## NASA Area Management District LIVABLE CENTERS STUDY



## FINAL VISION REPORT

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### DRAFT

PREPARED FOR:
HOUSTON-GALVESTON AREA COUNCIL
NASA AREA MANAGEMENT DISTRICT





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WORKSHOP FORMAT

## SUMMARY



CONSTRUCTING A SHARED VISION FOR RESPONSIBLE GROWTH

THE PROGRAM AND **PROJECT** GOALS







#### THE PROGRAM

The Livable Centers Program, funded through the Houston-Galveston Area Council (H-GAC), is designed to address projected growth for the Houston-Galveston region, and the related urban planning issues associated with population increase. The goal of a Livable Center Study is to propose implementable ideas that create or further enhance communities people perceive as safe, convenient and desirable. Population growth in the Houston-Galveston area is expected to add 3.5 million people by 2035. Both new and current residents will need desirable communities to live in and low cost transportation to move them around. Currently, the Houston-Galveston area depends heavily on automobiles for mobility, and much of that is in single occupancy vehicles. By creating communities in which people can happily live and work, with easy access to public transportation, the strain on urban resources created by population growth can be better managed. For this reason, a major point of focus within the livable center ideals is providing options for mobility that get people out of their cars. The ideal livable center works to curb traffic congestion by reducing vehicle miles traveled (VMT), single-occupant vehicle trips and offering attractive alternatives through promoting

multimodal and public transportation. Other points of consideration which compose a "livable" center include:

- Improved environmental quality
- Stronger sense of community
- Continued economic development

Each community that is part of a Livable Center Study possess its own mix of opportunities and issues, and each one requires their own tailored plan to become a livable center. The checklist for policies and standards a livable center are:

- Encourage mixed but complimentary uses.
- Promote physical integration of urban development, either vertically or horizontally.
- Encourage appropriate levels of density depending on district size and context.
- Allow people to move between destinations without having to use vehicles.
- Provide multi-modal transportation options.
- Provide adequate parking without creating oversupply.
- Promote activity throughout the day, creating balanced transit ridership.





#### PROJECT PROCESS

Sponsored by H-GAC and the NASA Area Management District, this study is designed to further the goals of the Livable Centers Program by providing a vision for future growth and development in Nassau Bay. The NASA Area Management District Livable Centers Study evaluated existing demographic, land use, market, connectivity, open space and community development conditions to identify opportunities for mixed-use development, multimodal connectivity and public realm strategies and make recommendations for detailed design implementation. Design recommendations address streetscapes and signage, mixed-use development, gateway opportunities and open space connectivity with a special focus on the safety and quality of the pedestrian experience. Projects and recommendations build upon and integrate past studies, with an emphasis on achievable projects enabled through customized implementation strategies. The study is divided into three main tasks:

- Task 1 Needs Assessment
- Task 2 Concept Development
- Task 3 Implementation

Each of these tasks included three workshops involving the principal stakeholders: Nassau Bay residents, the Management District and an Advisory Committee for the Livable Center Study. The advisory committee is composed of community members committed to Nassau Bay's future and who have the ability to represent the residents' point of view. Throughout the design process, this committee met multiple times to evaluate the study team's progress and ensure that recommendations are consistent with City's goals. A Kick-Off meeting initiated the Task 1 Needs Assessment phase. Due to the size and context of Nassau Bay and the NASA Area Management District, this phase included a golf cart site tour. The first site tour gave consultants and Advisory Committee an opportunity to interact and experience Nassau Bay "on the ground". A summary of findings from the tour was combined with a memo documenting all of the existing conditions research. These were presented at the first workshop.

Following the initial needs assessment phase, projects for improving the quality of life in Nassau Bay were developed for review by the Advisory Committee. At the second workshop, the initial recommendations were presented for review and discussion and were then refined and developed by the Consultant Team into final recommendations.

The third workshop concluded the study with a comprehensive presentation of projects proposed for the Management District including costs and sources of funds.



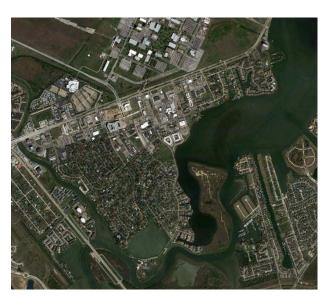


1944 1990









1978 2011

Colonel Pearson's 1776 Ranch

City of Nassau Bay 1970

#### **HISTORY**

From the early Gemini, Apollo and Skylab projects to the Space Shuttle and International Space Station and Exploration programs, Johson Space Center has been the headquarters or NASA's efforts in the field of human space exploration.

#### Nassau Bay's History is deeply rooted in the American Space Program.



Originally a ranch in an unincorporated area of southern Harris County, Nassau Bay was planned in 1962 to provide housing and commercial building space in support of the Manned Space Center (now Johnson Space Center) which began operation in 1963. Colonel Pearson's 1776 Ranch, as it was formerly called, was incorporated as a city in 1970 and officially named Nassau Bay because of its tropical character.

NASA currently employs 3,400 people, most of who are professional engineers and scientists, including 110 astronauts. Space Center Houston, Johnson Space Center's public visitors center, employs 150 people.

In 2007, the Texas Legislature created the NASA Area Management District, with support from the City of Nassau Bay, as part of a plan to revitalize the dated commercial areas of Nassau Bay. To further facilitate revitalization, the City created Tax Reinvestment Zone Number 1 in 2008.

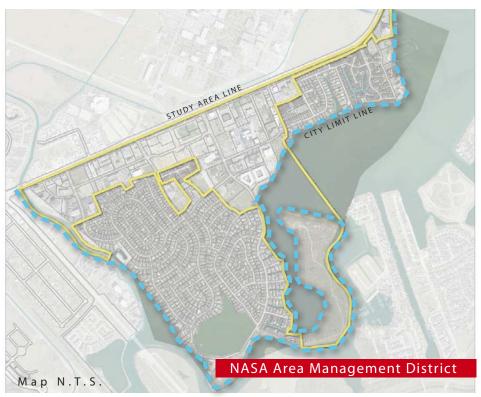
Completion of the NASA Parkway Bypass and the on-going Nassau Bay Town Square Project have stimulated economic growth in a community previously experiencing a declining commercial tax base.

#### **LOCATION**



aerial photo houston region

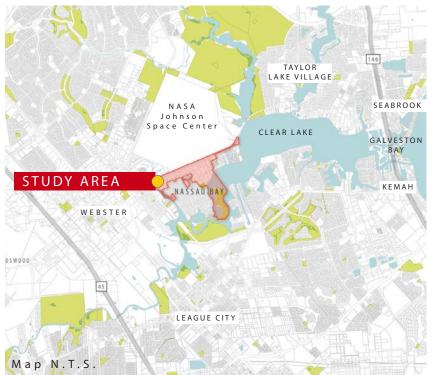
- 30 Mlles South of Houston
- Adjacent to Johnson Space Center
- Suburban Community
- Covers 2 square miles
- >5 miles from the Kemah Boardwalk



study area

- Excludes Single Family Residential Land Use
- 485 acres of commerical, retail, industrial, and multi-family residential

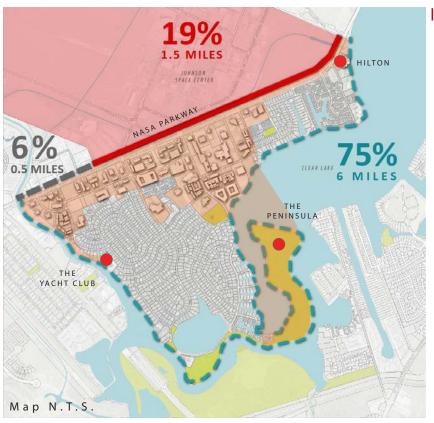
#### CONTEXT



#### regional context

Nassau Bay lies within the larger Clear Lake Area. Surrounded by water on 3 sides, Nassau Bay is a quaint waterfront community situated along a series of waterways that lead to Galveston Bay. It is also situated on I-45, a major travel route between Houston and Galveston. The City is located directly across from Space Center Houston, one of Top 10 paid tourist attractions in the Greater Houston Area. Nassau Bay is located within minutes of numerous regional wildlife attractions, regional trails, and parks.

The Study Area encompasses the commercial area of Nassau Bay, identified as the NASA Area Management District.



#### local context

The City is bound to the North by NASA Parkway (approximately 1.5 miles of its northern border) and NASA 1, (.5 miles of the northern border), and all other permiters are bound by water. Nearly 75% of Nassau Bay (or approximately 6 miles) can be considered waterfront with some waterfront areas earning the designation, "coastal."

The Study Area boundary reaches southwest to include the Nassau Bay Yacht Club as well as the Nassau Bay Peninsula to the south and extends east to include the Hilton Hotel.

#### PREVIOUS STUDIES

Common themes from prior studies include: a desire to promote waterfront living, facilitate investment, enhance revenue by attracting services and new citizens, provide open space opportunites, and maintain and showcase the small-town feel while supporting the overriding theme of bettering the quality of life for all residents.

#### **DEVELOPMENT PRINCIPLES (2004)**

#### Themes

- Capitalize on waterfront location
- Consider using arts as a cultural theme.
- Emphasize small-town feel
- Leverage historic association

#### Community Development

- Create a walkable, mixed-use community.
- Develop urban waterfront housing
- Focus development on a variety of open public spaces.

#### Retail Devel opment

- Atrract services and boutique retail to provide shopping experiences for residents.
- Create gateways along NASA parkway to increase awareness and draw in visitors.
- Provide infrastructure that will attract entertainment development.

#### NASA AREA MANAGEMENT DISTRICT (2007)

- Promote commercial sustainability by creating a unique sense of place inclusive of residential, retail, commercial and waterfront development.
- Adress landscape, streetscape, signage, lighting, pedestrian ways, traffic signals, and public art.
- Focus efforts in three main service areas:

Planning and Urban Design Marketing, Public and Governmental Safety and Security

#### TAX INCREMENT REINVESTMENT ZONE #1 (2008)

- Develop a proactive approach to redevelopment as opposed to inaction or a reactive approach.
- Generate revenue in the form of sales tax and/or increased ad valorem tax to offer long-term property tax relief to residents through the revitalization of the waterfront and gateway retail areas.
- Continue and enhance the small-town, family / community atmoshphere, while improving the urban design and aesthetic appeal of the City.
- Promote quality, high-end development, especially on the waterfront.
- Facilitate investment and re-investment by residents and visitors.

#### NASSAU BAY COMPREHENSIVE PLAN UPDATE (2010)

#### Growth & Development

- Focus on waterfront and multifamily redevelopment.
- Expand on non-residential tax base.
- Eliminate vacant retail.
- Promote investment in nonresidential areas.
- Promote housing variety.

#### Amenities

- Capitalize on waterfront location and views.
- Maintain focus on quality of life by creating additional amenities.
- Focus on family-friendly community that appeals to seniors.
- Provide more public access to waterfront
- Optimize use of City's existing parkland.
- Support healthy community lifestyles through amenities

#### Infrastructure

- Commit to significant, overdue upgrades.
- Emphasize public safety from basic police and fire to pedestrian and bicycle safety.
- Maintain preparedness for emergencies and disaster response.

#### **PREVIOUS STUDIES**

#### NASSAU BAY REVITALIZATION PLAN



#### NASSAU BAY TOWN SQUARE



#### **GOALS:**

- 1. Redevelop and revitalize a portion of the City's underutilized commercial
- 2. Increase property and sales taxes.
- 3. Create additional residential to increase local spending.
- 4. Restore economic and architectural vitality.

#### STUDY HIGHLIGHTS

The Livable Centers Study builds upon past studies and efforts in and around the Nassau Bay community to develop a framework for ongoing development that reflects values of the community and promotes uses and projects that can be supported by its population.

Evaluation of the 2010 Comprehensive Plan, the 2004 Development Principles, and the Nassau Bay Town Square Project, alongside the goals of H-GAC's Livable Centers Program can be summarized in 10 design principles to guide the planning process.

#### THE 10 DESIGN PRINCIPLES

- Preserve Small-town Feel 1.
- 2. More walkable/bikeable
- 3. Art as a Cultural Theme
- Develop Commercial / Retail 4. Vacancies
- 5. History of Space Program
- 6. Gateway and Branding
- Destinations/Amenities 7.
- 8. Waterfront Development
- 9. Housing Choices
- 10. Open Space Opportunities

#### RECOMMENDATIONS

The Design Team examined the 10 Design Principles and their relationship to the wants and needs of the current population and for future growth of Nassau Bay when determining project recommendations. In particular, it became evident that the current community embiance was of utmost importance to the citizenry.

The recommended projects contain inherent qualities which are in concert with the design prinicples.

Together, these recommendations will improve

mobility, accessibility and safety, create awareness and spark development and revenue.

The key issues to be addressed were determined through meetings with the Advisory Board, NASA Area Management District members, and public engagement The recommendations fall within the meetings. following categories:

- Transporation
- **Urban Development**
- General Development

#### DEFINITIONS:

- (T) Transporation: projects related to street improvements, pedestrian mobility and safety, decreased reliance on the automobile. (Represented as T.1, etc.)
- (U) Urban Design: projects related to identity, branding, awareness, historical connections (Represented as U.1, etc.)
- (D) General Development: projets related to zoning, planning and public open space (Represented as D.1, etc.)

## IMPLEMENTATION TIMELINE

	TRANSPORTATION						URBAN DESIGN					GENERAL DEVELOPMENT								
SHORTTERM 1-5 YEARS	T.1 SPACE PARK DRIVE IMPROVEMENTS	T.2 SATURN LANE IMPROVEMENTS	T.3 UPPER BAY ROAD IMPROVEMENTS	T.4 BICYCLE/PEDESTRIAN BRIDGE OVER COW BAYOU	T.5 NASA PARKWAY IMPROVEMENTS				U.T. GATEWAY INSTALLATION @ NASA PARKWAY AND SATURN DRIVE	U.2 COMMERCIAL INTERSECTION BRANDING								D.1 ZONING AND PLANNING		
LONG TERM 5+ YEARS						T.6 SPACE PARK DRIVE (EAST IMPROVEMENTS	T.7 LOOKOUT POINT DRIVE IMPROVEMENTS	T.8 NASSAU BAY DRIVE IMPROVEMENTS			U.3 GATEWAY BRANDING AT NASA PKWY AND UPPER BAY RD	U.4 GATEWAY BRANDING AT NASA PARKWAY AND POINT LOOKOUT DRIVE	U.S GATEWAY BRANDING AT NASA PARKWAY AT SPACE CENTER BOULEVARD	U.6 BRANDING WATERFRONT DISTRICT	U.7 NEIGHBORHOOD BRANDING AT NEIGHBORHOOD ENTRIES	U.8 NEIGHBORHOOD STREET SIGNS			D.2 WATERFRONT IMPROVEMENT-NORTHERN SHORE OF CLEAR LAKE	

## EXISTING CONDITIONS



# CONSTRUCTING A SHARED VISION FOR RESPONSIBLE GROWTH









#### PLANNING AND LAND USE



#### **EXISTING LAND USE**

Commercial Corridors include NASA Parkway, Space Park Drive, Upper Bay Road (south to Howard L. Ward Park), Point Lookout Dr (south to Voyager), Saturn Lane and Nassau Bay Drive (south to Saxony Apartments).

NASA Parkway's land uses consist primarily of retail, while Space Park Drive features a combination of retail and office space. Institutional and Multi-family uses are interspersed between residential and commercial areas. The new Town Square development fronts NASA Parkway and will feature a hotel, conference center, restaurants, office buildings, retail. apartments and City Hall.

While the Study Area excludes single-family residential property, its relationship to the Study Area is vital. The largest residential neighborhood within Nassau Bay is south of Space Park Dr between Cow Bayou and Upper Bay Road. To the east of the Study Area is another residential community separated from the primary residential neighborhood by commercial and institutional uses.

#### PLANNING AND LAND USE



#### **OPEN SPACE**

Open Space and Park space exist within the Study Area, Howard L. Ward and the Nassau Bay Peninsula, both of which occupy prime waterfront property. Howard Ward features a walking trail, gazebo, play equipment and open recreational space. As a wetlands conservation area, access to the Nassau Bay Peninsula is currently restricted, though a proposed trail will increase use of this beautiful resource. Also within the study area is the Upper Bay Rd Boardwalk, which runs 1,020 feet along the waterfront.

The city has above average per capita acreage of park space with 25 acres per 1,000 people.

#### Park Constraints:

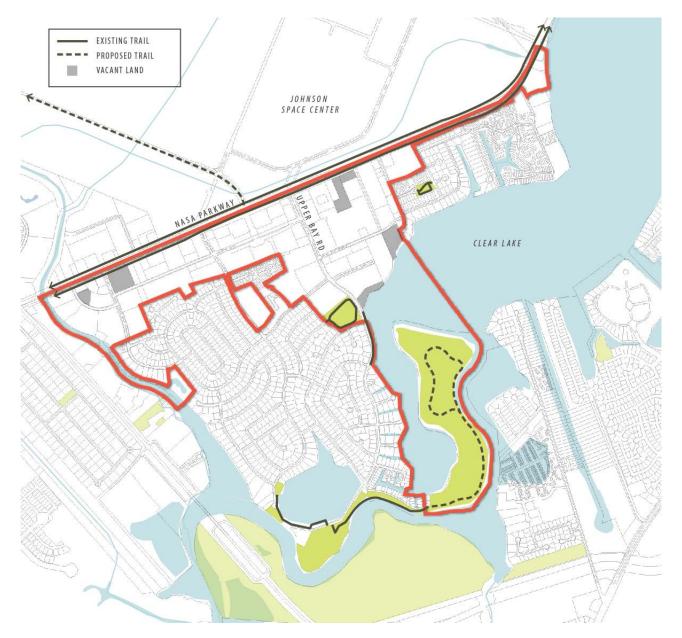
- Parks lack beneficial programming and are underutilized by residents.
- No trails and few sidewalks exist which connecting parks, leaving the parks isolated.

#### Park Strengths:

- Abundant Park space for the population.
- All but one park is suitably located near water
- All parks contain internal trails

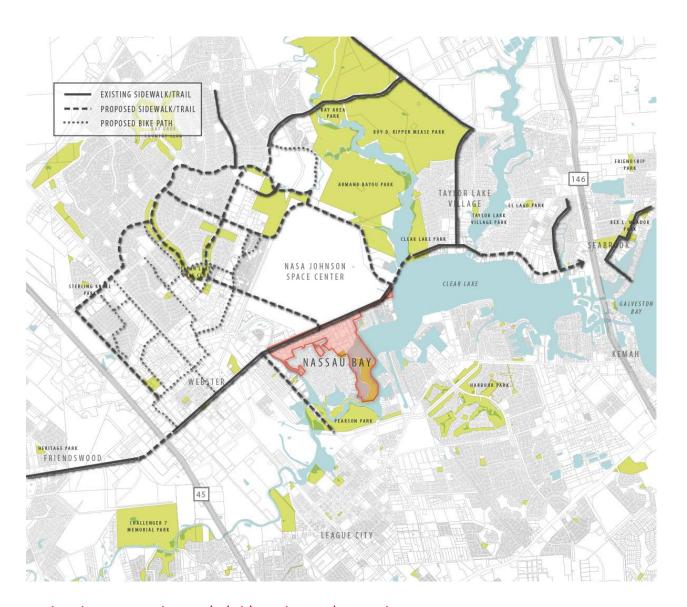
Vacant properties offer opportunities for additional park space, the creation of a park network as well as opportunities for additional types of park programs.

#### PLANNING AND LAND USE



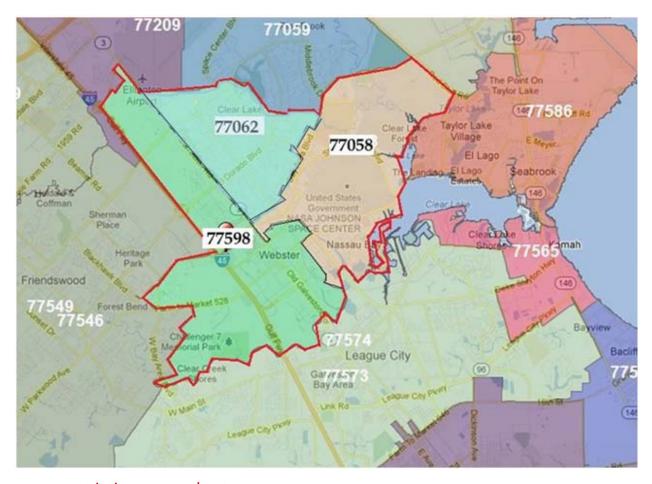
existing local bike / pedestrian mobility

On a regional level, Nassau Bay lies in close proximity to several large parks including the Challenger 7 Memorial Park and the Armand Bayou Nature Center. Implementation of the Clear Lake Bicycle/Pedestrian study will connect Nassau Bay to these and other amenities.



#### existing regional bike / pedestrian mobility & regional open space

Although NASA Parkway contains a commuter bike lane and ample sidewalks, which provide access to regional amenities, the study area lacks strong links to the City's open space amenities. Vacant land within the study area can be utilized to create a variety of open space opportunities.



#### competitive market area

The Study Area has a land mass of 1.77 square miles and falls within the zip code 77058. The Comparative Market Area (CMA) are highlighted in red.

#### MARKET OVERVIEW

#### DEMOGRAPHIC / ECONOMIC TRENDS

The demographic and economic trends in and around the Study Area are both a reflection and a driver of the residential and retail uses. Characteristics of the population size and income levels, along with the increased daytime population, determine the support for additional retail.

For purposes of analysis and comparison the demographics will be illustrated by the Study Area boundary and the City Limits.



- The population of Nassau Bay is 4,002 with 1,925 households (2010 U.S. Census Bureau). 30% of the population and households lie within the study area.
- Both population and households have decreased slightly from the 2000 census in Nassau Bay and at a much greater percentage within the study area. The Tax Increment Reinvestment Zone / is stagnant but is
- surrounded by population growth.
- The Competitive Market Area, CMA, (Zip codes 77058, 77062, and 77598, and 77573) show population growth, a vital contributor to job growth. The increase in population and households expected in the CMA bode well for commercial uses such as industrial, office, and retail.

Study Area Population Trends

Population	NB TIRZ 1 Study Area	Nassau Bay	77058 / 77062 / 77598 CMA	77573 (League City)
2010 Census	1,158	4,002	64,617	71,580
2000 Census	1,622	4,170	60,535	42,289
1990 Census	1,646	4,320	49,808	28,235
Ann. Growth Rate 2000-2010	-3.31%	-0.41%	0.65%	5.40%
Ann. Growth Rate 1990-2000	-0.15%	-0.35%	1.97%	4.12%

Household Trends

Households	NB TIRZ 1 Study Area	Nassau Bay	77058 / 77062 / 77598	77573 (League City)
2010 Census	590	1,925	28,581	25,444
2000 Census	871	2,049	25,891	14,949
1990 Census	895	2,081	21,698	9,874
Ann. Growth Rate 2000-2010	-3.82%	-0.62%	0.99%	5.46%
Ann. Growth Rate 1990-2000	-0.27%	-0.15%	1.78%	4.23%

Sources: U.S. Census, ACS, PCensus, CDS | Spillette

#### MARKET OVERVIEW

#### AGE AND ETHNITICTY TRENDS

- The population within the NASA Area Management District and the City of Nassau Bay is largely older when compared to the CMA. Within the study area, 54% of the population is over 45 years while Nassau Bay as a whole has 56% of residents over 45 years of age. The CMA, comparatively, shows that residents over 45 comprise only 36% of the population.
- The population is evenly distributed between male and female.
- Over 80% of the population within the Study Area are white with the second largest group, Hispanic, making up 17% in the Study Area and 14% in the City Limits. The Asian and African American population account for less than 10% of the population.

#### HOUSING

- The majority of households are 1 and 2 person households.
- The average household size is 1.16 individuals / household
- The majority of housing units in the City of Nassau Bay are single family residences or townhomes
- 37% of the housing units are multi-family. The majority of that percentage lies within the Study Area.
- The median year of home construction completion in The City is 1968. The median

- housing age is 1970, and the majority of homes were constructed between 1960 1969.
- The average length of residency within the study area is 13 years for owner occupied and 8 years for renter occupied.
- The Study Area consists of 47% renter occupied units while the City includes only 36% renter occupied. In comparison, the CMA has a much larger population of renters (55%).

#### INCOME

- Nearly 39% of the households in Nassau Bay have annual salaries of \$100,000 or greater.
- The median household income is \$73,368 and is significantly higher than that of Harris County, \$51,444.

#### Nassau Bay has a greater number of households (10.9%) with incomes of greater than \$200,000 and \$100,000 to \$149,999 (21.5%) than both the CMA and the County.

#### **EMPLOYMENT**

- 85% of workers in Nassau Bay are considered "white collar".
- Workers are employed by a diverse mix of companies in the aerospace industries located in the region.

#### **EDUCATION**

- 44% of the Study Area has a college degree or higher.
- Only 3% have no high school diploma.

#### CURRENT MARKET SUMMARY

As seen in the tables on the previous page, the office properties within the Market Area are performing above Market Area vacancy rates with lower rents than the overall Houston market. Based on rents and occupancy, the office market appears to be healthy, though with uncertainty due to reductions at JSC and questions

around the future of federal budgets.

Given the recent construction of Saturn One in Town Square and the proposed second office building, additional new construction of large-scale office space is not foreseen in the near term, unless a large tenant wants to relocate to a newly developed building.

#### MARKET OVERVIEW

#### COMMERICAL MARKETS

#### RETAIL

- 14 developments including seven strip centers, three neighborhood centers, and four restaurants totaling 360,233 square feet.
- Total occupancy is 69.1% while buildings constructed prior to 1980 have occupancies of 48.7%, and those constructed after 2000 have occupancy rates of 89.5%
- Average rent is \$1.12 / sf.

#### HOSPITALITY

- 9 hotels are located in the greater Nassau Bay area (77058) consisting of 1,024 rooms.
- Revenue decreased from 2010 to 2011 by \$1,326,342.
- The Hilton, located at the Northeast corner of the Study Area is the largest revenue generating hotel in the 77058 zip code.

#### OFFICE

- 1,198,388 square feet of office space in 21 buildings lie within the NASA Area Management District.
- The majority of the space is multi-tenant with an

#### MEDICAL OFFICE / HOSPITAL

- 5 medical offices are located within the Study Area surrounding Cristus St. Johns Hospital.
- The hospital is faith based (Catholic), and includes 260,946 sf with 178 beds and 400 physicians. It is an acute care hospital. MD Anderson opened an

#### **INDUSTRIAL**

38,316 sf of industrial property is located along Point Lookout Drive within the Study Area. It was

#### MIXED-USE

Town Square is a 31-acre development currently under construction. At completion, it will consist of 500,000 sf of office, 313-unit muti-family residential, 125 room Marriott Courtyard, 73,000 sf of retail (phase 1 is 100% leased), a 27,000 sf conference center, and Nassau Bay City Hall.

- All retail is located within the Study Area.
- 15,375 sf at 2323 Nasa Rd. 1 is vacant, Nassau Bay Village is in need of renovation and leased less than 50%, where the newly constructed Town Square is 100% leased at \$2.25 / sf.
- Current hotels: Homewood Suites, Hilton Nassau Bay, Residence Inn, Townplace Suites, Candlewood Suites, Extended Stay, Super 8, Microtel, and Econolodge.
- Only three hotels reside within the Study Area: Hilton, Extended Stay, Microtel (total 420 rooms.)

average occupancy of 72%.

- Rent is \$17.54 / sf.
- Most office space was constructed within the 1970s and 1980s and is considered Class B/C.

on-site radiation treatment facility.

80,000 sf of additional expansion to Christus St. John's has been planned.

constructed in the late 1960s and is categorized as office / warehouse.

- Saturn One (91% current occupancy), constructed in 2010 / 2011 is considered Class A and sits within Town Square.
- The Voyager Apartments are 93% occupied.

#### LOCAL DESTINATIONS & CRITICAL ROADWAY NETWORK

The existing roadway network of collectors and local roads in Nassau Bay serves local destinations such as Town Square, Christus St. John Hospital, City Hall and the city parks and waterfront. These roadways include:

- Nassau Bay Drive
- Point Lookout Drive
- Saturn Lane
- Upper Bay Road
- St. John Drive

- Lakeside Lane
- Space Park Drive
- Baycrest Drive
- Lazy Lake Drive
- Sailboat Drive



#### **NETWORK STRENGTHS:**

- North-south roadways provide excellent access between the residential and commercial areas.
- NASA Parkway, the major arterial, provides connections between Nassau Bay and regional destinations.
- A good number of connections between the north-south collectors and NASA Parkway disperse traffic and lower traffic

#### **NETWORK CONSTRAINTS:**

- Large uninterrupted blocks in the commercial area create a barrier to east west trips creating a circuitous route.
- Width of NASA Parkway presents a challenge to pedestrians and cyclists when trying to cross (6 and 8 lane widths throughout the City)
- Limit access to the City's major asset the waterfront.

As the form and type of waterfront access is further defined, access for all modes of transportation should be a primary consideration. Also, as redevelopment occurs throughout the commercial areas in the City, opportunities for improved multimodal eastwest circulation should be explored.

#### ROADWAY CHARACHTERISTICS

Pertinent information was compiled for all collectors in Nassau Bay. Representative information is shown below for Upper Bay Road; (see Appendix for remaining collector road information).

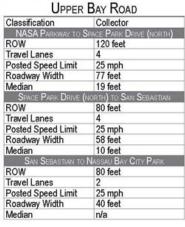
The speed limit on all streets within Nassau Bay is 25 mph unless otherwise posted, and many intersections in the City are all-way stop controlled.

The majority of the streets within the residential area are 26 feet wide, with the primary exception being Upper Bay Road, which is 40 feet wide. Streets in the commercial areas are typically 40 feet wide (twolanes) or four-lane divided roads.



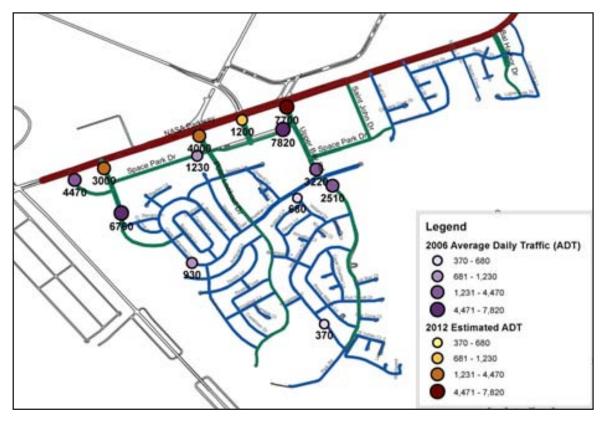






Source: Traffic Engineers, Inc.

#### STUDY AREA TRAFFIC VOLUMES



Source: TxDOT / Traffic Engineers, Inc.

#### 2006 BIDIRECTIONAL, DAILY TRAFFIC VOLUMES

The 24-hour volumes range from under 1,000 vehicles per day in the single-family residential sections to nearly 8,000 vehicles per day in the commercial areas. Many of the trips to the office areas within Nassau Bay are related to services in support of the Johnson Space Center and NASA, and changes in the economy and the investment at NASA will create variation of traffic volumes at some locations, particularly in the commercial/ office areas. Additionally, the redevelopment of the area bound by NASA Parkway, Space Park Drive, Point Lookout Drive and Upper Bay Road from office buildings to the Nassau Bay Town Square resulted in fundamental changes in the traffic patterns. Prior to the development of Town Square, Saturn Lane was nonexistent between NASA Parkway and Space Park Drive and there was no median open present on NASA Parkway between Point Lookout Drive and Upper Bay Road.

2012 bidirectional, daily traffic volumes were estimated on Nassau Bay Drive, Point Lookout Drive, Saturn Lane and Upper Bay Road, south of NASA Parkway.

#### **CURRENT MODAL SPLIT:**

- The size and scale of the City supports the use of alternative modes of transportation within the City.
- The high number of individuals who work

locally or from home provide opportunities to increase the number of people who travel to work via modes other than the single passanger vehicle (see Appendix).

#### PARKING AND PARKING RESTRICTIONS



Source: Traffic Engineers, Inc.

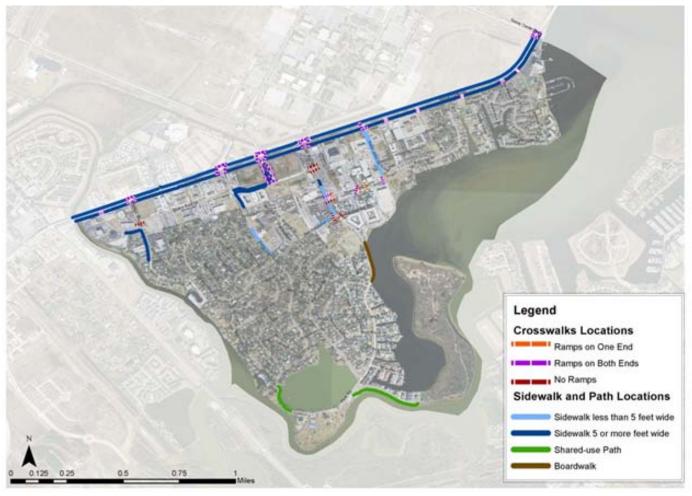
#### **NETWORK STRENGTHS:**

- Ample off-street parking, with the majority being surface parking.
- Parking areas provide opportunities for shared parking and redevelopment
- On-street parking permitt in Town Square on Space Parke Drive and Saturn Lane (head-in)
- Striped parallel parking on St. John Drive.

#### **NETWORK CONSTRAINTS:**

- "No Parking" signs installed on the majority of the streets in the commercial areas.
- "No Parking" signs installed on some of the residential streets.
- Head-in parking can be dangerous for cyclists on shared-use roads

#### THE PEDESTRIAN ENVIRONMENT IN NASSAU BAY



#### **NETWORK STRENGTHS:**

- Multiple marked cross walks.
- Upgrades to sidewalks completed on NASA Parkway allow pedestrian mobility into Nassau Bay.
- The right-of-way is available on many streets for the construction of sidewalks in the commercial areas.
- "Last-mile" connections (pedestrian paths across parking lots) are in place and set a precedent for pedestrian safety in the Town Square development.

#### Source: Traffic Engineers, Inc.

#### **NETWORK CONSTRAINTS:**

- Discontinuous sidewalk and trail network within the Study Area.
- Some sidewalks are less than 5 feet wide (below the recommeded width found in design guidelines).
- Residents feel safe walking in the street in residential areas and therefore community support for sidewalks is low.
- Gaps in sidewalks in the commercial areas present a safety hazard and force pedestrians to walk in the street.
- Many of the marked crosswalks do not have ADA compliant ramps or signage.
- Physical obstacles such as trees and utility poles are often located where sidewalks would be constructed.

#### THE BICYCLE ENVIRONMENT IN NASSAU BAY

Suitability is a way to determine how hospitable a roadway network is for cyclists. Bicycle suitability in Nassau Bay was based on: traffic volumes,

vehicle speed, pavement width and quality, and existing bike infrastructure such as bicycle lanes.



#### **NETWORK STRENGTHS:**

- Upgrades to NASA Parkway provide bike lanes and access into Nassau Bay for the cyclist.
- All local streets have high bicycle suitability due to the low traffic volume, street widths, and 25 mph speed limit.
- Improvements are planned to the regional bicycle / pedestrian network, some of which will provide connections to Nassau Bay.
- Existing characteristics of the City's roadway network in the commercial areas are conducive to creating a highly suitable bicycle environment.

#### **NETWORK CONSTRAINTS:**

- Bicycle suitability decreases to medium in commercial areas due to higher traffic volumes and the lack of dedicated facilities.
- Some areas of low suitability are found within the commercial area due to higher traffic volume and on-street parking with insufficient space to allow for cyclist safety.

<sup>\*</sup>See Appendix for additional information and Roadway Safety Assessments

#### **CHARACTER**

#### UNIOUELY NASSAU BAY

Nassau Bay was developed in support of the Johnson Space Center and has been home to astronauts and scientists for many years. Clear Lake is home to the third largest concentration of pleasure boats in the United States with numerous yacht clubs, piers and boat ramps in the area.

The City's waterfront culture and association with NASA remain an important part of Nassau Bay's culture. This culture is reflected in the community's physical form. The compass rose logo reminds visitors of its seaside context. Palm trees line wide suburban streets which

open views of Clear Lake and wetland landscapes. Apart from the colorful and contemporary new Town Center development, 1970's architecture dominates the commercial district while one-story, ranch-style homes line most residential streets. Closer to the water, houses are elevated in response to the storms common in this area. Boats are parked in backyard slips.

While the community has a pleasant and comfortable small-town feel, there is little to provide a strong identity or sense of arrival both within Nassau Bay or along NASA Parkway.









#### **CHARACTER**

#### UNIOUELY NASSAU BAY





#### **TOURISM**

The community currently benefits from "day use" tourism that brings 2,700 visitors daily to the area for boating, fishing, hospitality, commercial/retail and Johnson Space Center according to the City of Nassau Bay, Facts and Figures. The city of Nassau Bay is located directly across the street from Johnson Space Center (JSC). The Clear Lake Recreation Area is the third largest boating center in the U.S. with over 7,000 slips.

Annual Events include Wings over Houston, Ballunar Liftoff Festival, Blessing of the Fleet, Lunar Rendezvous Festival, 4th of July Fireworks and Christmas Boat Parade.

#### NASA | JOHNSON SPACE CENTER

Johnson Space Center (JSC) performs the following tasks:

- Manages the design, development and assembly of the International Space Station (ISS)
- Serves as NASA's lead center for life sciences research and application
- Selects and trains astronauts
- Controls manned space flights
- Directs industrial efforts to design, develop, build and upgrade piloted space craft
- Oversees many medical, scientific, and engineering experiments conducted in space.

JSC's Mission Control expanded facilities to now include the International Space Station Flight Control Room, a Training Flight Control Room used to practice simulated spaceflights, a Life Sciences Control Room used to oversee experiments and an Exploration Planning Operations

Center used to test new concepts for operations beyond low-Earth orbit. Additionally, Manufacturing of Orion will take place in Texas, Louisiana and Florida with manned launch planned for no later than 2014. The 2011 budget launches a new Flagship Technology Demonstration Program that will demonstrate critical space exploration technologies primarily through flight tests in space. Three demonstrations are scheduled in 2011. JSC will leverage its existing expertise in its Commercial Crew/ Cargo Program Office (C3PO), which manages and will continue to manage, the commercial development of cargo services for the ISS and the Commercial Crew Development (CCDev) Space Act Agreements to enable this new program. Human Research Program: This existing research program, managed at JSC, received a 42 percent increase in the President's FY 2011 Budget to continue to address human health and performance risks, as endorsed by the National Research Council and Institute of Medicine, for space exploration missions. The program, funded with \$317 million from 2011-2015, will address critical areas of human health risks with a focus on biomedical technology, space radiation and behavioral health. Of this increase, 85 percent will be used to competitively solicit new research content through broad agency research announcements. The FY 2011 President's Budget extends the lifetime of the ISS, which is managed at JSC, to 2020 and perhaps beyond. More recently NASA laid off 3,800 workers (employees and contractors) due to the Space Shuttle discontinuation. Of these, 1,000 have been placed in other jobs around the country. No other job losses are expected.





### PUBLIC ENGAGEMENT



## CONSTRUCTING A SHARED VISION FOR RESPONSIBLE GROWTH







Based on the principles of public engagement, the Consultant Team targeted diversity among the informational sources and hoped to understand a variety of perspectives from participants.

The involvement of the community members and invested stakeholders in any planning process is critical to obtaining a shared vision. It is important to have a strategy that makes it not only as convenient as possible for members of the community to involve themselves in the planning and decision making process, but also as educational as possible for those may lack knowledge of the process to feel comfortable voicing opinions and contributing ideas.

The public engagement process identifies potential hurdles that may hinder the project's utlimate success. These types of barriers to longterm visionsary projects must be overcome early in the process to prevent misconceptions about the project goals and community fears about the types of changes the community will undergo. Being mindful of a public engagement plan that incorporates the culture and desires of all involved serves to alleviate potential resistance.

#### What creates a well-facilitated public engagement process?

- Identification of those individuals who can create a solid foudation for and encourage implemenation
- A project team with a deep understanding of community issues and needs
- A project and stakeholder team with a good relationship with the community

OBJECTIVE 1: Create a panel of area representatives and specialists that provide an accurate representation of the community interests that are committed to the longterm success of a project.

OBJECTIVE 2: Implement strategies for community outreach that take into account the unique culture of the study area in order to obtain a high participation level at public meetings and workshops.

OBJECTIVE 3: Establish trust in the community in order to inspire dialogue that is open, civil, and thoughtful.

OBJECTIVE 4: Engage, inform, and educate about the intent of the study through outreach in order to ignite participation as well as to overcome misconceptions.

OBJECTIVE 5: Develop a vision for the Study Area in conjunction with the board and community members

# **OUTREACH METHODS**

MEETING TYPE / DATE	INVITED PARTICIPANT GROUP(S)	METHOD OF ANNOUCEMENT (FLYER / SIGNS)
Client + Advisory Committee 12-07-2011	Consultant Team, Advisory Committee, NASA Area Management District	Town Social Media Website, Town Newsletter, E-mail Distribution List
Client + Advisory Committee 01-25-2012	Consultant Team, Advisory Committee, NASA Area Management District	Town Social Media Website, Town Newsletter, E-mail Distribution List
Golf Cart Tour 01-28-2012	Consultant Team, Advisory Committee, NASA Area Management District	Town Social Media Website, Town Newsletter, E-mail Distribution List
Visioning Workshop 02-22-2012	Consultant Team, Advisory Committee, NASA Area Management District, General Public	Town Social Media Website, Town Newsletter, E-mail Distribution List, Sign Posting in Medians.
Design Workshop 03-28-2012	Consultant Team, Advisory Committee, NASA Area Management District, General Public	Town Social Media Website, Town Newsletter, E-mail Distribution List, Sign Posting in Medians.
Neighborhood Identity Presentation 04-30-2012	Consultant Team, Home Owner's Associations , NASA Area Management District	Town Social Media Website, Town Newsletter, E-mail Distribution List, Phone Calls
NASA Area Managment Distrcit 05-15-2012	Consultant Team, NASA Area Management District	E-mail Distribution List
Client + Adisory Committee 05-23-2012	Consultant Team, Advisory Committee, NASA Area Management District	Town Social Media Website, Town Newsletter, E-mail Distribution List
Final Presentation Worskshop 06-28-2012	Consultant Team, Advisory Committee, NASA Area Management District, General Public	Town Social Media Website, Town Newsletter, E-mail Distribution List, Sign Posting in Medians, Door-to- Door Flyer Distribution

#### What is the importance and role of the Advisory Board?

- To be a voice for the community for whom they represent.
- To serve as younteer members who ensure interest and long-term committment to the vision.
- To aid the team in informed decision making.

#### **WORKSHOP 1**

**Goal:** Collect information from the public regarding their concerns and desires for the Study Area.

Method: Visual Surveys, Presentations around printed boards JAMES, FILL OUT THIS **INFORMATION** I WASN'T WORKNIG HERE AT THE TIME - AND I DON'T HAVE TIME TO LOOK FOR IT AT THE MOMENT!

#### **WORKSHOP 2**

**Goal:** Present conceptual ideas to the Advisory Committee for comment. Present comments to the Publicl for additional thoughts.

Method: Session 1 -One display table for presentation and one work table with markes and trace for recording comments. Session 2 - Presentation Boards divided in 3 topics

- a) Land Use / Zoning
- b) Streetscape & Identity
- c) Overall Vision Plan

#### **WORKSHOP 3**

**Goal:** Present overall vision recommendations implementation strategies to the general public

Method: **Powerpoint** presenation and printed boards in triplicate set up in 3 stations for public questions immediately following the Consultant Team presentation.

#### OPEN SPACE













Visual Survey Example



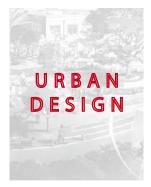
# RECOMMENDATIONS



# CONSTRUCTING A SHARED VISION FOR RESPONSIBLE GROWTH









# SHARED VISION

# THE VISION PLAN REPRESENTS THE COLLABORATIVE EFFORT ENCOURAGED BY THE PRINCIPLES OF THE LIV-**ABLE CENTERS STUDIES**

Through discussion with the Advisory Committee and engagement with the community, preliminary concepts and initial diagrams were developed to establish a Vision Plan demonstrating an image of the City incorporating all recommended projects and foreseeable results of their implementation.

The Plan proposes urban open space nodes to provide a setting for special events, gatherings, and iconic architecture. The first of these nodes is an urban plaza along Upper Bay Road at Space Park Drive North. This urban destination creates a civic center for activity, events, and celebration. The second open space node takes place along the waterfront, transforming an underutilized space into a unique amenity for residents. Improving access to the waterfront provides an opportunity for recreation, physical connections between residential neighborhoods, and visual connections to Clear Lake and the Nassau Bay Peninsula.

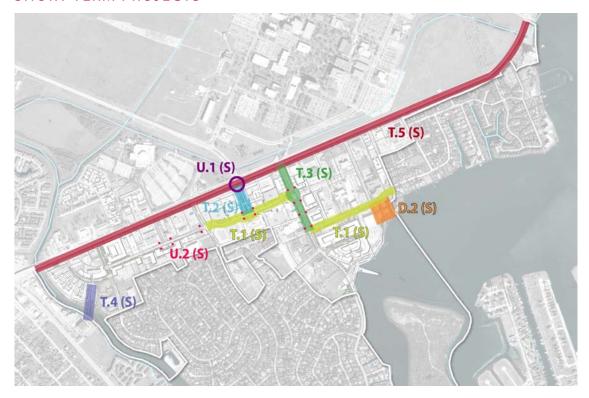
Improved streets throughout the Management District create a sense of place and encourage pedestrian and bicycle circulation between nodes and other important destinations in Nassau Bay. Vehicular roundabouts proposed at major entry streets slow traffic and provide landscape/art opportunities.

Land use provisions and architectural guidelines promote pedestrian-oriented development and foster a distinctive character, which is compatible with the goals of the community. New vehicular connections shorten block lengths and improve access between districts. A proposed bridge over Cow Bayou further facilitates multimodal transport by connecting Nassau Bay to new bicycle and pedestrian facilities and to adjacent attractions and neighborhoods. way elements punctuate the experience along NASA Parkway to signal arrival and reveal the history of Nassau Bay while other branding/wayfinding elements further instill the city's spirit.

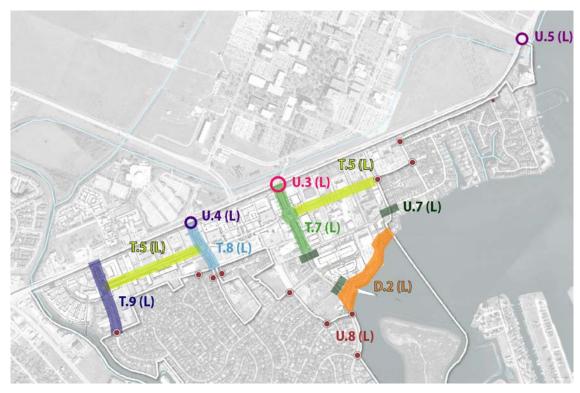


# RECOMMENDED PROJECT LOCATION

#### **SHORT TERM PROJECTS**



#### LONG TERM PROJECTS



Great streets play a key role in making strong, livable communities and great places. Great streets connect people to a variety of activities and provide attractive outdoor areas. Streets include sidewalks, pedestrians, bicycles, parking, trees, and the buildings which dictate its shape and form. People are what make a street successful, and streets, therefore, must be designed to attract and engage people in order to be truly great.

#### INGREDIENTS OF WALKABLE STREETS

- 1. Concentration of Pedestrians
- 2. Residential Densities
- 3. Human-scaled Dimensions
- 4. Active and Diverse Retail
- 5. Traffic Calming
- 6. 24-Hour Activity
- 7. Narrow Lot Size
- Weather Protection 8.
- 9. Wide Sidewalks
- 10. Active Building Fronts
- 11. Modest Crossing Distances
- 12. Proximity to Destinations
- 13. Short Block Lengths
- Vista Termination | Focal Points 14.
- 15. Pedestrian-Appropriate Businesses

#### PRIORITY PROJECTS

The street right-of-way on Upper Bay Road, Point Lookout Drive, Nassau Bay Drive, and Space Park Drive is the defining factor in designing the streetscape. Cross-sections for the various rights-of-way have been developed to combine improvements for vehicular transporation as well as for pedestrian and bicyclist mobility. Special design consideration will be needed at the civic spaces on Upper Bay Road to alow for safe pedestrian movement.

t.1(s)

Space Park Drive Improvements

t.2(s)

Saturn Lane Improvements

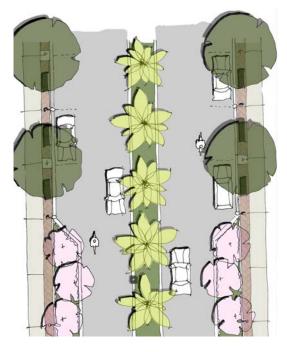
t.3(s)

**Upper Bay Road Improvements** 

t.4(s)

Bicycle / Pedestrian Bridge





100'-80' R.O.W.

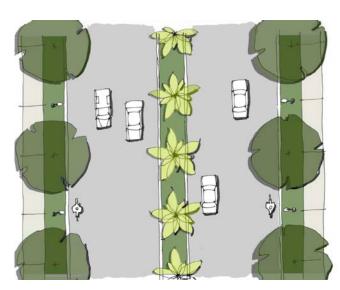
Major suggested improvements within the commercial areas of Nassau Bay designed to create great, walkable streets include shared use lanes or separate bike lanes, an improved pedestrian realm with minimum 6-10 foot sidewalks, additional landscaping, and street amenities such as lighting and wayfinding elements, to create a sense of identity. They also include on-street parking (where appropriate) to allow people to access their destination, while providing a protective buffer from vehicles on the road.

Improvements are recommended on Upper Bay Road, Point Lookout Drive and Nassau Bay Drive because these north-south streets (80' R.O.W.) provide connectivity between the residential and the commercial, office and retail areas, as well as to regional destinations. Improvements are also recommended on Space Park Drive (60' R.O.W.) to provide better connections to destinations within Nassau Bay and circulation within the City. The transformation of these streets to "great" streets will typically require reconstruction. Minimal streetscape modifications are recommended in the Town Square area because the area has been developed with its own unique identity.

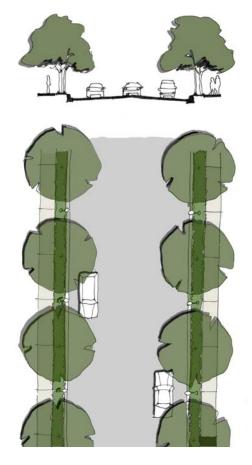
For some streets, the recommended improvements will reduce the number of travel lanes. The traffic volumes on the streets can be accommodated within the recommended travel lanes and additional capacity (turn lanes) will be provided at intersections. Capacity issues typically occur at intersections, not at midblock locations. Excess capacity can lead to higher travel speeds which are not appropriate for the character of the streets in Nassau Bay.

The recommended streetscape improvements are designed to address stakeholders and residents expressed desire for a safer, more diverse transportation network that will accommodate and encourage travel by all modes of transportation, including pedestrians, bicycles, passenger vehicles and golf carts, as well as meet the needs of all residents, both younger and older and all levels of ability and mobility. Residents want to feel as comfortable walking and biking in the nonresidential areas of Nassau Bay as in the residential areas. Implementation of the streetscape improvements will support and encourage the redevelopment of the commercial area of Nassau Bay.









60' R.O.W.

# t.1(s)

## Space Park Drive Improvements

Recommendations for Space Park Drive between Nassau Bay Drive and Point Lookout Drive include restriping the existing pavement with two, 14-foot sharrows and a continuous two-way, left-turn lane, as shown in the 60-foot ROW streetscape figure. A landscape area will separate sidewalks from the sharrows. The streetscape in the section of Space Park Drive between Point Lookout and Upper Bay Road was designed in conjunction with Town Square and will continue to be implemented as Town Square is developed. Improvements to Space Park Drive from Upper Bay Drive to Surf Court will consist of the construction of six-foot sidewalks and signing the street as a bike route.

# t.2(s)

#### Saturn Lane Improvements

Saturn Lane was constructed with the development of Town Square as a four-lane divided road with a wide median; a sidewalk and landscaping are provided in

the median. The only recommendation to modify the existing cross-section is to restripe the main lanes to provide a shared use lane for bicyclists.

# t.3(s)

## **Upper Bay Road Improvements**

Between NASA Parkway and Space Park Drive (north), Upper Bay Road has a 100-foot rightof-way. The proposed cross-section within these limits includes a four-lane, divided street with bike lanes and landscaping separating the bike lanes from an eight-foot wide sidewalk, as depicted in the streetscape figure for 100-foot ROW (pg 46). Upper Bay Road between Space Park Drive (north) and Space Park Drive (south) is recommended for construction as a two-lane, divided roadway with bike lanes and parallel parking; landscaping will be provided within the 10foot wide pedestrian realm (see streetscape figure for 80-foot ROW). South of Space Park Drive (south), Upper Bay Road can be striped with a bike lane. Roundabouts are proposed at the intersections of Upper Bay Road at Space Park Drive (south and north). The plaza at Space Park Drive (north) will be larger than the roundabout at Space Park Drive (south) and will serve as civic gathering space.

t.3(s)

**Upper Bay Road Improvements** 



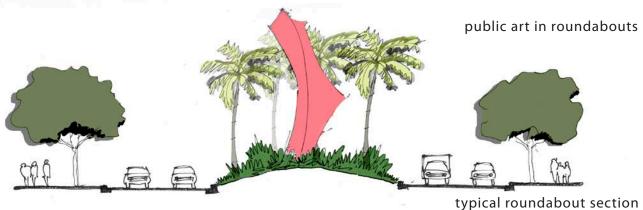
T.3 (S) (L) - View of Upper Bay Road looking North to NASA Parkway Gateway Element, U.3 (L)

#### **VEHICULAR ROUNDABOUTS**

Roundabouts, a type of circular intersection, are designed to improve traffic flow and safety. A roundabout can eliminate the need for a traffic signal or all-way stop control. Due to the efficient movement of traffic, less capacity, and thus fewer travel lanes are needed with a roundabout. In addition to improving traffic flow, roundabouts slow vehicular traffic, increase safety of pedestrian crossings, provide opportunity for landscaping, branding, public art, and create a transition between districts or neighborhoods.

The Consultant Team has identified opportunities for three roundabouts at transitions from commercial to neighborhood districts along primary north-south streets, as well as one larger urban plaza that will function as a civic gathering space along Upper Bay Road.













T.3 (S) (L) - Enhanced Roundabout Civic Space at Upper Bay Road and Space Park Drive.

# t.4(s)

## Bicycle / Pedestrian Bridge Over Cow Bayou



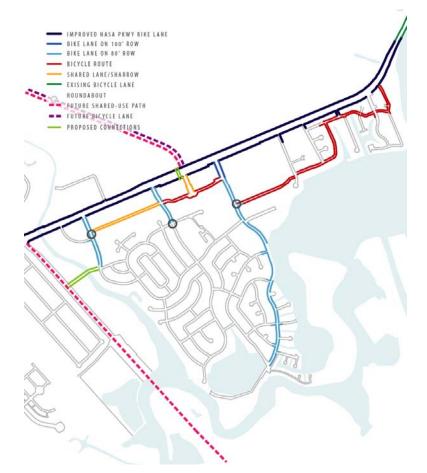
NASA Parkway provides the sole access to regional destinations for Nassau Bay residents. It is also the only access for visitors coming to the City. Because of the wide expanse of the road, the traffic volumes and the high speeds on NASA Parkway, travel to and from Nassau Bay is a challenge, particularly for pedestrians and bicyclists.

A pedestrian/bicycle bridge is proposed over Cow Bayou to provide a safer, more inviting and easily accessible route to travel to/from Nassau Bay for both residents and visitors. The bridge will connect to a future shared bike path to be constructed along FM 270 by the Texas Department of Transportation (TxDOT) and provide Nassau Bay residents with access to other regional destinations, such as planned bike facilities in League City. This bridge might also serve golf cart users.

Embedded in each Transporation project are many of the integral design components necessary to create successful Walkable Streets.

#### **BICYCLE PLAN**

The Bicycle Plan identifies a network of bicycle facilities within Nassau Bay, which also provide connections to regional corridors for recreation and utility purposes. There are opportunities to create a bike network in the short-term by striping existing streets with shared use lanes. A long-term approach, to be implemented with streetscape improvements, would create separate bike lanes where space permits, shared use lanes where the right-of-way is limited, and signed bicycle routes where other bike facilities are not feasible or warranted.



Full Vision Bike Plan Legend







#### SHARED USE LANES OR SEPARATE BIKE LANES

To encourage residents to ride bikes in the nonresidential areas of Nassau Bay, either shared use lanes (sharrows) or bike lanes are proposed. Shared use lanes are typically 14 feet wide, which provide adequate space for a vehicle and most bicyclists to feel safe in sharing a travel lane. Sharrows are recommended on streets with right-of-way constraints or as an intermediate improvement prior to reconstruction. The existing pavement width is adequate to restripe the outside lane as a sharrow, but not wide enough to stripe a bike lane.

Striped bike lanes are recommended in conjunction with the reconstruction of the streets. The recommended striped bike lane width is six feet so that there is an adequate buffer between vehicles and the bicyclist. Bicyclists of all ages and ability levels should feel safe riding a bike in the commercial areas of the City. Also, the 6-foot width will enable a bike rider to stay away from the street gutter, where debris collects. As a point of reference, the existing bike lanes on NASA Parkway are four feet wide.

Signing a street as a Bike Route is recommended when sharrows or bike lanes are not practical or feasible because of inadequate right-of-way, or traffic volumes and/ or vehicular travel speeds are not expected to warrant another type of bicycle facility. These serve as wayfinding devices indicating to bicyclists that a particular route is attractive for their use.

#### **SIDEWALKS**

There are sidewalks in the Town Square area; however, most residents do not feel comfortable walking to Town Square because of the lack of sidewalks linking the residential area to Town Square. Sidewalks should be provided on both sides of streets within the commercial area. The recommended sidewalk width on these streets, a function of right-of-way width, is between 6 feet and 10

feet. A six-foot sidewalk comfortably accommodates two people walking side-by-side or two people passing each other. Wide sidewalks (8-10 feet) are needed where the right-of-way is available to encourage and support desired redevelopment patterns.

#### PEDESTRIAN CROSSINGS WITH RAMPS

In addition to the residents' need to feel safe walking along a street in the commercial area, they also need to feel safe crossing a street. The all-way stop control provided at most intersections within the commercial area provides for safe crossing of the streets. To alert motorists that pedestrians will be crossing at an intersection, crosswalks are recommended at all stop controlled approaches at the intersections in the nonresidential area. Construction of wheelchair ramps in compliance with the Americans with Disabilities Act (ADA) is recommended to provide access between the sidewalks and the crosswalks. The ramps provide a safer and easier crossing for all residents, not only the disabled; for example, families pushing a stroller would find a ramp helpful in accessing a crosswalk.

#### PARALLEL PARKING

On-street parking will enhance the access to new architectural forms which will posess inviting facades close to the street. Additionally, the safety of the corridor can be improved. The parked cars serve to calm traffic and buffer pedestrians on the sidewalks from moving vehicles.

One concern with parallel parking is that bicyclists can be "doored" as motorists are getting out of their vehicle. The potential of a bicyclist running into a car door as it is being opened is minimized if the width of the parking space is adequate (8 feet wide) and an adequate width is also provided for the bike lane. A driver exiting a parallel parking space typically has a better view of approaching bicyclists than does a driver exiting a head-in parking space.

#### LANDSCAPING

The Landscape is a critical element in creating walkable streets. Trees provide shade and a cooler environment for walking and riding a bike. Trees can also provide shade for parked cars and serve to enhance the attractiveness of the corridor, benefiting property values and attracting new businesses. In addition to creating aesthetically pleasing surroundings that residents will want to experience as pedestrians, plantings provide a safer pedestrian environment by serving as a buffer from moving vehicles.

The tree canopy should be high enough for all vehicles to clear. Landscape elements should not obstruct the visibility of pedestrians from the street or create places for people to hide.



#### LIGHTING

Pedestrian lighting is recommended to encourage pedestrian activity after dark. Pedestrian lights supplement street lights, increasing the illumination of sidewalk areas; thus, creating a safe pedestrian environment during the evening hours. Lights can be integrated in the overall wayfinding strategy for the area.

#### WAYFINDING ELEMENTS

Design of the streetscape should include the development of a wayfinding system to improve the pedestrian and bicycle environment, particularly for people who are not residents of Nassau Bay. Wayfinding can assist pedestrians and bicyclists in determining the best route to a destination, recognizing their destination when they arrive and getting them to another destination. Multiple branding and wayfinding strategies exist in Nassau Bay and greater consistency will increase understanding and usefulness.



#### LONG-TERM PROJECTS

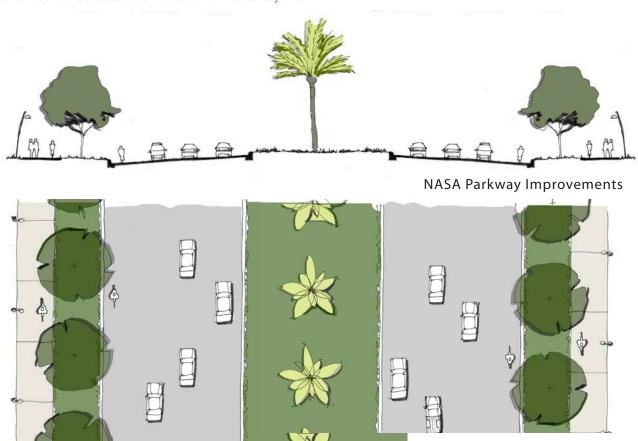
NASA Parkway is an eight-lane divided roadway from the NASA Road Bypass to east of Upper Bay Road where it transitions to a six-lane divided roadway. Additionally, there are multiple turn lanes on NASA Parkway at intersections within the eight-lane section. The posted speed limit is 45 MPH. Motorists traveling on NASA Parkway can easily drive by Nassau Bay without knowing it due to the speed of travel and the lack of visual cues indicating the arrival at Nassau Bay.

NASA Parkway is not a destination for bicyclists and pedestrians, although it does have striped bike lanes and sidewalks. Only experienced cyclists feel comfortable riding in the four-foot bike lanes. Bike riders have been observed riding on the sidewalk along NASA Parkway and often on the wrong side of the street. The width of the roadway creates challenges for bicyclists and pedestrians trying to cross NASA Parkway.

A long-range transportation project identified during the course of this study is to modify the streetscape on NASA Parkway, t.5 (1), creating a more walkable, context sensitive street at the "front door" of Nassau Bay. The recommended cross-section includes a six-lane divided road with six-foot bike lanes and a four foot buffer between the bike lanes and the travel lanes. The pedestrian realm would include 20-foot landscaped areas separating the 12-foot wide sidewalks from the bike lanes. The right-of-way on NASA Parkway is variable; the width of the median would be dependent upon the number of turn lanes and the right-ofway width.

The reduction in the number of travel lanes should not compromise traffic operations on NASA Parkway; the same number of turn lanes as currently exist could be provided at intersections, which is where the capacity is needed. The new six-lane section would be a continuation of the six-lane section east of Upper Bay Road; east of the City, NASA Parkway transitions to a four-lane divided roadway.

Although this is a long-range project, there are tasks that can be conducted in the short-term toward implementation. For instance, the City of Nassau Bay should begin dialogue with TxDOT concerning the reduction in number of lanes on NASA Parkway and change to the look and feel of the street.



#### **BRANDING / IDENTITY**

The city of Nassau Bay has its own rich and unique history. Sharing a moniker with the great port city of the Bahamas, the town intended to evoke a certain relaxed, coastal milieu. While Nassau Bay is a cozy sailing and boating community, it is also intimately linked to the great history of American Aeronautical and Space Administration located across NASA Parkway. Design Team understands that the City would like to provide a link to the Johnson Space Center (JSC) while maintaining its distinctive character.

The story of the Nassau Bay City brand should evoke the spirit of the commonalities between the two entities the town and NASA. "Navigation" is a common root of the nautical / boating history of the town as well as the focus of the JSC. When developing a concept that epitomizes the identity of the place, the theme of navigation became an obvious choice, and can be expressed in the design of the gateway monuments, signs and other public realm elements to reinforce the image of the District.

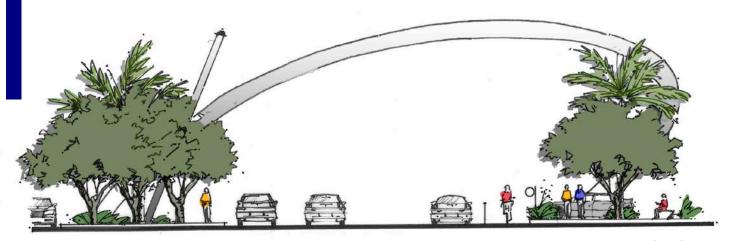
Aeronautical and nautical travels rely on both modern technology which has its roots in navigation by mapping and locating the stars. One of the devices used to aid in these kinds of navigation – both on the water and in the air – is the gyroscope.

The physical form of the public realm elements in the Downtown District that reinforce the identity could be derived from the form of the gyroscope as well as from the stars themselves. Abstracted and artful creations take shape to become the elements that define the edges of the District and create a language for the common thread that extends through Downtown.

Either the gyroscope or star concept will establish a "family" of physical elements which are scalable, from large gateway monuments to street lights with community identifiers, to way-finding signs. These elements will be placed strategically along city intersections and streets to support the creation and understanding of a particular district and its edges.

In the first concept, the physical form is created by abstracting the shape of the gyroscope as a recurring theme throughout the family. It contains a large central "spin axis" and a "gimbal" that creates an arc around the spin axis. The grand gesture of the gateway monuments along NASA Parkway will announce the arrival and edges of the Downtown District while providing a reference to JSC.

Branding Element at NASA Parkway u.1(s) and Saturn Drive u.2(s) **Branding at Commercial Intersections** u.3-5(1) Branding Elements along NASA Parkway u.6(1) Branding Elements along the Waterfront u.7(I) Branding Elements at Neighborhood Entries u.6(1) **Branding Elements at Street Corners** 



u.1(s) "GYROSCOPE", branding concept 1, at key NASA Parkway intersections - Elevation



Branding / Identity Location Diagram

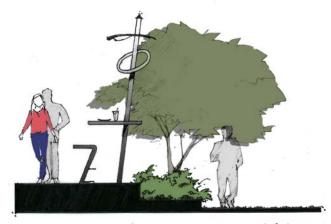
1. NASA Parkway Gateway Elements

- 2. Commercial District Edge Markers
- 4. Neighborhood Identification
- 5. Residential Street Signs and Poles

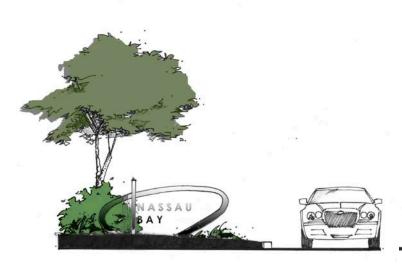
"GYROSCOPE", branding concept 1, family listed by project number.



u.2(s) **Commercial Intersections** 

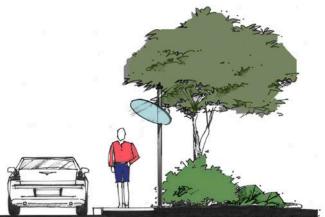


u.6(l) Waterfront



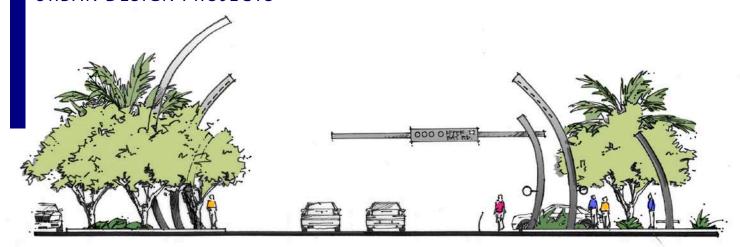
**Neighborhood Entries** 

u.7(l)



Street Signs

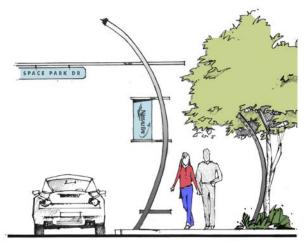
u.8(l)



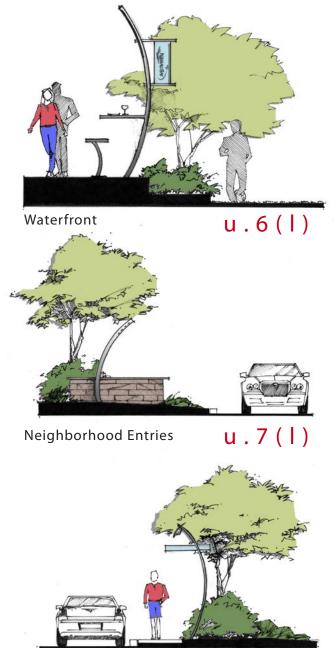
u.1(s) "NAVIGATION BY STARS", branding concept 2, at key NASA Parkway intersections -Elevation

#### "NAVIGATION BY STARS", concept 2

Nearly sixty constellations have been identified as navigable tools. In this second branding concept, the stars will aid in creating a common identity throughout the City. Large steel structures will announce the arrival to the City and will contain lighting at night. Additionally, these structures and those throughout the City will project these "navigational constellation patterns" onto the City streets and sidewalks providing a unique aesthetic pattern and safety lighting experience.



**Commercial Intersections** u.2(s)



Street Sign RECOMMENDA 816 N 3 | 61

## COMPACT AND MIXED USES -ZONING AND PLANNING

In order to increase retail demand in the NASA Area Management District, steps should be taken to attract new residents. In accordance with community goals, the Consultant Team recommends the addition of a "mixed" land use category to the Nassau Bay Zoning Map. This designation will increase residential units as well as the commercial/retail mix and suggests a higher density than the current, auto-oriented condition. The mixeduse model encourages the concentration and integration of mixed but complimentary uses to promote walkability and reduce the need for vehicular trips. Mixed-use buildings often feature active retail on the ground floor with housing above. Residents have the luxury of walking to the grocery store or an ice cream parlor, and retailers have the assurance of nearby customers. By encouraging a variety of uses, a synergistic relationship is established and spaces are activated throughout the day, night, and week, improving pedestrian safety along the street and creating

opportunities for shared parking and balanced transit ridership.

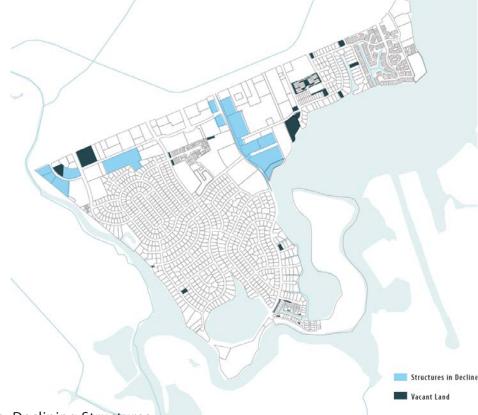
This transition from primarily commercial uses to a mixed development type is suggested along Upper Bay Road from NASA Parkway to Howard Ward Park and Space Park Dr. from Point Lookout Dr to NASA Parkway. This new development type will activate important connections from the Johnson Space Center to the Clear Lake Waterfront and from Cow Bayou to the new Town Center development, appropriately positioning Town Center at the junction of the city's activity. Though Nassau Bay is built out, with little remaining land for new development, the Upper Bay Rd. and Space Park Dr. corridors feature vacant parcels and many structures in decline. Proper planning can ensure productive and responsible development as these properties approach turnover.



New "Mixed-Use" category shown over existing Nassau Bay zoning map.

These diagrams evaluating the existing conditions to create compact and mixed uses in addition to further defining edges to create stronger identity. In turn, the districting will alleviate conflict points for tourists visiting Nassau Bay.

District Recommendation Diagram



WATERFRONT

Analysis Diagram: Declining Structures and Vacant Land

#### WALKABLE ARCHITECTURE

Essential to the success of a mixed land use development, is quality architectural design. buildings adjacent to the street can have a profound impact on the pedestrian experience. Architectural guidelines which reflect goals of Nassau Bay residents and Livable Centers Initiatives can guide design and construction of pedestrian-friendly buildings. Simple guidelines can ensure that buildings are compatible with their context, establish a healthy relationship between public and private uses, and foster a unique sense of place.

#### **USES WITHIN A BUILDING**

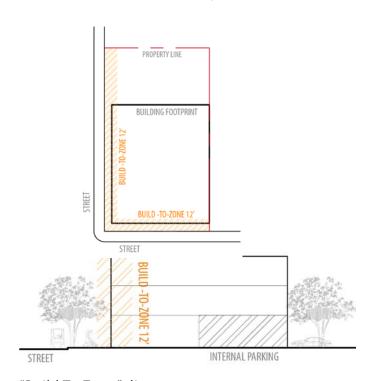
As previously mentioned, a diversity of uses will increase thelongevity of activity along a street, making it a safer and more interesting place. Residential uses promote after-hour activities as residents come and go throughout the day and night, but street level units should be occupied by retail or office, with residential above, as these uses provide more activity during daytime hours. The layout and distribution of uses within a building also substantially influence the vitality of the street.

#### POSITION WITHIN A PARCEL

Building setbacks should be limited to create a pleasant sense of enclosure, provide climatic protection and encourage "eyes on the street" for safety. Setbacks should facilitate ample sidewalk and public space in front of the building. Surface parking should be located behind the building so that it does not interrupt pedestrian flow and the continuous street wall created by the buildings. Parking should, though, be accessible to encourage use by those arriving by car. The location and number of pedestrian access points is also important. Mid-block walkways increase urban "permeability" and shorten the perceived block length.

#### CONFIGURATION OF THE FACADE

Buildings along walkable streets should be more than 2 but less than 5 stories to create a pleasant sense of enclosure. Buildings should be oriented toward the street with frequent doors and windows on the ground floor to create transparency and interaction with pedestrians and ryhthm along the street. Porches and awnings bring activity from within building out to the street. In addition to activating the sidewalk, architectural overhangs provide protection from the elements and a sense of enclosure for pedestrians. Articulation of the facade, quality materials, and unique signage add interest to otherwise blank walls. Materials should reflect the character of Nassau Bay.



"Build To Zone" diagrams



# d.2 (1)

# Waterfront Improvements

As the waterfront is a significant part of the culture of Nassau Bay, an important project associated with the vision plan, is the activation of this natural asset. The vacant strip of land adjacent to the Balboa Apartments occupies an undesireable elevation within the floodplain and is, therefore, unsuitable for development. It is proposed that a public access easement, d.1 (s), along the waterfront be implemented on this underutilized plot to provide public access to an important amenity where currently, access is limited.

This provision can facilitate the creation of an important recreational destination proposed along the city's shoreline. A civic waterfront park will support a variety of activities including fishing, biking, jogging and walking, providing a flexible armature for various special uses such as farmers markets and art events. This public amenity would become an important destination and landmark in Nassau Bay, stimulating mixed-use waterfront development. A promenade along the site would connect currently disjointed residential neighborhoods within Nassau Bay, by extending the isolated boardwalk on Upper Bay Rd to Surf Ct, and thus prompting the development of a more extensive trail system. Improved connectivity to Howard Ward Park would boost activity in this underprogrammed space.







# d.2(s)(l)

# Waterfront Restaurant



Established as an early-win project and one that received significant support, is the campaign for a privately developed waterfront restaurant.

A waterfront restaurant would provide an anchor and catalyst for additional mixed-use development along the public easement. Available land and ample surface parking

near by provide a large portion of the required



infrastructure. A waterfront restaurant would benefit not only the community, but aslo visitors to Nassau Bay by providing a destination to which it is exciting to return. The recommendation of a future mixed-use development coupled with the restaurant will activate the waterfront, create destination space, and link the two residential neighborhoods currently biforcated by commercial, office, and medical office buildings.





View Looking Northeast at proposed Waterfront park





# IMPLEMENTATION



# CONSTRUCTING A SHARED VISION FOR RESPONSIBLE GROWTH





#### IMPLEMENTATION SUMMARY

#### PROJECTS AND FUNDING

The Nassau Bay community has been very forwardthinking in its creation of a set of local tools to aid redevelopment and implementation of a new vision.

#### KEY LOCAL AGENCIES

While state and federal funding could play important roles in carrying out certain projects, the most important success factor will be the gathering of local funding and organizational commitments for each element of the plan. In the current and likely future environment of constrained and unpredictable federal and state resources and programs, the surest future of the plan's implementation comes from support from local sources. Because funding for several of those sources is closely tied to the value and productivity of development, plan implementation will be linked with the pace of private economic investment in the study area.

#### NASA AREA MANAGEMENT DISTRICT

The local sponsor for this Livable Center plan, the NASA Area Management District, will play a role that is fiscally limited but central in terms of coordination. The District's annual revenues are raised from a ¼ cent sales tax on transactions within its boundaries. Total collections are estimated to be only \$75,000 - \$80,000 at the present year. Therefore its implementation capacity will be largely restricted to funding design and engineering, coordinating the more fiscally endowed local agencies, and spearheading outreach with commercial property owners. The Management District will also play a role in ongoing maintenance of public areas (landscaping, litter control, etc.).

As redevelopment occurs, new retail space is constructed, and that space is filled with tenants, the Management District will receive more revenue and have greater capacity to undertake implementation tasks.

These local tools, plus the commitment of the City of Nassau Bay, will provide the foundation for funding and building the projects recommended in this plan.

#### NASSAY BAY EDC

The City of Nassau Bay has levied a ½ cent 4B economic development sales tax since 1998. These sales tax revenues fund the city's economic development corporation (EDC), which as a local government corporation may spend and issue debt separately from the City's General Fund and Debt Service budgets. The City Council does approve the EDC's budget, however.

The EDC's 2011-12 budget called for spending approximately \$268,000 on revenues of approximately \$205,000 plus unspent prior year balance. According to City of Nassau Bay staff, the EDC's spending priorities have been economic development and tourism. The projects in this plan directly support these priorities, as they are aimed at generating new, higher value development, retail activity, and increased visitation. Therefore, the EDC can play a role in funding design and engineering work and assisting in the provision of local funding match to future federal grants. Still, its budget will be too limited to construct large-scale capital improvements on its own.

In the near term, the EDC's budget flexibility is constrained with obligations to service debt and cover administrative costs for the City of Nassau Bay. However, these constraints will be easing starting after 2013. As with the Management District, the EDC's implementation capacity will also benefit from retail development, increased occupancy, and greater sales productivity.

#### TAX INCREMENT REINVESTMENT ZONE #1

The City of Nassau Bay created Tax Increment Reinvestment Zone #1 (TIRZ #1) over what later became the Livable Center study area in 2007. This created a funding source by dictating that 90% of the increases in property tax generated by increases in property

value over the 2007 base year value will be set aside to fund improvements within the zone. The remaining 10% of the increased revenue goes to the City's General Fund. The zone was created to have up to a 30 year life.

The TIRZ has the ability to make agreements with developers to make reimbursements for public improvements that the developers have fronted. Alternatively, if the TIRZ has sufficient cash flow from increased values, it can proactively pay for improvements itself, in advance of development. Any public infrastructure or amenities within the zone are eligible for funding. State law also allows for TIRZ funding assistance for demolition of private properties, especially when environmental remediation may be involved, such as asbestos abatement. Off-street parking may also be subsidized by the TIRZ if it is being made available for use by the general public.

The TIRZ will have much greater funding capacity to undertake larger capital improvement projects such as street reconstruction. It can also leverage its funds by providing local match for grants from higher levels of government, such as federal transportation funds. Planning, design and engineering costs are eligible uses for funding as well as construction costs.

## CITY OF NASSAU BAY

While the array of specialized funding and implementation tools already in place will be essential to moving the Livable Center plan forward, the City may need to play a funding and administrative role as well. The Public Works Department will need to be heavily involved in planning for reconstructed streets and could undertake some design and engineering tasks if appropriate. Because the City's General Fund will benefit from both increased sales tax generation and a portion of the property tax increase within the TIRZ, it could be appropriate for the City to assist in implementation funding for certain projects if the other entities do not have the immediate fiscal or organizational capacity to do so.

The City has a Tourism Fund, separate from the General Fund, which receives revenue generated by the City's hotel occupancy tax (7%). An eligible use of these funds is for public art and activities intended to increase tourism visitation. The fund's revenue should be increasing over the next several years due to the new Marriott Courtyard opening (though the competition may initially decrease taxable receipts at the three other Nassau Bay hotels). However, the City made an incentive agreement with the hotel to rebate 85% of the hotel occupancy tax revenue generated during the first five years, so the net positive effect to revenue will be limited at first. Still, the Tourism Fund's budget has had a portion devoted to arts and events (12% in recent budgets) and advertising and promotion (41%). In 2011, the revenue available for these two budget categories was over \$250,000.

## PROJECT PRIORITIZATION & TASK SUBDIVISION

A prioritization hierarchy has been recommended for the implementation of the project list. The hierarchy levels are Short Term (estimated 1-5 years), and Long Term (6 years and beyond). This recommended prioritization reflects the judgment of the Livable Center consultant team. It is recognized that within each level, the limited resources (both funding and organizational / staffing) of the various implementation agencies may force a winnowing of the list, with some projects pushed further into the future.

Recognizing that most projects have different stages of implementation that could potentially be funded and managed by different entities, the Livable Center team has segmented each project into different tasks as applicable. For example, construction projects generally have a design and engineering component, site or right of way acquisition, construction, and operation / maintenance stages with associated costs. The lead organizations and funding sources could be different for each stage.

#### MULTI-MODAL TRANSPORTATION PROJECTS

The plan contains several projects related to multimodal transporation improvements in the Study Area - reconstructing public rights-of-way so that they better facilitate pedestrian and bicycle mobility and safety as well as motor vehicles. Some projects may be eligible for inclusion in H-GAC's long term Regional Transportation Plan (RTP) and the short term (4 year) Transportation Improvement Program (TIP). Any project receiving federally sourced transportation funding must be included in the TIP.

#### FEDERAL FUNDING

At the time of the completion of this study Congress had just passed a new funding authorization for the federal Department of Transportation (USDOT). The new authorization, called MAP-21, is considerably shorter than earlier ones and will expire September 30, 2014. The bill has less guaranteed funding for projects to improve pedestrian and bicycle mobility. Programs such as Congestion Mitigation / Air Quality (CMAQ) and Transportation Enhancements, both of which are intended to consider such improvements, have continued from the previous authorization with perhaps modestly less funding. However, more discretion is given to state-level departments of transportation for these programs than was previously the case, so good relationships with state legislators and members of the Texas Transportation Commission will be very important to assure that such funding can be made available for the projects in this plan.

Since a new authorization will be needed (barring a long series of temporary extensions for the previous authorization such as what happened from 2009 to 2012) prior to most of this plan's projects being ready to seek federal funding, this report will not dwell on specific federal transportation programs but instead provide general guidance as to how the local implementation agencies should approach each street and transit project with regarding to leveraging federal funds through the TIP process.

It should be noted that H-GAC provides its own scoring system for Livable Center-related projects that can aid a project's placement in the TIP. This scoring may be in addition to other evaluation and scoring that may be required for allocation of funding under the specific

federally authorized funding programs. Still, the Livable Centers scoring could enhance the chances for the projects in this plan to be included.

Lastly, H-GAC emphasizes that any project seeking inclusion in the TIP need to have achieved a strong level of "readiness." This includes the following:

- Having substantial progress on design and engineering,
- Environmental clearances obtained (per the National Environmental Policy Act – NEPA),
- Right of way largely obtained,
- Utility relocation or adjustments coordinated and funding identified,
- Conformity with the region's air quality planning, and
- Local funding commitment (for required local match on most federal programs – usually minimum 20%).

The current presidential administration has placed emphasis on the sustainability and multi-modalism in federal spending projects not only in transportation but through the Department of Housing and Urban Development (HUD) and the Environmental Protection Agency (EPA). These three agencies have joined in a partnership for Sustainable Communities. The District and Precinct 1 should emphasize the Livable Centers ideals of sustainability and multi-modalism when seeking not only transportation funds but also grants and support through these other agencies.

## STREET RECONSTRUCTION

Projects to remake the public streets in the heart of Nassau Bay's commercial and mixed-use area to be more accommodating to multiple modes of travel and more livable through enhancements to public space form the heart of the vision expressed in this Livable

## NASA Area Management District and Nassau Bay EDC

The Management District and EDC roles in implementing the street makeover projects primarily involve funding project design and engineering and, particularly in the case of the Management District, coordinating the planning process with affected property owners and community members. Some projects (Upper Bay Road, for example) may have design and engineering costs that are still too large for these two entities too fund on their own.

Very small capital projects, such as short sections of sidewalk, may be within the funding constraints of these two agencies so that they could consider funding actual construction.

## TIRZ #1 and Adjacent Property Owners / Developers

TIRZ #1 will likely have a much higher funding capacity for project implementation, assuming significant levels of redevelopment (see scenario projections below). However, due to the timing of cash flows to the TIRZ, which lag behind the construction of private development (the development must be essentially complete before its incremental assessed value can be realized the following January 1), it may be necessary to ask private developers pay upfront for the street improvements adjacent to their projects - or even off-site, as a single portion of a street remade has less market appeal than doing a longer segment. The City can execute a development agreement for the TIRZ to reimburse the developer, possibly with interest, once incremental tax revenues begin to flow.

Center plan. While aesthetic enhancements will be an essential part of these makeovers, they are primarily transportation projects. The projects' implementation will improve walkability and bicycle-friendliness while adequately accommodating the needs of motor vehicles.

If the TIRZ has sufficient cash available, it may also help fund the design and engineering costs for the larger projects such as Upper Bay Road. Such costs are less likely to be fronted by a developer than construction costs.

## City of Nassau Bay

When cash flow or overall funding gaps exists for particular projects, the City can consider stepping in to contribute funds; this would be appropriate as the City will be the ultimate owner of the street infrastructure, the sales taxes for the General Fund and street repair should increase, and the residents outside the Management District and TIRZ will also benefit from better streets. The upfront design and engineering costs for the large projects could be a task where the City should consider contributing General Fund assistance if the TIRZ and the other entities do not have the available cash reserves; however, the TIRZ should be the first choice to fund actual construction.

## Federal transportation funds

Projects to improve Nassau Bay's streets to create a Livable Center may meet criteria for federal funding assistance through the TIP. As the front door to the region's major unique tourist attraction, Space Center Houston / NASA, a package of street makeovers may qualify as a project of regional significance, which could help pull in discretionary grants similar to the TIGER grants of the last few years. The various local implementation agencies can take the lead by funding design and engineering and committing local match (usually 20%).

#### **BICYCLE BRIDGE**

The bicycle pathway bridge over Cow Bayou is a less appropriate project for TIRZ #1 because it is less directly connected to potential redevelopment. The Management District should help implementation by assisting with design and coordination between the City of Nassau Bay, the Texas Department of Transportation, the Harris County Flood Control District, and the City of Webster. The District can also seek technical assistance from the National Parks Service, which

provides such assistance to local communities seeking to improve trails systems. The City of Nassau Bay is likely the most appropriate local agency to fund construction of the bridge; it can seek funding assistance from the City of Webster and possibly applying for federal transportation assistance (the Transportation Enhancement Program in particular, though its funding is somewhat diminished in the new authorization).

## BRANDING AND PUBLIC AMENITIES

A distinctive set of projects proposed in this plan include the addition of special public realm branding elements that will not only better identify the City of Nassau Bay within its regional and greater Bay Area context but also act to drawn in visitors who are passing by on their way to Space Center Houston or the Kemah / Seabrook area. Having visual cues for leisure visitors to come south of NASA Parkway into the heart of the study area is essential if successful retail is to reach beyond NASA Parkway frontage in any significant quantity.

#### **BRANDING ELEMENTS**

The vertical branding elements along significant streets and at major intersections are typically projects for special districts or special purpose agencies such as the Management District and the EDC. Since these projects are clearly area enhancements with an economic development purpose that represent improvements above the standard municipal level of service, it is recommended that these agencies be primarily responsible for these projects. The Management District should lead in the design process and coordinating with property owners. The EDC, due to larger fiscal capacity, would likely be more appropriate to fund construction. Once budgetary capacity for new debt service is increased, the EDC could consider debt issuance to fund construction costs. The City's Tourism Fund could also consider contributing assistance, as these elements could qualify as public art and are designed to increase tourism visitation.

# RIGHT OF WAY LANDSCAPING AND PUBLIC

Aesthetically pleasing landscaping, decorative hardscape elements, shade trees, and public art installations (possibly

in the roundabouts) will be critical to the success of the remade streets from both a transportation and economic perspective. Certain elements – basic shade trees, crosswalk markings, etc. – would be considered as part of transportation infrastructure since they are needed for pedestrian comfort and safety. Thus they could be part of the costs funded by federal transportation grants.

Otherwise, aesthetic enhancements will be the responsibility of local agencies, especially the Management District and the EDC. The City's Tourism Fund can contribute to the public art elements. As landscaping will require maintenance, the Management District will need to consider its capacity to maintain these improvements. It is possible that adjacent property owners may be willing to assume responsibility for adequate maintenance behind the outside curbs of the streets; however, maintenance of enhancements within roundabouts or medians will likely fall under purview of the Management District.

The local public agencies could consider a private fundraising campaign among area residents and businesses if available tax revenues appear insufficient to accomplish the improvements within an acceptable time frame.

#### WATERFRONT

A Long Term project, the waterfront improvements are similar to other aesthetic enhancements in that all funding will need to be locally raised and that they are also improvements intended to increase nonresident visitation and help drive retail sales. Design and engineering costs could be primarily funded by the Management District and EDC. The TIRZ would be the first choice vehicle for funding construction.

## PRIVATE DEVELOPMENT

While the projects proposed in this plan will improve mobility by enhancing the practicality, safety, and enjoyment of walking and biking, they are equally as targeted at helping to spur appropriate mixed-use development. As has been noted in the market analysis, much of the study area, especially along Upper Bay Road and Space Park Drive, comprises aging, low value

#### **DEVELOPMENT REGULATIONS**

The City of Nassau Bay has been revising its Comprehensive Plan and is examining its zoning ordinance. This Livable Center study provides an opportunity for the City to ensure that the regulations which apply to key portions of the study area – such as along Upper Bay Road and the western portion of Space Park Drive – are in alignment with the envisioned style of development. This would include allowing the vertical and horizontal mixing of uses, sharing of onsite parking facilities, consideration of on street and nearby public parking in determining requirements, and reductions of building setbacks. It is important that developers seeking to build pedestrian-friendly, urbanvillage quality projects do not have to deal with the uncertainty of variances. The City could also consider requiring certain urban design standards in these locations, such as "build-to" lines, maximum blank wall coverage, location of public entrances, etc.

commercial structures. These sites are suitable for redevelopment.

The City of Nassau Bay, both directly and through TIRZ #1, can help to influence the rapidity and style of development. This would be done through modification of development regulations and incentives.

## **INCENTIVES AND DEVELOPMENT AGREEMENTS**

Another way to speed up desired redevelopment is to offer a program of development incentives. Not only would they help attract developers, they would also give the City leverage in obtaining desired features of the development.

#### TIRZ #1 REIMBURSEMENTS

The most straightforward incentive, given that a TIRZ is in place today, is to craft a policy of TIRZ reimbursements to developers who front the cost of public facilities and improvements, such as rebuilt roadways, streetscapes and public parking. The TIRZ could also assist in building demolition, especially where asbestos abatement is required. As noted above, this helps address some cash flow timing issues by requiring the TIRZ to pay out only after it has started receiving the tax revenues resulting from redevelopment.

The reimbursement arrangements would be detailed in development agreements approved by the TIRZ Board and possibly City Council. In these agreements the City could require the development to meet certain requirements, such as urban design standards, as a condition of reimbursement.

#### PARKING

Providing onsite parking can be a significant cost to a developer. If the City is willing to lower onsite requirements for developments that meet the quality standards sought, it could provide spur investment as well as helping to minimize interference with walkability. Possibilities include shared parking policies between different land uses, counting of adjacent on street spaces toward on site requirements, and discounts for proximity to off street parking available to the general public. The TIRZ could also reimburse developers for providing parking facilities that are available to the general public.

#### LAND WRITE DOWNS

If the TIRZ has sufficient cash on hand and key properties become available, it could consider acquiring those properties for future conveyance to a developer at a reduced cost, with quality and design standards included in the conveyance agreement.

#### **CHAPTER 380 AGREEMENTS**

Chapter 380 of the State of Texas Local Government Code allows a wide variety of economic development agreements between private developers or businesses and municipalities or special districts. Often such agreements are based on the increment of taxes generated from the development. In the case of the Livable Center study area, it is important that the property tax increment be used for TIRZ funding and that Management District and EDC (4B) sales tax increments remain flowing to their respective agencies, as that will fund additional Livable Center implementation activities. However, the City of Nassau Bay could consider using Chapter 380 agreements based on impact or permit fees or

## LOCAL FUNDING SCENARIO

As described above, the increment property tax and sales tax revenues to local agencies generated by new development is very important to implementation of the recommended Livable Center projects. Therefore a projected funding scenario was prepared to examine the likelihood of sufficient local funding to carry out the implementation tasks.

The following table shows the projected incremental

property and sales tax revenues generated by new study area development as projected in the Market Forecasts (see Section X). It addresses incremental revenues to the City, TIRZ #1, the EDC (4B), and the Management District. This represents potential development assuming the City, Management District, and the associated implementation agencies are actively pursuing implementation of Livable Center improvements.

## Annual Incremental Tax Revenue Streams Livable Center Study Area

Property Value	End of Year 5		End of Year 10	
Apartments	\$	30,000,000	\$	35,000,000
Senior apartments			\$	30,000,000
Office			\$	31,400,000
Townhomes	\$	7,500,000	\$	7,500,000
Retail / commercial	<u>\$</u>	7,600,000	<u>\$</u>	7,600,000
TOTAL	\$	45,100,000	\$	111,500,000
cumulative	\$	45,100,000	\$	156,600,000
Annual city General Fund property tax	\$	31,215	\$	108,386
Annual TIRZ revenue (90%)	\$	280,932	\$	975,474
Annual sales tax	Enc	d of Year 5	Enc	of Year 10
Space added per 5 years		50,000		50,000
Cumulative space added		50,000		100,000
Taxable activity occ. %		75%		75%
Average sales / sq.ft.	\$	300	\$	300
Nassau Bay General Fund (excl. street repair)	\$	112,500	\$	225,000
Nassau Bay 4B	\$	56,250	\$	112,500
Mgmt District	\$	28,125	\$	56,250

Source: CDS | Spillette

As the figures in the table above illustrate, the annual increments of property and sales tax revenues generated by the end of the 5th and 10th years are substantial

The following two tables (opposite page) illustrate how these incremental revenues match up against the estimated costs of the priority projects identified in the Implementation Matrix. The projected revenues assume that the annual increment of revenue for the two five year periods is equal to the average of the revenue at the beginning of each period and at the end.

#### Sources and Uses of Local Implementation Funds

Years 1 - 5

USES – priority projects	Design	Construction	Total
Space Park Drive	\$ 7,680	\$ 50,806	\$ 58,486
Saturn Lane	7,600	38,000	45,600
Upper Bay Road	324,495	-	324,495
Cow Bayou bike bridge	-	321,000	321,000
Branding gateway NASA Pkwy / Saturn Lane	35,000	350,000	385,000
Branding intersections	NA	NA	NA
TOTAL	\$ 374,775	\$ 759,806	\$ 1,134,581
SOURCES (local)	l l		5-Year Cumulative
Tax increment - Management District			
			\$ 70,313
Taxincrement - 4B			\$ 70,313
Tax increment - 4B  Tax increment - TIRZ			,
			\$ 140,625
Tax increment - TIRZ			\$ 140,625 \$ 702,329
Taxincrement - TIRZ  Total economic development funds			\$ 140,625 \$ 702,329 \$ 913,266

As these tables show, local funding can accomplish a great deal of implementation could be accomplished solely with cash on hand at the local implementation agencies. What is not shown is that considerably more improvements could be funded through the issuance of debt by the agencies receiving these incremental cash flow streams. An annual increment of \$100,000 could provide the debt service for \$8 - \$10 million in debt to pay for capital improvements. Thus, under the given market projections, the Livable Center implementation program is ambitious but not unrealistic.

## Sources and Uses of Local Implementation Funds

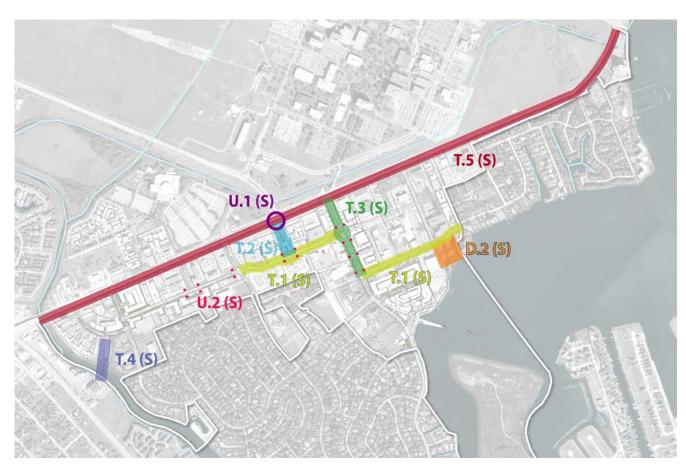
Years 6 - 10

USES – priority projects	Design	Construction	Total
Space Park Drive west	\$ 92,308	\$ 564,387	\$ 656,695
Upper Bay Road		1,324,612	1,324,612
Space Park Drive east	146,988	944,262	1,091,250
PointLookout Drive	321,959	1,770,414	2,092,373
Nassau Bay Drive	387,016	2,146,113	2,533,129
Branding gateways NASA Pkwy / 3 locations	105,000	1,050,000	1,155,000
Branding waterfront	NA	NA	NA
Branding street signs	<u>NA</u>	<u>NA</u>	<u>NA</u>
TOTAL	\$ 1,053,271	\$ 7,799,788	\$ 8,853,059
SOURCES (local)			5-Year Cumulative
Tax increment - Management District			\$ 140,625
Tax increment - 4B			\$ 281,250
Tax increment - TIRZ			\$ 2,438,685
Total economic development funds			\$ 2,860,560
Tax increment - General Fund sales tax			\$ 562,500
Tax increment - General Fund property tax			\$ 270,965
Total other City of Nassau Bay funds			\$ 833,465
Potential federal transportation grants (80%)			\$ 4,890,771



The diagrams shown below and on the following page illustrate the geographic location of each project by implementation task number. These task numbers correlate directly to the Implementation Matrix included on the following pages.

## **SHORT TERM PROJECTS**



The matrix on the following pages indicates the costs of projects by task. Each project was identified as a "priortity project" (those easily attainable by one or a few consultant groups or "other project" (multiple steps required for completion). These were then

subdivided into manageable tasks to better ensure implementation. The matrix reads from left to right and describes the tasks, their project phases, costs of construction and design, costs of annual operation, the project initiating group, and potential sources of funding.

## LONG TERM PROJECTS



Project Number	Project Type and Description	Project Phase	
PRIORITY PROJECTS - SHORT TERM	-		
T.1 (S) - Space Park Drive Improvements  ask 1	Point Lookout Dr. to Surf Court.: Install painted bike route signs.	Phase 1: Construction	
ask 2	Point Lookout Dr. to Upper Bay Rd.: Construct 6 foot sidewalks	Phase 1: Construction	
	along Space Park Drive in conjunction with Town Sqaure development.		
ask 3	Prepare design plans and construct a 6 foot sidewalk on north	Phase 1: Design	
ask 4	side between Upper Bay Rd. and Town Square development.  Prepare design plans and construct all planting, irrigation, street furnishings,	Phase 2: Construction Phase 1: Design	
	and street lighting associated with new street improvements between	Phase 2: Construction	
T.2 (S) - Saturn Lane Improvements	Upper Bay Rd. and Town Square development.		
ask 1 ask 2	Implement Town Square sidewalk plan.	Phase 1: Construction Phase 1: Design	
dSK Z	Prepare striping plans and restripe Saturn Lane with sharrows.	Phase 1: Design	
T.3 (S) - Upper Bay Road Improvements	NACA Dadamata Caran Dada Da Garatha Darana dada ada ada da	Dhasa 1. Dasim	
ask 1	NASA Parkway to Space Park Dr. (south): Prepare design plans for reconstruction with improved cross-section, e.g., bike lanes,	Phase 1: Design	
	parallel parking, sidewalks and roundabout.	Discrete Section 1	
ask 2	NASA Parkway to Space Park Dr. (south): Prepare design plans for planting in median, irrigation, street trees, specialty paving at cross walks,	Phase 1: Design	
	street furnishings, lighting, and design for roundabout civic space.		
T.4 (S) - Bicycle / Pedestrian Bridge over Cow Bayou  Task 1	Identify location of easement / ROW for shared use path between	Phase 1: Coordination	
Marin de	Nassau Bay Dr. and Cow Bayou and between Cow Bayou and TxDOT	i nase 1. coordination	
	proposed FM270 shared use path based on discussions with		
ask 2	private landowners / City of Nassau Bay / City of Webster / TxDOT / HCFCD.  Prepare design plans for and construct the pedestrian bridge	Phase 2: Construction	
	over Cow Bayou.		
U.1 (S) - Branding Element (Gateway) Installation at NASA ask 1	Parkway and Saturn Drive Intersection  Install Gateway Element at NASA Parkway / Saturn Dr.	Phase 1: Design	
93V T	Intersection.	Phase 1: Construction	
U.2 (S) - Branding Element (Commercial Intersections)  Task 1	Propage design plans for and install commercial intersection branding	Phase 1: Design	
	Prepare design plans for and install commerical intersection branding elements along Upper Bay Road and Space Park Drive.	Phase 1: Construction	
D.1 (S) - Zoning and Planning Task 1	Create new zoning category for "Mixed-Use" and provision for	Phase 1: Action	
192K T	public access easements along waterfront property.	Phase 1. Action	
OTHER REQUECTS. SHORT TERM			
DTHER PROJECTS - SHORT TERM  T.5 (S) - NASA Parkway Improvements			
Task 1	Initiate discussion with TxDOT on redesign for NASA Parkway:	Phase 1: Action	
D.2 (S) - Restaurant at Waterfront	NASA Rd. Bypass to eastern city limits.		
Task 1	Initiate discussion with potential (well-known) restaurant investor /	Phase 1: Action	
	operations for Nassau Bay location along south eastern waterfront on vacant property south of Space Park Dr.		
PRIORITY PROJECTS - LONG TERM	The state of the s		
T.1 (L) - Space Park Drive (West) Improvements	No. 19 Park British and Park British Inc. 19 Park B	Dhara Ar Danian	
Fask 1	Nassau Bay Dr. to Point Lookout Dr.: prepare design plans and stripe / construct 3-lane street with two sharrows and continuous left-turn lane	Phase 1: Design Phase 2: Construction	
	and 6-foot sidewalks.		
Task 2	Nassau Bay Dr. to Point Lookout Dr.: prepare design plans and install specialty paving at crosswalks, street furnishings, lighting, planting and	Phase 1: Design Phase 2: Construction	
	irrigation associated with street improvements.	T Hose ET construction	
T.3 (L) - Upper Bay Road Improvements  Fask 1	Space Park Dr. (north) to Space Park Dr. (south): reconstruct as 2-lane	Phase 2: Construction	
92V T	divided roadway with bike lanes, parallel parking, sidewalks and	Filase 2. Construction	
5.1.0	large roundabout at Space Park Dr. (south) as designed in T.3 (S), Task 1.	Discourse 2 Construction	
Task 2	Space Park Dr. (north) to Space Park Dr. (south): construct associated planting in median, irrigation, street trees, specialty paving at cross walks,	Phase 2: Construction	
	roundabout civic space, lighting, and street furnishings.		
Fask 3	NASA Parkway to Space Park Dr. (north): Reconstruct as 4-lane divided roadway.	Phase 2: Construction	
T.6 (L) - Space Park Drive (East) Improvements		las	
ask 1	Upper Bay Rd. to Surf Court: prepare design plans and construct 6-foot sidewalk.	Phase 1: Design Phase 2: Construction	
Task 2	Upper Bay Rd to Surf Court: prepare design plans and construct specialty	Phase 1: Design	
	paving at crosswalks, street furnishings, and lighting, planting and irrigation	Phase 2: Construction	
T.7 (L) - Point Lookout Drive Improvements	associated with street improvements.		
ask 1	NASA Parkway to Saxony Ln.: Prepare design plans and reconstruct as a	Phase 3: Design	
	2-lane divided roadway with improved cross-section, e.g., bike lanes, sidewalks, and roundabout at Saxony Lane.	Phase 4: Construction	
ask 2	NASA Parkway to Saxony Ln.: Prepare design plans and construct	Phase 3: Design	
	associated planting in median, irrigation, street trees, specialty paving at	Phase 4: Construction	
T.8 (L) - Nassau Bay Drive Improvements	cross walks, roundabout planting, lighting, and street furnishings.		
ask 1	NASA Parkway to Saxony Ln.: Prepare design plans and reconstruct as a	Phase 3: Design	
	2-lane divided roadway with improved cross-section, e.g., bike lanes, sidewalks, and roundabout at Space Park Drive.	Phase 4: Construction	
	processing, and roundabout at Space raik brive.		
Task 2	NASA Parkway to Saxony Ln.: Prepare design plans and construct	Phase 3: Design	

(L) = Projects 5+ ye	ars <b>(S)</b> = P	rojects 1- 5 years		
Estimated Cost	Estimated Annual Operating Cost	Implementing Agency	Approvals Required	Funding Sources and Partners
\$1,700	\$200	Management District	City of Nassau Bay	Management District
N/A	\$700	Private Sector	City of Nassau Bay	Property owner; TIRZ
Design: \$1,200 Construction: \$6,000	\$100	City of Nassau Bay , Management District	City of Nassau Bay	Management District; property owner; TIRZ
Design: \$7,600 Construction: \$51,000	\$3,000	City of Nassau Bay, Management District	City of Nassau Bay	Management District; TIRZ
N/A	N/A	Private Sector	City of Nassau Bay	Property owner; TIRZ
Design: \$7,600	\$900	City of Nassau Bay,	City of Nassau Bay	Management District; City of Nassau Bay
Construction: \$38,000		Management District		
\$262,000	N/A	City of Nassau Bay, Management District	City of Nassau Bay	TIRZ; EDC; City of Nassau Bay
\$92,000	N/A	City of Nassau Bay, Management District	City of Nassau Bay	TIRZ; EDC; City of Nassau Bay
	11/2	(i) (i)	Charles and Alexander	NA
N/A	N/A	City of Nassau Bay / Management District	City of Nassau Bay, TxDOT, HCFCD, other inter-agency coordination	Management District; City of Nassau Bay; National Park Service; City of Webster
\$320,000	\$4,600	Management District	City Of Nassau Bay, TxDOT, HCFCD, other inter-agency coordination	Management District; City of Nassau Bay; H-GAC TIP
Design: \$35,000 Construction: \$350,000	5800/ea	City of Nassau Bay, Management District, EDC	City of Nassau Bay, TxDOT	Management District; EDC; Tourism Fund
Design: \$5,500 Construction: \$35,000/ea	200/ea	City of Nassau Bay, Management District, EDC	City of Nassau Bay, Private Sector	Management District; EDC; Tourism Fund
N/A	N/A	City of Nassau Bay, Management District Planning and Zoning Comm.	City of Nassau Bay Planning and Zoning Comm.	Management District; City of Nassau Bay
N/A	N/A	City of Nassau Bay	City of Nassau Bay, TxDOT	City of Nassau Bay; Management District
N/A	N/A	City of Nassau Bay; Management District	City of Nassau Bay, Management District, Private Sector	City of Nassau Bay; Management District; EDC
Design: \$31,000 Construction: \$153,000	\$8,800	City of Nassau Bay, Management District	City of Nassau Bay	Management District; EDC; City of Nassau Bay; H-GAC TIP
Design: \$76,000 Construction: \$506,000	\$7,000	City of Nassau Bay, Management District	City of Nassau Bay	Management District; EDC; TIRZ
\$904,000	\$5,300	City of Nassau Bay, Management District	City of Nassau Bay	Management District; EDC; TIRZ
\$609,000	\$4,000	City of Nassau Bay, Management District	City of Nassau Bay	TIRZ; EDC; City of Nassau Bay; Tourism Fund; H-GAC TIP
\$403,000	\$2,900	City of Nassau Bay	City of Nassau Bay	TIRZ; EDC; City of Nassau Bay; Tourism Fund; H-GAC TIP
Deisgn: \$22,000 Construction: \$111,000	\$800	City of Nassau Bay	City of Nassau Bay	TIRZ; EDC; City of Nassau Bay; H-GAC TIP
Design: \$95,000 Construction: \$633,000	\$5,600	City of Nassau Bay, Management District	City of Nassau Bay	Management District; EDC; TIRZ; H-GAC TIP
Design: \$226,000 Construction: \$1,128,000	\$8,000	City of Nassau Bay, Management District	City of Nassau Bay	Management District; EDC; TIRZ
Design: \$142,000 Construction: \$942,000	\$5,000	City of Nassau Bay, Management District	City of Nassau Bay	Management District; EDC; TIRZ; H-GAC TIP
Design: \$261,000 Construction: \$1,302,000	\$8,000	City of Nassau Bay, Management District	City of Nassau Bay	Management District; EDC; TIRZ; H-GAC TIP
Design: \$140,000 Construction: \$928,000	\$7,000	City of Nassau Bay, Management District	City of Nassau Bay	Management District; EDC; TIRZ; H-GAC TIP

Project Task Matrix Continued.

■ U.3 (L) - Branding Element (Gateway) Inst	allation at NASA Parkway and Upper Bay Road	
Task 1	Install gateway element at NASA Parkway /Upper Bay Rd.	Phase 2: Design
	Intersection.	Phase 3: Construction
■ U.4 (L) - Branding Element (Gateway) Inst	allation at NASA Parkway and Point Lookout Drive	
Task 1	Install gateway element at NASA Parkway / Space Park Dr.	Phase 2: Design
	Intersection.	Phase 3: Construction
U.5 (L) - Branding Element (Gateway) Inst	allation at NASA Parkway at Space Center Boulevard	
Task 1	Install gateway element at NASA Parkway / Space Center Blvd.	Phase 2: Design
	Intersection.	Phase 3: Construction
U.6 (L) - Branding Element (Waterfront Di	strict) Installation at Upper Bay Road and along Waterfront	
Task 1	Create design plans for and construct waterfront branding elements.	Phase 2: Design
■ U.7 (L) - Branding Element (Neighborhood	l) Installation at Neighborhood Entries	
Task 1	Create design plans for and install neighborhood marker signage at all	Phase 2: Design
	intersections abutting commercial roads.	Phase 3: Construction
U.8 (L) - Branding Element (Street Sign) In	stallation at Neighborhood Intersections	•
Task 1	Create design drawings and install new street signs at all street corners.	Phase 2: Design
		Phase 3: Construction
OTHER PROJECTS - LONG TERM		
T.5 (L) - NASA Parkway Improvements		
Task 1	NASA Rd. Bypass to Eastern City Limits: Prepare design plans for	Phase 2: Design
	reconstruction of NASA Parkway with improved cross-section, e.g., bike	
	lane buffers, bike lanes and shared use paths.	
Task 2	NASA Rd. Bypass to Easter City Limits: Reconstruct NASA Parkway as	Phase 3: Construction
	6-lane roadway with bike lane buffers, bike lanes and shared use paths.	
D.2 (L) - Waterfront Improvement - North		
Task 1	Prepare design plans for new public access easement along the northern	Phase 2: Design
	shore of Clear Lake from Upper Bay to restaurant lot, e.g., boardwalk, lawn	
	terracing, planting, piers, irrigation, lighting, site furnishings and Coastal	
	Resilience Strategies.	
Task 2	Construct amenities for new public access easement along the norhtern	Phase 3: Construction
	shore of Clear Lake from Upper Bay to restaurant lot to include, boardwalk,	

Design: \$35,000	\$1000/ea	City of Nassau Bay,	City of Nassau Bay, TxDOT	Management District; EDC; TIRZ; H-GAC TIP
Construction: \$350,000/ea		Management District		
Design: \$35,000	\$1000/ea	City of Nassau Bay,	City of Nassau Bay, TxDOT	Management District; EDC; Tourism Fund
Construction: \$350,000/ea		Management District		
Di 63F 000	\$1000/ea		City of Nassau Bay, other inter-agency	
Design: \$35,000	\$1000/ea		coordination	Management District; EDC; Tourism Fund
Construction: \$350,000/ea		City of Nassau Bay, Management District		
			•	
Design: \$3,000	\$400/ea		City of Nassau Bay, other inter-agency	Management District; EDC; Tourism Fund
Unit: \$15,000		City of Nassau Bay, Management District	coordination	
			-	
Design: \$3,000	\$400/ea	City of Nassau Bay,	City of Nassau Bay,	Management District; EDC; Tourism Fund
Unit: \$15,000	,,	Individual HOAs	Individual HOAs	,,
, ,				
Design: \$1,000	\$400/ea	City of Nassau Bay,	City of Nassau Bay	Management District; individual HOAs
Construction: \$3,300	,,	Individual HOAs	Individual HOAs	
Costs dependent on scope of	N/A	City of Nassau Bay	TxDOT	City of Nassau Bay; EDC; TIRZ; Management
work at time of project.	1.7.	Management District		District
Costs dependent on scope of	N/A	City of Nassau Bay/TxDOT	TxDOT	TxDOT; City of Nassau Bay; TIRZ; H-GAC TIP
work at time of project.	1.7.			,,,
\$828,000	N/A	City of Nassau Bay	City of Nassau Bay, Management	TIRZ; Management District; EDC
,	1.7	Management District	District, Private Sector, Other Inter-	,
		The state of the s	Agency Coordination	
			The continue of	
\$5,516,000	\$33,000	City of Nassau Bay	City of Nassau Bay, Management	TIRZ: Management District: EDC: Tourism Fund
93,320,000	755,000	Management District	District, Private Sector, Other Inter-	The, management alattic, Ede, Tourish Tunu
		Interregement District	pistrict, i mate sector, other litter	

