

# Bay Area Houston Overview

June, 2007



Prepared by

**Dr. Bob Hodgin**

Director

Center for Economic Education  
University of Houston-Clear Lake

For the

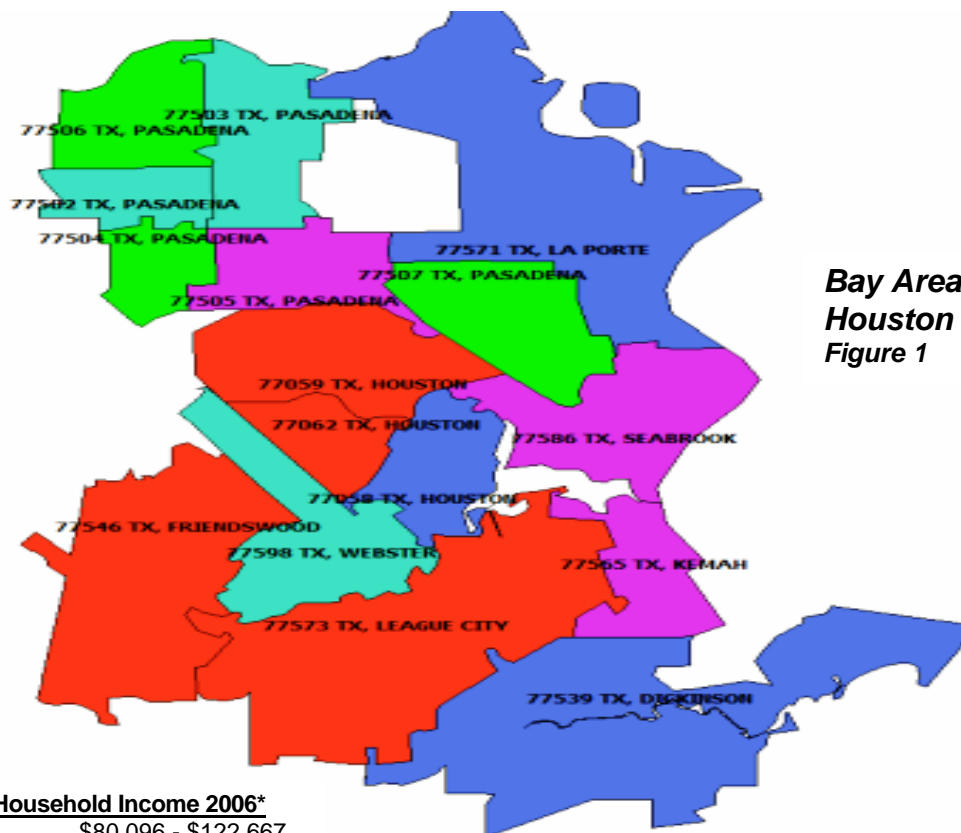
**Bay Area Houston Economic Partnership**

[www.bayareahouston.com](http://www.bayareahouston.com)

## THE 2007 BAY AREA HOUSTON ECONOMY WITH PROJECTIONS TO 2020†

### Orientation

Bay Area Houston, fifteen miles southeast of downtown Houston, hosts a pair of one-billion dollar industries – aerospace and specialty chemicals, plus emerging bio-pharmaceutical, high-technology clusters and a new state-of-the-art inter-modal container terminal as components of its diversified industry base. Steady business growth and above average incomes support upscale retail and commercial sectors, a cruise ship port-of-call, and Galveston Bay pleasure boating. Bay Area Houston exudes that special blend of business dynamism, social demographics and quality of life so highly sought by talented and discerning professionals. In the forefront of Houston's economy, Bay Area Houston overlays southern Harris and northern Galveston Counties to span all or parts of the following cities: Clear Lake Shores, Dickinson, El Lago, Friendswood, Houston, Kemah, La Porte, League City, Nassau Bay, Pasadena, Seabrook, Taylor Lake Village and Webster. See Figure 1.



<u>Median Household Income 2006*</u>	
Red	\$80,096 - \$122,667
Magenta	\$69,978 - \$ 80,096
Blue	\$47,496 - \$ 69,241
Turquoise	\$44,899 - \$ 47,496
Green	\$23,400 - \$ 44,899

\*Estimated UH-Clear Lake

## Modern History

Bay Area Houston's modern era began in 1962 when NASA's Johnson Space Center (JSC) spawned a 30-year economic development wave led by the nation's quest to place the first man on the moon. By the mid-1990s, a mature community positioned itself to meet third millennium challenges. Affluence, in-migration, mixed age and ability workforce characteristics coupled with a shift from domestic to international markets motivated farsighted business and civic leaders to seek new development strategies.

This report summarizes the forces that define and shape Bay Area Houston's economic and demographic character, offers projections on key indicators and highlights recent initiatives in bio-pharmaceuticals, seaborne container transportation, cruise line activity, aerospace and education set in a rich, dynamic mosaic of contemporary life.

---

## DEMOGRAPHICS, EMPLOYMENT AND EDUCATION

---

### Population Characteristics

Bay Area Houston's distinctive character, diverse industry and suburban lifestyle are a shining component of Houston, the nation's fourth largest city. The area's estimated 422,000 citizens in 2005 and its high technology roots are culturally and economically entwined with Houston, Texas, and the world.

Since 1970 Bay Area Houston's median household income, a core measure of economic vitality, exceeded regional and state levels. See Table 1.

Income levels mirror educational attainment and Bay Area Houston residents reflect an educationally accomplished profile. Using labor force count as a base, 75 percent possess a high school diploma to advanced college degree. More than 33 percent of the area's workforce hold earned college degrees from bachelor's to professional and doctoral levels.

Economic vibrancy means growth and sustained renewal. Bay Area Houston's annual population growth of 2.1 percent between 2000 and 2005 was nearly twice Houston's 1.2 percent, according to data from the Texas State Data Center at the University of Texas-San Antonio. Table 2 data projects the area's growth to 2020. Three

<b>TABLE 2 Bay Area Houston Population and Projections</b>			
<b>2000</b>	<b>2005*</b>	<b>2010*</b>	<b>2020*</b>
382,469	422,000	463,000	543,000

Source: US Census 2000. \*Estimated UH-Clear Lake

<b>TABLE 1 Bay Area Houston Median Household Income and Projections</b>				
	<b>2000</b>	<b>2005*</b>	<b>2010*</b>	<b>2020*</b>
<b>Bay Area Houston</b>	<b>\$54,493</b>	<b>\$62,061</b>	<b>\$69,630</b>	<b>\$84,767</b>
Houston PMSA**	\$44,665	\$50,868	\$57,072	\$69,560
State of Texas	\$39,927	\$45,472	\$51,017	\$62,108

Source: US Census 2000. \*Estimated UH-Clear Lake

\*\*Chambers, Ft. Bend, Harris, Liberty, Montgomery and Waller Counties

cities, League City, Seabrook and Dickinson lead the population expansion with double digit annual population growth rates. New housing

starts, modern commercial and upscale retail development responded to accommodate the expansion. City-based building permit data show positive and sustained development in the area's 12 member cities.

Thriving, well-integrated regions foster a variety of work, home and play alternatives and attract outside interest. An estimated 33 percent of Bay Area Houston's labor force works outside its geography and another 33 percent make a daily commute into the area from elsewhere in the Houston region. Yet, travel time to work data show that 75 percent of those who drive to work arrive daily in fewer than 30 minutes.

**TABLE 3 Bay Area Houston Ethnicity Profile 2005\***

Category	%
Caucasian alone	77.6
African American alone	5.1
Native American alone	0.3
Asian and Pacific	4.8
Other and 2+ Races	12.2
<b>Population: 422,000 = 100.0</b>	
Hispanic**	31.8
Non-Hispanic	68.2

\*Estimated UH-Clear Lake

\*\*Hispanic can be of any race

residents. Those in Generations X and Y, ages 20 to 44, account for 36 percent of the population. While Baby Boomers aged 45 to 64, add an additional 24 percent. Residents in each defined age bracket manifest distinctly different lifestyle desires that the market place strives to accommodate. See Table 4.

### Industry Employment Profile

Bay Area Houston's 2005 estimated total employment equals 205,000. Aerospace industry jobs represent 8 percent of total employment. Petrochemical and specialty chemical employment, with contractor personnel, makeup an additional 4 percent. High technology niche employment represents an additional 5 percent of area labor. Technology clusters like bio-pharmaceuticals, biomedicine, software services, electronics and communication equipment sectors show solid, if cyclical, growth and prospective sustainability. The fourth, and somewhat seasonal industry, comprised of recreation and tourism, directly employs an estimated 5 percent of the workforce. Employment in these four base industries support a much larger number of retail, wholesale and service sector jobs in Bay Area Houston.

Diversity – ethnic, cultural and sociological –generates richness of community. The 15-country international space station program, Bayport Industrial District and Port of Houston Authority's container terminal attract a significant multinational workforce. The area's ethnic profile in Table 3 shows estimated 2005 Caucasian, Hispanic, African American, Asian and Native American proportions for the Bay Area Houston population.

Bay Area Houston's population remains relatively young with "baby boom" Echoers, ages 5 to 19, comprising nearly 23 percent of

**TABLE 4 Bay Area Houston Age Profile 2005\***

Age Range	%	Description
0 to 4	8.5	
5 to 19	22.9	<i>Baby Boom Echo</i>
20 to 44	36.4	<i>Generations X &amp; Y</i>
45 to 64	24.2	<i>Baby Boomers</i>
65 to 85+	8.0	
<b>Population: 100.0 = 422,000</b>		

\*Estimated UH-Clear Lake

**Education**

High caliber schools deliver quality curriculum to the area’s 105,000 public school children. Enrollment growth in the five independent school districts mirrors the region’s expansion. Bay Area Houston high school seniors score well on SAT (2005 Texas average was 992) and ACT (2005 average 20.0). The independent school districts, the University of Houston-Clear Lake and area community colleges serve as business attractors and higher education resources for company employees.

**TABLE 5 Bay Area Houston  
School District Achievement Profile 2005**

District	Enrollment	SAT Mean	ACT Mean
Pasadena ISD	49,047	962	19
Clear Creek ISD	35,143	1,081	22.9
La Porte ISD	7,801	988	19.7
Dickinson ISD	7,301	935	18.4
Friendswood ISD	5,687	1,122	24
<b>Bay Area Houston Region</b>	<b>104,979</b>	<b>1,018</b>	<b>20.8</b>

*Source: Texas Education Agency*

A series of recent collaborative grant awards totaling more than \$12.5 million aim to help meet future Bay Area Houston industry workforce needs. The University of Houston-Clear Lake, University of Houston-Central Campus, San Jacinto College District, College of the Mainland, Clear Creek ISD and JSC, among other partners, will coordinate job training, minority outreach, curriculum development and academic research programs. The initiatives are designed to fill specific education and training needs in aerospace, marine cargo handling, non-destructive chemical testing, teacher development, business development and entrepreneurship.

**MAJOR INDUSTRY DRIVERS**

**Overview**

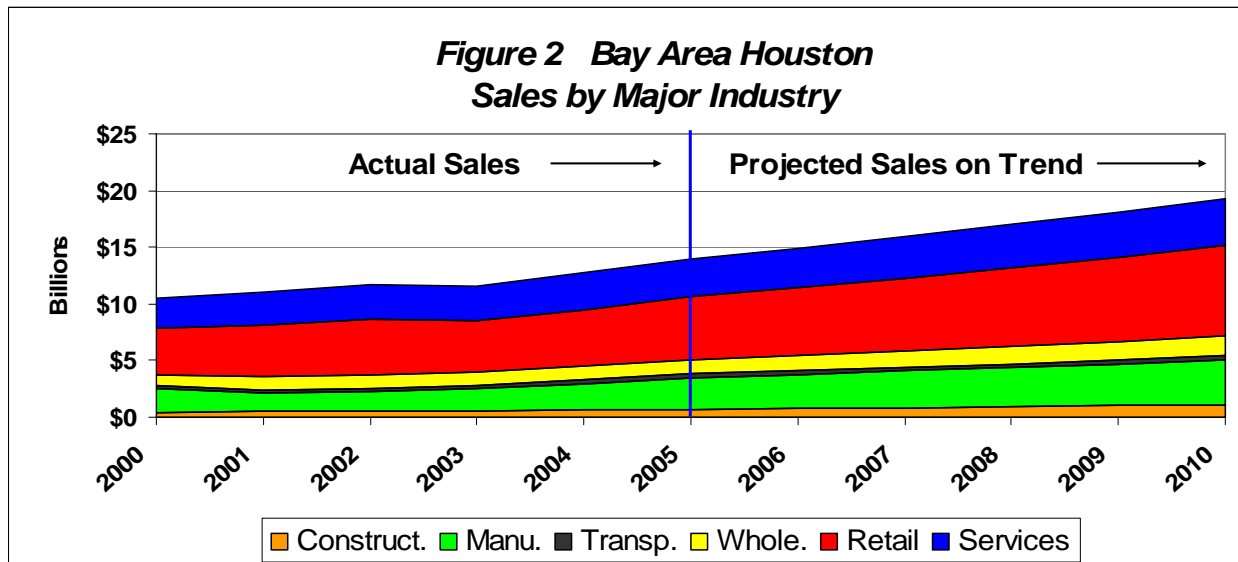
The Bay Area Houston economy is home to more than 8,000 business establishments. The area’s anchor industries are aerospace and specialty chemicals, each with an annual economic impact of \$1 billion. The third industry combines a diverse set of high technology clusters including: bio-pharmaceutical, bio-technology, integrated computer systems, software development and technical services. The fourth industry recreation and tourism, combines cruise lines and boating, which draws much of its patronage from the outside the area.

**TABLE 6 Bay Area Houston  
Major Industry Trends 1996-2005**

Industry	Gross Sales Trends
Construction	Modest Up Trend
Manufacturing	Strong Up Trend
Transportation	Modest Down Trend
Wholesale	Constant Trend
Retail	Strong Up Trend
Services	Strong Up Trend

*Source: Texas Comptroller. There are over 8,000 reporting establishments across the six industries.*

Information in Table 6 summarizes the 10-year gross sales trends for the six largest area industries. Generally rising trends between 1996 and 2005 combine to support a healthy 7.3 percent annual growth rate for the period. In Figure 2, four out of the six major industries show rising sales trends projected forward five years. The relatively balanced and steady economic activity reflects Bay Area Houston's well diversified economy.



### Aerospace

Space, technology and history meet at the Lyndon B. Johnson Space Center (JSC), the home of U.S. human space flight. Drawn to the natural business advantages flowing from NASA's JSC that annually will administer \$5 billion in Constellation program contracts, prime and sub-contractors perform leading-edge science and engineering. America's leadership in space was buoyed recently when Congress approved funds for NASA's Constellation program supporting robotic, human-to-moon and Mars exploration. JSC will host the Crew Exploration Vehicle (CEV) project and Mission Operations project. Lockheed Martin Corporation is the prime contractor for the CEV with a significant presence already established in Bay Area Houston. Current milestones include sustaining the International Space Station (ISS) through 2014 and returning humans to the moon by 2021.

	2005	2006	2007	2010	2014	2021
<b>NASA Budget</b>	\$16.2	\$16.3	\$16.8			
<b>JSC Budget</b>	\$ 4.4	\$ 4.9	\$ 4.4	<i>Shuttle Retired</i>	<i>Launch CEV</i>	<i>Moon Landing</i>
<b>Area Spending</b>	\$ 2.5	\$ 2.6	\$ 2.5*			

Source: NASA/Johnson Space Center, \$ in billions. \*Estimated UH-Clear Lake

NASA and JSC budgets with benchmark event projections appear in Table 7. JSC annually spends more than \$2 billion in the area, \$3.1 billion in the State of Texas, for supplies,

staff support, and capital equipment. NASA JSC employs approximately 3,500 federal employees; in addition, NASA JSC employs more than 14,000 contractors. Over the next

five years, local aerospace employment and spending in Bay Area Houston should remain stable as JSC shifts from Space Shuttle maintenance to Constellation program initiatives.

Ellington Field provides public/private fixed based operation services to the U.S. military, NASA and general aviation. The U.S. Coast Guard’s HH-65A Dolphin conducts life-saving missions along the Texas-Louisiana coast and the Texas Air National Guard maintains its 147<sup>th</sup> fighter wing there. Ellington Field supports a large U.S. Army, Navy and Marine Reserve Command and hosts Texas’ largest flying club with its annual “Wings Over Houston” air show. Texas Senator Kay Bailey Hutchison secured more than \$1 billion for Department of Defense construction projects, with \$21 million in 2007 currently underway to support Homeland Security, the Armed Forces Reserve Center/Battle Projection Center and Predator Operations Complex at Ellington Field.

### **Specialty Chemicals**

Bay Area Houston’s specialty chemical base resides in the Bayport Industrial District. Among the nation’s largest privately developed industrial facilities, Bayport is home to more than 60 operating specialty chemical plants employing an estimated 7,000 direct workers. Chemical plant technology innovation and growth in the Bayport Industrial District has been strong for more than the past decade in response to world petroleum and chemical market competition. For example, research and development initiatives by Evalca, Kaneka Nutrients, Sanyo and Nisseki total \$265 million and an estimated 100 jobs committed their research and development programs.

Bayport Industrial District establishments make products at a rate and volume sensitive to world petroleum prices and market demand. Prevailing industry thinking is that feedstock prices will continue increasing due to tighter world oil supplies. Economic drivers for end product or intermediate product demand currently reflect the “Goldilocks economy” – neither too hot nor too cold. Forecasters generally agree that demand for final product over the next one to three years should firm up as the economic pace quickens, but that market prices may not abate. In the Bayport Industrial District, companies like Lyondell-Equistar, American Acryl, Basell, Celanese Chemical, Dixie Chemical, Sunoco, and Total Petrochemicals USA rank among the largest employers.

Located on the area’s eastern seaboard, the Port of Houston Authority just completed its first phase of the 1,043 acre Bayport Container and Cruise Terminal, a major inter-modal-ship, rail and truck-container transfer facility.

<b>TABLE 8 Bay Area Houston Bayport Container and Cruise Terminal Annual Economic Impact Projections</b>		
<b>Category</b>	<b>2008-2013</b>	<b>2025-2030</b>
Business volume	\$1.1 billion	\$2.4 billion
Personal income	\$400 million	\$1.4 billion
Jobs	9,800	32,000
State and local taxes	\$35.6 million	\$128 million

*Source: Port of Houston Authority*

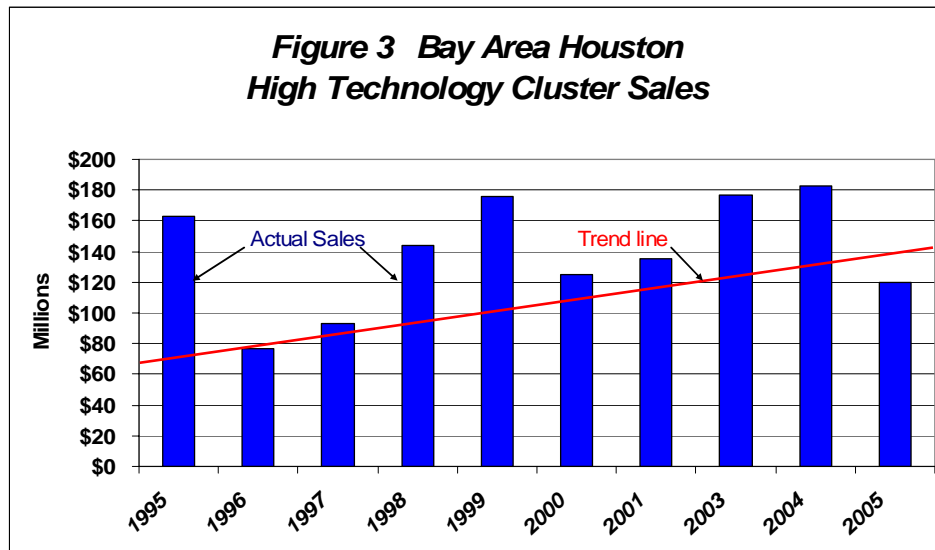
Currently relieving about 250,000 units of container traffic from nearby Barbours Cut, full terminal construction will be completed over the next two decades. Bayport terminal expansions will closely match trade volume coming through the Gulf of Mexico, aided by the proposed widening of the Panama Canal and increasing world trade with the U.S. On completion the Bayport terminal will simultaneously berth and service up to 7 ships along

its 7,000-foot dredged wharf and carry an annual 1.4 million container lifting capacity. See Table 8. In their master plan, the port authority established 1,101 acres of conservation easements including the Katy Prairie and Banana Bend sites.

### **High Technology Clusters**

Bay Area Houston's highly skilled work force lives and works in a growing research corridor stretching from Houston to Galveston. Hundreds of technology, biomedical, computer software engineering, specialty chemical and aerospace companies conduct business. Bay Area Houston identifies 30 companies engaged in advanced biopharmaceutical technology applications and more than 200 high technology companies across several sub-sectors. The path from lab to market is seldom smooth as Figure 3 suggests, and counter to recent national trends the Bay Area Houston high technology sales trend is steadily upward.

Bay Area Houston's strategic location, between the Texas Medical Center and the University of Texas Medical Branch-Galveston (UTMB), close to the University of Houston-Clear Lake naturally attracts start-up enterprises as research companies leverage marketable ideas. The pro-business environment and quality of life attract a number of high technology companies with names like Wyle Labs, Cyberonics, Neptec International, Oceaneering, Space and Thermal Systems, ELS, Celdyne Corp, Neurogenesis and Cardonics, each drawing from the area's talented labor pool.



JSC and UTMB-Galveston are significant patent generators that, combined with federal funds, hold promise for spawning marketable intellectual assets. The Bay Area Houston Technology Education Center (BAHTEC) is the newest public-private research and development center to be located on the University of Houston-Clear Lake campus. The center combines the best of academic rigor, laboratory research and proof-of-concept incubation.

Now in its fourth year, the UTMB-Galveston National Laboratory conducts leading-edge research in path-breaking bio-containment science designed to accelerate production of new therapies, vaccines and diagnostic tools for bio-defense and emerging infectious diseases. Anticipated direct scientist positions and support services will have a total impact on the region of 700 jobs annually as this advanced scientific agenda matures over the next decade.

<b>Cluster</b>	<b>Sales</b>	<b>Firms</b>
Bio-pharmaceuticals*	\$70,000,000	30
Computer processing & preparation	\$33,828,049	25
Measurement instruments	\$30,585,744	7
Computer integrated systems design	\$29,685,009	17
Measuring and controlling devices	\$11,288,551	4
Computer programming services	\$11,113,126	42
Electronic computers	\$1,996,985	5
Information retrieval services	\$1,314,408	7

*Source: Texas Comptroller. \*Estimated UH-Clear Lake.*

Profiled in Table 9, technology clusters like bio-pharmaceutical, electronic computers,

measurement and controlling devices, computer programming, systems design, data preparation and information retrieval services permeate the area. Bay Area Houston aggressively supports technology company creation through Medical Center grants and contracts, equity-funded corporations, independent venture start-ups and related laboratory-to-market support.

An already proven business development accelerator is the multi-agency funded Space Alliance Technology Outreach Program (SATOP). Offering no-cost small business access to statewide and industry-specific technical advice and business solutions, this local talent-rich trouble-shooting program serves as a key business expansion and attraction initiative in Bay Area Houston.

### **Recreation and Tourism**

Well-educated, high-energy professionals seek recreational outlets as gratifying as their work. A rich array of recreational options like sailing, power boating, ecotourism, upscale shopping, fine seafood restaurants, fishing, camping, arts, theatre and sporting events is just minutes from home. As residents engage in after-hours activities they find themselves mingling with visitors from Houston, Texas, the U.S. and many foreign nations.

Each year three million counted tourists from all 50 U.S. states and many foreign countries visit Bay Area Houston. Many visitors are lured to Space Center Houston – where they experience interactive exhibits from America's finest moments in space and the eco-sensitive Armand Bayou – a 2,500 acre nature preserve containing 370 wildlife species native to the Texas coastal plain.

Bay Area Houston also is an important boating and recreational destination on Texas' Gulf Coast. Clear Lake is a natural inlet body of water, affording safe harbor for pleasure craft. Twenty-four marinas offer more boat slips, 8,000, than any other recreational marine area on the Texas Gulf coast.

Endeavour Clear Lake, a 30 story high-rise condominium, is now under construction; the first of three planned waterfront developments. Located on the northern shore of Clear Lake in Pasadena, the cities of Seabrook and Kemah lay a short drive to the east. There, upscale waterfront boutiques, complete with fountains, walkways and a Ferris wheel, offer casual shopping and dining. Local seafood is fresh daily since Kemah and Seabrook serve as one of four active commercial landing ports along the Texas coast. Though boating and visitor patronage are subject to seasonal swings, they continue to grow as a key recreational sector in Bay Area Houston.

As part of Bayport’s container terminal master plan, the Port of Houston Authority’s new cruise terminal will provide a major recreational option for residents and visitors. Construction is on schedule for the Port of Houston Authority to greet their first cruise ship at the new terminal in April 2008. Table 10 reveals projected cruise capacity.

<b>TABLE 10 Bay Area Houston Port of Houston Cruise Terminal Projections</b>				
<b>Category</b>	<b>2008</b>	<b>2009-2014</b>	<b>2015-2020</b>	<b>2021</b>
Cruise Passengers	286,000	550,000	875,000	1,700,000
Parking spaces	800	1,200*	1,500*	2,000
Terminals	1	1	2	3

Source: Port of Houston Authority. \*Imputed, UH-Clear Lake

---

## **IN BRIEF**

---

- **Bay Area Houston’s Population Characteristics**

Bay Area Houston’s upscale suburban landscape now includes twelve member cities, with the City of Dickinson’s recent addition. Between 2000 and 2005 the area’s population grew at an annual average 2.1 percent from 382,469 to an estimated 422,000. The area is an affluent and still expanding part of the region, with median household incomes well above Houston and Texas. The area’s 205,000 strong work force reflects high educational attainment with a 33 percent holding an earned bachelor’s degree or higher. The population shows increasing international, ethnic and cultural diversity, with distinct age profiles. As a percent of estimated resident population in 2005, Baby Boom Echoers 5-19 years old represent, 23 percent, Generations X and Y residents aged 20-44 years comprise 36 percent, and Baby Boomers, 45-64 years old, add an additional 24 percent to the Bay Area Houston population.

- **Bay Area Houston’s Four Industry Engines**

A broadly diversified high technology industry base is anchored by a pair of billion dollar industries: aerospace and specialty chemicals. Aerospace

employs about 8 percent, specialty chemicals employs 4 percent and other high technology clusters about 5 percent of the estimated 205,000 person workforce in 2005. Recreation and tourism comprise an additional 5 percent of the labor force. Aerospace-related civil service and contractor work force is expected to remain level as JSC assumes NASA's Constellation program responsibility for the CEV and Mission Operations. Specialty chemical employment should remain unchanged even as production levels respond to a softer than usual economy and rising feedstock prices. The Port of Houston Authority's new Bayport inter-modal container terminal's operating volume will add significantly to transportation-related job demand over the next two decades. Expanding high-technology clusters and sub-industries in bio-pharmaceuticals and bio-technology should continue its cyclical growth pattern. Recreation and tourism will get a boost from Port of Houston Authority cruise terminal patrons and support enterprises. Expansion of the Bayport facility and cruise line terminals depends on world product demand, widening of the Panama Canal and long term economic growth.

- ***Bay Area Houston's High Technology Presence***

Technology sub-industries like bio-pharmaceuticals, bio-technology, computing hardware and software, information storage and retrieval, measurement and controlling devices command a significant and growing area presence. Combined technology cluster sales are cyclical but steadily upward trending. Savvy entrepreneurs seek to capitalize on the intellectual production from research conducted at the UTMB-Galveston National Laboratory and the JSC. The area's newest public-private research center, BAHTEC, housed on the University of Houston-Clear Lake campus, will bolster specialized job training and laboratory-to-market research. BAHTEC and its partners will use \$12.5 million in public grant awards to support minority student recruiting, curriculum development and research to meet aerospace, specialty chemical and inter-modal transportation labor force requirements. Collaborating organizations include: University of Houston-Clear Lake, San Jacinto College, College of the Mainland, Clear Creek ISD, JSC and University of Houston-Central Campus. The already successful business development and attraction program, SATOP, extends its track record working with small and start-up enterprises to launch and secure product markets generated by emerging technologies.

- ***Bay Area Houston's Work-Live-Play Lifestyle***

A steady three million tourists annually visit Space Center Houston, Armand Bayou and other area recreation venues. Beginning April 2008, the Port of Houston Authority's new cruise terminal projections are to board an estimated 286,000 passengers at their new port-of-call. Accommodated by a second terminal, cruise passenger volume is expected to hit 550,000 between 2009 and 2014. As many as 1.7 million cruise passengers may embark annually when the third terminal is completed by 2021. Area recreational options range from power

and sail boating, fishing, eco-tourism to upscale shopping, fine dining and regional sports. Bay Area Houston's first of three planned high-rise waterfront condominiums, Endeavour, is under construction on the northern shore of Clear Lake in.

Bay Area Houston's diversified industry base – aerospace, specialty chemicals, high technology clusters and tourism – supports above average household incomes, high educational attainment and a skilled work force. In concert with attractive leisure options, the area reflects both the ability to conduct world-class work and the quality of life features to sustain an upscale suburban home-work-recreate environment. Industry growth is supported by strong educational preparation, public infrastructure and active social and political organizations. Bay Area Houston's demographics, industry base and after-hours options create an ideal blend of business opportunity, personal lifestyle choice and sense of community that fosters career, family and fun on Texas' gulf coast.

---