HOUSTON COMMUNITY COLLEGE

2011 – 2035 FACILITIES MASTER PLAN

ACKNOWLEDGMENTS

We would like to thank the following for their assistance in providing invaluable insight and information towards the preparation of this document.

FOREWORD

In order to avoid confusion between capital "C" college and lower case "c" college, we have adopted the following convention for this document:

"System" will refer to the total Houston Community College.

"College" will refer to any or all of the six colleges which are encompassed in the Houston Community College (HCC) System.

"Campus" will refer to the 18 individual locations comprising the six colleges of the overall HCC System.

For general information, an organization chart of the Houston Community College System is provided on the following page.

Houston Community College System
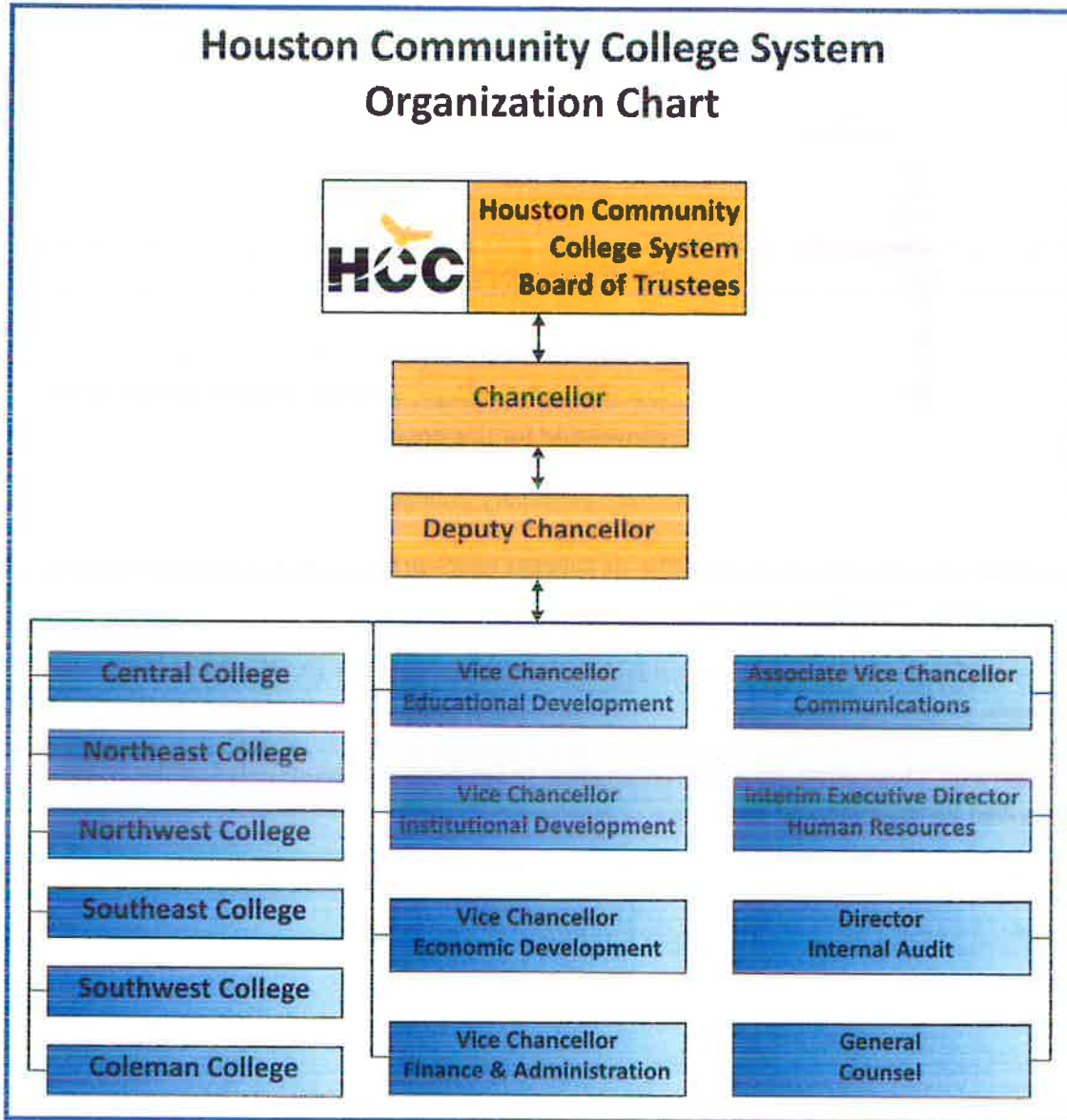## Organization Chart

Houston Community College System Board of Trustees

Chancellor

Deputy Chancellor

Colleges	Vice Chancellors	Other
Central College	Vice Chancellor Educational Development	Associate Vice Chancellor Communications
Northeast College	Vice Chancellor Institutional Development	Interim Executive Director Human Resources
Northwest College		
Southeast College	Vice Chancellor Economic Development	Director Internal Audit
Southwest College		
Coleman College	Vice Chancellor Finance & Administration	General Counsel

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1 INTRODUCTION

The purpose of this Facilities Master Plan (FMP) is to aid in the creation of a clear vision for all future development of the physical environment of Houston Community College (HCC) System (System) in support of its academic missions and goals. The physical planning process is ideally coordinated with the System's overall strategic plan, and is intended to achieve consensus regarding allocation of capital resources to achieve greater efficiency. As a physical representation of the System's mission and strategic plan, the FMP serves both the present and the future, requiring that the process remain flexible and responsive to changing needs.

The HCC 2009-2010 FactBook outlines the history of the System. In 1971, as a result of a public referendum, HCC was created under the governance of Houston Independent School District (HISD). That fall, 5,700 students enrolled in workforce education programs. Six years later, HCC had a fall enrollment of more than 28,000 students and was accredited by the Southern Association of Colleges and Schools (SACS).

In 1989, HCC separated from HISD and established its own Board of Trustees and taxing authority, and in 1992 it was restructured into a multi-college System. By spring 2010, the System enrolled more than 70,000 students.

In 2011, the System celebrates 40 years of service to the Houston community. To ensure its continued success, the System has undertaken this Facilities Master Plan to address its planning needs for the next 25 years, through 2035.

The System commissioned a Facilities Condition Assessment which was completed in 2009. This assessment identified the condition, current value and deferred maintenance value of the System's existing physical infrastructure and buildings. The assessment found that the System currently serves a 622 square mile service area and a population of approximately 4 million throughout the greater Houston area.

There are 53 buildings located at 21 campuses or centers (see Map 1 and Table 1 on the following page) that make up the System's physical assets, which are worth an estimated $720 million. The System is geographically divided into five college service areas. Additionally, Coleman College serves the entire system with sciences education. The FMP will address maintenance of existing facilities as well as the planning and development of additional facilities. Creating a clear vision for future development will help to maintain these valuable assets more efficiently, and to proactively evolve the college of the future.
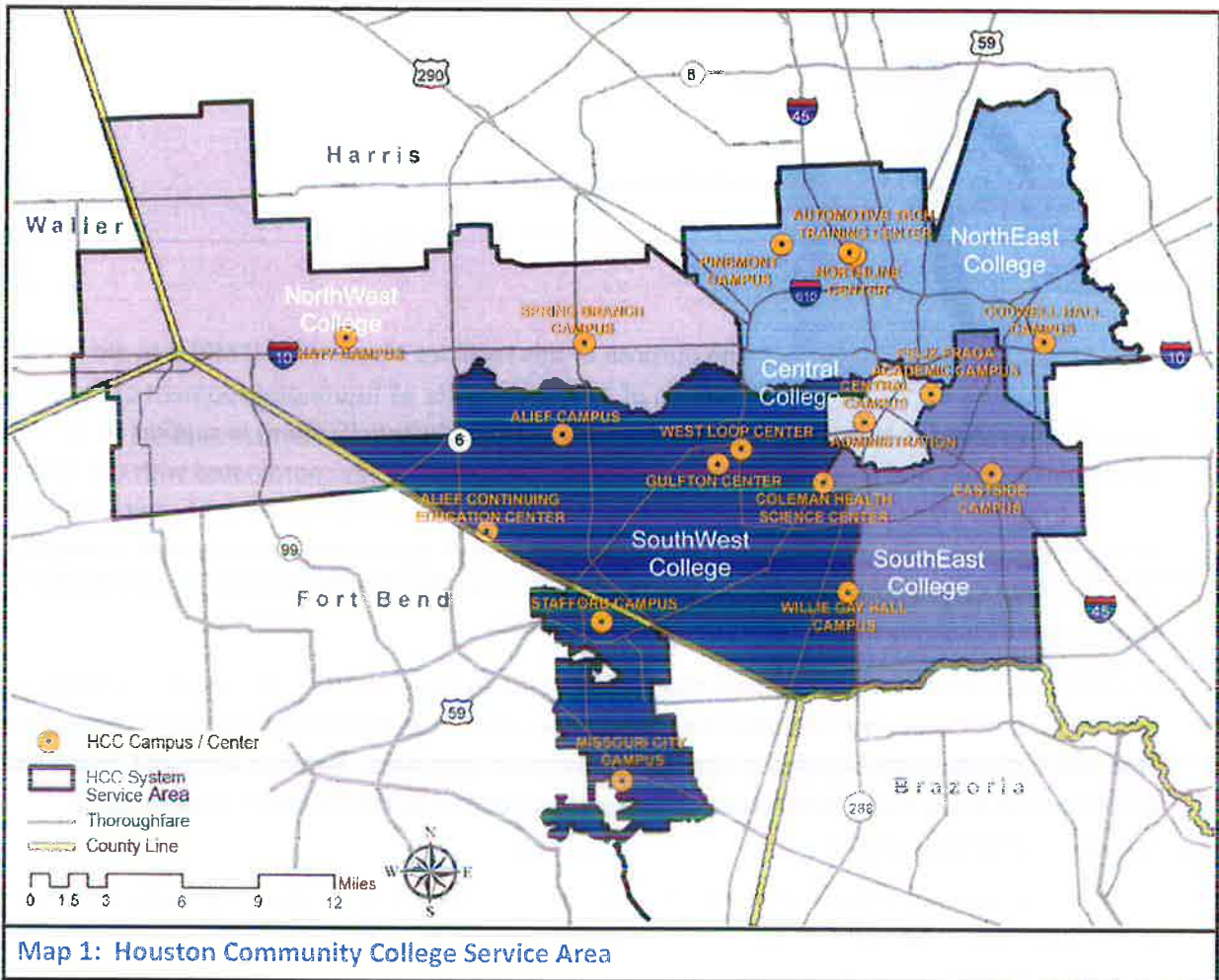
Map 1: Houston Community College Service Area

Table 1: Campuses and Structures in HCC System

College or Center	# of Campuses	# of Structures
Administration	1	2
Central College	3	16
Northeast College	4	11
Northwest College	3	5
Southeast College	1	8
Southwest College	8	10
Coleman College	1	1
Totals	**21**	**53**

The numbers of System campuses and structures are shown in Table 1 (left).

2

METHODOLOGY

The methodology for compiling the Facilities Master Plan focused on four areas:

1. Internal Research including:

   - discussions with HCC Leadership on current and future facility development requirements,

   - existing research and planning documents,

2. Identification of the main drivers that impact basic decisions about facility location,

3. Defining construction and maintenance standards, and

4. Campus specific recommendations for future development.

The flowchart below outlines the process that was undertaken to collect and compile the information that feeds the Facilities Master Planning process.
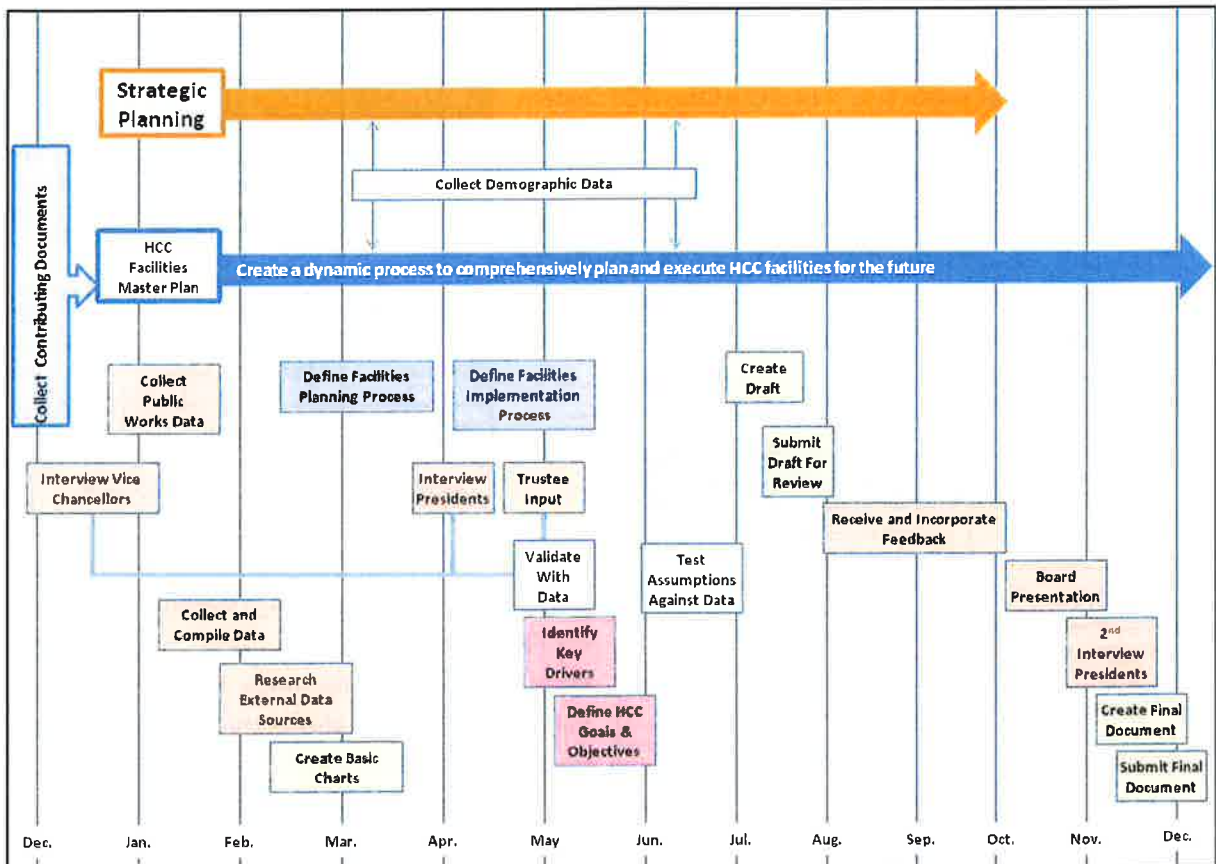

Figure 1: HCC Facilities Master Planning Process

Pulling data from each of the four study areas, the ESPA Team developed a summary of topics and issues that emerged on the critical path to building the HCC of the future. This report is the first step in answering basic questions in regards to facilities:

- **What** type of facilities are needed,
- **Where** the facilities should be located,
- **How** the facilities should be planned, and
- **When** the facilities should be constructed.

2.1   Information Gathering

The ESPA Team began interviewing appropriate staff members of shared-services and management personnel at the administrative building. All interviews were held between November 30 and December 8, 2009. Interview notes were compiled and summarized to identify recurrent themes and issues, which are briefly outlined in Section 2.2, Driver Identification. The tables in Section 10, Interviewee Data, detail the individuals who were interviewed. Information was collected on an anonymous basis.

College Presidents were invited to include members of their leadership team and any additional staff they felt could make a valuable contribution to the interview portion of the FMP. The charts below outline the individuals included in this process by College – Coleman College was included separately due to the specialized area of study. During the interviews, additional materials were collected such as strategic plans and student surveys. These materials are outlined in the bibliography at the end of this document.

On November 9, 2010, a presentation on the Facilities Master Plan was made to a meeting of the HCC System Board and College presidents. The purposes of this meeting were to present a list of future facilities projects. Feedback meetings were conducted on May 11, 12 and 13, 2010 to obtain feedback from the Board and College presidents. Table 2 shows Board Member attendance at this presentation.

Table 2: HCC Board of Directors Interviews

DISTRICT	NAME	TITLE
District II	Bruce Austin	Trustee
District VIII	Eva Loredo	Trustee
District VI	Sandie Meyers	Secretary
District III	Mary Ann Perez	Trustee
District VII	Neeta Sane	Vice Chair
District I	Yolanda Navarro Flores	Trustee

Table 3: Secondary Interviews – College Presidents

COLLEGE	NAME
Central	Dr. Bill Harmon
Northeast	Dr. Margaret Ford-Fisher
Northwest	Dr. Zachary Hodges
Southeast	Dr. Irene Porcarello
Southwest	Dr. Fena Garza
Coleman	Dr. Betty Young

Between December 6 and 15, 2010, interviews were conducted with College Presidents to finalize the list of future facilities projects and prioritize them according to near-term, mid-term and long-term goals.   Table 3 shows the people who were given second interviews.
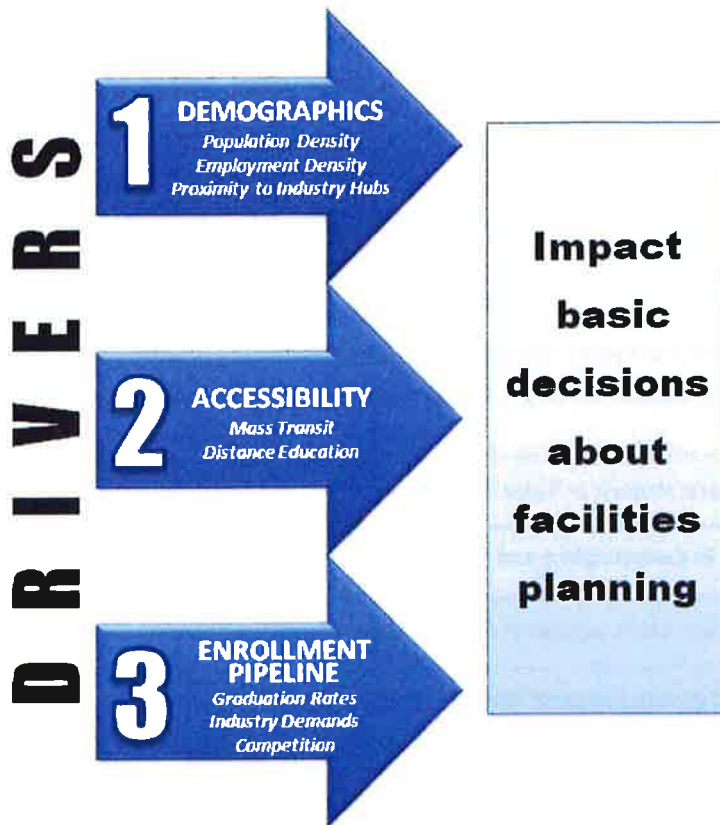
2.2   Driver Identification

Figure 2: Facility Location Drivers

The System FMP provides a guideline for how to identify and evaluate prime locations for future facilities. The planning process began by evaluating the locations of the System's current facilities and studying them in relation to changing demographics. Key demographic criteria include population, economy and infrastructure within and around the System's service area. Demographics, Accessibility and Enrollment Pipeline were identified as the three drivers having the highest impact on student enrollment and, hence, the basic decisions about facilities planning (Figure 2, left).

Research for each of these drivers involved the collection of data from organizations that are widely accepted and can be easily tracked over time.

The current plan uses information from the 2000 US Census and statistical projections made by the City of Houston and the Houston-Galveston Area Council (H-GAC) for the year 2014, and will be updated once the projections for 2035 become available.

The City of Houston data were provided through proprietary geographic information systems (GIS) and ESRI mapping software. The software utilizes information collected from the US Census Bureau. The data are further refined to smaller units such as counties, zip codes, and metropolitan statistical areas – such as the Galleria. Population and employment data were mined from applicable federal entities such as the Bureau of Labor Statistics and publications such as the Census of Employment and Wages.

H-GAC has developed in-house forecasting and modeling capabilities. Their procedures are internal, and consist of two phases. The first phase is the development of demographic data sets to act as controls for a geographic area. The second phase involves allocating these controls to computer designed cells and extrapolating the results accordingly. The data sources used come from the US Census, the Harris County Appraisal District, and a privately held and proprietary database at InfoUSA.

Information based on student enrollment statistics was gathered from the System's Internal Research Department.

2.3   Construction and Maintenance Standards

In order to develop and implement best practices to maximize efficiencies in the planning and execution of system-wide construction and maintenance programs, we must first understand the current practices by which building and maintenance programs are initiated, vetted and executed.

The ESPA Team reviewed the current operating practices of the System's Facilities and Construction Management Departments, interviewing end-users and stakeholders, Board Members, Vice Chancellors, College Presidents, College Operations Officers and other staff members.

After interviewing the Chief Administrative Officer of Finance and Administration, Director of Maintenance, Executive Director of Construction and Project Management, CAD Design/Ad Astra System Administrator and Environmental Safety Manager, we identified several deficiencies in current operations, as well as several opportunities for improvement of their general operations.

Those deficiencies determined to be mission-critical to the continued, effective implementation of any adopted Facilities Master Plan are shown in Table 4 (below).

Table 4: Mission Critical Deficiencies in Construction and Maintenance Program	
1.1	No comprehensive, system-wide needs assessment and program planning process
1.2	An excessive number of deferred maintenance items
1.3	No deferred maintenance budget
1.4	No short-cycle maintenance and inspection scheduling
1.5	No long-cycle maintenance and inspection scheduling
1.6	No integrated system to electronically codify and track facilities documentation
1.7	No integrated system to electronically codify and track facilities maintenance costs
1.8	No integrated system to track building facilities capacity and utilization
1.9	No integrated system to track parking facilities capacity and utilization

2.4   Formulate Recommendations

Based on the research outlined in the methodology sections above, the ESPA Team of architects and engineers developed a list of facilities projects by College, as outlined in the staff interviews. These projects have been prioritized into a three tier system:

- Tier I – projects to be implemented Immediately through 2015,
- Tier II – projects to be implemented in 2015 through 2025, and
- Tier III – projects to be implemented in 2025 through 2035.

The proposed project list best represents an effective response to the current and projected future needs of the System and the extended community which it serves. Projects identified during the research phase were prioritized using the following criteria.

Criteria for Priority Ranking

1. Academic Priority
2. Consolidation (Economies of Scale)
3. Maximize Existing Facilities Capacities
4. Diminished Lifecycle
5. Space/Parking Needs
6. Population Growth
7. Industry Demands
8. Emergent Technology
9. Long Term Strategic Plan Goals
10. Geographic Expansion Services
11. Community Expressed Needs
12. Community and Corporate Partnering
13. Creation of Academic Center/Campuses
14. 'Modular' or 'Flex' Facility Concepts
15. Land Acquisition for Future Expansion
16. Multiple Service Delivery Methodology
17. Academic Partnering with ISDs
18. Increased Athletic Program
19. Security and Amenity Improvements
20. Access to Mass Transit Nodes
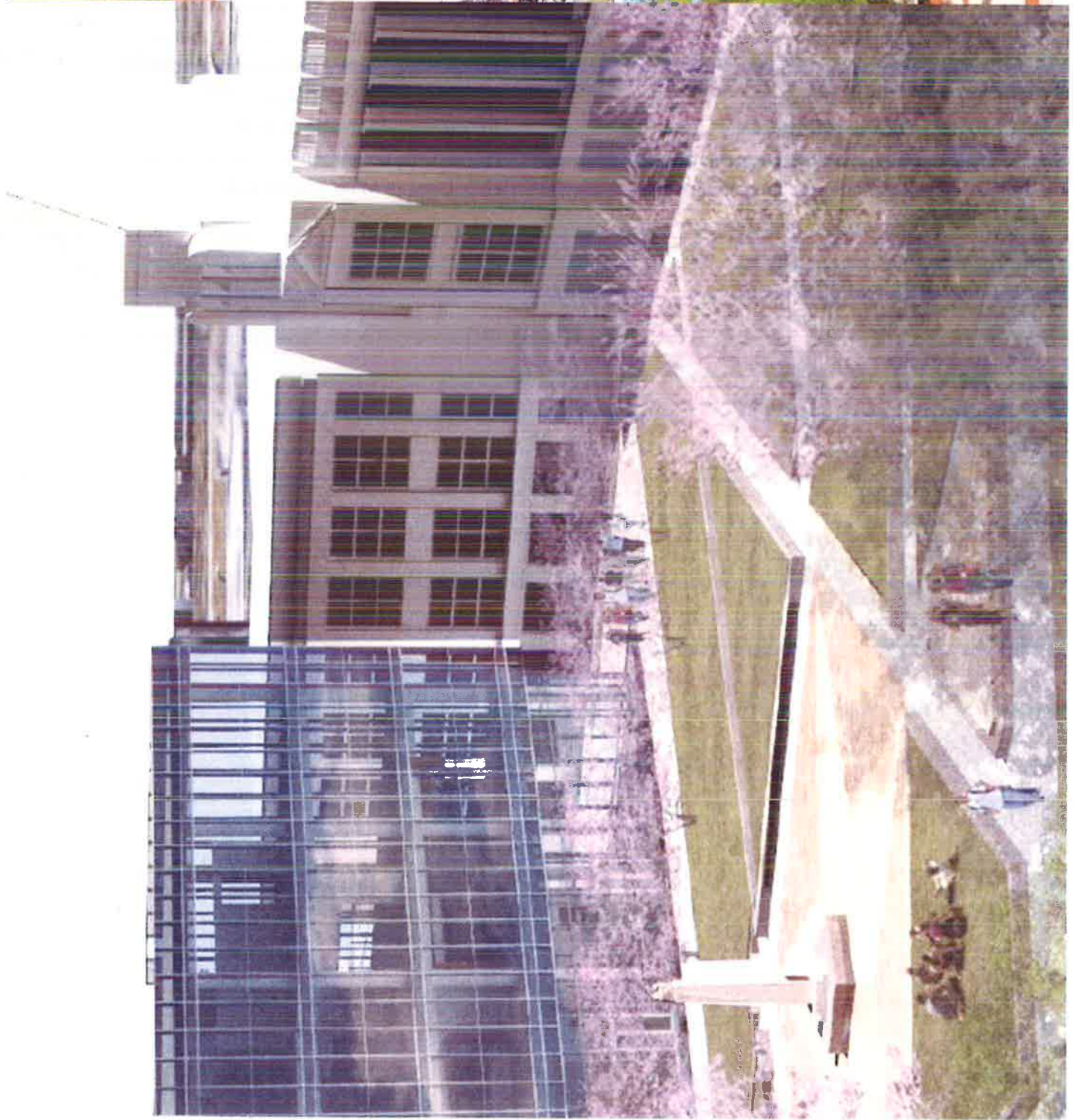
VISION 2035

A Facilities Master Plan is one tool in the overall planning strategy of the HCC System, but it does should not stand alone. Facilities planning must be considered in connection with the overall vision and strategic plan of the HCC System. Long- and short range academic plans, which are components of the Strategic Plan, are a precursor to the Facilities Master Plan. The relationship between the various plans is shown in Figure 3 (right). In 2010, updates to all these planning documents were initiated.

- **VISION 2035** – provides long-term, macro-level direction to define how the HCC System will evolve over the next 25 years.

- **Strategic Plan** – provides an outline of the specific academic and administrative directives to achieve the goals defined in VISION 2035, usually done in 5year increments.

- **Facilities Master Plan** – provides an outline of the physical infrastructure necessary for the HCC System to implement its Strategic Plan by focusing on planning, design, construction and maintenance.

Figure 3: Planning Process
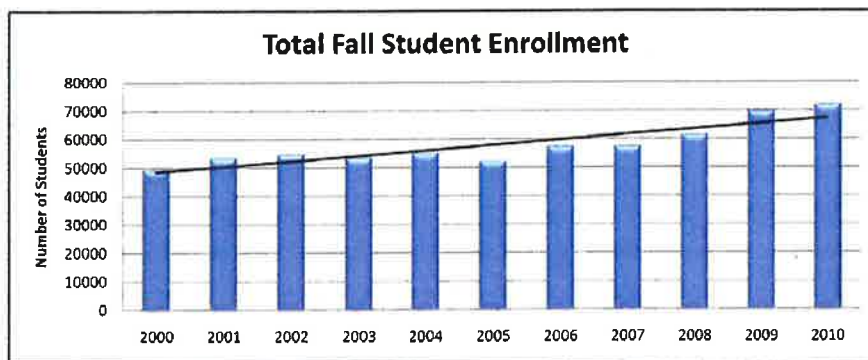
Chart 1: HCC Total Student Enrollment

Chart 1 (left) outlines the growth in total student enrollment for the last 10 years (HCC Headcount Reports, 2009-2010 FactBook and Quick Facts, February 2011). The magnitude of this growth – figured along with the changes in service delivery methods, advancements in technology and on-going development of campus infrastructure – demands an update to the most recent plan, the 2001 Facilities Master Plan, which ended its forecast period in 2010.

If growth continues at an average rate of 4.5% per year, as it has for the last 10 years, the System must begin to plan today for the campuses of the future, in order to prepare a comprehensive bond package to address the facility needs of future enrollment. With this average growth rate,

enrollment will rise to more than 111,800 students by 2020. The System's own institutional research uses a growth rate slightly higher than this for its Indictor Projections, which forecast out to the year 2020 – predicting an enrollment of 115,171 students in 2020. Considering this forecast spectrum and understanding the necessary lead time for planning, budgeting, construction and maintenance, it is clear that aggressive facilities master planning is needed to maintain service levels and achieve even greater levels of excellence.

The Strategic Plan addresses the more specific goals of the System's short-term planning – typically spanning five years. Past Facilities Master Plans incorporated a 10-year outlook. Today, System leadership is seeking Facilities Master Planning for the next 25 years to provide a more defined framework for all areas of the System. Through the recent identification of maintenance budgeting, asset management and construction planning issues, System leaders have set this goal to provide comprehensive communication across the entire System to address the current goals of long-term growth, increased student enrollment and stronger branding.

Texas now has more Fortune 500 companies than any other state, and is considered the fastest-growing state in the nation. That mix spells opportunity and job growth, yet Texas seems ill-prepared to take advantage of its good fortune. The Kauffman Foundation ranks Texas 41st among the 50 states for the educational level of its workforce and the average educational level of recent arrivals from other states.

Texas State Senator Eliot Shapleigh (D – District 29, the El Paso area), notes in his report entitled "Texas on the Brink" that, compared to other states, Texas has the highest proportion of residents without healthcare, the third highest poverty rate, the second highest imprisonment rate, the highest teenage birth rate, the lowest voter turnout and the lowest proportion of high school graduates.

Stephen Klineberg, professor of sociology at Rice University, was recently quoted in the Economists' *A Special Report on Texas* saying, "If we fail to turn our education system around, we will find that a whole generation has been locked out of the jobs market." Clearly education is of critical importance throughout Texas today and will continue to be a focus for years to come.

The National Governors Association's Education, Early Childhood and Workforce Committee noted:

> "Preparing Americans to compete in a global economy is one of our most urgent challenges of the 21st century. Over the next eight years, occupations that require a postsecondary degree or credential will account for nearly half of all new jobs and one-third of total job openings. A rapid increase in the demand for postsecondary education will be accompanied by baby-boom retirements, resulting in a predicted shortage of more than 14 million college educated workers by 2020."

These statistics spell opportunity and growth for the HCC System and any other institutions of higher learning that are prepared to embrace the opportunity with a clear vision for providing the targeted education programs at state-of-the-art facilities.

System's current and expected growth calls for a managed growth approach, integrating technology and flexible, multi-use spaces into the facilities design and planning process in order to more efficiently adapt to the changing needs of the community." That is, the careful and purposeful planning of the entire system and not its individual components. Purposefully planning a

community college system means moving toward consciously developing branded campuses with obvious boundary lines, clearly marked entrances, and impressive structures and landscaping that comprise a recognized community asset. Careful planning also includes a prioritized maintenance schedule to bring facilities up to code to enhance and maintain their asset value. These efforts, combined with the FMP, will build a strong foundation for executing the managed growth needed throughout the System to respond effectively to the growing demand for education.

The HCC System is in the information gathering phase of developing an official "VISION 2035". Several relevant studies remain outstanding, such as:

- parking capacity studies,
- facility utilization studies, and
- the strategic plan.

The Strategic Plan and Facilities Master Plan are both intended to be dynamic, and can be updated as necessary. Once completed, these studies will be compiled with:

- the Facilities Master Plan,
- the Facilities Condition Assessment,
- Deferred Maintenance Recommendations, and
- the campus master plans.

The completed compilation will specifically define the framework for the VISION 2035. As the framework takes shape, detailed planning will be required to outline concrete goals needed to achieve the VISION. The most significant goals will naturally emerge as milestones that will serve as tactical guideposts for the entire System. The VISION will also serve as a communication tool for leadership, students and the community.

Figure 4 (below) is a basic outline of VISION 2035, detailing the five-year increments at which the Strategic Plan is updated. This process provides a convenient timeframe to perform necessary research reviews and the opportunity to set and/or confirm milestones to ensure the success of the overriding VISION. Developing this process also incorporates benchmarking, allowing stakeholders to have input into the process, creating a system of open communication surrounding long-term goals, and providing greater transparency in the facilities development and maintenance process.

Figure 4: VISION 2035 related to the Facilities Planning Process

Due to the long-term nature of the project, the plan should be detailed enough to provide clear direction, yet remain flexible enough to allow System Leadership the ability to respond to changing demographics and market forces, and maintain immunity to turnover in leadership. The plan will also need to be periodically reviewed at each milestone to assess changes in environment, such as unpredictable fluctuations in the job market, industry trends and transit allocations.

4 INTERNAL RESEARCH

Following the Facilities Assessment Report (FAR) at the end of 2009, the ESPA Team kicked off the Facilities Master Planning process by building upon this and other existing data. Additional data collection was accomplished by conducting interviews with three select HCC groups:

- Administrative Leadership Team (Chancellor, Deputy Chancellor, Vice Chancellors, etc.),
- College Presidents and Campus Leaders, and
- Individual members of the Board of Trustees.

Concurrent with these discussions, the Team also collected several research documents related to facilities development and incorporated their findings into the FMP study. System leaders identified numerous topics for discussion. The most commonly addressed topics were combined with those considered most relevant to facilities planning to yield seven distinct planning categories, as illustrated in Figure 5 (right).

The seven topics shown in Figure 5 are considered to be the top priorities for consideration in the facilities planning process. It is recommended that each be addressed in further detail in the development of the VISION 2035 document.

Figure 5: Elements of VISION 2035

4.1 Managed Growth

The HCC System has seen explosive growth in recent years, and has made every effort to facilitate and manage that growth while both extending its reach across the service area and staying within its budget. The FMP is widely seen as an opportunity to get ahead of that growth and drive the changes necessary to sustain the role of the System as one of the predominant community colleges in the United States today. Looking toward the future, best practices must be used to build efficiency into the System, which wants to be viewed as a leader through the use of a carefully planned facilities expansion program. Planning should be inclusive of green building practices and insist upon developing campus atmospheres to engage the community, students, faculty and administrators.

There is a need to identify basic minimum standards in design and construction, and to find commonalities within the entire HCC network in order to achieve efficiency in facility development, which should also provide cost savings.

Infrastructure age and general maintenance requirements were concerns of all interviewees. There was widespread recognition that many considerations go into the decision to renovate existing buildings, build new or repurpose existing vacant real estate. Interviewees expressed an interest in understanding how facilities development decisions are made. This included the desire for an opportunity to present, influence or, in some cases, review, the data driving the decision-making process. The open communication and process transparency afforded by VISION 2035 will address these interests, improve buy-in, and make the entire facilities development process more efficient.

4.2   Parking

Parking was recognized as one of the key issues impacting present student life and future development. There is a widespread need for additional parking; the recognition that enrollment will continue to increase exacerbates the lack of parking and related issues in the near-term. Insufficient parking causes students to park off campus, creating a security risk; inconvenience and/or distance to parking may cause students to miss class; and distant parking areas may experience increased crime rates.

In response to requests for the development of parking structures, the need for a parking capacity/utilization study was discussed. Leadership noted that most of the campus crimes were being committed in the parking lots, prompting a call for the establishment of parking facilities security measures, including video cameras, call boxes and improved ambient lighting. Trustees noted that the cost of constructing parking facilities should be spread equally across the system. In 2008, HCC Police reported 72 offenses specifically involving vehicles.

4.3   Branding

When discussing the branding of the HCC System, an assumption emerged that the image of the school is slowly being transitioned into a "traditional campus" model. Students and faculty both prefer the educational campus setting and feel, which is believed to have a positive influence on stakeholder retention and facility utilization.

The System has historically been comprised of "centers" - smaller, widespread service venues - that allowed the System to extend its service reach within a limited budget. However, as the System grows, these "centers" should be transformed into "campuses" to compete with other institutions in attracting students and faculty. These campuses must be clearly branded and have the capacity to provide a full spectrum of services. The result of this center to campus transformation is a fully community-supported destination location where students want to come, stay and learn.

in order to complete this center-to-campus transformation, four goals must be accomplished:

- Increase enrollment,
- Attract top level educators,
- Attract investment, and
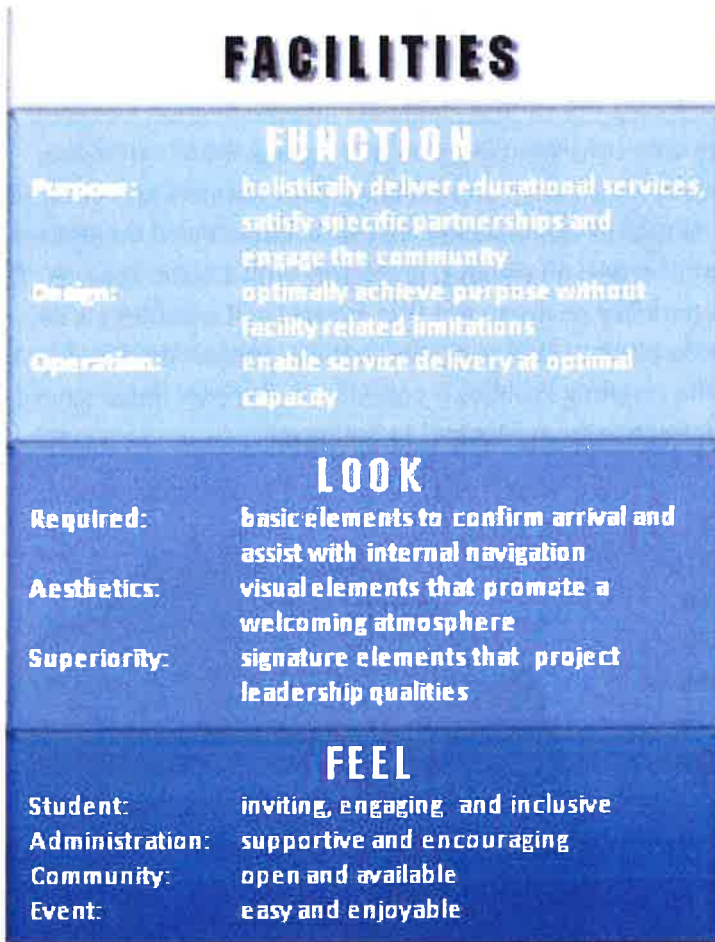- Promote student success.

THE BRANDING OF HOUSTON COMMUNITY COLLEGE

FACILITIES

FUNCTION

Purpose: holistically deliver educational services, satisfy specific partnerships and engage the community

Design: optimally achieve purpose without facility related limitations

Operation: enable service delivery at optimal capacity

LOOK

Required: basic elements to confirm arrival and assist with internal navigation

Aesthetics: visual elements that promote a welcoming atmosphere

Superiority: signature elements that project leadership qualities

FEEL

Student: inviting, engaging and inclusive

Administration: supportive and encouraging

Community: open and available

Event: easy and enjoyable

Figure 6: HCC Branding Process

To successfully make this transition, the HCC System will need to focus on three elements of facilities development: function, look and feel (Figure 6, left). Obviously, the ideal campus will not be achieved overnight, but if properly envisioned by Leadership, it will be developed strategically over time.

• **"Function"** is the most basic element, and is required for normal operation. Its components can be incorporated in the planning stages to reduce potential future expenditures required for costly conversions.

• **"Look"** is an element of branding that historically is considered elective or "nice-to-have." Generally, the importance of a facility's look is minimized in favor of cost control. Campuses should have the consistency of a well-planned community that provides a sense of place, without dissonant elements that distract and create confusion. To achieve an effective and consistent look, Leadership must support this goal and allocate an appropriate budget.

• **"Feel"** is an intangible element that can be challenging to address. It requires dedicated research in the facilities planning process to ensure that function is combined with look to achieve a facility that is not only fit for its purpose in a technical sense, but is also enjoyable to use by all stakeholders. Spending the time to research and plan the facility up front -- getting it right the first time – will save money in the long run.

The System is not looking for "cookie-cutter" design of facilities. It is preferred by System Leadership that both the "look" and the "feel" of any new facilities or major expansions be responsive to the specific community in which the facility is located.

Transformation to campuses takes place through the strategic development of the facility, which is purposefully created to give students the experience of traditional campus life, with food courts, study locations, green space and libraries where they can get together to study, socialize or just relax between classes. Additionally, it was suggested that, by creating a sense of community, the

System would also attract non-students to the campus for meetings, theater productions and library use, thus engaging the community and reinforcing the effectiveness of the branding.

Creating a sense of community and developing the various campuses into destination locations involves delineating campus boundaries with consistent graphics and signage for all campuses, incorporating LED signs that quickly convey information and installing flags, banners and other signs and symbols to promote school spirit. Almost all stakeholders who were interviewed mentioned a desire for green space at the main point of arrival on campus, preferably with a water feature. The goal is to create a pedestrian-oriented, park-like environment that attracts and welcomes area residents and provides students a relaxing place to lounge similar to the proposed Star Plaza on the Central Campus. The visual beauty of the resulting facilities is considered of critical importance to the successful completion of the transformation from "center" to "campus."

4.4   Amenities

When considering the future of the HCC System, most interviewees identified the need for increased amenities to facilitate student engagement and improve retention rates. These amenities may be generally referred to as "The Experience of Campus Life." Some of the most frequently requested amenities are listed below and illustrated in Figure 7 (right).

- Wellness centers
- Sports facilities
- Organized sports programs. (membership in the National Junior College Athletic Association [NJCAA], and intramural and inter-colligate competitions were highly anticipated.)
- Study lounges
- Library space
- Green space
- Food courts with multiple vendors
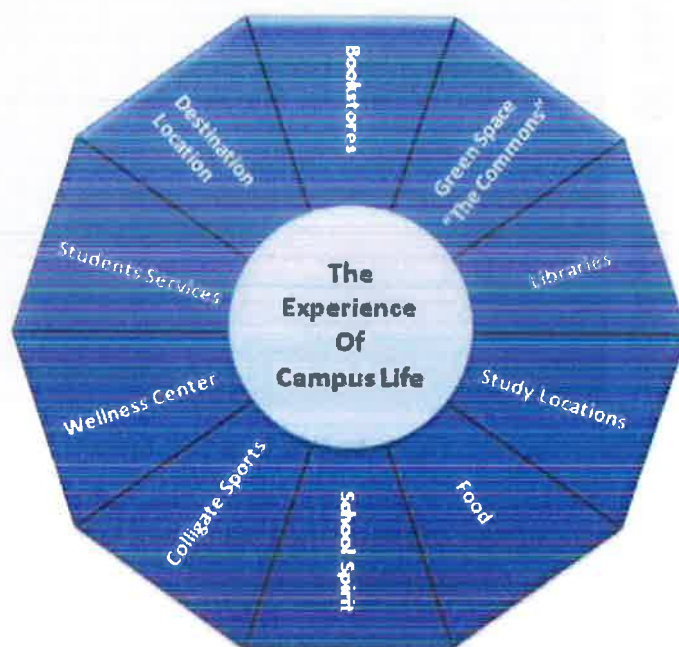
Figure 7: The Experience of Campus Life

The amenities noted in Figure 7 combine to form an overall experience that attracts students for classes and keeps them on campus for longer periods of time by addressing their peripheral needs. Approaching the educational delivery method from a holistic standpoint will increase student success by making it easier to attend classes and more comfortable to remain on campus, by creating a more engaging experience overall. Long-term, incorporating these elements into the facilities planning process will improve both student engagement and retention rates.

Finally, community colleges, by their very nature, are also commuter colleges. Many students work and attend classes concurrently. They arrive in time for class and depart as soon as class is over. Therefore, they never fully engage with the campus, the College or the System. Providing these students with places to eat, study, meet, relax and play organized sports gives them both a legitimate college experience and a real relationship with the campus, College and System. The relationship this facilitates could also help these students grow into helpful and supportive alumni, who are generous with their time, their praise and their financial resources.

4.5   Partnerships

The HCC System is becoming a focal point for bringing communities together. Campus leaders embrace this role; all and focused on their surrounding communities. System Leadership seeks to take a holistic approach to providing services, desiring to be viewed as the place to go for solutions.

The System has numerous options for partnerships. Teaming with civic leaders to build parks and libraries and partnering with businesses to create high-tech training facilities that drive economic development are two examples of partnership opportunities. Strategically selecting the right partnerships in which to invest, from the present to year 2035, will add unique resources to fuel growth.

No organization has an endless budget; therefore, it behooves any group to work with others, pooling limited resources to achieve bigger, bolder outcomes than what they could have done alone. Collaboration is the key to future success. Collaborating to build libraries was frequently mentioned.

For example, shared campus/community libraries will give neighborhood residents a vested interest in the ongoing services of those libraries long before their children are ready for college.

From a facilities standpoint, successful partnerships are planned based on the long-term strategic direction of each College, thus supporting the need for a clearly articulated VISION 2035. Utilization studies and strategic programming that are part of the VISION help to direct research to identify partnership opportunities. Once opportunities are identified they are tested for alignment with the VISION, prioritized and intentionally pursued through strategic planning. This partnership process is outlined in Figure 8 (right).

Figure 8: Partnering Process

4.6   Security

While there is a clear need for a viable and visible presence of security personnel, the HCC System has such large geographic coverage that the physical presence of security personnel must be supplemented with technology. An external review of the System's police department and facilities was recommended to determine optimal application of that technology. Security personnel advise

the facilities department and campus leaders on security strategies that inform facilities design, like providing and preserving clear sight lines and adequate lighting. Increased use of technology such as motion-activated lighting, enhanced lighting in and around facilities, call boxes, video cameras and electronic facility access via card reader are a few of the considerations that act as "force multipliers" for security personnel and help reduce security risks.

Additionally, it was suggested that the development of infirmaries be addressed. Currently, if an incident occurs, the individuals involved are removed to a security office, if there is one at that campus. Unfortunately, some injuries require a high level of immediate treatment. The security offices are not designed to function in this capacity, lacking basic tools such as wheelchairs, but infirmaries were intentionally not designed into the system.

4.7   Technology

There is an IT Strategic Plan currently in place. However, going forward, the creation of a new IT Strategic Plan will be essential to the development of VISION 2035. The HCC System is a recognized early adopter of technology, with numerous area schools benchmarking the technology the System has in place. System leaders readily embrace new technologies and note the critical importance for hiring tech-savvy personnel at all levels throughout the System, as well as implementing a program of continuous training.

Current initiatives include: electronic classrooms, mobile computing, cloud computing and testing labs. It was also suggested that connectivity be enhanced, focusing especially on remote locations. The successful application of technology will, in large part, help determine student success rates and increase the System's ability to attract and retain educators, build the college of the future, provide high-tech programming and continue to attract increased enrollment.

DRIVERS

For the HCC System to effectively expand to meet future demand, it must develop an understanding of the changing landscape in which it finds itself. The specific location of future facilities is critical to the successful delivery of services to the community. The FMP, used in combination with the System strategic plan which will be published later this year, plays an integral part in the overall planning process by providing guidelines for how to identify and evaluate prime facility locations.

When researching factors that influence facility development, many factors emerged, including:

- Population
- Economy
- Transportation access
- Economic growth
- Organic growth
- Community redevelopment
- Feeder patterns
- Funding
- Strategic planning
- Programming
- Educational delivery system

- Enrollment
- Return on Investment
- Proximity to other System campuses
- Budget
- Competition
- Benchmarking

Ideally, the research behind the need for a new facility would include all of these factors, along with consideration of the needs of the entire system to prioritize locations. To narrow the scope of the discussion, those elements with the most significant impact on facility development are shown in Figure 9 (right).

"Drivers" take related factors important to the success of the System and consolidate them into comprehensive, quantifiable values that can be compared and contrasted to standards and goals established by the System. Once identified, these drivers were reviewed for

DRIVERS

1 DEMOGRAPHICS
Population Density
Employment Density
Proximity to Industry Hubs

2 ACCESSIBILITY
Mass Transit
Distance Education

3 ENROLLMENT PIPELINE
Graduation Rates
Industry Demands
Competition

Impact basic decisions about facilities planning

Figure 9: Facility Location Drivers

accuracy by planning and development professionals at the City of Houston and H-GAC, as well as by noted researchers in the areas of population and urban growth. These drivers are represented by tangible data collected periodically by reliable sources, and will be periodically updated and available for reanalysis and reincorporation into the model.

By examining and truly understanding trends and changes affecting these drivers, the HCC System will be able to carefully plan and manage its growth.

Using this report, decision makers can assess the best locations for future facilities in keeping with the System's goals and VISION. The FMP is one tool in the overall planning strategy and must be considered in connection with the overall VISION, strategic, academic and financial plans. Where facilities are located, their composition, and how they function must reflect the goals of the institution and further its objectives.

The following sections will examine, in detail, those factors and data specific to the HCC System service area affecting Demographics, Accessibility and the Enrollment Pipeline.

5.1   Demographics

Demographics in the HCC System's service area and changes to the service area population will drive questions of facility locations and types. Associated with demographics are the issues of academic programming (covered in the strategic plan), current facility utilization and capacity (studies are recommended in both areas). Students frequently attend a specific campus based on proximity to their homes or workplace. Therefore, the two most critical factors that inform questions of demography, as they relate to future System needs, are residential density and employment density – how many people are living and/or working in an area.

5.1.1   Population Density

Population densities are key to understanding the demographic outcomes for the region. Concentrations measure the number of people in a defined area, while forecasts predict changes in populations across the board. The sharper the increase in density, the greater the impact on facilities planning.

The Brookings Institute, through its Brookings Metropolitan Policy Program, has labeled Houston as one of the "Next Frontiers" based on its high growth, high diversity and high education levels compared to the 100 largest metropolitan areas in the United States. The System's service area encompasses most of Harris County and parts of Fort Bend and Waller counties. The service area is home to more than 2 million residents. In context with the System's service area, the population in the year 2010 shows the highest rate of density:

- inside Loop 610,
- in the southwest part of Houston inside Beltway 8 between I-10 and US 90A,
- in satellite cities such as Missouri City, Sugar Land and Katy, and
- around the I-45 corridor in the area between Beltway 8 and I-610.

Tables 5 and 6 (on the following page) break down the area's 2009 population by gender and by HCC System colleges, and are based on H-GAC 2035 Regional Forecasts.

Table 5: Houston Area Population Information, 2009 Est.	
Total Population	2,140,484
Adult Population	1,566,791
Male	50.3%
Female	49.7%

Table 6: Projected Population by HCC College Service Areas		
HCC System College	2010	2035
Central	82,914	103,678
Northeast	459,066	563,370
Northwest	344,291	490,341
Southeast	337,346	398,514
Southwest	988,481	1,115,094

Map 2: Population Growth between years 2010 – 2035

Source: Houston-Galveston Area Council
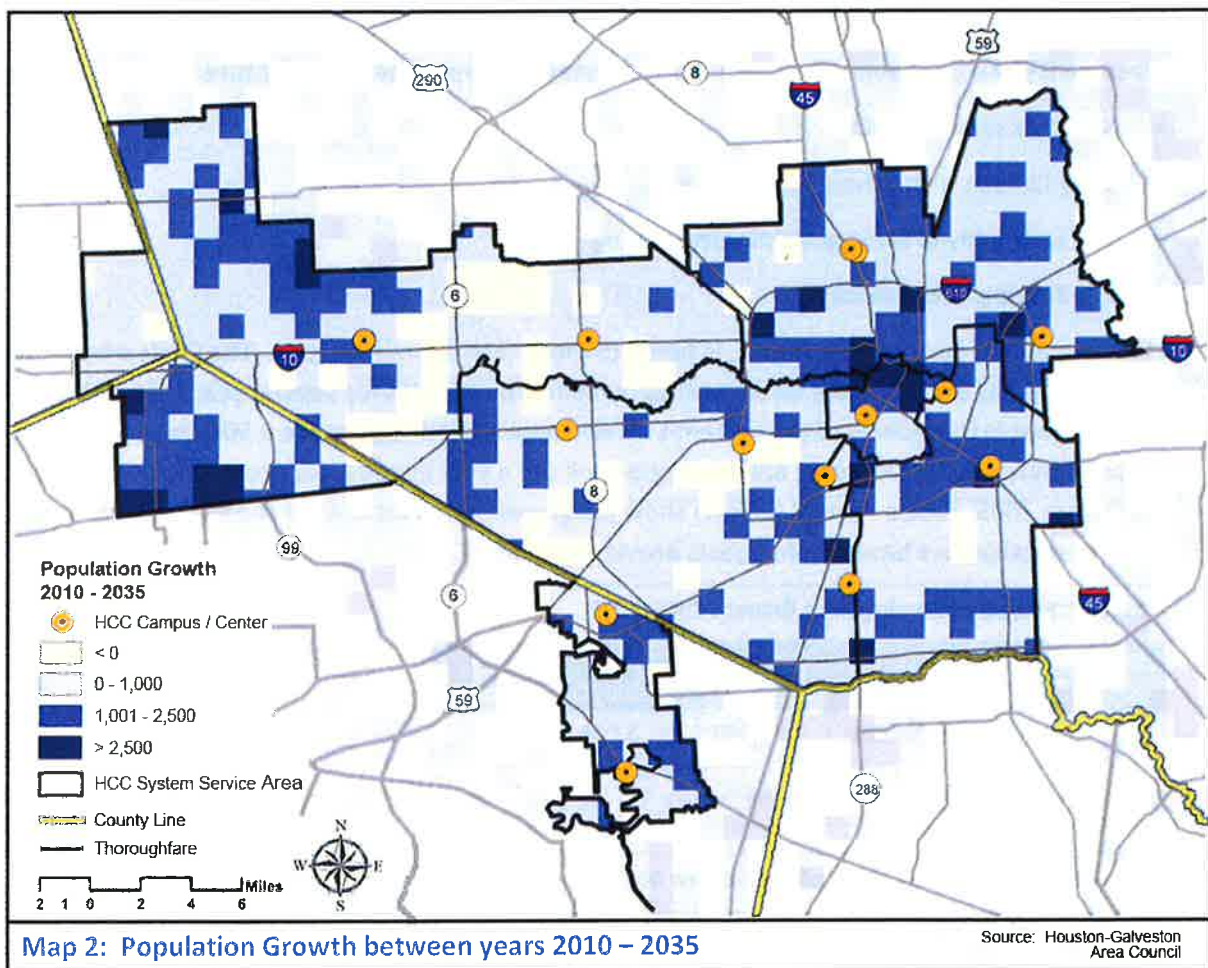
Predicted Population Growth (change) between the year 2010 – 2035:

Simply looking at population density will not help us understand which areas are experiencing the fastest growth. We have to understand the growth pattern and identify areas that will undergo change. In Map 2 (above), the darkest blue areas highlight the highest rate population growth between 2010 and 2035 in the HCC System's service area. In general, the areas identified in the

bullets below show high growth potential as well, though not necessarily with the System's service area.

- In the east, the areas between I-10 and US 59 (cities of Baytown, Cloverleaf, Channelview, Barrett, Crosby and Atascocita) will experience high population growth.

- In the south, the areas around SH 288 corridor between Beltway 8 and SH 6 (cities of Manvel, Fresno and Pearland) will experience high population growth.

- In the southeast part of Houston, the areas around the I-45 corridor (cities of Pearland, Friendswood, Pasadena, Seabrook and League City) will experience high population growth.

- In the southwest part of the City, Sugar Land and Rosenberg will have higher population growth.

- In the west and northwest parts of Houston, areas in Katy (Cinco Ranch west of SH 99) and in the Barker Cypress and Cypress area (between I-10 and US 290) will have higher growth.

Placement close to population growth centers creates an opportunity to capture:

- Students requiring GEDs,

- Early College High School students, and

- The unemployed seeking training/retraining.

5.1.2 Employment Density

Houston, and its surrounding region, is home to more than 1.9 million jobs. The City's employment growth rate has exceeded the national employment growth rates for several years. By 2035, employment in the vicinity of the System's service area is predicted to see a 50% increase (approximately 1,011,000 jobs) and the region will see a 60% increase (approximately 1,524,000 jobs) from 2005. Tables 7 and 8 (below) show job growth expectations for the HCC System service area. Both tables are based on forecasts provided by H-GAC.

Table 7: Projected Employment Growth 2005-2035

Houston Area Employment Totals	2005 (1,000s)	2035 (1,000s)	% Growth
20-mile radius from the CBD	1,992	3,003	51%
H-GAC Regional Total	2,542	4,069	60%

Table 8: Job Growth by HCC College Service Area

| HCC COLLEGE	2010	2035	% Growth
Central	213,000	246,000	15%
Northeast	252,000	405,000	61%
Northwest	208,000	273,000	31%
Southeast	184,000	297,000	61%
Southwest	640,000	788,000	23%

Employment density in the year 2010 shows the highest employment concentrations in the downtown area, Greenway Plaza, Galleria, Energy Corridor, Southwest Freeway corridor, Northwest Freeway corridor and around Hobby Airport. By 2035, the growth is even more significant around the I-45 corridor north of downtown and the I-45 southeast corridor, the Greenway Plaza area, Texas Medical Center and Meyerland. Outside of System service areas, the strongest growth is forecast along the I-10 East corridor connecting Jacinto City and Channelview, SH 225 connecting to the Port through the City of Pasadena, south of the University of Houston and Hobby Airport vicinity, League City and Sugar Land. The I-45 North corridor connecting to Houston Intercontinental Airport is also showing strong signs of employment growth, which is consistent with the population projections.

Because students are more likely to attend school near where they work or live, it is important to note where the major employment centers of Houston are located. As traffic and travel times become increasingly important to Houston area motorists, this connection will only become more pronounced.

Employment Growth (change) between the years 2010 – 2035:

Map 3 (below) outlines the areas predicted to experience the highest levels of employment growth between 2010 and 2035.

- In the east part of the City, the area around the I-10 corridor (cities of Cloverleaf, Channelview, Barrett, Crosby and Atascocita) will experience high employment growth.
- In the south, the areas around the SH 288 corridor outside of Beltway 8 will experience employment growth.
- In the southeast part of Houston, the areas around the I-45 corridor from south of Hobby Airport to north of Ellington Field will experience high employment growth.
- In the southwest, the areas around the US 59 corridor between Meadows Place and Sugar Land will have higher employment growth.
- In the west, the area around the I-10 corridor between SH 6 and Beltway 8, along with the Katy area, will see higher employment growth.
- In the northwest part of Houston, the areas around the US 290 corridor between SH 6 and Beltway 8, along with Spring Branch, will see a higher employment growth.

Map 3: Employment Growth between years 2010 – 2035

Source: Houston-Galveston Area Council
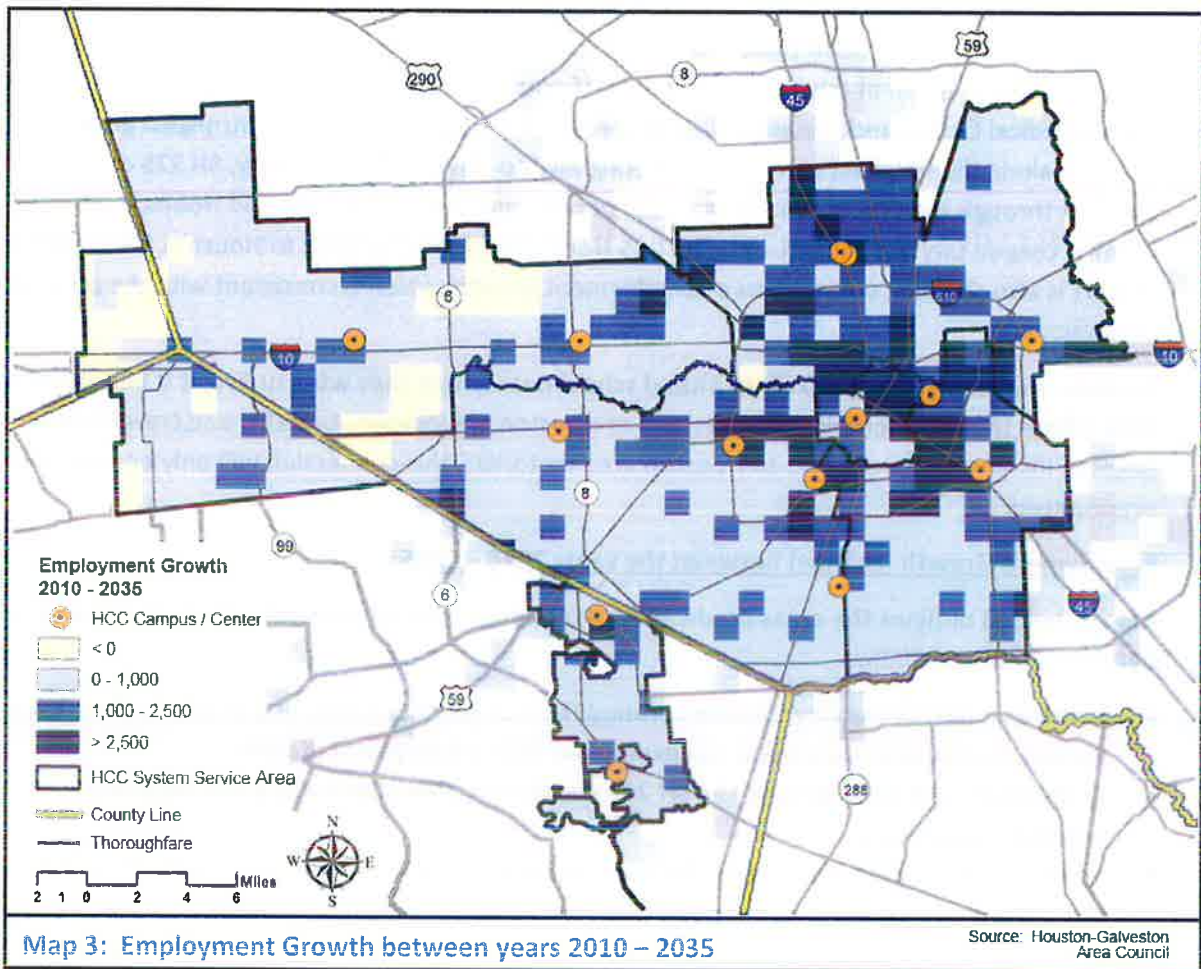
Placement of new campuses close to employment growth centers creates opportunities to:

- capture individuals seeking convenient training locations to upgrade or expand their skills,

- capture individuals seeking leisure time learning opportunities,

- create viable venues for use as corporate training/meeting spaces, and

- provide partnership opportunities with local industry leaders to service their training requirements.

5.1.3 Proximity to Industry Hubs

Houston is a center for many key industries, including healthcare, aerospace, finance, petrochemical and oil refining. These industries are often centralized in employment and industry clusters around the City, and also serve as feeders for students who might be looking to advance their professional development through part-time enrollment and technical training courses. Employment clusters include downtown, the Texas Medical Center, the Galleria, Greenspoint, Westchase, Clear Lake, Greenway Plaza, and the large petrochemical and refinery centers located mainly on the east side of the City. As Houston continues to evolve, new hubs will develop and others will decline. Tracking these changes is important in charting the growth of the HCC System.

As shown in Map 4 (below), the HCC System's campuses are spread out over a considerable geographic area. The Central Campus is well placed in the downtown area and is easily accessible to both the Midtown and inner city population centers and the Downtown and Midtown business districts. Coleman College is located in the Texas Medical Center area, and offers specialized programs for the healthcare industry. The Spring Branch and Westgate campuses are situated near the employment hubs in the Energy Corridor and newly developing medical facilities, while the industrial and port areas of the East End are near both the Northeast and Eastside Campuses.

Map 4: Employment Clusters

Source: Houston-Galveston Area Council
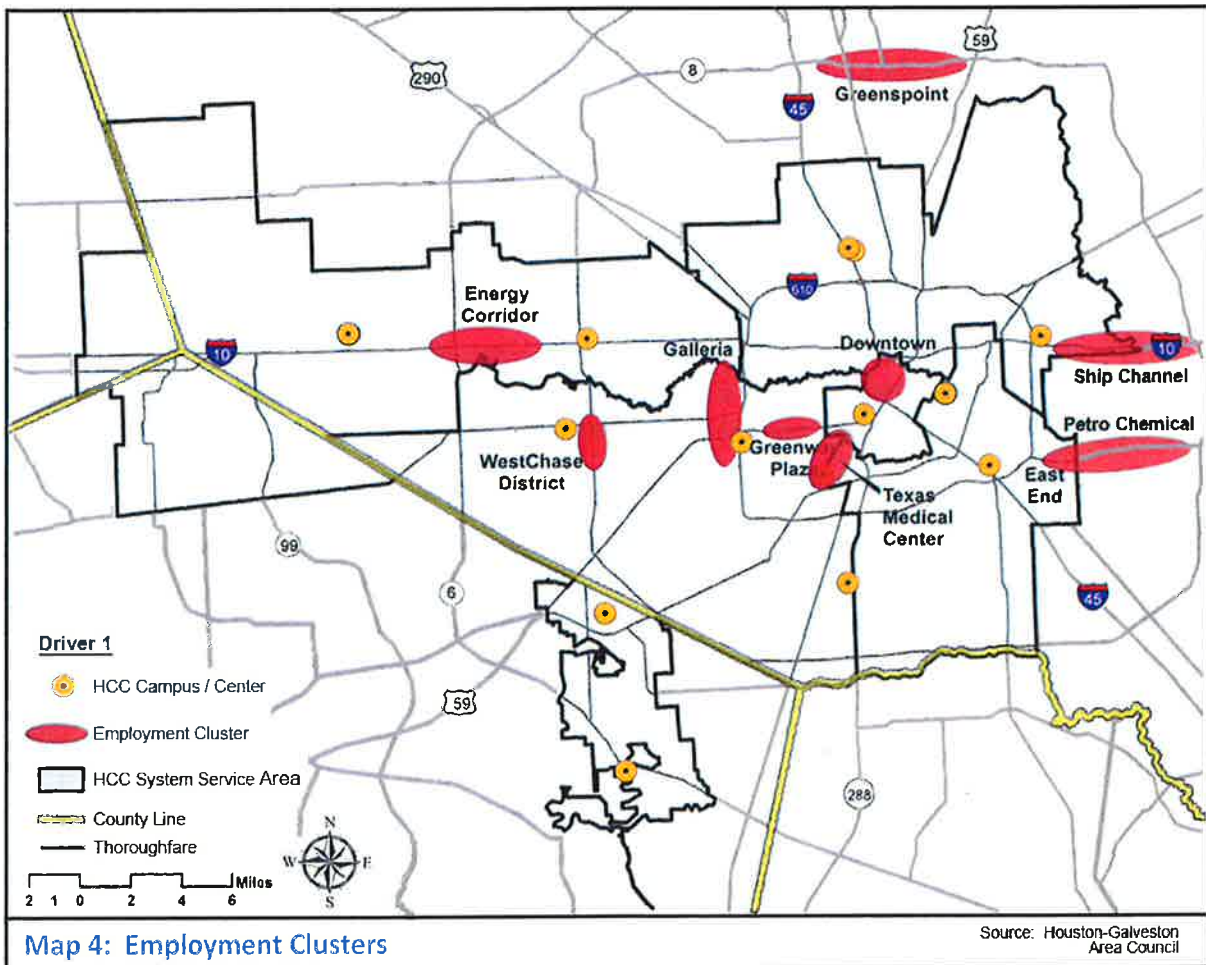
Downtown

Downtown Houston is home to the headquarters of several Fortune 500 companies. Comprised of approximately 108 square miles, it encompasses the urban core of Houston and is bound by US-59, I-45 and I-10. The Downtown area can be further subdivided into the Theater District, Skyline District, Historic District, Sports District and Midtown.

The Texas Medical Center

The Texas Medical Center is perhaps the largest medical facility in the world. It includes 13 hospitals and affiliated research branches, and occupies more than 140 buildings. The Texas Medical Center is ranked as the 12th largest business district in world and is the largest employer in Houston. It is adjacent to Hermann Park, Rice University, Reliant Park and the Museum District.

Galleria

The Galleria shopping complex itself is a massive facility with more than 2.4 million square feet of retail space, including two hotels and three office towers. The Galleria Financial Center serves as home to many financial institutions, including Merrill Lynch, UBS AG and Citigroup, as well as law offices, energy trading companies and the consular offices of several countries. The area includes the neighborhood of Uptown and is generally centered along Westheimer Road with easy access to Memorial Park, I-10 and US 59.

Greenspoint

Located at the edge of metropolitan Houston, Greenspoint occupies approximately 12 square miles and is an important employment center. It is home to operations for Express Jet, Noble Energy, Anadarko Petroleum and ExxonMobil. The Greenspoint area is generally defined by the Hardy Toll Road, Airtex Boulevard, Veteran's Memorial Drive and West Road.

Westchase

The Westchase District has steadily attracted businesses such as Halliburton, one of Houston's largest employers, which has announced plans to relocate its employees from downtown facilities to the northern and Westchase facilities by 2012. Chevron, BMC Software, Dow Chemical and Jacobs Engineering each have a significant presence in the Westchase area. Westchase straddles Beltway 8 between I-10 west and US 59, and is also accessible by the Westpark Tollway.

Greenway Plaza

Greenway Plaza is a unique master-planned mixed-use area located near US 59 southwest of downtown Houston. The area is home to the Renaissance Hotel and Lakewood Church, and boasts more than 4 million square feet of office space spread across 10 high-rise buildings. The neighborhoods surrounding Greenway Plaza are some of the most affluent in Houston, and include River Oaks and the incorporated City of West University. Amegy Bank, the Chinese Consulate Office of Taipei and the corporate headquarters of Taco Cabana, FlightAware, Internet America and China Airlines are located in Greenway Plaza.

Energy Corridor

Strategically located along I-10, midway between Beltway 8 and the Grand Parkway, the Energy Corridor is home to numerous energy companies, as well as healthcare, engineering and financial services companies. The Energy Corridor is currently the fourth largest employment center in the region, with more than 73,000 employees.

East End

The eastern side of Houston is home to a variety of heavy industrial, petrochemical, maritime and manufacturing industries. It includes the Port of Houston and Hobby Airport, as well as the businesses attendant upon them, such as shipping, transportation, logistics, warehousing and source distribution. Anheuser-Busch, Maximus Coffee, Oak Farms Dairy, Farmer Brothers' Coffee, Vam Drilling and a Valero refinery account for a multitude of direct jobs in the area.

5.1.4   Summary of Demographics – Driver 1

The two greatest factors related to demographics will be residential density and employment density - determined by how many people are living or working in an area. Community college students typically attend classes near where they work or live, thus making it important to track the changes in these demographics to uncover the most likely sources of future enrollment.

We have defined Driver 1 (Demographics) as combining the growth in population with employment density and refining them to the most significant areas of impact. It yields a concentrated view of critical growth areas. These are highlighted in Map 5 (below). The red areas will be the focal points for the System when considering the siting of new facilities and possible expansion of existing facilities in order to meet the projected growth.

Map 5: Summary of Driver 1 impact on future HCC site selection

Source: Houston-Galveston Area Council

Map 6: Student Location Year 2009 - HCC

Source: Houston-Galveston Area Council
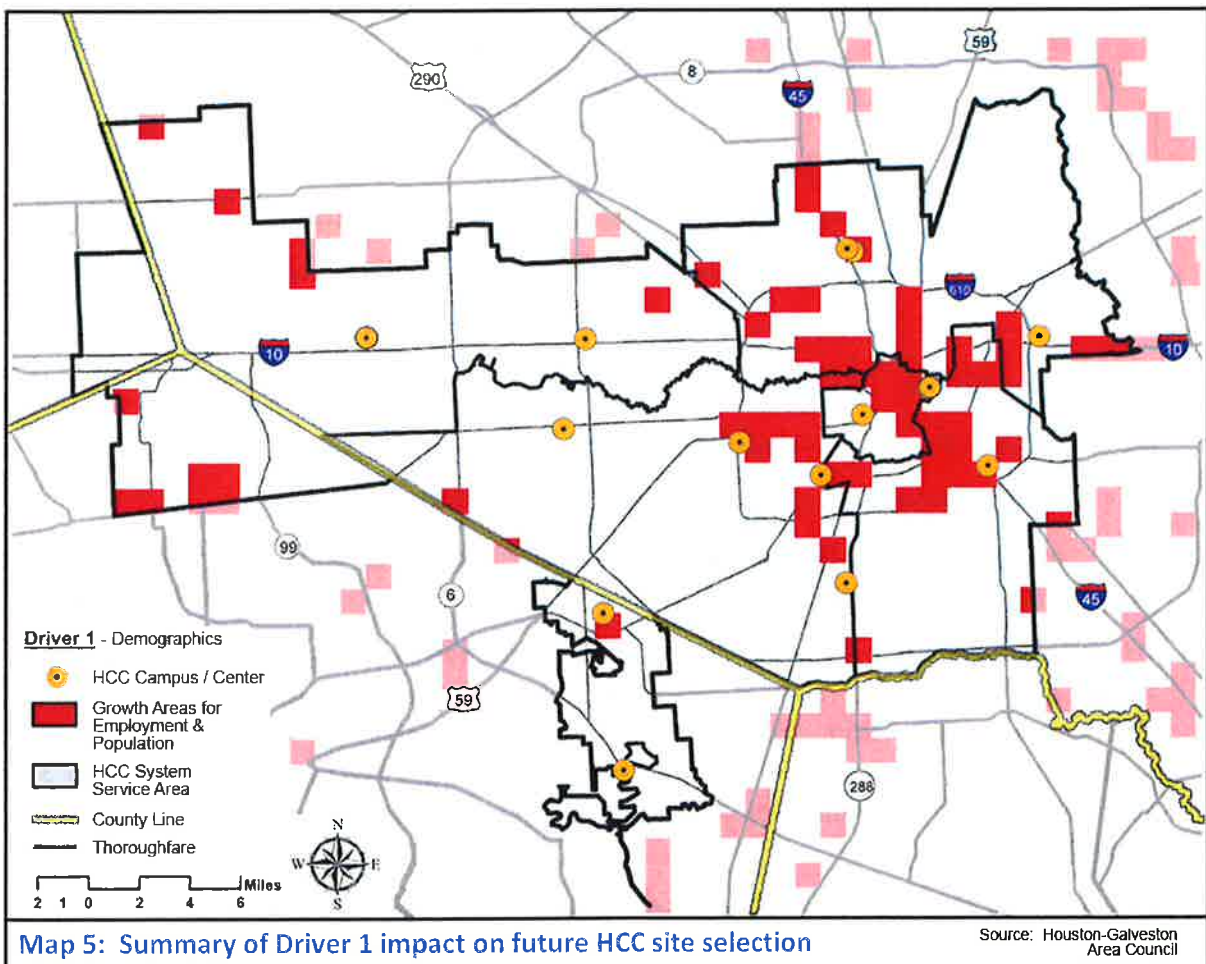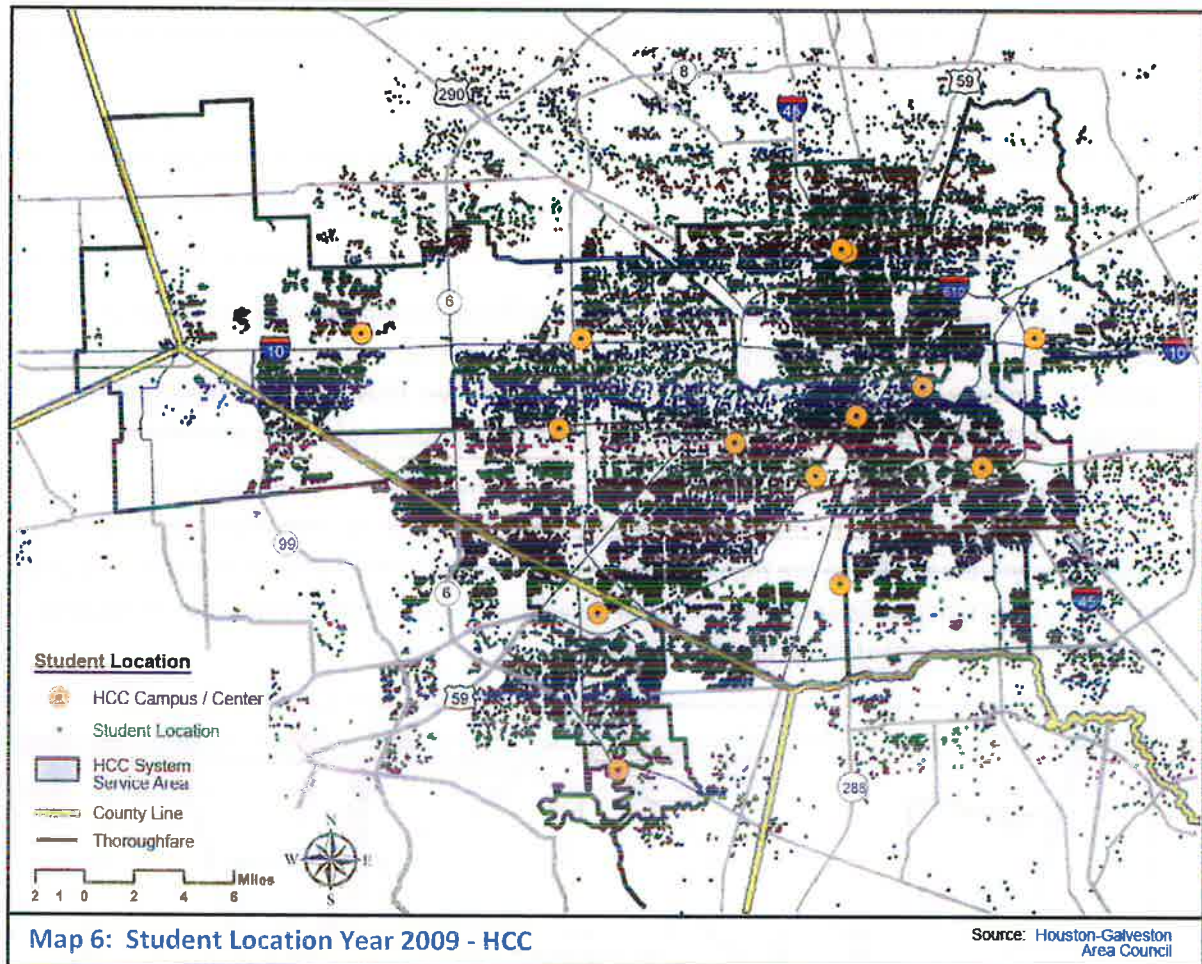
5.2 Accessibility

We have defined Driver 2 (Accessibility) as a combination of two factors:

- transportation connectivity to future System campuses, and
- trending growth in distance education as it pertains to programming and campus locations and to the concentration of HCC System students represented by their home address.

Map 6 (below) highlights the proximity of students to the System's campuses and the significant number of students that come from outside the System's service area. As the Houston area continues to expand and the commuter rail and light rail networks expand along with the area, the System will attract more out-of-district students. Therefore, it is vital to understand the role of transportation and the importance of providing students with easy accessibility to transit hubs and employment centers.

Approximately 80% of the System's student population lives in-district. The dot density in Map 6 (above) indicates that many students also live in close proximity to a System campus. However, approximately 20% of students live outside the service area, which suggests that locating future

campuses near transit, light rail and freeway corridors would provide make it easier for the students to connect with System campuses, and may therefore result in increased enrollment.

Accessibility takes into account the ease with which people can take advantage of System services and the degree of ease or difficulty students experience in accessing facilities. Reviewing service and facility accessibility is driven by an examination of area transportation infrastructure and the internal role of non-traditional and online course offerings. Generally speaking, the more choices students have for gaining access to campus services, the more positive an experience they will have.

This also presupposes the attraction to taking classes in person – on campus. Distance (online) learning can create a disconnect between student and educational institution, so accessibility, parking and the benefits of in-person learning must be real and obvious, and serve as attractors for students.

5.2.1   Mass Transit

For many students, the cost and duration of commuting is an important factor in deciding on whether or not to attend higher education classes. The convenience of mass transit located near HCC System facilities can increase access to higher education opportunities, especially for economically disadvantaged students who may not have access to private transportation.

According to H-GAC's City Mobility Planning Travel Demand Model, the number of work trips is expected to increase by 67% during the study period (through 2035) and an individual's total travel time in the City and its extraterritorial jurisdiction (ETJ) is expected to increase by two hours each day. Plans for future expansion of transportation infrastructure to address this projected growth include an approximately 14% increase in overall street capacity over the next 25 years, encompassing 8,256 street lane miles in the City (a 13% increase) and 14,705 street lane miles in the ETJ (a 23% increase).

With increased travel times expected, accessibility issues will be an even greater concern as traffic changes occur. Students will increasingly need to access classes near where they work or live, especially during peak commute hours. Many more students may choose to utilize mass transit options that can carry them from work or home to class and back in order to avoid traffic delays.

Houston Area Planned Transit Network Additions

In addition to Metropolitan Transit Authority of Harris County's (METRO's) extensive bus network across the greater Houston area, the freeway system and commuter rail and light rail are all critical for System students. Map 7 (on the following page) shows the relevant components of the Houston transportation network, with existing and planned transit facilities. Planned mass transit additions will provide greater mobility and access for all Houstonians, and has the potential to increase enrollment.

Map 7: Light-Commuter Rail Corridors, Park-n-Ride, Transit Center Locations   Source: Metro
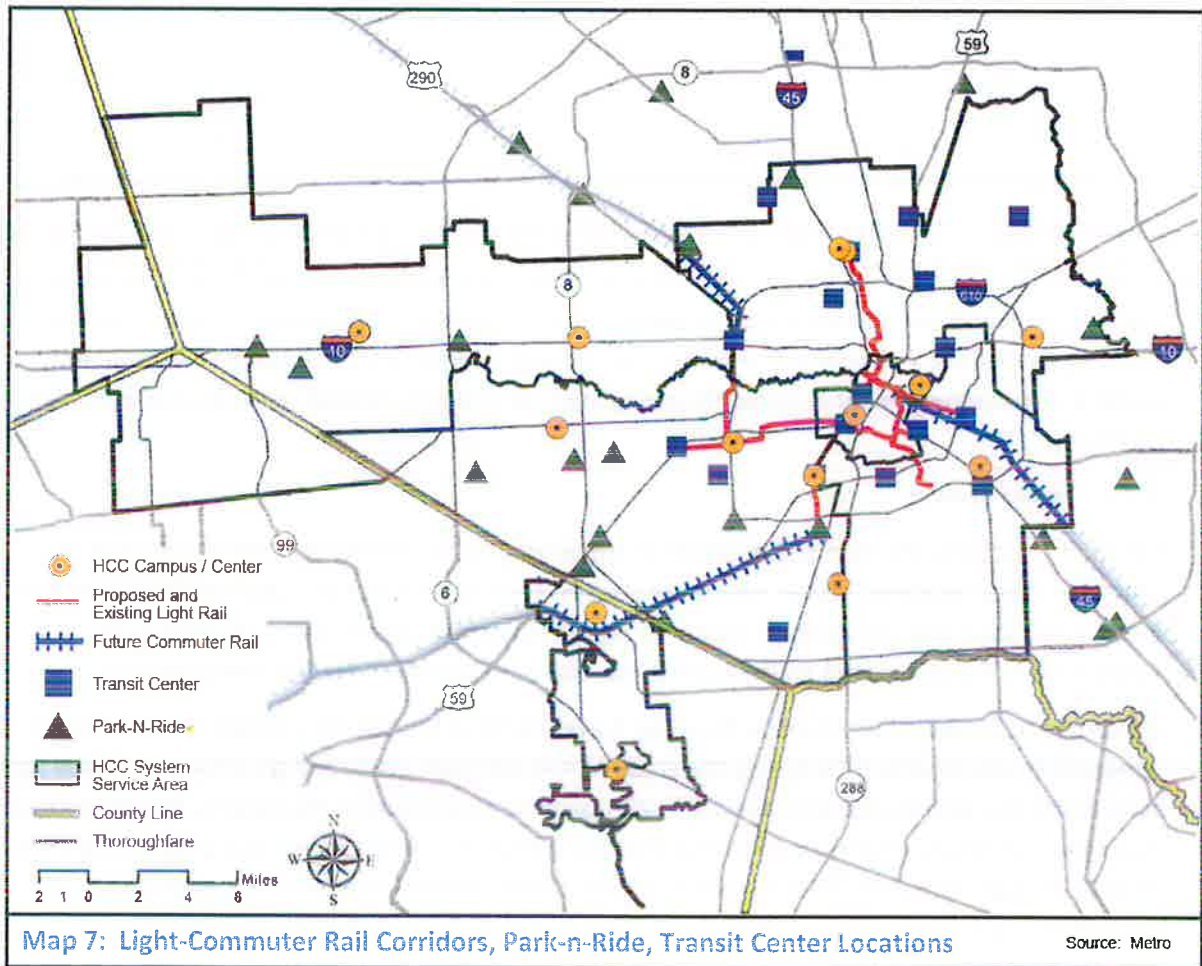
Commuter Rail

US 290 and Hempstead Corridor from Loop 610 to FM 2920 – Studies are underway for the development of commuter rail lines that will help connect thousands of Houston riders with existing and already-proposed rail lines. METRO proposes the creation of 40 miles of new commuter rail line, including locations of stations and the Hempstead terminus.

The Northwest Line, as presently envisioned, would start somewhere near the junction of US 290 and Loop 610, and head north along an existing freight rail line ending at FM 2920. The Union Pacific Railroad's "Eureka" line runs into the Eureka rail yard inside Loop 610 near Eureka Street (near the Northwest Mall at the Loop 610/US 290 interchange). The line could begin carrying passengers as early as 2015.

Present plans anticipate that commuter trains would use the rail by day and freight trains by night. This rail line could potentially bring in thousands of students from the Jersey Village area and other parts of Northwest Houston that do not currently find the HCC System campuses easily accessible. Students would be able to connect to other rail lines and access campuses via the Uptown Corridor (with a connection at the Northwest Transit Center) or the existing Main Corridor (with a connection at the new Burnett Station).

Southwest Extension-Fort Bend County – METRO is also looking to expand its reach into Fort Bend County, and plans to include an 8.2-mile project along the US-90A corridor. With this project, County residents could board a METRO train that would bring them directly to jobs in the Texas Medical Center. The commuter line would begin at Fannin South, the southern end of the Main Street line, and continue to the Fort Bend County Line at Beltway 8.

The HCC System's Scarcella, Greenbriar, Stafford and Applied Science and Technology Centers all fall in between US 90 and US 59. The currently proposed commuter rail line would not extend to these campuses. It would stop at the Beltway. However, these campuses could be accessed by shuttle or bus from the commuter line which could carry potential students from the Bellaire area or Missouri City.

Light Rail

The following light rail lines (Table 9, below) are anticipated to be opened in 2013 and beyond as part of the METRO Solutions transit system expansion.

Table 9: METRO Proposed Light Rail Extensions/Additions		
LINE NAME	**DISTANCE**	**ROUTE**
■ Red Line Extension	5.7 mi (9.2 km)	UH–Downtown Station to the Burnett Plaza and the Northline Transit Center
■ Southeast/Green Line	6.1 mi (9.8 km)	Smith Street in Downtown Houston to the Palm Center at MLK & Griggs Street
■ University/ Orange Line	11.3 mi (18.2 km)	Hillcroft Transit Center to the Eastwood Transit Center
■ Uptown/Pink Line	4.7 mi (7.6 km)	Southwest corner of US 59 South/I-610 West interchange to the Northwest Transit Center
■ East End/Brown Line	3 mi (4.8 km)	East of Downtown Houston to the Magnolia Transit Center

The currently-proposed METRO light rail line improvements reveal the possibility of serious interconnectivity between certain campuses. The Northline Academic Center campus will fall directly on the Red Line Extension and will open up the possibility for students to access the campus much more easily. It is conceivable that, with the addition of the proposed rail lines, students could enroll in a greater variety of classes than would otherwise be possible. The HCC System Administration building, Central Campus and Coleman College will continue to enjoy access from the Main Corridor, but will have additional access for students using the new University Corridor located near the Wheeler station.

The Eastside and Northeast campuses will not be accessible by rail and are not expected to experience a high impact on student enrollment from the proposed rail lines. The same holds true in West Houston, where there are no currently scheduled rail routes near the Spring Branch and Westgate campuses. The Alief campus may be accessed by rail in the future, but present plans are to stop the Westpark section of the University Corridor at the Hillcroft Transit Station. The Gulfton and West Loop campuses are located just south of the University Corridor, but additional shuttle or bus access to these campuses from the rail line could have a significant impact on students using mass transit to access these campuses. The Scarcella, Greenbriar, Stafford, and Applied Science and Technology Center are not near proposed METRO light rail lines. The South Campus also is not

located near a currently proposed METRO light rail line. These campuses and centers are serviced by METRO bus services or could be serviced by bus or rail in the future.

5.2.2   Distance Education

As online learning becomes more available and more attractive to students, increased enrollment in online classes will have an impact on the need for and design of future facilities. It is important to note that although much of online learning is done outside the traditional classroom environment, preliminary research shows that students will continue to desire face-to-face interaction with faculty and other students. They will also use testing facilities and visit the campuses for administrative services. Matching the ease with which students can access courses and services both online and in the physical space will present a number of challenges and opportunities in terms of campus planning.

A March 2010 national survey on Distance Education, published by the Instructional Technology Council, showed that, from Fall 2007 to Fall 2008 (the most recent full year of available data), campuses reported a 22% increase in distance education enrollment while on-campus enrollment for the same year only reported a 2% increase. Another study, conducted by the Sloan Foundation, reported a 17% growth in distance learning enrollments while on-campus enrollment only increased by 1.5% (Allen & Seaman, January 2010). The Sloan Foundation study reports that more than one-quarter of all higher education students are now taking at least one online course. There has been much speculation about when this growth will plateau, but it is expected to continue for the near future.

Chart 2 (below) presents levels of distance education enrollment in the HCC System, taken from the System's records – 1998-2003, OIR DataMart Files, Fall 2003-Summer 2004, and End of Term 2005 and 2009.
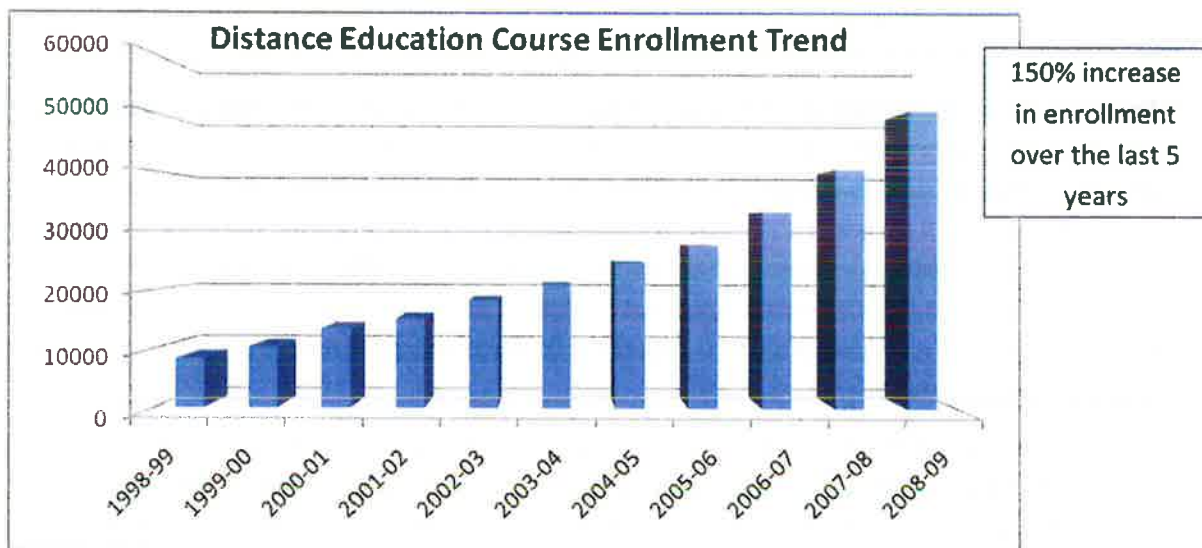
Chart 2: HCC Distance Education Records

HCC System distance education trends follow this same national movement with increasing numbers of students selecting distance education options. The undisputed growth in online learning impacts facility utilization; therefore, it is important to maintain accurate utilization records

to determine the need for new facilities. The composition of facilities will also be impacted as online courses currently require testing at on-site (approved) testing centers. In addition, students continue to seek administrative services on campus as well as gather for study groups or to socialize.

Recommended utilization and capacity studies will help to further define how existing space is being utilized and how to optimize such utilization. By combining various statistics, these studies should help to forecast the need for new facilities and help to define their composition to best address the needs of the growing population of online students. The role of technology as it applies to adequately developing the facilities for this purpose should be a particular focus within the proposed studies.

5.2.3   Summary of Accessibility – Driver 2

Accessibility takes into account the ease with which people can take advantage of System facilities and services, and the degree of convenience or difficulty students experience in accessing the facilities. Accessibility to transit hubs and employment centers will become increasingly important as the Houston area continues to expand, the commuter rail and light rail networks are increased, and the System campuses attract more out-of-district students.

As online learning becomes more available and more attractive to students, increased enrollment in online classes will have an impact on the need and design of future facilities. On-line students will also need to travel to various campuses from time to time for testing, study groups, attend events or to address administrative issues; therefore, transportation and overall accessibility will impact them as well as the traditional students.

Accessibility is a significant factor in enrollment and must therefore be considered in facility location. Map 8 (on the following page) outlines the existing transportation network (i.e. park-n-ride lots, transit centers, light rail and commuter rail networks) that is being planned, along with a quarter-mile buffer around those facilities. The quarter-mile buffer is a standard urban planning measurement; research shows that individuals are more likely to take transit if the destination is located within this distance, which is considered walkable. The resulting red areas on the map are the recommended locations to be considered for new facilities.

Map 8: Summary of Driver 2 impact on future HCC System site selection

Source: Houston-Galveston Area Council
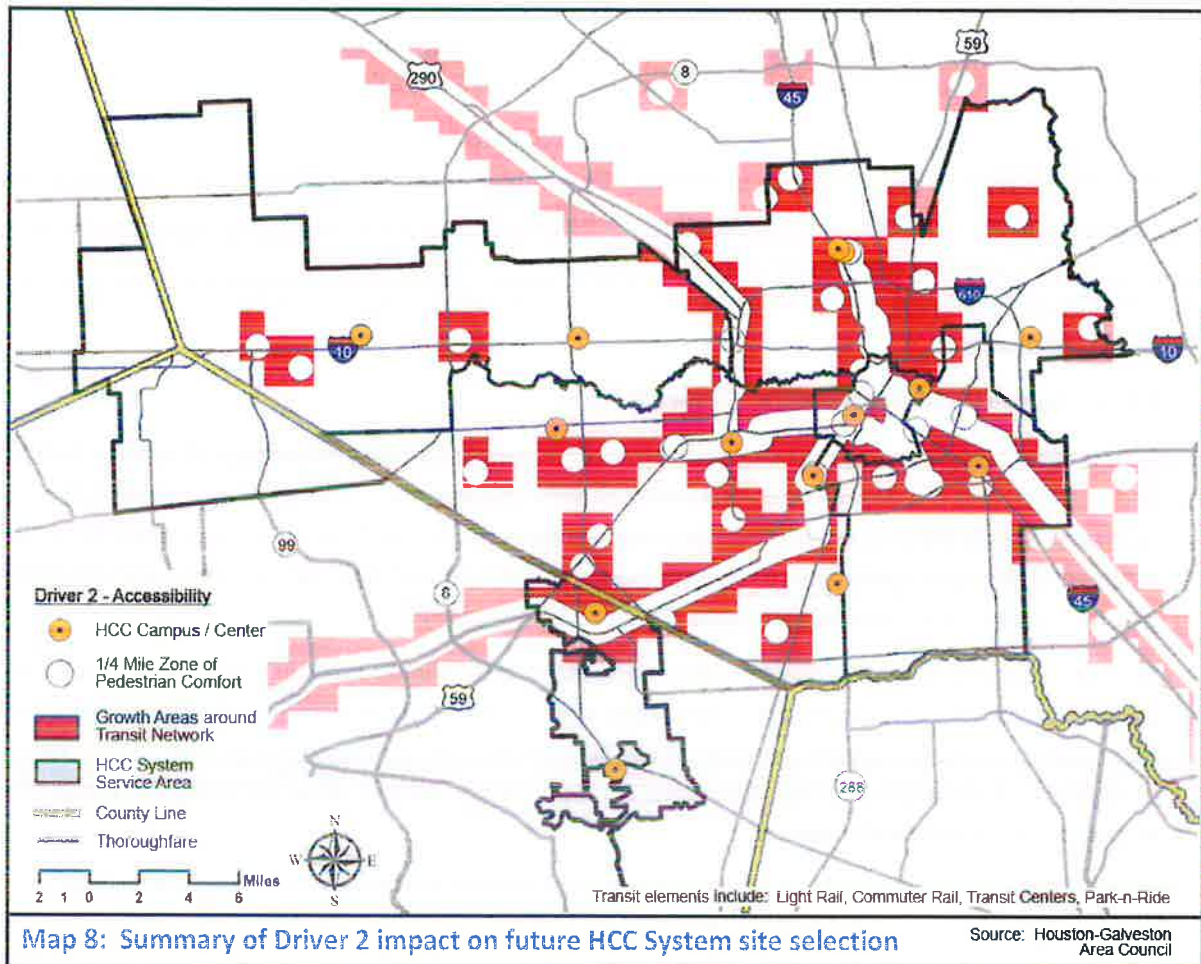
5.3 Enrollment Pipeline

We have defined Driver 3 (Enrollment Pipeline) as the factors that identify and define the needs of clients, System students, high school graduation rates and industry demands. These factors impact the development of future System facilities and significantly impact the make-up and needs of the future student population. High school graduation rates and specific educational needs of incoming students are balanced with the employment needs of Houston area industries and the skill sets they require when seeking new employees. Competition is also considered, as HCC colleges must compete with nine local community colleges to attract students.

5.3.1 Graduation Rates

The following statistics on high school graduation and college attendance come from the System's Early College High School Initiative, started in 2002.

- Young people from middle-class and wealthy families are almost five times more likely to earn a two- or four-year college degree than those from low-income families.

- For every 100 low-income students who start high school, only 65 graduate and only 45 will enroll in college. Only 11 will complete a postsecondary degree *(Jobs For the Future [JFF] analysis of data from the National Educational Longitudinal Study for students from the*

lowest-income SES quintile; includes outcomes from students' entry as ninth graders in 1988 to the year 2000.)

- In the United States, nearly half of African-American students and 40% of Latino students attend high schools in which graduation is not the norm. In the nation's 900 to 1,000 urban "dropout factories," completing high school is a 50:50 proposition at best. *(Robert Balfanz and Nettie Legters. 2004. Locating the Dropout Crisis—Which High Schools Produce the Nation's Dropouts? Where Are They Located? Who Attends Them? Baltimore: Johns Hopkins University.)*[1]

Roughly 65% of Texas students are graduating from high school, according to Editorial Projects in Education Research Center. Chart 3 and Table 10 (below) demonstrate this statistic along with graduation rates for all seven of the Independent School Districts (ISDs) within the System's service area. ISD information comes from each ISD noted in Table 10. The state average comes from the Alliance for Excellent Education. The national average comes from the National Center for Higher Education Management Systems.

These differences in graduation rates show differences in the educational needs of students in these areas. Areas with higher numbers of students not graduating from high school will need more remedial courses and GED certification programs. Alternative graduation programs should also be emphasized because they promote a smooth transition into the secondary education pipeline. Students in these areas would greatly benefit from early college high school graduation programs that focus their attention on remedial studies toward the attainment of a GED.
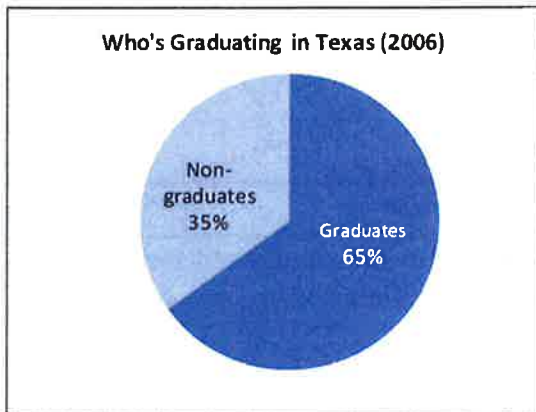
Chart 3: Graduation Rates

Table 10: GRADUATION RATES (2006)			
ISD	ISD AVG	STATE AVG	NAT'L AVG
Houston	42.8%		
Stafford	64.1%		
Fort Bend	78.6%		
Katy	87.6%	65%	68.6%
Spring Branch	62.3%		
Alief	44.6%		
North Forest	40.9%		

Graduation rates are accepted to be a fundamental indicator of school success. Almost 90% of the fastest-growing and highest-paying jobs require some postsecondary education. Having a high school diploma and the skills to succeed in college and/or the workplace are essential. Low-performing schools located within the HCC System service area should be identified -- students from these schools may be excellent candidates for workforce development outreach and early high school graduation programs.

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[1] http://www.earlycolleges.org/overview.html

Identifying the ISDs with lower graduation rates and locating future campuses within those school districts, offering relevant courses that support high school education, will play a key role in the long-term success of the HCC System by strengthening the enrollment pipeline.

Map 9: Location of High Schools that feed HCC System enrollment

Source: Houston-Galveston Area Council
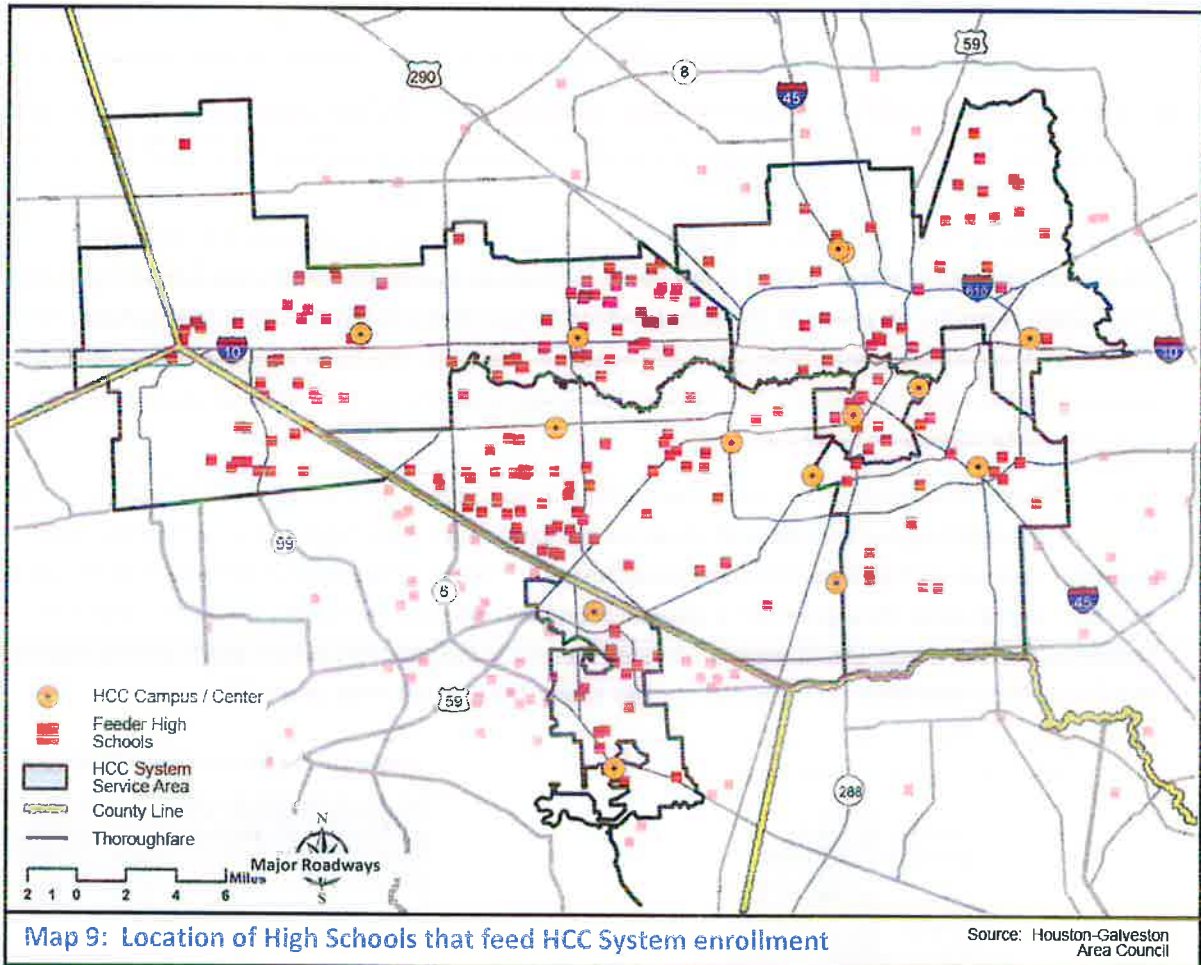
Map 9 (above) outlines the local high schools that are feeder schools into the HCC System from the referenced ISDs. Additional ISDs outside the immediate System's service area may also be viable feeder schools.

Early College High School Programs

A study conducted by Johns Hopkins University and the Associated Press named 42 high schools in the Houston area that have an attrition rate of 40% or higher. Among these 42 schools, 26 were located in the HCC System service area. Such a program in these schools could have a huge positive impact on students by focusing their attention on remedial classes in order to obtain a GED and go on to college.

In such cases, HCC's involvement in the early college high school program can make a difference in state high school attrition rates by encouraging students to stay in school and providing them with viable education options.

The early college high school program provides students the opportunity to earn a high school diploma and an associate's degree, or up to two years of credit toward a bachelor's degree, in five years. Students take a mixture of high school and college classes simultaneously. Each early college

high school is a public school and is open to any resident in the school district. Early college high school classes also allow students to transfer credits to public universities in Texas, as well as some private institutions. Available academic courses include English, history, government, biology and economics.

HCC operates six early high school programs throughout the Houston area. Schools are designed so that low-income, first-generation college students, students learning English, minority, and other under-represented students can benefit from programs where they can earn high school diplomas and associate degrees.

Early college high school classes are already being offered at several system campuses. For example, Spring Branch ISD students can attend classes at the System's Spring Branch campus or at their high school.

HCC System Dual Credit Program

The student must provide qualifying scores of college readiness through an approved test instrument. The student must also meet a standard for proficiency in basic reading, writing and mathematics. Under this program, students who qualify can take college courses and save up to one year's time on their college education. The five-year program enables students to complete four years of high school and a two-year Associate's degree, or the first two years of a four-year college program.

Table 11 (below) lists specific high schools within the System's service area that are feeding the current Dual Credit program.

Table 11: Feeder Schools for HCC System's Dual Credit Program	
Central College	HISD high schools – High School for the Performing and Visual Arts (HSPVA), Jones, Lamar, Madison, Sterling, Worthing, and Yates
Northeast College	North Forest ISD (NFISD) and the following HISD high schools – Davis, Furr, Sam Houston, Barbara Jordan, Kashmere, Reagan, Scarborough, Walthrip, Washington, and Wheatley
Northwest College	Katy and Spring Branch ISD school and HISD Westside HS
Southeast College	HISD schools – Austin, Chavez, Eastwood, Milby, and the Sanchez Charter HSD
Southwest College	Alief, Fort Bend, and Stafford school districts, and the following HISD schools – Bellaire, Lee, Sharpstown, and Westbury

5.3.2   Competition

The HCC colleges are not the only community colleges in the area that are looking at graduation rates, the need for GED classes and teaming with local ISDs to strengthen their enrollment pipeline with early college high school programs. Table 12 (on the following page) identifies some of these local colleges with basic comparisons on enrollment and tuition and fees, using figures provided by the Texas Association of Community Colleges. All figures are reported from the Texas Association of Community Colleges – there is discrepancy between the figures reported for HCC by others and those reported by HCC itself, based on variations in reporting methodology. Despite reporting

variance, this table provides a quick and uniform reference to local competition from a trusted source.

Table 12: Local Community College Enrollment and Cost – Fall 2009*		
Community College	2009 Fall Enrollment	Tuition and Fees 12 credit hours – Fall 2009
Alvin Community College	5,189	$557
Blinn College	16,855	$756
Brazosport College	3,866	$641
College of the Mainland	3,916	$480
Galveston College	2,167	$581
Houston Community College	42,104	$684
Lee College	6,542	$531
Lone Star College System	55,491	$600
San Jacinto College District	30,449	$526
Wharton County Junior College	6,622	$768
*Data from Texas Association of Community Colleges		

An individual college's programming will no doubt impact a student's selection of college. This issue will be addressed in the strategic plan. The scope of the FMP is to factor in the impact of the location of the facilities themselves and what role that may play in attracting student enrollment.

In addition to questions of programming, there is also the issue of benchmarking. An additional benchmarking study is recommended to identify colleges that are leading the nation in enrollment, engaging top level educators, attracting investment and promoting student success. These are the institutions of higher education that most likely are also leaders in developing distance education programs and well-maintained campuses – in short, they provide their students with a wide range of accessibility options. The latest known benchmarking study was the "National Community College Benchmark Project – Houston Community College System, Peer Analysis Report 2006."

In Driver 2, Accessibility, we have already determined that, for many students, the cost of commuting is an important factor in deciding whether or not to attend higher education classes. With increased travel times expected, accessibility issues will be an even greater concern.

Map 10 (on the following page) uses dot density to illustrate local competition and student concentrations within the HCC System service area, along with current campus locations. This map highlights the proximity of students to System campuses and the number of students who come from outside the System's service area. Approximately 80% of the System's student population lives in-district, while the remaining 20% of students live outside the service area. It is important to note that there are additional locations for the local community colleges which just fall outside of the map boundaries, and these colleges are continuously seeking ways to grow – just like the HCC System. It is also interesting to note that many of the competitor locations are in high-growth areas such as Tomball, Sugar Land and Pearland.

Driver 3: Enrollment Pipeline

- ⦿ HCC Campus / Center
- ■ Feeder High School
- • Student Origin Location
- ■ Other Community Colleges
- ▬ ISDs with Higher Attrition Rates
- ▭ HCC System Service Area
- ▰▰ County Line
- ▬ Thoroughfare

Map 10: Competition Locations

Source: Houston-Galveston Area Council
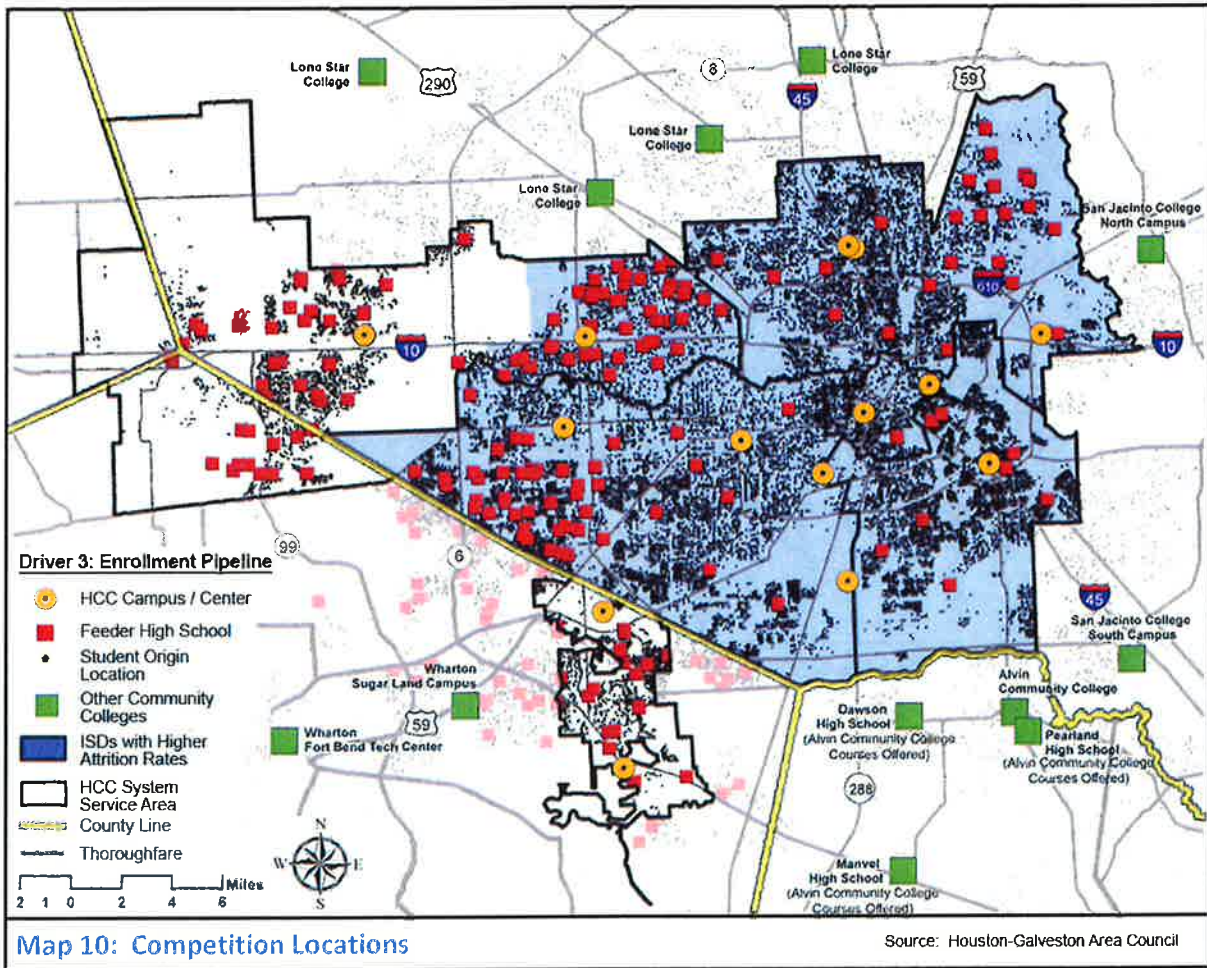
5.3.3 Industry Demands

The needs and direction of local workforce development will have a significant effect on the HCC System as the skill sets of the existing labor pool must change in response to changing industry demands. The City of Houston compiles jobs data using US Census Bureau statistics (from the 2000 US Census and the 2009 forecast) to compile local industry statistics. These statistics are broken down in Chart 4 (on the following page) to show the top industries for each of the System's campus areas. Major trends include an increase in jobs for the healthcare industry and construction, both of which saw significant increases in jobs in every College area from 2000 to 2009. Industry losses were seen in manufacturing, wholesale trade, information and utilities in every district.

Community college class offerings must adapt to accommodate the changing demands of the existing labor pool and the requirements of industry for future workers. This must happen in order to fully address the shift in skill sets required in the local labor force. Therefore, it is important to track the growth of specific industries in the Houston region and their attendant labor needs. Collecting current data and leveraging industry partnerships will be important inputs in predicting future workforce needs.

Map 11: Summary of Driver 3 Impact on future HCC site selection   Source: Houston-Galveston Area Council
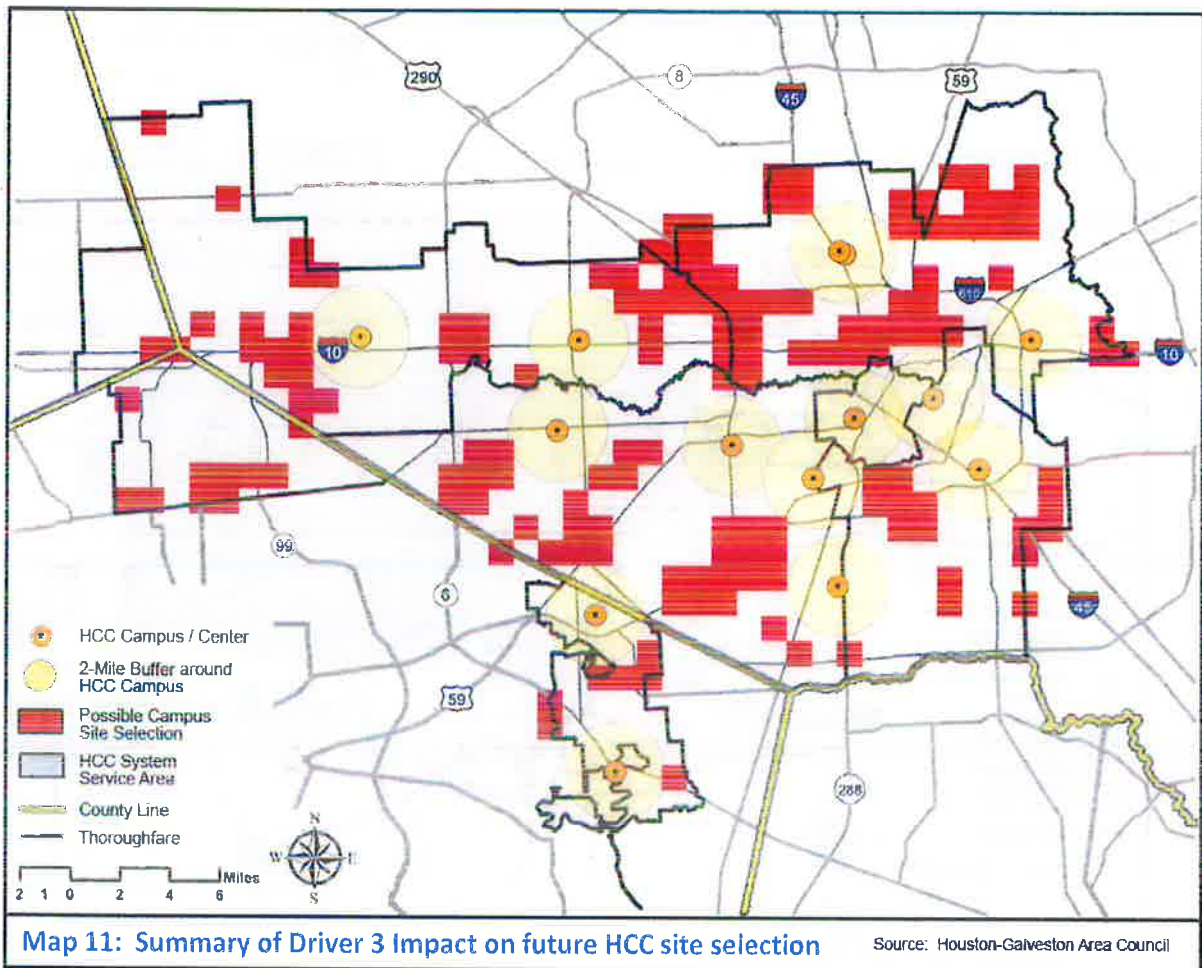
5.3.4   Summary of Enrollment Pipeline – Driver 3

The HCC System has been successful in creating a pipeline from area high schools, and has been innovative in creating student retention programs to ensure student success rates. Map 11 (above) identifies the potential locations of new HCC System facilities based on the distribution of potential students and feeder schools, a minimum two-mile buffer zone between facilities, current and planned transportation facilities, and the concentrations of business/industry hubs.   Additional ISDs outside the immediate HCC service area may also be viable feeder schools.

5.4 Summary of Drivers

The locations of future facilities are critical to the successful delivery of HCC System services. The FMP plays an integral role in the overall planning process by providing a guideline for how to evaluate and best identify prime facility locations. Map 12 (below) is a compilation of highest growth areas for each of the three main drivers identified previously in this study and outlined in Figure 10 (right).

Locating facilities in areas with the highest growth increases the potential utilization of the facility which also implies increased enrollment. As Map 12 (below) highlights, growth in the greater Houston area through 2035 will be significant, providing the HCC System with many opportunities and alternatives for expansion.

DRIVERS

1 DEMOGRAPHICS
Population Density
Employment Density
Proximity to Industry Hubs

2 ACCESSIBILITY
Mass Transit
Distance Education

3 ENROLLMENT PIPELINE
Graduation Rates
Industry Demands
Competition

Impact Basic Decisions About Facilities Planning
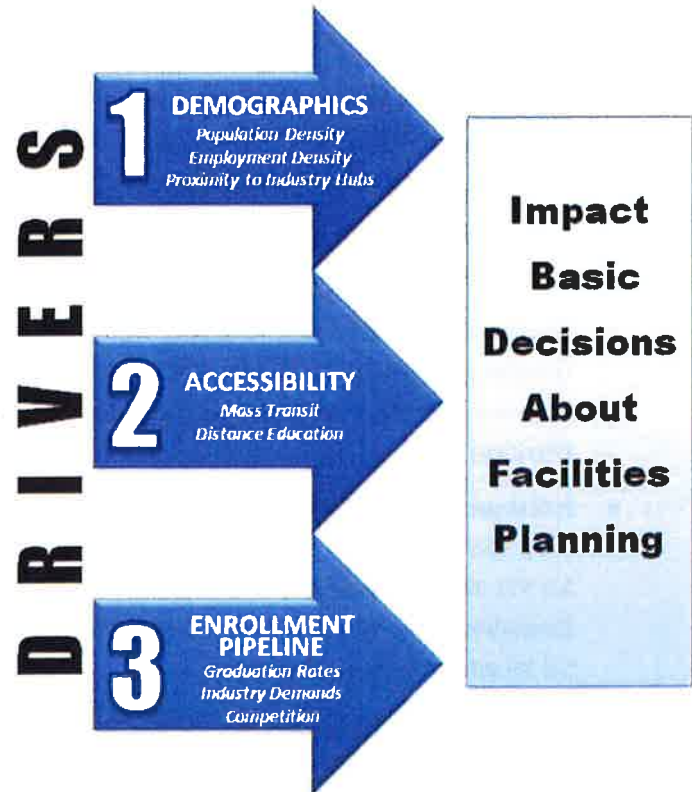
Figure 10: Facility Location Drivers

Legend:
- HCC Campus / Center
- 2-Mile Buffer around HCC Campus
- Possible Campus Site Selection
- HCC System Service Area
- County Line
- Thoroughfare

Map 12: Summary of all three Drivers impact on future HCC site selection

Source: Houston-Galveston Area Council
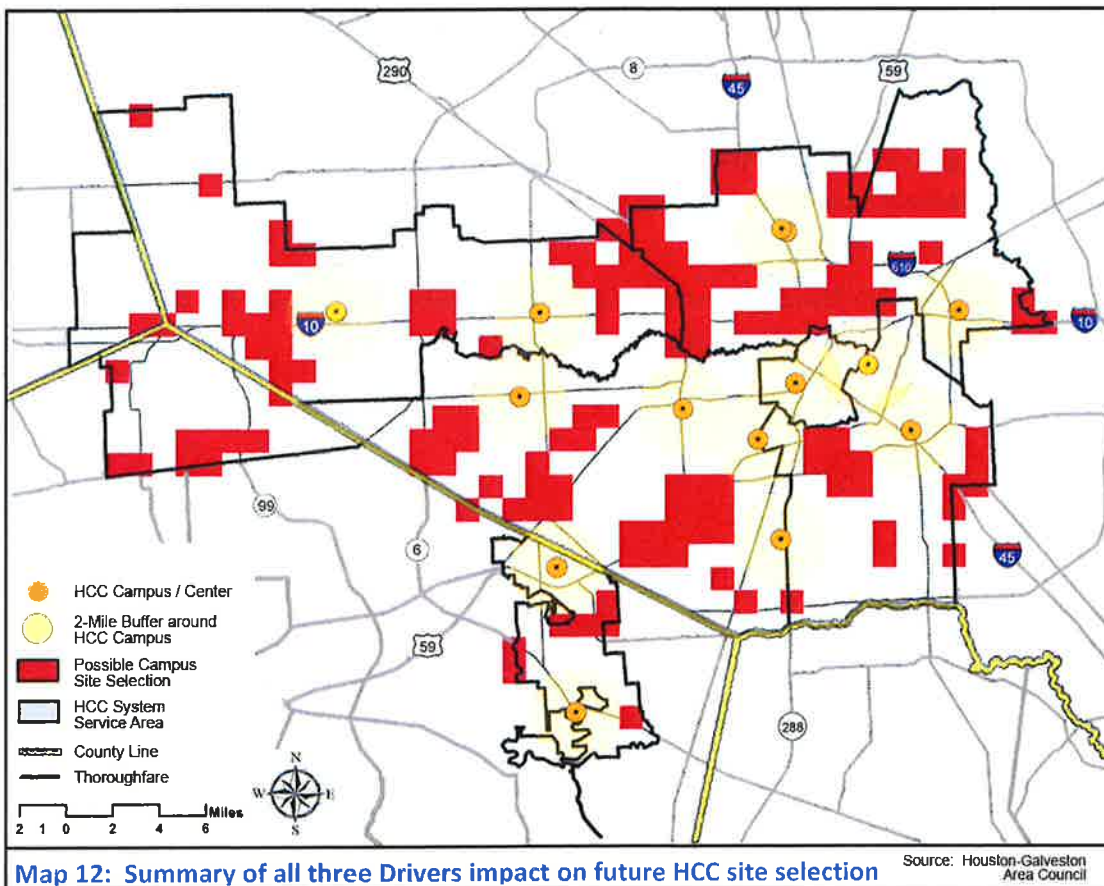
Supplemental studies will help to determine facility composition and timing of construction. This information will feed the bond package preparation process and provide valuable support to the final development of VISION 2035.

The map was compiled by developing a cumulative index of all three driver summary maps. As discussed earlier, the 2-mile buffer was established to indicate where new campuses should not be considered due to inefficiencies in service distribution and resource allocation.

The resulting composite map (Map 12) identifies areas that, under the given criteria, suggest the optimum growth potential for future new campus and facility locations:

- **Northeast College** - Greens Bayou, Northshore Village and Cloverleaf (around the I-10 corridor), Greater Fifth Ward, Kashmere Gardens, Settegast (I-610/US 90 junction), Greenwood Village, Mooney Heights, East Little York/Homestead and Houston Suburban Heights (around US 59 corridor).

- **Northwest College** – Hwy. 6 and I-10 junction (Barker Cypress and energy corridor) City of Katy, west of SH 99 on FM 1093 connecting Cinco Ranch and Fulshear, Park Row (north of I-10 on SH 99), the area south of Harbican Airpark and north of Clay Road. Victoria Lakes and Katy Estates (around the Katy area), Westheimer Airpark, the Lost Creek area (at the junction of SH 99 and Westpark Tollway).

- **Central College** - Two existing campuses eliminate the need for an additional campus; the focus will be on expansion; significant population and employment growth from 2010 to 2035, transit accessible and enrollment pipeline. Very suitable location for all drivers.

- **Southeast College** - MacGregor and areas around Palms shopping center, south side of Hobby Airport around Minnetex and Beverly Hills Park area, South Houston, Meadowbrook/Allendale area (area around I-45 and SH 3 between I-610 and Beltway8).

- **Southwest College** - around the US 59 corridor connecting Meadows Place, Westwood and Sharpstown, east of Hwy. 6 in the Alief area, Almeda and Brunswick Meadows area (around the SH 288 and Beltway 8 junction), area south of I-610 between US 90, SH 288 and the Beltway 8 region, Stafford and Missouri City.

- **Coleman College** - the focus will be on expansion. Programming through the Strategic Plan will determine health sciences expansions to additional campuses.

6 FACILITIES MAINTENANCE AND CONSTRUCTION – RECOMMENDED IMPROVEMENTS

The FMP is designed to be a comprehensive and inclusive document for the planning and implementation of future building, renovation and maintenance programs for the HCC System through the year 2035 and beyond. As such, it identifies and defines the processes, logic and tools necessary to assess, plan and implement a flexible facilities program that is needs-based and responsive to changes in technology, academic needs, strategy, drivers data, and education delivery methodologies.

The FMP has a simple purpose: to provide and maintain the infrastructure needed to serve the educational and strategic goals of the System as defined by its stakeholders.

6.1 HCC's Construction and Maintenance Practices

During the course of this study, a variety of needs were identified and determined to be mission-critical to the continued, effective implementation of any adopted Facilities Master Plan. These mission-critical needs are listed in Table 13 (below).

Table 13: Mission-Critical Needs in HCC System's Construction and Maintenance Programs	
1.1	Comprehensive, System-Wide Needs Assessment and program planning process
1.2	Minimize the number of deferred maintenance items
1.3	Annual deferred maintenance budget allocation commensurate with size of facilities
1.4	Short-cycle Maintenance and Inspection scheduling
1.5	Long-cycle Maintenance and Inspection scheduling
1.6	Integrated system to electronically codify and track facilities documentation
1.7	Integrated system to electronically codify and track facilities maintenance costs
1.8	Integrated system to track building facilities capacity and utilization
1.9	Integrated system to track parking facilities capacity and utilization

6.2 Summary and Recommended Improvements

The ESPA team concluded that areas for improvement in policy and process implementation could be generally categorized under the titles shown in Table 14 (right).

In a supplemental document entitled "Facilities Maintenance and Construction Recommendations for Improvements" (in progress), the ESPA Team outlined the logic and design processes for improving the specific areas of focus listed in Table 15 (below):

Table 14: Areas for Improvement in Policy and Process Implementation	
2.1	Facilities maintenance
2.2	Facilities asset tracking
2.3	Facilities capital improvement

Table 15: Specific Areas of Focus for Improvement in Policy and Process Implementation	
3.1	Maintenance of existing HCC System facilities
3.2	Tracking the value, utilization and capacity of HCC System facilities
3.3	Needs Assessment and programming of current and future capital improvements

It is important to note that the items noted in Tables 13, 14 and 15 are interdependent and must always be considered comprehensively. Their relationship is symbiotic in nature. For example, failure to properly maintain existing facilities increases the cost of future facilities; failure to properly assess and program for end-user needs reduces utilization efficiency thereby increasing operating costs; failure to properly track existing facility capacity and utilization results in lost revenue, excessive operational expenses and inaccurate data for future facility planning, and so on.

Based upon observations and reviews of current System maintenance and construction policies and practices, Table 16 (below) shows the ESPA Team's recommendations for improvements and corrective actions.

Table 16: Recommendations Summary	
Maintenance of Existing HCC Facilities	
4.1	Commission a periodic (5-year) Facilities Condition Assessment (FCA)
4.2	Minimize deferred maintenance items
4.3	Establish and implement regular Maintenance and Inspection schedules
4.4	Establish and fund an annual maintenance budget
Tracking the Value, Utilization and Capacity of HCC Facilities	
4.5	Electronically codify and track facilities documentation
4.6	Electronically codify and track facilities maintenance and construction costs
4.7	Electronically codify and track facilities utilization and capacity

	Needs Assessment and Programming of Current and Future HCC Capital Improvements
4.8	Create and adopt a systematic process for proposing, programming and funding facilities Improvements
4.9	Create, adopt, and implement system-wide Design Standards for new facilities and facility improvements

6.3   Process for Proposing New Facilities or Modifications to Existing Facilities

Constructing new facilities or significantly modifying an existing facility, especially modifying its function, impacts practically every department in an organization. Oftentimes, projects are proposed and green-lighted without fully considering their impact on the departments tasked with supporting their operations. As a result, an organization can create as many problems as it is attempting to resolve.

Any effective planning process must seek out and take into consideration the input of stakeholders and those responsible for providing services to the end-user. A new space's operations must be funded, staffed, equipped, secured, conditioned, maintained, etc. Beyond the initial capital outlay for design and construction, there are ongoing additional costs for water, wastewater, storm sewer, gas, electricity, security, information technology, lab equipment, permits, certifications, solid waste management, insurance, building maintenance and a host of other items. A facility whose operation is underfunded can become less of an asset and more of a liability.

The HCC System currently has no formal protocol or comprehensive vetting process for the proposal and planning of new capital improvement projects and the assessment of their potential impacts on existing System infrastructure and operational processes. Sometimes, as a result, new facilities either exceed or are at capacity within weeks of being occupied or are underutilized due to a lack of funding for the programs intended to be housed therein. An ill-conceived building program can overburden the budget and staffing of an institution's maintenance program. Brand new buildings sometimes have to be modified because their design programs were so generic that they cannot satisfy the space needs of the specific intended end-user.

In order to ensure the implementation of a successful building program, the proposal process must consider and integrate data from a number of essential components, described in Table 17 (below).

Table 17: Components of a Successful Building Program Proposal Process	
12.1	Input from stakeholders (faculty, Facilities Maintenance and Administration)
12.2	Adherence to design standardization
12.3	Current capacity and utilization data analysis
12.4	Projected growth rate data analysis

6.3.1   Specific Recommendations

It is recommended that the HCC System create and adopt a comprehensive Building Program Proposal process that mandates the implementation of the following directives:

Table 19: Recommended Projects for Central College	
TIER I PROJECT	**CRITERIA**
Central Campus: renovate Fannin Street building to house culinary or programs from 811 Dallas (coming off lease)	1,2,3,6,7,20
Central Campus: complete historic restoration of the San Jacinto Building	1,3,4,5,11,19
Central Campus: J.B. Whitely building: replace or refurbish existing building	1,3,4,5,19
Central Campus: add Science and Technology facility	1,3,5,6,11,15,19,20
Central Campus: add Student Center/Wellness Center with gym and pool	1,3,5,6,11,15,19,20
Central Campus: continue to expand between Main and US 59 per the existing strategic plan as real estate opportunities arise	1,3,5,6,11,15,19,20
South Campus: add Workforce, Sports Medicine and Athletic Facilities (include a multi-purpose center with a basketball court)	1,5,6,8,12,13,19,20
South Campus: strategic acquisition of new real estate near US288 and Beltway/Sam Houston Tollway to capture future student growth	1,6,7,9,10,11,12,13,15,20
TIER II PROJECT	**CRITERIA**
Central Campus: Continue to expand between Main and US 59 per the existing strategic plan as opportunities arise	1,4,5,8,12,20
Central Campus: JDB and EDC buildings: replace existing facilities with new facility	1,4,5,6,13,20
South Campus: add Science Building	1,5,6,7,8,9,11,12,20
South Campus: continue expansion by adding new buildings to house programs that strategically align with the College VISION and growth	1,5,6,7,8,9,11,12,20
Central Campus: add computer lab and e-communications center	1,5,6,8,12,13,20
TIER III PROJECT	**CRITERIA**
Central Campus: continue to expand between Main and US 59 per the existing strategic plan	1,9,10,14,20

Table 20: Recommended Projects for Northeast College	
TIER I PROJECT	**CRITERIA**
Northline Campus: acquire additional adjacent land for future expansion	1,3,5,6,11,15,19,20
Northline Campus: add a parking facility; possibly multi-use with retail. (partner with METRO and Northline Mall)	1,3,5,6,11,19,20
Northline Campus: add a combined Academic and Workforce building	1,6,7,11,19
Northline Campus: add Learning Hub facility housing Student Services, Academic Support and Library	1,5,6,11,19
Northline Campus: add a state-of-the-art Automotive Technology Center	1,6,7,11,19
Codwell Hall Campus: renovate the existing Automotive Technology Facility to serve as a primary location for Diesel Mechanics, and a satellite feeder program for the new Automotive Technology Center to be located at the Coldwell Hall Campus	1,6,7,11,19
Codwell Hall Campus: add a Manufacturing Technology facility	1,6,7,8,11,12,19
Codwell Hall Campus: add an Entrepreneurial Center to incorporate Small Business Development, Entrepreneurship, International Trade, and Distribution and Logistics.	1,6,7,8,11,12,19
NFISD Area: acquire land near Little York and Hirsch Road for an Academic Center and Student Services, including a Small Business Incubator (allow for future expansion to campus); coordinate with County on expansion of W. Little York and Mease Road	1,5,6,11,15,17,19
Pinemont Campus: replace existing facility with a 50,000- to 100,000-SF facility on a new 10-acre site in the Acres Homes area near I-45 between W. Gulf Bank and Victory; consider location of new Lone Star College facility in planning	1,4,5,11,15,19,20
TIER II PROJECT	**CRITERIA**
Northline Campus: add a new Career and Technology building	1,5,6,8,12,13,20
NFISD Area: add an Academic and Workforce building	1,5,6,8,12,13,18
Codwell Hall Campus: add short-term student housing and a Conference Center	1,5,6,8,13,20
Codwell Hall Campus: add a Physical Fitness Center (for Law Enforcement and general collegiate needs)	1,5,6,12,13
Codwell Hall Campus: add a Student Activities and Wellness Center for Instructional Programs.	1,6,8,12,13
TIER III PROJECT	**CRITERIA**
Codwell Hall Campus: future additions may include community center, athletic/sports facility or a performing arts theater/auditorium	9,10,16,14
Northline Campus: add a Child Development facility	1,9,10,20
Codwell Hall Campus: Command Center for Public Safety	6, 7, 9, 11, 12

Table 21: Recommended Projects for Northwest College

TIER I PROJECT	CRITERIA
Science and Engineering Center of Excellence/"Green" Industry Technologies-specialty campus	1,2,3,5,6,7,8,9,12,13,20
Expand Katy Campus for academics, including university component	1,3,5,6,11,13,20
Redevelop Katy Mills site through public/private partnerships	7,12
TIER II PROJECT	**CRITERIA**
Spring Branch Campus: Performing Arts Center	1,5,6,13,20
Spring Branch Campus: parking structure	5,6,13,20
Spring Branch Campus: general academic tower	1,5,6,13,20
Spring Branch Campus: purchase land around the existing campus boundary defined by Westview and Beltway 8 for future expansion, If available	1,2,5,6,9,12,13,15,20
Spring Branch Campus: Continuing Education Building with ESL and Vocational at northeast sector of Spring Branch ISD	1,5,6,12,13,20
Add a new campus on US 290 along the feeder in the HCC System district; preference is for a location right on the border of the Northwest and Northeast colleges	1,5,6,13,20
TIER III PROJECT	**CRITERIA**
Continue strategic expansion of "West Side" campuses to meet demand for growth	Varies
Katy Area: long-term development of full campus (full-service University Center) near the intersection of FM 1093 and Grand Parkway in the southwest quadrant of Katy ISD	1,5,6,11,12,13,20
Katy Area: purchase land for locating a campus in downtown Katy, or near the intersection of FM 529 (Freeman Road) and Katy Hockley	1,5,6,11,13,15,20

Table 22: Recommended Projects for Southeast College	
TIER I PROJECT	**CRITERIA**
Felix Fraga Campus: build out the 3rd floor of the building (for currently space-starved academic programs)	1,3,5,6,9,17
Felix Fraga Campus: add a building with additional parking for academic programs such as rail-related technology	1,6,7,19
Felix Fraga Campus: acquire 5 to 10 contiguous acres of land for addition of a soccer field and multi-purpose athletic and community center	6,9,11,12,15,19
Southeast Campus: add a new parking garage with a welding and HVAC technical school on the 1st floor	3,5,6,11,19
Southeast Campus: continue to expand the campus to have freeway frontage and eventually reach I-610.	1,5,6,11,13,15,19,20
Southeast Campus: add new Logistics and Transportation instruction building	1,5,6,7,19,20
Southeast Campus: add a building to house an expanded international program	1,5,6,11,19
TIER II PROJECT	**CRITERIA**
Southeast Campus: add a new Health Sciences and Gym/Sports facility/Wellness Center with International Center and Student Life/Government	1,5,6,12,13,18,20
Southeast Campus: add a new center to house Transportation- and Port-related workforce	1,5,6,7,9,11,12,13
Southeast Campus: continue to expand campus to have freeway frontage and eventually reach I-610	1,5,6,13,20
Felix Fraga Campus: add a building and parking capacity to reflect new academic and student growth needs	1,5,6,13,20
TIER III PROJECT	**CRITERIA**
Southeast Campus: continue to expand campus to have freeway frontage and eventually reach I-610	1,9,10,14,16,20
Felix Fraga Campus: expand campus by addition of contiguous land	1,9,10,14,16,20

Table 23: Recommended Projects for Southwest College	
TIER I PROJECT	**CRITERIA**
Sienna Plantation Campus: add one building, possibly a Science Center	1,5,6,18
Stafford Campus: renovate or replace old, underutilized facilities (priority)	1,2,3,4,5,6,11,19
Stafford Campus: add new Workforce building	1,5,6,7,11,19
Stafford Campus: close Greenbriar location and relocate the Fine Arts program to Building 'B' (priority)	1,2,3,4,5,6,11,19
Stafford Campus: acquire available land from City of Stafford for expansion	1,5,6,11,15
Stafford / West Loop Campus: transfer some classes to fill available extra capacity at West Loop facility; provide additional parking if necessary	1,2,3,5,6,19
Applied Technology Center: permanently close the facility at Bluebonnet; theHCC System will no longer provide A/C repair courses	1,2,3,4,5,6,19,20
Alief Campus: build out two unoccupied floors and expand auditorium space	1,2,3,5,18,19,20
Gulfton: building is at the end of its lifecycle; sell building and relocate programs (i.e. Intensive English West) and personnel to either a new facility or the Bissonet facility	2,3,4,5
TIER II PROJECT	**CRITERIA**
Sienna Plantation Campus: cxpand existing Library to a Learning Resources building with a Technical Library in partnership with Fort Bend County, Methodist Hospital and the Career and Technical Center	1,5,6,8,12
Sienna Plantation Campus: add a classroom-intensive Learning Hub	1,5,6,13
Sienna Plantation Campus: add full-fledged Administration Facility to support student growth	1,5,6,13
Stafford Campus: add a Fine Arts building including recital hall, multi-purpose auditorium and art gallery	1,2,3,4,5,6,11,19
Stafford Campus: add a multi-purpose Athletic Complex	5,6,13,18
Stafford Campus: Establish Early College Campus with Stafford Municipal School District	1,5,6,13
Alief Campus: add a new Learning Hub and Science Center with a parking structure	1,5,6,13
Sienna Plantation: add a Physical Education and Wellness Center	1,5,6,13,18
Southwest College: add a Center for International, Veterans and ADA Services as well as a Women's and Student Government Center in the vicinity of US 59 and Beltway 8	1,5,6,12,13
TIER III PROJECT	**CRITERIA**
Continue strategic expansion of Sienna, Stafford and Alief campuses	3,6,7,9

Table 24: Recommended Projects for Coleman College

TIER I PROJECT	CRITERIA
Add 20,000 to 50,000 SF ("Coleman West") near an existing hospital system (new Coleman Satellite campus)	1,5,6,7,11,20
• Option 1: build out John O'Quinn building for Coleman; Medical Center will expand to JOQ building	1,5,6,7,11,20
• Option 2: pre-package prerequisite programming for housing at sites across the HCC System's service area	1,5,6,7,11,20
• Option 3: co-locate "Coleman West" programs within existing hospital systems	1,5,6,7,11,20
TIER II PROJECT	**CRITERIA**
Build a 14-story building with underground parking on adjacent land (partner with the University of Houston for Health Sciences (dental, nursing, pharmacy, etc.)	1,5,6,7,9,11,12,17,20
Strategically expand Coleman College facilities across the service area to accommodate the programming and instructional needs	1,5,6,7,11,20
TIER III PROJECT	**CRITERIA**
Convert existing building to Early College High School for Health Careers	1,3,5,6,7,9,11,12,20
Strategically expand Coleman College facilities across the service area to accommodate the programming and instructional needs	1,5,6,7,11,20

7.2   Supporting Demographic Changes by College

By examining and understanding changes in demographics, accessibility and the enrollment pipeline, the HCC System will be able to begin careful planning and maintain a managed growth perspective. These drivers are critical pieces of information that will determine much about the feasibility and practicality of the System's future plans. They are positioned to have the largest impact. However, any future plans and designs must retain a certain degree of flexibility as further drivers are realized and current ones are revised. Tables 25-29, on the following pages, outline the anticipated impacts of these drivers by HCC System college.

Table 25: Demographic Changes Anticipated at Central College	
Population Density	The Central Zone is the smallest in terms of land area, and large amounts of space in the Central Zone are dedicated to non-residential purposes; therefore, a limited number of individuals reside in the zone. Of those, many are University of Houston students. Central Zone population is expected to increase by only 20,000 residents, for a 2035 total of approximately 246,000.
	The Central Zone showed the highest percentage of individuals who were between the ages of 20 and 24. These individuals are also those most likely to attend college level courses such as those offered at System campuses.
	The Zone has a high percentage of individuals with incomes less than $35,000 (46%). However, 25% of the population reported incomes greater than $75,000. The area's ethnic make-up has almost an equal number of Hispanics (32,136) and African Americans (37,701), the two largest ethnic groups in the area.
Employment Density	Not surprisingly, job growth is expected to continue in the Central Zone which includes the downtown. The Central Campus is optimally placed to service the needs of this growing commercial economy.
Mass Transit	The expansion of the METRO rail line system will help connect Central Zone campuses to those in other zones. Central Campus is already positioned near the existing rail line and will continue to enjoy the advantage of easy transit access. As the METRO rail lines grow and as proposed commuter rail lines connect to the existing lines, student preference for the Central Campus is also likely to expand.
Industry Base	Because the Central Zone has many institutions of higher learning, it is no surprise that this zone is dominated by educational services and professional and technical jobs.
Graduation Rates	The Central Zone is made up of high schools from the Houston ISD, which has a graduation rate of 42.8%, compared to the Texas average of 68.6%.
Dual Credit Programs	Dual credit programs are currently available for the following schools located in the Houston ISD and the Central Zone: High School for the Performing and Visual Arts (HSPVA), Jones, Lamar, Madison, Sterling, Worthing and Yates.
Early College High School	The Central Zone is home to the East Early College High School and the Houston Academy for International Studies. The schools are open to all freshman students who are residents of HISD.

Table 26: Demographic Changes Anticipated at Northeast College	
Population Density	Population is expected to increase in the Northeast Service Zone by 104,000 over the next 25 years. Age divisions are not expected to show much variation between 2009 and 2014, except for the growing number of individuals who are 55 and older. Projections expect the number of residents in this age group to increase from approximately 70,000 to 102,000. One-third of the population is between the ages of 0 and 19.
	Individuals in the Northeast Zone reported among the lowest incomes for the Houston area. Approximately 46% of individuals have incomes less than $35,000 a year. Among those, 20% earn less than $15,000 a year.
	The Northeast region has more than twice as many self-identified Hispanics (275,510) as African-Americans (123,964).
Employment Density	Job density will continue to increase along the US 290 corridor (with the addition of a US 290 commuter rail line, employment activity is likely to increase even more depending on final route layouts). Job density will increase significantly near the junction of US 290 and I-610N. This growth will continue out toward the Northline Academic Center Campus and the Automotive and Technology Center. Additional job growth is also expected to continue north on the I-45 corridor and around the intersection of I-45 and the Hardy Toll Road. Some growth will occur along the I-10 corridor near the Northeast Campus.
Mass Transit	The Northline Campus will be adjacent to the METRO North Corridor line and the Automotive Technical Center is expected to be close to the new rail line. Both these campuses are expected to realize the greatest benefit from the new METRO lines because they are both adjacent to the expansion and will be easily accessible to students. In addition, the expanded line will connect the Northline campus to the Central Campus and Coleman College, and create a tremendous accessibility advantage for System students. Students will have the option of attending classes in both college zones on the same day with relative ease. Future coordination between colleges on class offerings could greatly expand student interest in attending these colleges. In addition, the colleges will be connected with the University of Houston downtown, which will make the Northeast Campuses more attractive to potential students.
	The Northeast Campus (555 Community Drive) will not be accessible by rail and is not expected to realize a high impact on student enrollment from the proposed rail lines.
	The conversion of existing rail lines along US 290 also has the potential to attract a greater number of students to the Northeast campuses. The proposed commuter line would potentially connect with the METRO Uptown Corridor or the existing Main Corridor.
Industry Base	The Northeast Zone holds more jobs in construction than any of the other five zones. Its second highest job source comes from retail and trade-related industries.
Graduation Rates	The Northeast Zone is made up of high schools from the HISD and NFISD. HISD schools have a graduation rate of 42.8%, compared to the Texas average of 68.6%. NFISD schools have a reported graduation rate of 40.9%, the lowest rate of all the school districts in the HCC System service area.
Dual Credit Programs	Dual credit programs are currently available for the following HISD schools located in the Northeast Zone: Davis, Furr, Sam Houston, Barbara Jordan, Kashmere, Reagan, Scarborough, Walthrip, Washington and Wheatley, as well as for all schools in the NFISD. These programs could be made available to the remaining high schools in the HISD, making the HCC System popular and attractive to this target population.
Early College High School	The Northeast Zone is home to the North Houston Early College High School. This school is open to all freshmen high school students who are residents of HISD.

Table 27: Demographic Changes Anticipated at Northwest College	
Population Density	Population is expected to increase in the Northwest Service Zone by almost 150,000 over the next 25 years. Each age division shows some growth in numbers between 2000 and 2014. The most dramatic increase is in the 55 and older group, which is expected to almost double in size from 50,000 to 98,000 residents. Individuals between the ages of 0 and 19 make up roughly one-third of the population.
	The Northwest Zone statistics show it to be the most affluent zone, with more than 49% of the population reporting incomes in excess of $75,000. Among these individuals 10% reported incomes greater than $200,000.
	The Northwest has the highest reported group of White individuals (217,750), with its second highest ethnic group being Hispanics (142,273). However, by 2014, the White population in this area is expected to increase by only 8,242 people, a 2% increase, while the Hispanic population is expected to increase by 34,547, a 10% increase. The Northwest Zone also has the second highest population of Asian Americans, roughly 29,828.
Employment Density	Employment will increase significantly along the I-10 corridor, including the area surrounding the Spring Branch campus and approaching the Westgate (Katy) campus.
Mass Transit	The proposed METRO rail lines do not traverse the Spring Branch or Westgate campus areas. The proposed commuter rail line along US 290 may bring in some additional students who could access the Northwest Zone campuses, but it is unlikely to become an attractive option because it would require the use of bus connections to access the Spring Branch or Westgate campus.
Industry Base	The Northwest Zone leads the City in retail and trade related jobs. The area also provides a significant number of jobs in the professional and technical arenas.
Graduation Rates	The Northwest Zone covers both the Katy and Spring Branch ISDs. The Katy ISD has an annual graduation rate of 87.6%, compared to the Texas average of 68.6%, the highest graduation rate for all the school districts in the Zone. The Spring Branch ISD has a graduation rate of 62.3%, which falls just below theTexas average.
Dual Credit Programs	For the Northwest Zone, dual credit programs are currently available for all high schools located in the Spring Branch and Katy ISDs.
Early College High School	The Northwest Zone currently does not have a separate HCC System early high school campus; however, Spring Branch ISD students can attend classes at the System's Spring Branch campus or at their individual high schools, depending on availability.
	Students from Katy and Spring Branch do not meet the residency requirement for any of the separate HCC early college high schools.

Table 28: Demographic Changes Anticipated at Southeast College	
Population Density	Population in the Southeast Zone is expected to increase by 15% (to 297,000 individuals) over the next 25 years. The youngest and oldest segments of the population in this area represented 52% of the population in 2009. Individuals between the ages of 20 and 34 make up only 23% of the total population.
	Over half the individuals in the Southeast Zone report incomes just below $35,000, the highest percentage for the System service area. Only 16% reported incomes of $75,000 or more. The Southeast also has a high Hispanic population, almost 186,194 individuals (54%), as well as 106,274 African Americans (31%). The zone only reports 16,874 whites, which is roughly 5% of the population.
Employment Density	By 2035, significant job growth is expected to occur around the Eastside Campus, along the I-45 corridor and in the northernmost section of the Zone along I-10 and in the Ship Channel area. Job growth is also expected to occur outside of the service area between I-45 and SH 288.
Mass Transit	The proposed East End corridor comes within a mile of the Felix Fraga Campus and opens the campus to downtown employment and population centers. Also, METRO is planning to increase bus service and routes within this area. This will potentially increase accessibility to the Felix Fraga and Eastside campuses.
Industry Base	The Southeast Zone has the highest number of jobs in construction and jobs related to retail.
Graduation Rates	The Zone is made up of high schools from the Houston ISD, which has a graduation rate of 42.8%, compared to the Texas average of 68.6%.
Dual Credit Programs	Dual credit programs are currently available for the following schools located in the Houston ISD and the HCC System's Southeast Zone: Austin, Chavez, Eastwood, Milby and Sanchez Charter HS.
Early College High School	The Southeast Zone is home to the George I. Sanchez Charter High School, which is open to all freshman students who are residents of HISD.

Table 32: Specific Areas of Focus for Improvement in Policy and Process Implementation	
3.1	Maintenance of existing System facilities
3.2	Tracking the value, utilization and capacity of System facilities
3.3	Needs Assessment and programming of current and future System capital improvements

The HCC System currently has no formal protocol or comprehensive vetting process for the proposal and planning of new capital improvement projects and their impact on existing System infrastructure and operations. It is recommended that the System create and adopt a comprehensive Building Program Proposal Process, such as the one recommended within this document, as well as System-wide design standards for new facilities and facility improvements.

8.4   Campus-Specific Recommendations for Future Development

After careful consideration of VISION 2035 and the strategic plan for the System, stakeholder input, key drivers influencing student need and the System's facility development process, a list of recommended projects was developed. The projects listed best represent an effective response to the current and projected future needs of the System and the community which it serves. Tables 33 through 38 outline the Tier I projects recommended to be initiated by 2015.

Table 33: Recommended Tier I Projects for Central College
Central Campus: renovate the Fannin Street building to house culinary or programs from 811 Dallas (coming off lease)
Central Campus: complete historic restoration of the San Jacinto building
Central Campus: J.B. Whitely Building: replace or Refurbish existing building
Central Campus: add Science and Technology facility
Central Campus: add Student Center/Wellness Center with gym and pool
Central Campus: continue to expand between Main and US 59 per the existing strategic plan as real estate opportunities arise
South Campus: add Workforce, Sports Medicine and Athletic facilities (including a multi-purpose center with a basketball court)
South Campus: strategic acquisition of new real estate near US 288 and Beltway 8/SHTR to capture future student growth

Table 34: Recommended Tier I Projects for Northeast College
Northline Campus: acquire additional adjacent land for future expansion
Northline Campus: add a parking facility; possibly multi-use with retail (partner with METRO and Northline Mall)
Northline Campus: add a combined Academic and Workforce building
Northline Campus: add Learning Hub facility housing Student Services, Academic Support and Library
Northline Campus: add a state-of-the-art Automotive Technology Center
Codwell Hall Campus: renovate the existing Automotive Technology Facility to serve as a primary location for Diesel Mechanics and a satellite feeder program for the new Automotive Technology Center to be located at the Codwell Hall Campus.
Codwell Hall Campus: add a Manufacturing Technology facility
Codwell Hall Campus: add an Entrepreneurial Center to incorporate Small Business Development, Entrepreneurship, International Trade, and Distribution and Logistics.
NFISD Area: acquire land near the vicinity of Little York and Hirsch Road for an Academic Center and Student Services and includes a Small Business Incubator (allow for future expansion to Campus); coordinate with County on expansion of W. Little York and Mease Road
Pinemont Campus: Replace existing facility with a 50,000- to 100,000-SF facility on a new 10-acre site in the Acres Homes area near I-45 between W. Gulf Bank and Victory (consider location of new Lone Star College facility in this area in planning)

Table 35: Recommended Tier I Projects for Northwest College
Science and Engineering Center of Excellence/"Green" Industry Technologies- specialty campus
Expand Katy Campus for Academics, including University component
Redevelop Katy Mills site through public/private partnerships

Table 36: Recommended Tier I Projects for Southeast College
Felix Fraga Campus: build out the 3rd floor of the building (for currently space-starved academic programs)
Felix Fraga Campus: add a building with additional parking for academic programs such as rail-related technology
Felix Fraga Campus: acquire 5 to 10 contiguous acres of land for addition of a soccer field and multi-purpose athletic and community center
Southeast Campus: add a new parking garage with a welding and HVAC technical school on the 1st floor
Southeast Campus: continue to expand campus to have freeway frontage and eventually reach I-610.
Southeast Campus: add new Logistics and Transportation instructionbuilding
Southeast Campus: add a building to house and expanded international program

Table 37: Recommended Tier I Projects for Southwest College
Sienna Plantation Campus: add one building - possibly a Science Center
Stafford Campus: renovate or replace old, underutilized facilities (priority)
Stafford Campus: add new Workforce building
Stafford Campus: close Greenbriar location and relocate the Fine Arts program to Building 'B' (priority)
Stafford Campus: acquire available land from the City of Stafford for expansion
Stafford/West Loop Campus: transfer some classes to fill the available extra capacity at West Loop facility. Provide additional parking if necessary
Applied Technology Center: permanently close the facility at Bluebonnet; the HCC System will no longer provide A/C repair courses
Alief Campus: build out two unoccupied floors and expand auditorium space
Gulfton: building is at the end of its lifecycle; sell and relocate programming (i.e. Intensive English West) and personnel to either a new facility or the Bissonet facility

Table 38: Recommended Tier I Projects for Coleman College
Coleman College: add 20,000 to 50,000-SF "Coleman West" near an existing hospital system
Option 1: build 14-story building with underground parking on adjacent land (dental, nursing, etc.) and sell Coleman Building to HISD for an Early College High School for Nursing
Option 2: build a 2nd Coleman building at another campus (Northwest); add dental hygiene
Option 3: build out John O'Quinn building for Coleman; Medical Center will expand to JOQ building

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Interviewee Data

The following tables identified individuals interviewed as cited in the main text of this document. Table numbers have been maintained to facilitate easy correlation of tables to text.

Table 39: HCC System Administrative Departmental Interviews			
DEPARTMENT	**NAME**	**TITLE**	**DATE**
	Steve Levey	Associate Vice Chancellor of Instructional Resources & Technology	11/30/09
Finance	Ron Defalco	Controller/Chief Financial Officer	12/01/09
Information Technology	William Carter	Vice Chancellor Information Technology	12/01/09
Facilities	Winston Dahse	Chief Administration Officer	12/02/09
	Reynaldo Pradia	Executive Director of Construction & Project Management	12/02/09
	Hector Perez	Director of Maintenance	12/02/09
Student Services	Cheryl Sterling	Interim Vice Chancellor Student Services	12/02/09
International Students	Parvin Bagherpour	Director International Student Services	12/02/09
Human Resources	Willie Williams	Chief Human Resource Officer	12/03/09
Workforce	Daniel Seymour	Vice Chancellor of Planning & Institutional Effectiveness	12/03/09
	K. Zuniga	Executive Director of HCCF	12/03/09
	D. Arguijo	Chief Communications Officer	12/03/09
	N. Perez	Director Decision Support	12/03/09
	Martha Oburn	Executive Director of Institutional Research	12/03/09
	Madeline Burillo	Associate Vice Chancellor of Contract Training & Continuing Education	12/03/09
COO/Deputy Chancellor	Art Tyler	COO/Deputy Chancellor	12/04/09
International Initiatives	GiGi Do	Sr. Director of International Initiatives	12/04/09
Security	Greg Cunnigham	Police Chief	12/08/09
Legal	Renee Byas	General Counsel	12/08/09
Procurement	John Carter	Director of Procurement	12/08/09
Budgets	Virginia Parras	Director of Financial Control & Auxiliary Services	12/08/09
Grants	Georgia Carmichael	Manager Grants Development	12/08/09

Table 40: HCC Central College Interviews (March 30, 2010)	
NAME	**TITLE**
Dr. Bill Harmon	President, Central College
Dr. Cheryl Peters	Executive Dean, Instruction & Student Services
Cheryl Johnson	Dean, Student Services
Linda Koffel	Dean of Instruction
Debra Robinson	Interim Director, Auxiliary Services
Andre Humphrey	Director, PR & Chair of College Transition Team
John Robertson	Campus Manager

Table 41: HCC Northeast College Interview (March 30, 2010)	
NAME	**TITLE**
Dr. Margaret Ford-Fisher	President, Northeast College
Warren Hurd	Director, Administrative Services
Dr. Lois Avery	Dean, Academics
Sheron Bruno	Dean, Public Relations
Linda Comte	Instructional Design Coordinator
Dr. Oralia Green	Associate Dean, Student Services
Kenneth Hernandez	Dean, Career and Technical Education
Dr. Kenneth Holden	Dean, Student Services

Table 42: HCC Northwest College Interviews (April 5, 2010)

NAME	TITLE
Dr. Zachary Hodges	President
Dr. Butch Herod	Executive Dean, Academics & Student Services
Dr. Carolyn Glass	College Operations Officer
Dr. Maya Durnovo	Dean, Workforce Development
Evelyn Velasquez	Director, Public Relations
Tom Haymes	Director, Technology & Instructional Computing
Mark Tiller	Associate Dean, Instructional Support
Elda Cisneros	Associate Dean, Student Development
Jim Mitchell	Human Resource Generalist
Bart Sheinberg	Center Director, W. Houston Center For Science & Engineering
Michael Ronan	Faculty Associate Chair, Engineering
Mary Alice Wills	Dual Credit/Early College Coordinator
Dr. Scott Gehman	Faculty Department Chair, Audio/Film Making

Table 43: HCC Southeast College Interviews (March 30, 2010)

NAME	TITLE
Dr. Irene Porcarello	President
Dr. William Tapp	Interim Operations Officer
Felipe Reyes	Public Relations Director
Dr. Reynaldo Garay	Dean, Student Services
Dr. Joanne Lin	Dean, Academics
Dr. Johnella Bradford	Dean, Workforce Development
Avis Horde	Dean, Retention & Assessment
Sandra Lebron-Lozada	Instructional Design Coordinator
Michael Mitchell	Library Chair
Lt. Candelario Ramirez	Campus Police Department

Table 44: HCC Southwest College Interviews (April 6, 2010)

NAME	TITLE
Dr. Fena Garza	President
Martha Barrera	Director, Public Relations
Betty Fortune	Dean, Academic Development
William Cathey	Campus Manager II
James Shippy	Dean, Student Development
Jane Perez	Campus Manager I
Hernan Segovia	Campus Manager I
Mary Davis	Executive Secretary
Judy Hayman	Associate Dean, Instructional Support
Arnold Goldberg	Dean, Workforce Development
Lynn Herrera	Student Recruiter
Andrew Johnson	Campus Manager I
Julian Fisher	College Operations Officer
Tyrone Cross	Campus Manager I
Cathy Douse-Harris	Adjunct Professor, Developmental Education
Larry Mers	Director, Telecommunications/Instructional Computing Support
Pat Jensvold	Associate Dean, Student Development
Susie Molina	Community Outreach Coordinator
Alex Prince	Director of Enrollment & Compliance Officer
Veronica Ramirez	Receptionist & Switchboard Operator

Table 45: HCC Coleman College Interviews (April 5, 2010)

NAME	TITLE
Dr. Betty Young	President
Michael Edwards	Executive Dean, Instruction and Students
Diana Castillo	College Operations Officer
Kyle Cooper	Project Director, Title III and Director of Technology

HCC Facilities Master Planning Process

Create a dynamic process to comprehensively plan and execute HCC facilities for the future

Strategic Planning

HCC Facilities Master Plan

Collect Contributing Documents

Collect Demographic Data

	December	January	February	March	April	May	June	July	August	September	October	November	December

Interview Vice Chancellors (January)

Collect Public Works Data (January–February)

Collect and Compile Data (February)

Define Facilities Planning Process (March)

Research External Data Sources (February–March)

Create Basic Charts (March)

Define Facilities Implementation Process (May)

Interview Presidents (April–May)

Trustee Input (May)

Validate With Data (May)

Identify Key Drivers (May–June)

Define HCC Goals & Objectives (June)

Test Assumptions Against Data (June–July)

Create Draft (July)

Submit Draft For Review (August)

Receive and Incorporate Feedback (August–October)

Board Presentation (November)

2nd Interview Presidents (November)

Create Final Document (November–December)

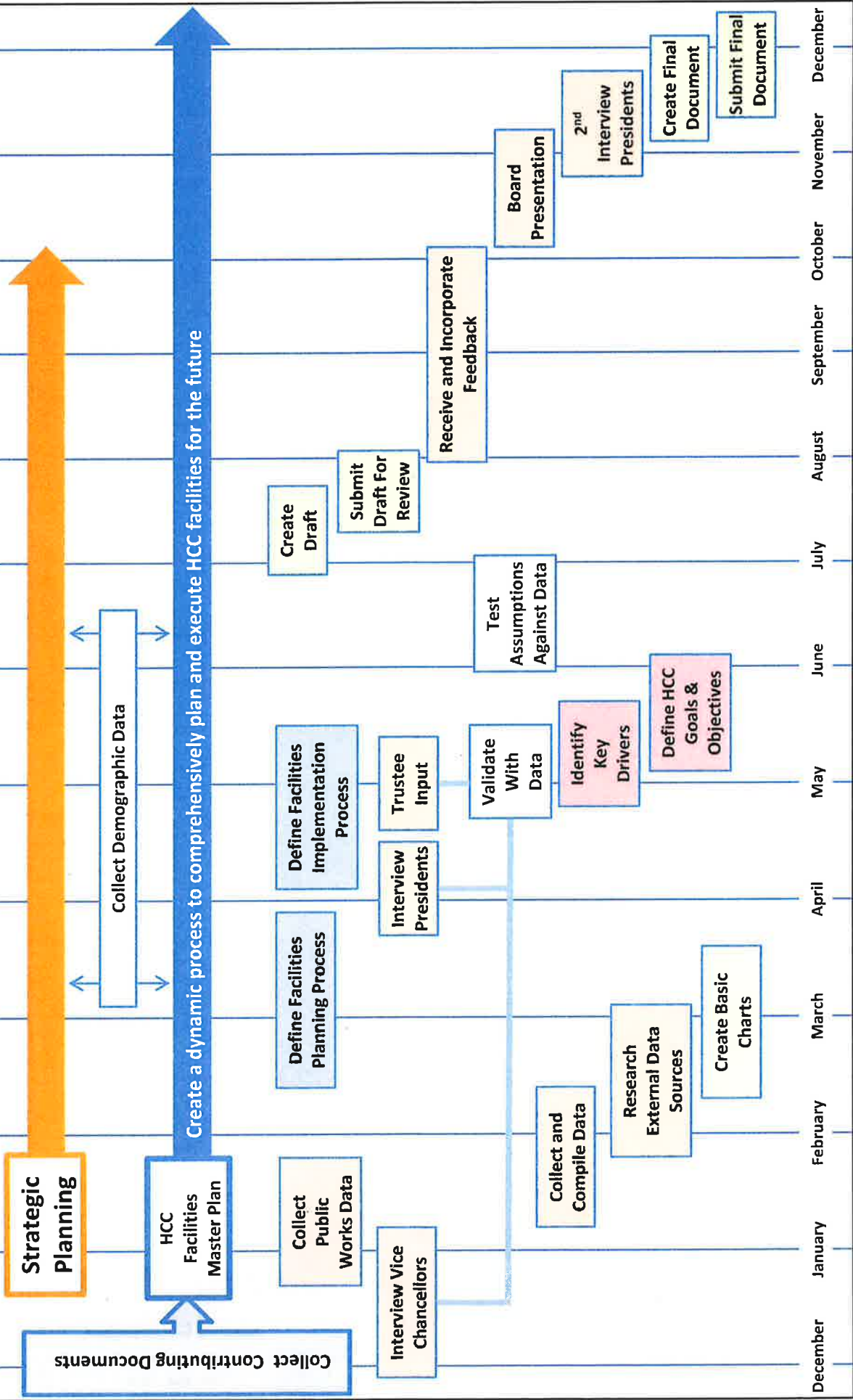**Submit Final Document** (December)

Figure 1: HCC Facilities Master Planning Process

HCC

Houston Community College
Houston, Texas

ESPA CORP, Inc.
Houston, Texas