to taxpayers about the manner in which tax revenues are spent. For this reason alone it is imperative that the design of community facilities reflect the government that the community deserves and reflect the expectations for the community. Elected officials have established Organizational Values that reflect responsible government, world-class customer service, and a healthy community. The facilities built for the benefit of taxpayers should be a statement of those values.

Community facilities should present a similar statement to the potential investors in League City - builders, developers, and individuals looking to bring business to the community. The standards in energy efficiency, water conservation, architecture, and site design of public facilities should serve as the model for private investment. It should also be considered an opportunity to creatively build upon the desired identity for the community.

As an example, the City of Columbus, Indiana has transformed efforts to set a standard into what has actually become a marketable amenity. Over the course of more than 60 years the community placed an emphasis on constructing facilities that reflect the world’s finest architecture and, in doing so, has hired some of the most well-known architects in modern history. The initiative began with local churches, but was quickly adopted by city leaders. A major manufacturer, impressed by the effort, agreed to support continued efforts to bring internationally recognized architecture into the community. Today, this small community of approximately 40,000 is considered among the most important architectural destinations in the country. Among its distinctive structures are City Hall, the post office, a county jail, a series of fire stations, the major library, and numerous schools of all levels. The private sector has responded accordingly by utilizing similarly well known architects to construct banks and office buildings.



Sugar Land Town Center

Sharing Resources

Government entities have long been territorial, but have begun to recognize the benefits of sharing resources. Galveston County and League City have discussed numerous partnerships and share a variety of resources, most particularly during major storm events. However, the concept of sharing resources can be substantially more expansive. Consider that:

- Within League City, the Fire Department and EMS have similar needs to be located strategically throughout the community for appropriate response time
- League City and Galveston County build parks and recreational facilities while CCISD, DISD and SFISD all have open space needs for students, including athletic activities
- League City, Galveston County, CCISD, DISD, SFISD and College of the Mainland have library and resource needs
- All of the governmental entities and educational institutions in the area benefit from meeting areas and classroom space



Combining resources into shared facilities has the obvious advantage of reducing the cost of services for each of the involved organizations. It also provides the opportunity to extend coverage, sometimes by simply improving and enhancing existing resources. The City of Houston has successfully extended its parks system by coordinating with Houston ISD through a local nonprofit to establish “SPARK Parks”. Now the program has extended to include seven school districts and has resulted in transforming over 180 school playgrounds into neighborhood parks, many of which now also include public art.

Sharing resources in many cases has the added benefit of increasing the use and potential of each of the uses, particularly when they are highly complementary. In one innovative example, the Public Library of Charlotte and Mecklenburg County coordinated with the Children’s Theater of Charlotte to establish the ImaginOn Children’s Library and Theater. The mission of ImaginOn is to bring “stories to life through extraordinary experiences that challenge, inspire and excite young minds”. Beginning in 1997 as a concept, the two organizations have shared resources to combine the powers of reading and the stage to create a dynamic and exciting learning experience. In 2005, the Joe and Joan Martin Center was completed as a facility dedicated to this unique partnership.

Public/Private Partnerships

Many communities have begun to take advantage of opportunities to coordinate with the private sector to expand and enhance resources in a manner similar to shared resources with other government entities. For the public sector, coordination with private investment offers an opportunity to stretch resources while also achieving the community’s efforts to enhance services. It also provides an increased opportunity for the public sector to play a role in placemaking. For the private investor, partnership with a government entity reduces a project’s risk, increases visibility and immediately draws a supply of employees and guests to take advantage of commercial activity. The public sector plays a role in establishing much needed critical mass.

Public/private partnerships can range in scale and impact. The City of Homewood, Alabama established a partnership with a local investor to construct a large mixed use facility in downtown that included residential units, restaurants, shops, an underground parking garage, and a major anchor - City Hall. Located on 5 acres, SoHo Square, is the absolute essence of public/private partnership. The project is not only mixed-use, the entire development is a single facility with City Hall nestled as the centerpiece while private development enjoys visibility along two major roadways within

downtown. Not only has the project brought new life into downtown as a result of the \$55 million investment, it also bolstered the area’s reputation as an upscale, eclectic destination. Restaurants in SoHo Square are distinctive and intended to provide excitement in the area during work and evening hours.

Goals and Policies

Following are goals and policies intended to ensure that community facilities are adequate to meet the needs of community residents. Equally important, however, they are also established to allow for community facilities to play a larger role in League City’s physical, social and economic fabric. The goals and policies in this chapter are designed to complement those found in other chapters in the Comprehensive Plan, including those found in the Land Use, Parks and Open Space, and Economic Development chapters.

GOALS

- ❖ Public facilities and services that keep pace with population and employment growth and are strategically located and easily accessible by residents.
- ❖ Public facilities and buildings that set the highest standard for development in regards to community character, building and site design and environmental excellence.
- ❖ Facilities that contribute to the creation of “great places”.
- ❖ Efficiency and effectiveness through partnerships and shared resources.

POLICIES

General

- New community facilities are recommended only as needed. New facilities, such as a new library facility or city hall should be taken into the context of overall community needs.
- Ensure that existing community facilities remain in the highest state of repair and that every effort is made to utilize each facility to its maximum potential.
- Maintain an ISO rating of 3 or better by anticipating and addressing expansion needs for the Fire and EMS Departments.
- Efforts should be taken to establish community facilities on the west side of League City, as appropriate, particularly in consideration of emergency facilities.

Placemaking

- Strategically locate facilities according to their potential role in the community as a node, gathering space, or attraction.
- Community facilities can serve as landmarks, as well as gathering places when placed at locations such as the terminus of a roadway or within a town square.
- Linkages are as critical to community facilities as other attractions, including landscaping, wayfinding, monumentation, and mobility.
- Complement facilities with functional and contextually appropriate open spaces, when the opportunity is present.
- To the extent possible, elementary schools should be located in a manner that allows for maximum and safe walkability, as well as service as a community gathering place.
- Fully mitigate impacts generated by community facilities to or above the extent expected from private development.
- Incorporate Crime Prevention Through Environmental Design (CPTED) practices in public facilities and spaces at all possible opportunities to reduce opportunities for criminal activity and vandalism, as well as overall safety concerns.
- Promote artwork, fountains, distinctive landscaping and other features as a means of establishing memorable landmarks within public places.
- Avoid fences, other than ornamental fences, surrounding public facilities that also serve as gathering spaces, nodes or attractions, to the extent practical.

Shared Resources

- At minimum, League City should pursue joint use of resources such as library or park resources, parking areas, and meeting areas between departments or government entities that share common needs or interests, such as the fire department and EMS, or City of League City Police Department and Galveston County Sheriffs Department.
- Utilize resources such as parking areas, parks and meeting areas as a means of promoting shared use with private uses, such as retail, office and residential activities.
- The City should explore shared resources as a means of attracting additional higher education opportunities, as well as increased presence of the College of the Mainland.
- Maximize the potential for critical mass by clustering complementary activities to the extent practical.

Energy and Quality of Design

- Water conservation and stormwater management techniques should be fully integrated into all existing and new public structures and site to the fullest extent practical.
- All public facilities should reflect dignity and permanence in design while allowing for sufficient flexibility to adapt to changing technology and needs.
- Architecture of public facilities should be innovative and bold in design. At the same time, architecture should fit into the surrounding context and should avoid styles capable of becoming quickly dated.
- Site design of any public facility should be highly respectful of the surrounding community character, including location of parking, open space requirements, and lot coverage.

Partnerships

- Partnerships that enhance educational opportunities in League City are strongly encouraged including construction of distinctive facilities that expand the learning experience and the possibility of research or training centers.
- Coordination with nonprofit organizations, particularly those related to cultural activities and the arts should be considered a viable means of expanding the creative use of facilities and the quality of services provided to League City residents.
- Public/private partnerships are strongly encouraged as a means of building stronger destinations and enhancing opportunities for customer service.
- Partnerships with other government entities that provide services in League City are encouraged for purposes of improving customer service and efficiently using resources.
- Partnerships with adjacent municipalities, Galveston County, Harris County and other entities could spur development of major regional attractions located strategically throughout the area.



10 – INFRASTRUCTURE



Photo taken by Ashley Morris

Infrastructure systems serve as the physical backbone of a community and provide households and businesses with the basic requirements to function on a daily basis. The City's infrastructure consists of several systems including transportation, communications, utilities, water, wastewater and drainage. Roadways and transportation are addressed in the Mobility Chapter and therefore this chapter focuses on water, wastewater and drainage systems. Master plans for all these elements have recently been completed or are in the process of being completed and their findings and assumptions are incorporated into this Comprehensive Plan. The preferred growth scenario and recommended development patterns in Chapter 5 - Land Use, balance accommodating growth with resource protection and promote the efficient use of infrastructure, water conservation and stormwater best management practices.

Water Supply

The success of a municipal water system is measured in terms of volume, pressure and quality. Sufficient water must be available to provide daily service during the thirsty summer season with sufficient reserves to fight a major fire event. Consistent pressure ensures that water flow is satisfactory to residents, but it also reduces strain on the delivery system and the opportunity for bacteria to form. Treatment of water prior to entering the system allows the water that residents drink to maintain a healthy and tasty quality.

The water that is daily used for drinking, showering and watering the yards of League City residences and businesses traces through a network of pipelines that ultimately draw from Lake Houston, and the Brazos and Trinity Rivers. Three wells located in League City serve as an additional, but limited, source of water. Treatment occurs at the Thomas Mackey Plant in Dickinson and Southeast Water Purification Plant in Houston. A series of three water towers provide a reserve that can be drawn when needed, particularly during peak demand and firefighting events. The natural pressure provided by the water towers, complemented by a series of pumps at strategic locations, ensures that water delivery is both adequate and regular.

While water quality and pressure in League City appear to be in good condition, water capacity is a growing concern. In fact, water supply is a major issue for the entire region. The Center for Houston's Future estimates that by the year 2060, the greater Houston region will exceed current water supply by 35 percent based on current usage rates (*Source: <http://www.futurehouston.com>*). In League City, the average daily water consumption is 9.7 million gallons per day (MGD), with a peak of 18.5 MGD during peak summer periods. The current water supply is 21.5 MGD with an additional 5 MGD available with infrastructure improvements, for a total future capacity of 26.5 MGD. If current water consumption habits remain the norm, additional growth will constrain water resources and lead to shortages.

Put simply, League City will be unable to see substantial additional growth, let alone reach its full potential, unless additional water capacity becomes available. The Water Master Plan will recommend a strategy to procure additional water that may include traditional acquisition of rights to capacity or more innovative solutions such as desalination of brackish or saltwater.

At the same time, with respect to water, habits of residents, businesses and homeowners associations must change. Water is quickly becoming a scarce and expensive commodity, the City must become much smarter and more frugal with the water that is available, including increased water reuse and an aggressive approach to water conservation.

WATER CONSERVATION PLAN

In November 2010, the City adopted a Water Conservation Plan in accordance with Texas Commission on Environmental Quality (TCEQ) guidelines and requirements. The plan addresses reducing water consumption and loss, efficient use of water, recycling and reuse of water and reducing the rate of growth in demand. The five and ten years goals of the plan are to reduce per capita municipal water use and water loss by five percent in five years and an additional five percent in ten years.

The Plan outlines the following strategies for water conservation:

- Decrease the amount of unaccounted water through replacement of water meters, water audits, continued maintenance of the water distribution system and leak detection and repair
- Increase public education and information on water conservation and reuse through the municipal channel, city web page, school programs, and public events
- Implement an increasing block rate water structure by 2012
- Implement landscape water management regulations including use of naturalized landscaping and rain water harvesting, discouraging water-intensive and poorly designed irrigation systems, and using Type I reclaimed water for irrigation of large public green spaces and amenity water features

Wastewater

Wastewater is the contaminated water that is discharged as part of daily activities from every household and business, including the water and solids associated with toilets, sinks, showers, dishwashers, washing machines and floor drains. Once discharged from a household or business wastewater is transported to one of two wastewater treatment plants in the City. These

plants clean and purify the wastewater so it can be discharged safely back into the environment.

The wastewater system consists of a network of pipes that depend upon gravity to naturally move wastewater to one of the city's two wastewater treatment plants for treatment prior to discharge. Because of the city's nearly nonexistent slope, the system is assisted by a number of lift stations located strategically throughout the wastewater network. Success of the system is dependent upon well maintained pipes that are of sufficient size to support the anticipated amount of wastewater, as well as wastewater treatment stations with the capacity and technology to handle the anticipated volume of wastewater.

Recent improvements to treatment facilities has greatly expanded wastewater capacity in League City. The city has two wastewater treatment plants. The Dallas/Salmon Wastewater Treatment Plant currently serves the majority of the City with a recently increased capacity of 12 MGD. Countryside Wastewater Treatment Plant is a smaller plant on the northwest side that complements the Dallas/Salmon Wastewater Treatment Plant, however this plant will be closed with the opening of a new Southwest Wastewater Treatment Plant being built on the southwest side of the City. The Southwest Wastewater Treatment Plant, when fully operational, will provide sufficient capacity to process an additional 12 MGD of wastewater. Current average daily flow is 6.9 MGD.

The quality of wastewater service delivery may be most dependent upon maintenance of the system's infrastructure, particularly the network of pipes that draw wastewater to treatment facilities. Stormwater inflow and infiltration into the wastewater system (I&I) caused by cracks in pipelines and illegal stormwater connections by residents place an unnecessary burden on the system. Soils in the area make League City's system more susceptible to I&I issues as constant movement causes pipe breaks.

As noted in the Water Conservation Plan, water reuse will play an increasingly critical role in League City as the demand for water continues to expand. Water reuse has a particularly positive future in western League City where substantial land remains available for development. Wastewater reclamation requires treatment prior to release for reuse to ensure adequate removal of solids, bacteria and any additional contaminants. Application of reused water is largely dependent upon the level of treatment that is applied. Type II reclaimed water is generally suitable for evening irrigation use over areas such as commercial landscaping, golf courses or other areas that do not involve substantial human contact. The City is currently providing

Type II reclaimed water to the 27 hole South Shore Harbour Country Club private golf course. Type I reclaimed water allows for expanded use, including daytime application that may involve limited human contact. Future application of reclaimed water in League City will most often require Type I treatment.

Neither Type I or Type II reclaimed water is suitable for drinking, however, other communities, such as El Paso have treated reclaimed water to the point that it can be added into the water delivery system.

Stormwater

League City's very low elevation and extremely limited slope result in a location that is slow to drain and, if not managed appropriately, prone to flooding. In natural areas, stormwater is either slowly absorbed into the soil or gradually moves toward the lowest points and channels before reaching ponds, low lying wetlands or waterways. In urban and suburban areas, a significant portion of the land surface is covered by buildings and pavement. When it rains these "impervious surfaces" do not allow water to soak into the ground. To accommodate the excess water, League City maintains a stormwater drainage network composed of local swales, drainage ditches and concrete storm drains that feed into larger storm outfalls. The majority feed into Clear Creek and Dickinson Bayou (or one of many tributaries such as Robinson's Gully or Magnolia Creek) before reaching the waters of Galveston Bay and the Gulf of Mexico. On-site detention ponds collect rainfall and gradually release it into the storm system to ensure that the location does not shed water at a rate or volume that could prove detrimental to surrounding areas. Nevertheless, during heavy rainfall events flooding often occurs in parts of the City due, at least in part, to location of development, the pattern of development and the approach to dealing with stormwater.

The existing system began as a means of moving water quickly and safely from developed areas. However, as an unintended consequence, the history of channelizing drainage eliminated or avoided the natural systems intended to "treat" stormwater prior to release into waterways. As a result, for decades storm water has carried sediment, grass clippings, trash, pesticides, fertilizer and other urban pollutants directly into the water system to the extent that both Clear Creek and Dickinson Bayou are classified as "impaired" by the Texas Commission on Environmental Quality.

Today, drainage has evolved into an elaborate effort intended to manage stormwater volume, speed and quality, including during major rain events and, to the extent possible, appropriate it for local use.

LEAGUE CITY MASTER DRAINAGE PLAN

The City is currently preparing a Master Drainage Plan that recognizes drainage as a regional issue in which every change in development and drainage patterns can have a cascading positive or negative effect. The Master Drainage Plan takes a holistic and regional approach to stormwater management and includes best management practices including the preservation of native habitats and wetland and prairie creation. In addition to the Master Drainage Plan, League City has adopted Harris County Flood Control District's Policy Criteria and Procedure Manual. The manual regulates the planning, design and construction of all flood control facilities within the jurisdiction of the Harris County Flood Control District.

DICKINSON BAYOU WATERSHED PROTECTION PLAN.

The Dickinson Bayou Watershed Partnership has proposed the Dickinson Bayou Watershed Protection Plan as a tool for voluntary improvements to the watershed that includes Dickinson's Bayou, its tributaries and surrounding land that use these waterways for stormwater drainage. The Plan establishes a series of short term and long term goals for the watershed including:

Short term

- Preserve 1,000 acres of habitat in the watershed
- Complete an on-site sewage facility replacement study
- Install 150 stormwater best management practices at businesses and private residences
- Install and monitor three stormwater wetland demonstration projects
- Obtain 50 additional acres of urban parkland in the watershed
- Continue to monitor the water quality in Dickinson Bayou to gauge the effectiveness of Watershed Plan recommendations

Long Term

- Preserve 4,200 acres of habitat in the watershed
- Create and implement an on-site sewage facility remediation plan
- Treat runoff from 10,000 acres of developed land with on-site stormwater best management practices
- Treat all runoff from currently developed land with stormwater wetlands
- Obtain 750 additional acres of urban parkland in the watershed
- Continue to monitor the water quality in Dickinson Bayou to gauge the effectiveness of Watershed Plan recommendations

BIG IMPLEMENTATION PLAN

The Bacteria Implementation Group (BIG), is preparing an implementation plan (I-Plan) to remedy high levels of bacteria in waterways in the Houston Region. Clear Creek is included in this project as its bacteria levels are higher than the State's standards for contact recreation. The I-Plan recommends best management practices designed to reduce the pollutants and restore the waterways to their designated use. Many of the implementation activities in this I-Plan are directed towards reducing bacteria loading from possible point and non-point sources. The sources of bacteria include wastewater treatment facilities, sanitary sewer systems, on-site sewage facilities, storm water runoff, illicit discharges, agriculture, livestock, wildlife, pets, sediment resuspension, and bacterial regrowth.

The Focus of the implementation activities include the following:

- Wastewater Treatment Facilities - Increase monitoring requirements, impose stricter bacteria limits than those designated by the state, require updates to facilities not able to comply with limits, and increase enforcement.
- Sanitary Sewer Systems - Require all systems to develop and implement a utility asset management program and to protect against power outages at lift stations.
- On-site Sewage Facilities - Address failing systems and inadequate maintenance.
- Storm Water and Land Development - Expand storm water quality programs, develop a recognition program, and petition TCEQ to facilitate reimbursement of bacteria reduction measures.
- Construction - Improve compliance and enforcement of existing storm water quality permits.
- Illicit Discharges and Dumping - Increase efforts to address direct and dryweather discharges, and better control waste hauler activities.
- Agriculture and Animal - Expand existing cost-share programs and the management of feral hog populations.
- Residential - Expand public education efforts.
- Monitoring and I-Plan Revisions - Maintain databases of ambient and non-ambient water quality monitoring data and implementation activities, review I-Plan progress, and update I-Plan.
- Research - Examine effectiveness of storm water activities, bacteria persistence and regrowth, and appropriate indicators for use in water quality monitoring.
- Geographic Priority Network - Consider recommended criteria when selecting geographic locations for projects.

Natural Water Quality

Water quality is impacted by point and nonpoint source pollution. Point source pollution can be traced to specific points of discharge from wastewater treatment plants or industrial sites. Nonpoint source pollution typically originates from rainfall that moves over the ground and picks up natural and human pollutants and then deposits them into lakes, rivers, wetlands and coastal waters.

Point source pollution is regulated through the National Pollutant Discharge Elimination System (NPDES) permit program. In order to meet the requirements of this program the City adopted an ordinance regulating storm water permits in July 2009. The ordinance regulates storm water runoff from new development and redevelopment, construction activities, and industrial and high risk facilities.

Non point source pollution has emerged as a major contributor to water quality problems. Stormwater runoff is harmful to the environment as it often carries pollutants such as oil, dirt, chemicals, and lawn fertilizers directly to streams and rivers. Additionally when runoff leaves the storm drains and empties into a stream, its excessive volume and power can damage streamside vegetation and aquatic habitat. To protect water quality, development should be designed and built to minimize increases in runoff through conservation of natural areas, cluster development, use of pervious surfaces and other best management practices.

Utilizing natural systems/processes and taking a comprehensive approach to managing water can help meet several of the community's goals including improved water quality, water conservation and flooding. Natural systems including wetlands, native habitat areas and waterways are often referred to as "green infrastructure". These natural systems are very important in managing stormwater and water quality along with built engineered solutions like curb and gutter. Managing stormwater occurs at the regional, community and site scale. Regional systems may include natural lands and waters, community scale elements include compact, mixed use development, urban forestry, reduction in impervious surfaces, and site solutions include trees, vegetation, porous pavement, green roofs, and rain barrels.

Goals & Policies

The following goals and policies provide direction in making land development decisions that encourage the efficient use of infrastructure and promote water conservation and reuse.

GOALS:

- ❖ Coordinated expansion of infrastructure systems with future growth and development.
- ❖ Development patterns that recognize water as an asset and minimize maintenance and cost of infrastructure systems.
- ❖ Efficient use and development/redevelopment of land.
- ❖ Comprehensive approach to stormwater management and water quality protection that includes natural and built systems.
- ❖ Conservation and reuse of water.

POLICIES

General Policies

- Concurrency requirements are encouraged to ensure that development does not outpace the growth of infrastructure.
- All infrastructure should be considered a regional issue, including the possibility of shared systems for purposes of economies of scale, sustainability, emergency management and disaster recovery.
- Proactive development of strategic infrastructure improvements to spur growth in a desired, cost efficient, and responsible manner is preferable to major infrastructure improvements by the development community.
- Developers should compensate the city for their portion of improvements such as regional detention, that would otherwise be borne on-site or near-site by developers.
- Municipal Utility Districts should be discouraged as tools that accelerate improvements to infrastructure beyond responsible growth through the municipality.
- Development types and patterns should be encouraged that creatively reduce the amount of infrastructure to be maintained.
- Green technology and applications should be applied to new improvements and redevelopment projects at every appropriate opportunity.
- All infrastructure projects, particularly projects that alter the physical or visual composition of an area, should apply context sensitive solutions.

Wastewater Policies

- Reduction of inflow and infiltration (I&I) into the wastewater system should be viewed as a critical tool to reduce capacity and energy requirements, particularly during storm events.
- Septic systems should be strategically targeted for replacement with a tie into the municipal wastewater system.
- Type I water reclamation infrastructure should be required in any new development involving irrigation activities, retention pond management and any other activity in which it is appropriate. Application for personal home sites may be an option if designed appropriately.
- Wastewater conversion to drinking water should be considered as a creative and potentially necessary means of expanding the water supply needed for growth of the community.

Stormwater Policies

- Regional stormwater detention is preferable to numerous, disconnected and poorly maintained on-site detention ponds.
- Utilize large scale stormwater improvements as amenities, particularly for aesthetic or recreation purposes.
- Encourage on-site stormwater improvements to be creatively integrated into site design.
- Use stormwater wetlands at critical areas of the drainage system as a means of slowing and “scrubbing” stormwater prior to release into the region’s waterways.
- Rain gardens in parking areas should be promoted as an environmentally friendly and cost effective alternative to raised landscape improvements.
- Implement on-site best management practices such as green roofs, rain barrels, rain gardens, pervious pavement, and other creative techniques as a means of maintaining the first inch of rainfall during a rain event on site.
- Actively promote (and to the extent possible, require) the use of off-site storm water best management practices that positively impact the amount, speed and quality of storm water prior to its entrance into Clear Creek, Dickinson Bayou or their tributaries. Example BMP’s include bioswales, pervious pavement in all possible places, naturalized detention and retention basins at strategic locations, preservation or creation of stormwater wetlands, preservation and enhancement of the 100-year floodplain, naturalized drainage channels, use of tiered gabion blankets/baskets rather than concrete, and other creative techniques.

CASE STUDY - VILLAGE AT SPRINGBROOK FARMS, LEBANON COUNTY, PA

The Village at Springbrook Farms is a 249 unit residential community located on 59 acres in South Londonderry Township, PA. Prior to development the site had a gently rolling landscape that was used for soybeans and corn cultivation. The site was also shaped like a bowl with the northern side of the site draining into closed depressions, and the southern side draining into surface channels during storm events.

Londonderry Township recognizes problems associated with traditional methods of stormwater management like detention/retention basins that simply slow the discharge of water which can result in damaging the stream and delayed flooding. Therefore they require infiltration as the preferred method in addressing stormwater as part of their subdivision ordinance.

The Village at Springbrook Farms is a an example of how best management practices can be used to keep water on site and let it percolate into the ground instead of collecting it and pushing it down stream. The original plan for Springbrook Farms called for detention basins, however the developers and engineers worked together to create a stormwater management system that mimicked the existing regime of water sinking into the soil. The overall approach was to keep the stormwater as close to the source as possible, cleansing and recycling it with a variety of BMPs (Best Management Practices). Best Management Practices used in this development include, porous asphalt pavement with stone-filled recharge beds built underneath to purify runoff before enabling it to seep back into the ground, infiltration beds underneath non-porous driveways, rain gardens, vegetated swales, and other landscape features.

The end result is 100 percent infiltration for this community. More than 100 storage/infiltration BMPs were distributed throughout the site. Each was located and sized according to its drainage area, and accounts for both storage volume and the amount of surface area required to “spread out the water” to avoid over-concentrating infiltration. Overall, Springbrook’s stormwater management system treats pollutants, re-charges the groundwater, and maintains the water table, and provides flood control, while preventing destructive effects downstream.

Source: <http://www.stormwaterpa.org/low-impact-development.html>

- Individual sites or development projects should be restricted from negatively impacting adjacent property owners through poor storm drainage.
- Specific and cumulative impacts of development and redevelopment on natural drainage features should be fully considered during plan review.
- Storm water detention should count for a certain percentage of open space requirements if certain standards and criteria are met, including successful and creative integration into the landscape, consideration of surrounding context, and ability to positively impact storm water management.
- All capital improvements within League City should set the highest standard in efforts to incorporate best management practices in management of the amount, speed and quality of storm water, both during construction and during use. Projects under complete jurisdiction of a county or state agency should be strongly encouraged to follow the same standards.
- Capital improvements associated with improving storm water management during major storm events should be given strong consideration when selecting projects for incorporation into the Capital Improvements Program and in selecting projects for submission for nonlocal funding (including county, state and federal resources).
- Green infrastructure practices should be integrated into standard roadway construction and retrofit design including use of swales, vegetated islands, rain gardens, pervious pavement etc. Allow streets with green infrastructure to count towards stormwater requirements.
- Minimize impervious surface through reduced street widths, incorporating sunken landscaped islands in the middle of cul-de-sacs, clustering development, preservation of natural areas, reducing parking requirements, and using pavers or porous pavement in parking overflow areas.
- Allow and encourage stormwater reuse for irrigation and other outdoor activities.

City for use during peak periods and refill during off-peak periods.

- Promote private use of rain barrels and cisterns for rain capture and reuse, particularly for use with lawn and landscape care and other outdoor activities.
- New development should be required to install devices designed to reduce the amount of water used in a household or business, such as low-flush toilets.
- All new community facilities should incorporate water conservation amenities.
- Owners of existing structures should be strongly encouraged to install new equipment that more effectively uses water and in smaller quantities.
- Consideration should be given to rewarding water customers that reduce use of water, including rate reductions or other creative methods.
- Consideration should be given to providing grants to property owners for the purpose of installing water conservation measures including architectural improvements and site improvements.
- Personal wells should be strategically targeted for replacement with a tie into the municipal water system.

Water Policies

- Water supply should, to the extent possible, include a diversity of sources to ensure that the community is not fully dependent upon a single source.
- Innovative sources of water, including desalination and water reclamation should be explored and implemented to the fullest use practical.
- Water storage opportunities should be increased throughout League



A detention basin is an area where excess stormwater is temporarily stored before slowly draining into the receiving channel.

11 - ECONOMIC DEVELOPMENT



Through the years the City of League City has struggled to reach its economic potential, despite proximity to the interstate, ample land for development, major office activity and the marina at South Shore Harbour, and a variety of cultural and shopping opportunities in the Historic District. Recently, however, the city has made a concerted effort to establish a focused and sustainable strategy for economic development. Most important, each of the recent efforts seek to build directly upon the community's natural and collected assets, as well as complement activities in surrounding areas. These efforts appreciate that the majority of League City falls within the market capture radius of Baybrook Mall, as well as the fact most other large scale commercial centers and attractions, including Johnson Space Center and the Kemah Boardwalk sit just outside of the community.

Rather than attempt to craft a separate and additional approach toward economic development, the Comprehensive Plan collects the intentions of recent studies and translates those efforts into goals and policies intended to guide development activity. The result is a Plan that thoroughly embraces a community identity that permeates through every aspect of daily life in League City. Further, it adopts a destination based approach to economic development that builds upon niche markets natural to the community and particularly marketable to the Creative Class and retirees - two groups already drawn to League City's Recreational Lifestyle.

Other Plans & Studies

LEAGUE CITY ASSESSMENT FINDINGS AND SUGGESTIONS REPORT

In September 2009, Destination Development International, a firm specializing in community branding, conducted a community assessment for purposes of determining League City's marketability. More specifically, the assessment was intended to take a look at the elements that would typically attract people, including residents, employees, tourists, potential residents and potential investors, and examine their performance. The report results suggest that League City has a number of existing and potential resources upon which to build, but struggles with a marketable identity as well as some key ingredients needed to draw people and keep them in the area for an extended period.

"Ingredients" recommended by the Assessment Findings and Suggestions Report promote:

- A strong brand and community focus
- An effective system of gateways and wayfinding
- A series of districts (beginning with the Historic District) with identifiable names, attractions, and distinctive commercial clusters
- "Third places" that draw people in regularly as places to "hang out",

including gathering places for small and large scale social activity and events

- Activities, events and features that bring life to an area such as street performers, interactive fountains and outdoor cafes
- Methods for making local businesses more enticing
- Evening hours and activities
- Means of inviting residents and guests into businesses and the area, including a strategic and focused approach to marketing
- “Pioneers with patient money”

BRANDING, DEVELOPMENT AND MARKETING ACTION PLAN, 2010

By 2010, city leaders determined that the first step in a bold economic development policy was to determine an identity and “brand” for the community. In doing so, however, it was critical that a brand be more than simply graphics and slogans. Rather, the “brand” must truly reflect the unique character and position of League City and provide a framework around which the community can grow, particularly as it relates to establishing a focus for economic development.

The City of League City hired Destination Development International, authors of the Community Assessment, to establish a brand for the community. The firm concluded that League City’s five greatest assets as it related to building a brand include:

- Its convenient location close to the Gulf Coast beaches, Galveston, Houston, NASA, I-45, and Hobby Airport.
- Being home to one of the state’s top-rated independent school districts – a huge draw for families.
- The location along Clear Lake and Clear Creek showcasing the fact that League City is a waterfront community.
- Beautiful and affordable subdivisions and historic neighborhoods, many with trails, community parks, and water features or golf courses surrounding the homes.
- The 200-mile trail system about to be developed.

The plan notes that these traits make League City particularly appealing to professionals in their late 20s, 30s or 40s, married with a young family. It states, “Wouldn’t this be an incredible place to live? You’re in a convenient location, with great schools, close to a ton of amenities, whether the Boardwalk or Gulf Coast beaches, with beautiful affordable neighborhoods, and on the water with miles and miles of walking and biking trails.”

The result is a brand that builds upon a “Recreational Lifestyle” focusing on themes natural to League City such as, “Upscale”, “Active”, “Recreational”, and “Beautiful”. It proposes to build upon current attributes of the community while adding another - an atmosphere that fosters innovation, technology, and emerging businesses. The slogan “League City Style” suggests that the Recreational Lifestyle be built in to all aspects of the community life, including the work atmosphere.

If “League City Style” is a reflection of the Recreation Lifestyle enjoyed by League City residents and employees, it is defined by:

Location. “League City is minutes from all the amenities of downtown Houston, minutes from NASA’s Johnson Space Center, the famous Kemah Boardwalk, and just 20 minutes from the Gulf Coast and historic Galveston. The city is an hour from George Bush Intercontinental Airport and only 20 minutes from Hobby Airport.”

Lifestyle. “Stunning upscale neighborhoods with hundreds of waterfront homes, beautiful golf courses, waterways and trail systems, and some of the best schools in Texas. With a myriad of activities from Big League Dreams to historic gardens, no wonder League City is becoming Houston’s recreational lifestyle community.”

Business. “With affordable Class A office space designed for smaller firms specializing in the creative services and technology, the fastest broadband services, and world-class amenities, League City is quickly emerging as the innovation capital of Southeast Texas. Skip the commute and plant your roots in League City – a family-centric community built around sports, recreation, education, and an active lifestyle.”

Opportunity. “Architecture; engineering; finance; law; the creative arts; publishing and photography; website and Internet technologies; software research and development; industrial art and design; medical research, education and technology development. With a wealth of innovation in this creative, recreational environment away from urban noise, League City is in a league of its own as the innovation capital of Southeast Texas.”

The Branding, Development and Marketing Action Plan offers a number of recommendations aimed at making both physical and marketing improvements as needed to begin to “own” the Recreational Lifestyle brand. Physical recommendations advocate development of destinations intended to draw people into an area and keep them entertained or otherwise occupied for an extended period of time through a mix of attractions, events,

recreation and shopping opportunities, and other activities. The Plan markets first and foremost to the residents and employees of the area, as well as their guests in an effort to reduce both retail and employment leakage. It also suggests that the Historic District and Main Street serve as the first major destination within League City.

Specific recommendations of the Branding, Development and Marketing Action Plan include:

- Development of an implementation plan for the Historic District and Main Street as the first major destination to be established in League City. Unlike typical plans, the implementation plan is intended to serve as a “business plan” for improvements that incorporates development of catalyst projects such as a large, scale permanent public market, redevelopment of League Park as a true event and gathering space, reinvented use for Perkins Station, and the possibility of an amphitheater in or near the area. The plan proposes recommendation of a desired retail mix and implementation of complementary strategies related to parking, gateways, free wireless access, and identification of the area.
- Establishment of a business incubator in the community to grow startup firms seeking to take advantage of the emphasis on innovation and support for small business.
- Development of Class A office space, particularly for small businesses.
- Design and implementation of a wayfinding and gateway system that links the important destinations throughout League City.
- Enhancement of the number and magnitude of activities, events and programs in League City.
- Implementation of the trails system.
- Improvement to the appearance of gateways and major corridors.
- Acquisition of recruitment expertise with a focus on business capable of building critical mass in each of the commercial and cultural districts that will become destinations.
- Coordination and potential affiliation with Main Street USA and other national programs or organizations that promote destination based economic development.
- Establishment of improved marketing efforts including a process for selling the community’s brand to local organizations, as well as creation of a new style guide, photo library, brand posters, brand bookmarks, marketing pieces, business cabinet (letterhead, envelopes, business cards, etc.), promotional materials, community profile, and marketing website.

2011 LEAGUE CITY ECONOMIC DEVELOPMENT STRATEGIC PLAN (INITIAL DRAFT)

In 2010, City staff initiated an effort to construct an Economic Development Strategic Plan that recognizes the unmet potential of League City and seeks to establish detailed strategies intended to foster and sustain economic growth. As noted in the initial draft of the Economic Development Strategic Plan, key themes for a strategy include:

- Establishing a community brand that defines League City's identity
- Utilizing the community's greatest assets: the creative, innovative pool of residents and business owners
- Building a "home-grown" economy from the inside out and pursuing highly strategic businesses
- Investing in the community and its resources first, offering incentives only to strategic partners
- Creating great destinations for working, shopping and playing
- Prioritizing League City's residents, employers and their guests as the primary audience; regional residents, employers and their guests are the second audience; outside tourists as the third audience
- Engaging in a regional approach to economic development, including office, retail and tourism

SWOT Analysis

A simple examination of the strengths, weaknesses, opportunities and threats related to economic development substantiates both the phenomenal possibilities and major daunting challenges faced by League City.

- Strengths include the highly skilled and highly educated League City workforce, location between Houston and Galveston, the waterfront, and the community's recreational amenities.
- Weaknesses noted in the draft plan include the lack of a common vision or recognizable brand, substantial employment and retail leakage, the substantial number of organizations with a role in economic development, and the lack of a dedicated revenue stream to promote economic activity.
- Opportunities to build upon include the rich environment for starting and growing a business, existing regional clusters (in aerospace, medical, energy and tourism), a destination based approach, and the amount of raw land available for development.
- Threats confronting the community include changes to NASA and aging refineries, a lack of local economic development "champions", limits in infrastructure and transportation, and potential competition among

regional peers.

Natural and Targeted Market Niches

League City is more likely to successfully capitalize on specific economic markets, particularly those that can build upon the community's resources, as well as those that complement the proposed Recreation Lifestyle brand. The draft plan recommended pursuit of niches such as:

- An Office/Business market ranging from small businesses and entrepreneurs to larger employers, including an economic gardening program designed grow local businesses.
- Evolving aerospace and energy industries that takes advantage of shifts in both industries, including a push toward privatization of space-related activities and green energy.
- Retail appropriate to each district that results in a distinctive cluster of shops and restaurants within each destination in League City, beginning with the Historic District and extending into other potential niches.
- Institutions appropriate to each district, including educational institutions such as schools and the Helen Hall Library, medical facilities, and a broad array of government services at the local, county and state level.
- Tourism opportunities that draw people to the area as a result of the mix of attractions, events and activities celebrated within each district and keep them entertained for an extended period of time.
- Agribusiness that allows for food and food products to be grown and sold locally ranging from local farming and gardening and food processing to development of a local market and restaurants that feature local foods.
- Recreation ranging from businesses that support organized activities along the waterfront or in facilities such as Big League Dreams to simply rental sites along local trails or Clear Creek.

Districts

Similar to discussion in the Land Use chapter, the draft Economic Development Strategic Plan promotes a destination based approach that builds critical mass and includes attractions that draw guests to the area. The Economic Development Strategic Plan recognizes that one destination is a tremendous step forward, but a series of well connected districts allows for a range of complementary places, attractions and events that broaden the community's appeal as a place to live, work, shop, play and gather.

The plan details opportunities in four areas of League City that already exhibit the initial traits of a district and advocates creation of more as the opportunity permits.

- The Creekside District includes the Historic District and Main Street and represents the cultural heart of the community. This particular district is already home to two museums, three parks and a variety of shops and local restaurants.
- The Harbourside District represents the area in and around South Shore Harbour and includes the marina, resort hotel, office campus, and nearby restaurants. The potential district offers the community's strongest direct association with the waterfront and is en route between the Creekside District and Kemah.
- The Big League Dreams/UTMB area offers a unique blend of medical activity, commercial retail and regional sports. The potential district benefits from proximity to I-45 and its distance from Baybrook Mall is sufficient to allow for substantial growth of national brand retailers. Growth of the UTMB campus at Victory Lakes and the presence of Big League Dreams provides the area with a major attraction and employment center.
- The Government/Civic Center potentially consolidates numerous government, educational and institutional activities into a single location that could include a mix of city, county and state facilities as well as a hub for college branch locations in a campus format that could serve as a new "town center". Located along Walker Street, the site provides ample opportunity to integrate private investment as well as the chance to provide world-class shared resources.



Typology

Traditional land use generally categorizes commercial activity into one of two broad categories: Retail or Office. Industrial activity is typically defined as “light” or “heavy”. From a form-based or economic development perspective, however, these categories do very little to ensure that the community provides adequate facilities to successfully operate in League City, particularly if the intent is to accommodate businesses from startup to their peak size. The Comprehensive Plan recognizes a variety of building types related to commercial and industrial activity with the understanding that the market is constantly evolving - as are the building types in which business occurs. The chapter also suggests the community character categories in which each type of building is appropriate.

MIXED USE STRUCTURES/SITES

- Home Based Businesses refers to a retail or office business operated from a home, but in such a manner that it goes relatively unnoticed. Home based businesses typically employ one to two people and generate an extremely limited amount of traffic.
- Live/Work consists of residential structures with space intentionally reserved for office use that exceeds the visibility and interaction seen in a home-based business. In Suburban character areas, live/work units may locate the office space above a garage or in a “granny flat” accessory structure. In walkable urban or clustered development, a live/work structure will include office space on the first floor of a multi-story structure, with the office space facing the sidewalk. Live/work space is typically sufficient for a business employing one to three employees with limited on-site customer interaction.
- Lifestyle Centers are shopping centers that combine the shopping experience of a major Power Center with amenities and attractions such as green space, water fountains and play areas. Many lifestyle centers include a limited mix of uses, including commercial office space, multifamily residential or institutional activities. Lifestyle centers can be indoor facilities but are more often at least partially open-air. Lifestyle centers tend to be walkable places. They typically include national brand retail stores, including at least one anchor tenant. Size of a facility is most often greater than 150,000 square feet.
- Urban Center is a highly mixed activity center that includes commercial office and retail, as well as multifamily residential and institutional activities. In addition to uses, urban centers typically include a number of amenities and are highly walkable. Most urban centers have sufficient employment or population densities to be transit supportive.

STAND ALONE STRUCTURES

- Vendors are broadly defined as people offering goods or services for sale to the public from a temporary static structure or mobile stall. Vendors may be stationary or may move from place to place carrying their wares on push carts. Some vendors may operate from a vehicle. Vendors may range in form from simple display of wares or services (such as street performer or cartoon artist) to food trucks. While vendors don’t have permanent space requirements, they most certainly play an economic role and, where appropriate, add vibrancy to a destination.
- Small Stand Alone Structure represents a single structure on a site that can range from an office building for a small business to a light industrial business or restaurant. A small stand alone structure is intended for a single tenant. Size is typically 20,000 square feet or less and, if designed appropriately, can fit into any character classification. Some industrial and commercial small stand alone structures may include outdoor storage.
- “Big Box” Commercial Retail characterizes stand-alone, nationally branded “category killer” (large-scale retail business that is dominant in the market) retail stores. A Big Box generally consists of a single “jumbo” story structure of 50,000 square feet or more. Design is often simple and “branded” to reflect the occupying business. A big box structure may have no relationship to surrounding activities, but may also be located on an outparcel adjacent to a Power Center. Site design is most often typical of Auto-Dominant character, although it may also be appropriate in Suburban areas. A Big Box may also be called a Supercenter or Superstore.
- Large Stand Alone Structure are similar to Small Stand Alone Structures in all aspects except scale and level of impact.

MULTI-TENANT STRUCTURES

- Markets are locations, public or private, where a number of independent merchants can sell their products to the public. Markets may be indoor, outdoors or a combination of the two. Products may include general produce, meats, plants, flowers, prepared foods, jewelry, art, music, woodwork, and crafts, as well as handmade clothing, soaps, candles, or myriad other locally made or unique items. Markets may range from regularly scheduled activities such as farmer’s markets or they may be larger, fully managed activities that operate daily. A market may be appropriate in any character area, but will likely change in scale and products based upon demand.
- Shared or Community Offices refers to a structure in which numerous



Stand Alone, Coconut Grove, California



Cottage Office, Issaquah, Washington



Lifestyle Center, Mountain Brook, Alabama

Table 9-1, Typology

	Type of Activity			Character			
	Office	Retail	Industrial	Rural	Suburban	Auto-Dominant	Urban
Mix Use							
Home Based Business	X	X		X	X	X	X
Live/Work	X	X		X	X	X	X
Lifestyle Center	X	X		X	X	X	X
Mixed Use Center	X	X		X	X		X
Stand Alone Structures							
Vendor		X		X	X	X	X
Big Box		X			X	X	In Urban Format
Small Stand-Alone	X	X	X	In Clusters	X	X	X
Large Stand-Alone	X	X	X	In Clusters	X	X	In Urban Format
Multi-Tenant							
Market		X		X	X	X	X
Shared or Community Offices	X	X		X	X	X	X
Flex space	X	X	X	X	X	X	X
Incubator	X	X	X	X	X	X	X
Strip Commercial Center	X	X				X	
Power Center	X	X			X	X	
Outlet Center		X			X	X	
Shopping Mall		X			X	X	In Urban Format
Office Tower	X				X	X	X
Campus							
Office Condo	X		X		X	X	X
Office Warehouse	X		X	X	X	X	
Cottage Business	X			X	X	X	
Office/Business Park	X		X	X	X	X	



Pike's Place Market, Seattle, Washington



Mixed Use, Sugar Land, Texas



Live/Work, Issaquah Highlands, Washington

features are shared by a number of tenants that only require the facilities offered by a formal office structure on a rare or infrequent basis. Shared office space typically includes offices or cubicles, meeting facilities, receptionist and administrative services, and sometimes other often-needed features such as print production. Businesses lease a portion of the services and spaces as suits their needs. Shared office space is appropriate as an extension of a home based business, a small business with limited space or a semi-transient business.

- Flex Space represents structures in which space can be apportioned by a single tenant among activities as needed and in a fairly cost effective manner. A flex space structure may include retail space, offices, research space, storage or production. It is most useful for industrial business in which other activities, such as office space, is needed. Flex space is most appropriate in Rural, Suburban and Auto-dominant character areas.
- Incubators are small office/retail centers developed for the purpose of housing and supporting startup businesses during their initial and most critical stages as a means of increasing small business growth in the area. Incubators are typically comprised of one or more structures of multiple units. They may range from historic structures to warehouse spaces. An incubator structure can be designed to fit in the context of any character area. Size of a facility will range based on a number of factors that may include potential demand and the number of businesses that require support.
- Strip Commercial Centers tend to be linear multi-tenant structures that run parallel to the roadway. A strip commercial center may include a major anchor, but in most cases, is simply a series of smaller businesses with very little, if any, relationship to each other. Strip Commercial retail activity is highly prevalent along major corridors in Auto-Dominant character areas. Design is typically simple with high dependence on signage to attract attention to the site. Strip Commercial centers are primarily intended for retail and service operations, although they may also house some office and institutional activities. Strip Commercial structures are nearly entirely dependent upon automobile traffic for business.
- Power Centers are retail shopping centers that feature three or more anchor tenants complemented by a relatively limited number of smaller tenants. Anchor tenants are often “category killers”. Power Centers are typically a series of one or more linear structures totaling 100,000 square feet or more of retail space. Site design and architecture are reflective of Auto-Dominant character, including simple structures fronted by ample parking. Structures directly face a major roadway with limited outparcels reserved for complementary “big box” retailers,

stand-alone restaurants and similar uses. Power Centers require high visibility and high volume traffic and, as a result, are located along arterials or freeways.

- Outlet Centers include a compilation of numerous name brand manufacturer’s stores assembled in a single location and in a series of generally linear, multi-tenant structures. They may be enclosed, but most often, stores have direct access to parking. Outlet Centers typically require access to one or more freeways for purposes of convenience and visibility in a manner similar to Power Centers. Because of their unique nature, Outlet Centers tend to locate beyond or near the edge of the capture area of regional shopping malls to avoid retail cannibalism. On the other hand, Outlet Centers tend to draw from an expansive region.
- Regional Shopping Mall refers to a major shopping center of the magnitude of Baybrook Mall. While the historic trend has been development of a regional shopping mall as an enclosed structure, more recent centers tend to follow an “open air” concept that either blends with the walkable, leisurely approach of the Lifestyle Center or the convenience-oriented approach of the Power Center. A regional shopping mall serves as a draw that extends between 12 and 20 miles, depending upon scale. Most often, the Regional Shopping Mall is found in either a Suburban or Auto-Dominant character area, although it is also possible in an Urban format.
- Office Tower represents a single multistory, multi-tenant structure. If density is sufficient within a tower or within the nearby area, most often in an Urban environment, then a percentage of the first floor could be comprised of retail activity. Office towers may also incorporate parking as subsurface, multiple base floors, or within the interior of the structure in a format known as the “Texas Doughnut”. While it is possible for an office tower to locate in a Rural character area, it is more likely to be seen in a Suburban, Auto-Dominant or Urban environment. Space available for tenants in an office tower can range substantially in size.
- Office Condo functions very similarly to the residential condominium concept in that tenants own their space and share the costs of maintaining common areas such as restrooms, hallways, parking areas and signage. A number of office/retail structures could function in an Office Condo format, including an Office Tower, Strip Commercial Center, Cottage Businesses and others. Office Condos can fit into all character areas, particularly if clustered. They can also be effective when placed into a mixed use environment.

CAMPUS

- Cottage Businesses represent a clustered series of stand alone or limited multi-tenant businesses on a single lot. Entrance to the lot, parking, trash dumpster, and signage, among other aspects, are all shared by the various structures. Cottage businesses do not always front upon the major roadway, but may focus instead upon a central parking area or courtyard. Cottage businesses are typically utilized for office activity and are appropriate to Suburban and Auto-Dominant character areas.
- Office Park/Business Park a collection of several office and/or industrial buildings located together in a unified subdivision. Similar to a residential subdivision, an office or business park allows for common access and development of a marketable identity through common architectural design, distinctive site design and choice of development pattern. An office or business park can be made appropriate to any character area based upon scale, amount of open space and treatment of open space. The concept is most recognizable in Suburban or Auto-Dominant formats.



Live/Work Coconut Grove, California

Goals & Policies

The goals and policies outlined in the Economic Development chapter are intended to ensure that the economic vision of the community is effectively translated into long term development practices. The goals and policies related to economic development transcend discussion of job creation or sales tax revenue. Economic development is impacted by establishing districts enticing to residents and guests in the manner discussed in the Community Character chapter. It is also effected by using parks and green spaces to enhance the character and establish attractions as discussed in the Parks and Open Spaces chapter. For that reason, it is imperative that the goals and policies stated in this chapter are considered in context of the entire Comprehensive Plan. Together, they establish the foundation needed to establish a marketable and economically dynamic community.

GOALS

- ❖ A city that physically reflects the community’s “Recreational Lifestyle” brand of “League City Style” through its distinctive districts and neighborhoods, attractions and events that draw and keep people in the area, and focus on desirable development patterns and character.
- ❖ A distinctive system of gateways and linkages that appropriately introduce people to League City and connect the community’s various districts and attractions physically, socially and economically.
- ❖ An array of land and building types as necessary to pursue preferred markets and allow businesses to successfully grow from infancy to their full potential within the community.
- ❖ A jobs to housing balance of one job per household or greater by 2035.
- ❖ A government system that serves as an aggressive partner in promoting economic development appropriate to the vision for future League City.

POLICIES

Economic “Incentives”

- Placemaking practices and efforts that draw people to an area or make it a more desirable place for business should be considered a valuable means of capturing the jobs, capital and labor pool desired by League City.
- Creating a variety of highly appealing places to live, particularly in regards to capturing a labor pool that supports the economic vision for League City, should be considered an integral component of economic development, but not at the expense of a strong jobs to housing balance.
- As a general rule, investments in placemaking, infrastructure, access,

parking, and other activities that have a long term public benefit should be considered economic development incentives equal to or greater than direct financial incentives to a specific business or developer.

- Development (and redevelopment) regulation should focus on form, development patterns and impacts related to an activity with the understanding that most uses are compatible if form is appropriate and impacts are fully addressed.
- Development (and redevelopment) regulation should provide ample opportunities for commercial and industrial activity without the need for change in zoning or creation of Planned Unit Development, particularly if issues related to form, development pattern and impacts can be met.
- Regulations should promote flexibility sufficient to allow for impact mitigation and creative site design.
- A streamlined application process for select projects indicates poorly managed government, not an incentive. The application process for ALL development should be streamlined to the greatest extent possible, while continuing to actively promote protection of the community’s interests and vision.

Critical Mass

- Actively promote the development of identifiable districts for clustered economic activity with clear boundaries and well designed attractions as an alternative to linear development that lacks critical mass.
- Development of major attractions such as a public marketplace, performing arts center, amphitheater, or other event space is a critical way in which the public sector can contribute to economic performance and development of critical mass.
- Businesses should be clustered, particularly retail related activities, for purposes of establishing the higher return on investment and stability offered by critical mass.
- Support development of retail clusters with the maximum diversity of complementary restaurants, shops and businesses with evening hours.
- When possible, businesses should locate within easy walking distance to open space to allow for socialization, flexible work opportunities, entertainment and events.
- Open spaces near businesses should be designed appropriately to allow for different needs, such as spaces with seating, semi-secluded spaces, sufficient tree canopy for shade, and “white noise” such as the sound of water or wind through trees.
- Public parking at strategic locations should be considered one critical method of providing the infrastructure needed to promote clustering, reducing on-site parking requirements, and allowing greater investment

to be placed on aspects of making the site more marketable (such as improved architecture, landscaping and outdoor amenities).

Gateways, Wayfinding and Linkages

- Gateways are critical to the marketability and branding message and should be promoted at entry points into the city, districts and neighborhoods.
- Wayfinding systems, including signage, banners, artwork, bollards and other features, should direct people from gateways to key districts and attractions within League City.
- Wayfinding should connect districts within League City and connect to destinations in adjacent communities.
- Once in or near a district or attraction, wayfinding should allow for navigation to critical complementary facilities and services such as parking and restrooms, as well as the additional activities within the district.
- Wayfinding throughout League City should maintain a common theme but also allow for each district to establish a unique identity.
- Features of the transportation system that build upon the Recreation Lifestyle brand (such as bike lanes, dedicated routes for golf carts, shared use paths, the paddle trail, and charging stations) should be obvious through design, materials, signage, landscaping, markings, or other techniques.
- Street furniture such as bike racks, trash cans, benches and more should be creatively designed to extend the community brand and district identity.
- Landmarks such as artwork, water features and monumentation are encouraged as unexpected by dynamic means of making destinations memorable and establishing visual linkages between places.
- Safety features such as crosswalks, bollards and lighting should be creatively designed to reinforce the community brand, district identity and linkages.
- Landscaping systems should be considered an integral component of building the community’s identity, as well as a means of bolstering visual linkages between districts.
- Open space and viewsheds that are marketable assets for the community, particularly at gateways and along Clear Creek, should be presented to the extent practical (i.e. “Kodak moments”).

Small Business and Entrepreneurship

- A business that fits within the economic vision of the city should have every opportunity to begin in League City (or relocate to the community)

and expand to its full potential.

- Diversity in office space, particularly additional space for small businesses, should be actively encouraged, including development of incubator space, flex space, live/work, cottage businesses, and shared office space.
- Home-based businesses should be encouraged and promoted.
- Coordination with private financial institutions to establish financing programs to support small business and entrepreneurship is encouraged, including the possibility of creating revolving loan and/or micro loan programs to supplement opportunities available through the Small Business Administration.
- Actively incorporate private sector activities into public projects. For example, allow private rental facilities for kayaks and paddle boats at stations along the paddle trail or food vendors at major cultural events.
- Facilities and resources that can spur interaction with and among small business owners and entrepreneurs, including meeting facilities and a small business “resource center” are highly desirable to promote small business growth and sustainability.
- Wireless internet access and other technologies that extend the work environment into the community are key assets that are attractive to the creative class and are therefore very highly encouraged in both public and private places, including parks, activity centers, community facilities, and eating establishments.

Marketability of Outdoor spaces

- Presence of pedestrians is the single greatest marketing tool for a business or district (and also among the best tools for traffic calming and public safety) and should be encouraged at every opportunity, particularly within districts.
- Outdoor seating areas, including outdoor cafe’s, are desirable for drawing guests into a business while also bolstering the appeal of the district to passersby.
- Creative use of space in front of shops to attract attention is encouraged including placement of wares outside, entertainment, artwork, music, landscaping, and signage (with respect to context).
- The “front door” to business should be considered critical to marketing and, for business that requires customers, should utilize the entire site as a lure (with respect to context).
- Dependence on signage and/or a view of available parking to capture the interest of potential guests should be discouraged.
- Promote signage appropriate to character. For example, projecting signs and awning signs are more relevant in urban setting than monument

signs.

- Seating, in all guises, is encouraged in front of businesses, in public spaces and other instances where appropriate. Moveable chairs have a surprisingly positive impact on the experience of a place and should be considered. Atypical examples of seating include steps, ledges and interactive art.
- Public benches should be located in places where people are expected to sit. Poorly located benches are underutilized and leave a poor impression on passersby.
- Visual clutter such as over-reliance on signage, flashing signs, poorly implemented or maintained streetscape amenities, or poorly managed frontages detract from the marketability of businesses and districts and should be discouraged.
- Street corners can serve as locations for “spontaneous meetings” or small gatherings in an urban setting. Ample space should be present at street corners to accommodate pedestrian flow and account for static small groups.
- Use of “bulbouts” at street corners and occasionally along urban sidewalks can allow for extended outdoor activities, including introduction of street vendors, street performers, outdoor seating or cafes.
- Landscaping, particularly trees with a strong tree canopy, make a positive impression and build upon the community brand in a manner that is highly desirable.
- “White noise”, including music and the sound of water, has a positive impact on the desirability of a place and is encouraged where appropriate.

Education and Job Training

- Promote development patterns that can allow for location of higher education institutions in League City, particularly in a clustered manner that allows for shared resources.
- Public spaces and facilities, when creatively possible, should serve to expand the scientific curriculum of local schools in partnership with CCISD, Dickinson ISD, and other schools as warranted.
- Shared facilities with county and state government, education institutions and business-related nonprofit organizations in a manner that expands training opportunities and availability of resources for local businesses and employees should be actively promoted.

Agribusiness

- Home gardening activities are a valuable means of entry-level agribusiness and should be promoted in all character areas.

- Community gardens provide an outstanding use for vacant space, pocket parks, or other small open spaces and can also serve as social spaces, landmarks or small event spaces when designed creatively.
- Urban agriculture is an excellent means of preserving open space, particularly in Rural and Suburban character areas.
- A public market is desirable as a major attraction as well as a means of supporting local growers and producers, as well as local artists, craftsmen and similar vendors.
- Encourage locally owned and operated restaurants to utilize local and regional produce as another means of establishing local dining as unique.
- Street vendors and food trucks provide a means of entrepreneurship in food production and delivery, as well as an additional use of locally grown food, and should be promoted appropriately.

Code Enforcement and General Appearance

- Every effort should be taken to proactively enforce ordinances that ensure visual upkeep and the physical condition of the built environment to ensure that the community brand is not diluted.
- Maintenance of the right of way and public spaces is critical to the marketability of League City to ensure that investments operate in optimal condition and maintain a high quality appearance.

Partnership

- Relationships with community and regional partners are essential to ensure that the community’s vision and implementation efforts are complementary to those of peer communities to the extent practical.
- Establishing a development ethic that results in a marketable community should include coordination between city government and all of its economic development partners, particularly the League City Chamber of Commerce and any other organizations that act as a direct conduit to the business community.
- Successful implementation of a community brand should involve marketing efforts by all parties with “skin in the game”.
- Community marketing efforts should facilitate success of established districts.
- Development of district associations is encouraged as a means of assisting in support and enforcement of requirements (both public regulations and private restrictions).