LAMAR INSTITUTE
OF TECHNOLOGY

Lamar Institute of Technology

Campus Master Plan

The Path to Achieving 10 in 10

Prepared by:

PBK FACILITY PROGRAMMING AND CONSULTING

TABLE OF CONTENTS

LAMAR INSTITUTE OF TECHNOLOGY

i INTRODUCTION

1 EXECUTIVE SUMMARY

2 CAMPUS ASSESSMENT

3 DEMOGRAPHICS

4 NEXTGEN LEARNING ENVIRONMENTS

TABLE OF CONTENTS CONTINUED

5 UTILIZATION

6 FACILITY ASSESSMENT

7 CAMPUS MASTER PLAN

ACKNOWLEDGEMENTS

On behalf of the Partners, Principals and entire PBK team, we wish to express our sincerest appreciation to the Lamar Institute of Technology (LIT) for giving us the opportunity to participate in the development of your 2018 Campus Master Plan. The process of creating this master plan has been thorough and inclusive, drawing from the insights, expertise and vision of multiple college stakeholders. We also extend our gratitude to LIT's senior administration, campus personnel, faculty, students and civic representatives who each actively participated in the many planning sessions and facility walk-throughs. Their time commitment and contributions were invaluable to the success of the process.

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HISTORY

THE STORY OF AN INSTITUTION OF LEARNING IN BEAUMONT, TEXAS...

The programs offered at Lamar Institute of Technology in the Golden Triangle area were associated with Lamar University starting as early as 1946. The Texas Higher Education Coordinating Board recommended in 1990 that all two-year programs at Lamar University-Beaumont be combined into Lamar University Institute of Technology. The programs in the former College of Technical Arts, Allied Health, Office Technology, and Restaurant/Institutional Food Management were placed in the new institute.

On September 1, 1995, the Institute of Technology was established as an educational center of Lamar University and a member of The Texas State University System. The Texas Legislature changed the name of the institution to Lamar Institute of Technology in 1999. Since that time the campus has added numerous facilities, programs, faculty and staff to become the college that exists today. This master plan will explore how that vision that started many decades ago will continue for the next 10 years.

Lamar Institute of Technology Facts

LIT offers 27 Associate of Applied Science (AAS) Degrees, 6 new Academic Transfer Associate Degrees (AA/AS), and 31 Certificates.

In terms of economic impact, LIT graduates are responsible for $144.2 million in additional income to Southeast Texas (2014 EMSI study).

According to the US Department of Education (DoE), of all two-year public colleges, LIT was No. 1 in Texas and tied No. 3 in the nation for highest student median salary 10-years after graduation.

The “LIT Guarantee!”, Students that complete a two-year program of study will have job skills for entry level employment in the occupational field for which they were trained.

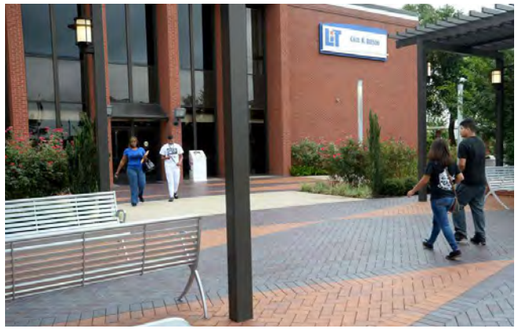
In 2015, among all two-year public institutions, Community College Week ranked LIT No. 7 in having the most Science Technology graduates in the nation.

LIT won the Beaumont Enterprise’s 2018 Readers’ Choice Award for “Best Career Training”.

LIT was named the Best Community College in Texas for 2018 by Niche.com for its academic programs, admissions, affordability and student life.

The American Enterprise Institute (AEI), Washington, DC, named three of LIT’s programs as 19 of the most highly regarded associate degree programs in the state of Texas with an expected ROI over $1 million: Industrial Mechanics ($1,401,000), Process Technology ($1,352,000) and Instrumentation Technology ($1,154,000).

According to a study featured in the New York Times, students that graduate from LIT have a 30% chance to move up two or more income quintiles, 21st in the nation for two-year colleges.



MISSION

MISSION STATEMENT

Lamar Institute of Technology provides quality education and training that enable a diverse student population to achieve its educational goals. Programs are enhanced by developing and maintaining partnerships with business, industry, and the community. Faculty are dedicated to teaching, advising, and scholarship. Both faculty and staff work to serve the Institute and the community.

VISION

Lamar Institute of Technology: Focusing on innovative education, training, and career development for tomorrow's workforce.

CORE VALUES

1. Community
    - We cultivate partnerships that develop solutions to community challenges which are important to economic vitality and quality of life.
2. Excellence
    - We strive for excellence in instruction and service by upholding high academic and professional standards, providing a quality educational environment, and continuously seeking improvement in all aspects of our work.
3. Innovation
    - We pursue excellence in teaching and learning through encouragement and support of creativity, experimentation, imagination, originality, entrepreneurial spirit and visionary leadership.
4. Integrity
    - We strive to demonstrate high standards of ethical conduct and to celebrate honesty, openness, and trust as keys to our relationships.
5. Respect
    - We recognize and value the uniqueness, diversity, and dignity of every individual.

PROCESS

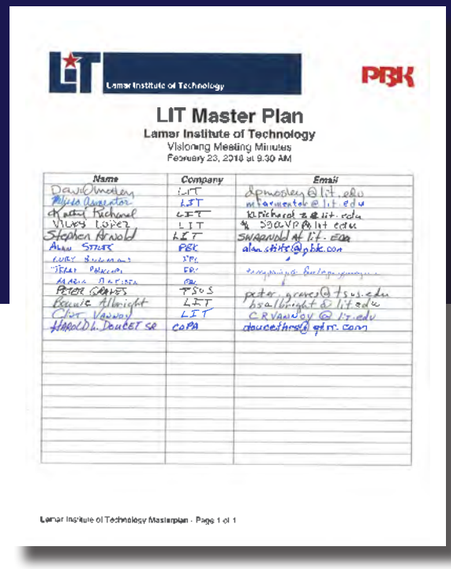
THE MASTER PLANNING PROCESS

Creating a comprehensive master plan for Lamar Institute of Technology was a highly collaborative process. It required a significant time commitment from all stakeholders. Stakeholders were intentionally selected from a diverse cross-section of college constituent groups: board members, administrators, faculty and community members; and, of course - students. Each group shared their needs, discussed possible program offerings, and made projections for growth. Having each group contribute and share their vision(s) for LIT was the right way to ensure the master plan effectively addresses both present and future stakeholder expectations.

The Campus Master Plan is designed to be a strategic road map for the physical development of the college's campus over the next 10 years. The plan includes recommendations on program offerings based on the labor market needs of the Texas Gulf Coast and beyond. The Campus Master Plan will serve as a valuable, fact-based planning tool for future facility-related decision making. The results will be used to assist the college in determining where to focus and invest in terms of facilities and infrastructure. This is a very important step in guiding the college to realize the rewarding outcomes of its mission, purpose, core values and goals in meaningful and tangible ways – delivered in the form of facilities, learning environments, programs, opportunities and results.

In December of 2017, the Lamar Institute of Technology engaged PBK to assist them with the development of this master plan. The plan is a direct result of this process involving numerous meetings, analysis and development of multiple scenarios in order to arrive at a plan to serve the college for years to come. This multi-component initiative includes a facilities assessment and preventative maintenance study, demographics study, space utilization study, as well as the physical master plan development.

In order to accomplish the task, a master plan committee was formed to vet findings as they became available. The committee met monthly to review findings and help keep the process on task and on schedule. With a system-wide perspective, feedback received from the master plan committee provided important direction and course corrections for the planning team.


Lamar Institute of Technology

PBK

LIT Master Plan

Lamar Institute of Technology

Visioning Meeting Minutes

February 23, 2018 at 9:30 AM

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Lamar Institute of Technology Masterplan - Page 1 of 1

Campus Meetings

Several meetings were conducted with campus faculty and staff. The meetings were critical in understanding campus physical and operational challenges, as well as providing insight into student and faculty needs and demands.

FACILITIES ASSESSMENT

Members of PBK's facilities team conducted a comprehensive physical assessment by walking every square foot of LIT's main campus. Specific assessment specialists included civil engineers, MEPT engineers, building envelope specialists, and architectural designers. The walk-throughs enabled the design team to get a better understanding of the physical condition of LIT's main campus infrastructure and facilities. The team assessed and developed a time frame for the correction of critical life-safety measures (priority), as well as other long-term work items that could eventually pose a maintenance risk for LIT. These efforts represent the beginning of a preventative maintenance plan and budget for LIT.

The assessment team compiled all of the data into a database that includes all work items (classified and prioritized), as well as cost estimates to make the corrections. Photographs of work items are included in the report, delivered to LIT. As part of the process, the assessment team updated computer-generated drawings of existing campus floor and site plans so that they are current and accurate. A summary of the Facilities Assessment Report can be found in Section 6 of this Master Plan.

LAMAR INSTITUTE
OF TECHNOLOGY

Lamar Institute of Technology

Campus Master Plan

The Path to Achieving 10 in 10

Prepared by:

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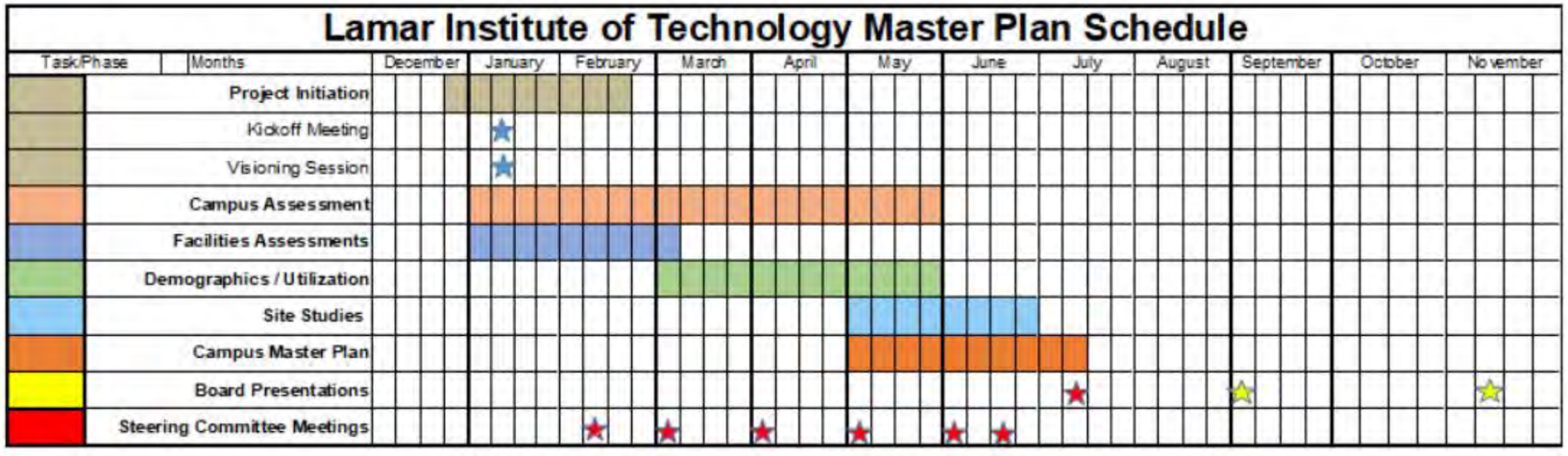
OVERVIEW

Lamar Institute of Technology recently completed their first major building project in over a decade with the construction of their new Petrochemical and Advanced Technology Center (PATC). Currently, they are beginning construction of a second new building, a Student Success Center. With their stated “10 in 10” goal of welcoming 10,000 enrollees in 10 years, this Campus Master Plan looks at the steps required to accomplish this lofty achievement. Accordingly, the college began an intensive master planning process in the winter of 2017 that included the following assignments: Demographics Study, Utilization Study, Facilities Assessment, Faculty Surveys, and comprehensive Campus Master Planning.



Primary + Secondary Catchment Areas

Contributory High School Graduates 2017

DEMOGRAPHICS

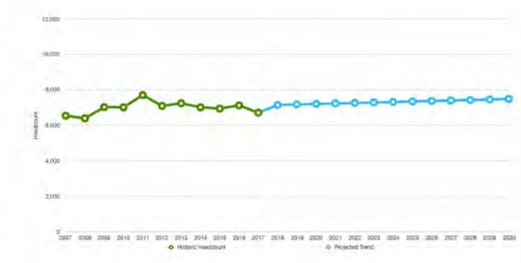
The demographics study of the Lamar Institute of Technology's past and future enrollment prospects exposes several key points regarding the college's local area and ability to attract students. Regional growth is a critical factor for any regional college, and over the past 20 years, the Beaumont, Port Arthur, Nederland, Orange, Lumberton, and other nearby towns have not seen steadily-paced, significant growth.

In order for the college to attain the goal of 10,000 enrolled students in the next 10 years, the college will not be able to simply rely on expansive local population growth.

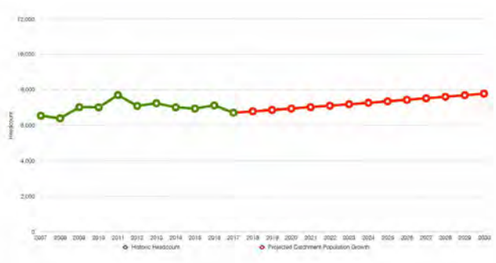
Lamar Institute of Technology will require additional efforts to drive enrollment.The following action plans will be required to achieve the enrollment goal.

- Expand Existing Early College Partnerships
- New Early College Partnerships
- New Dual Credit Partnerships
- New Programs
- New Recruitment + Retention Program
- Online Partnership with Sam Houston State

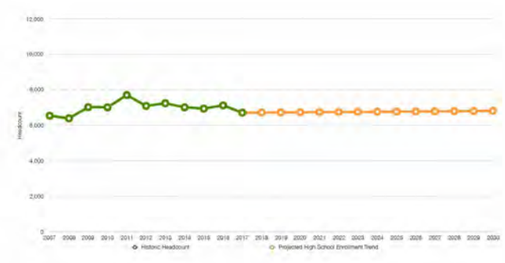
Scenario 1 Enrollment Projections



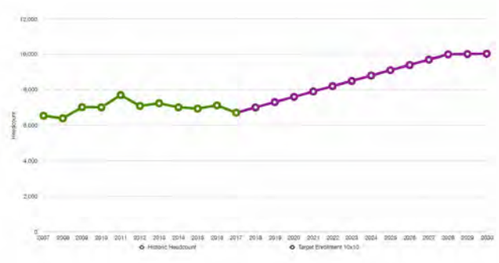
Scenario 2 Enrollment Projections



Scenario 3 Enrollment Projections



Scenario 4 Enrollment Projections

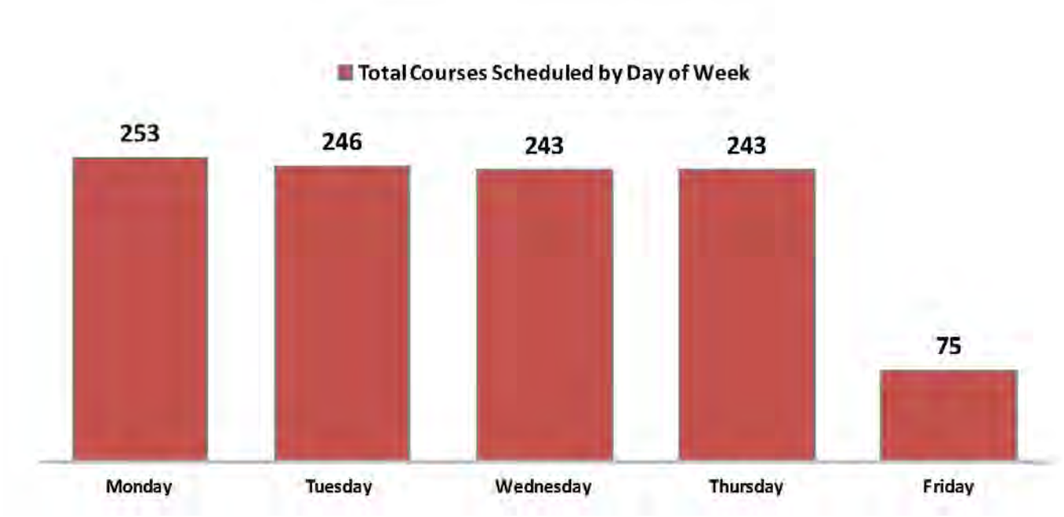


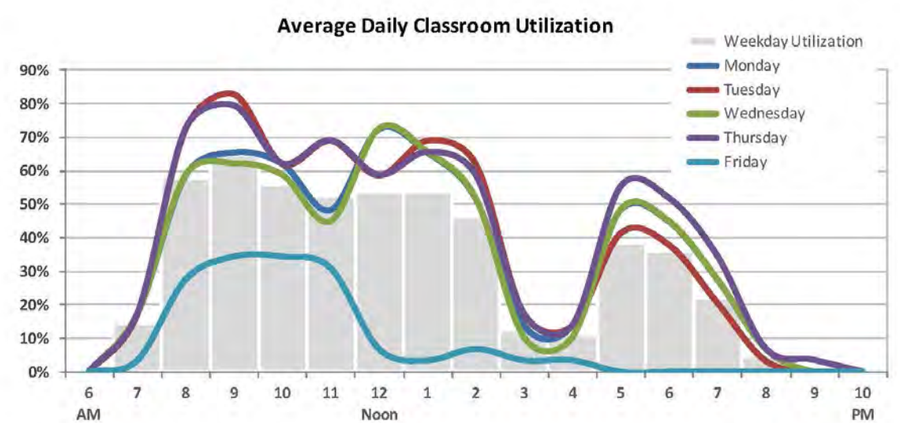
UTILIZATION

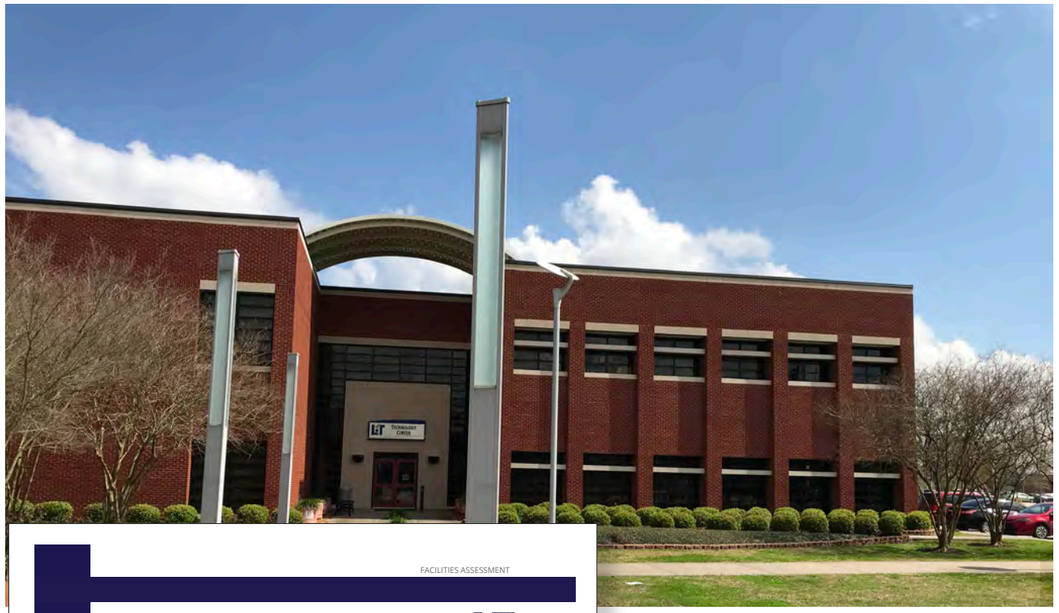
The master planning team analyzed every classroom and laboratory space on campus to measure utilization based on capacity, enrollment, and class times to identify the efficiency of the current use of instructional capacity and the requirements to meet future enrollment scenarios.

The analysis indicates the campus has adequate current capacity to serve the existing enrollment. However, the current collection of classrooms has significant barriers to efficient scheduling including a wide range of disparate classroom sizes, poor fit of available class size to demand (too many small classrooms and too few large classrooms), older buildings with limited use, and scheduling “silos” created by scheduling by academic discipline.

Peak period morning demand for classrooms suggests the campus is approaching effective full occupancy at peak periods. While there is available classroom capacity outside peak periods, the significant increases in enrollment envisioned by the campus goal of headcount enrollment of 10,000 will require additional classroom capacity.







FACILITY ASSESSMENT

An interdisciplinary team of architects and engineers walked every building on campus (as well as some off campus). These walks are critical to the development of the master plan, enabling the consultants to become familiar with any challenges and opportunities with existing college conditions. In addition, parking lots, technology, electrical service, and campus sites should all play a role in early capital funding ventures in order to maintain and improve these systems.

FACILITIES ASSESSMENT

CECIL BEESON
TECHNICAL ARTS BUILDING

LAMAR INSTITUTE OF TECHNOLOGY

Original Building Completed: 1
Building Age:
Building Square Footage: 25,

May 17, 2

Cecil R. Beeson Technical Arts Building

Proposed Work Items

Print Date: 5/16/2018

All costs are shown in 2019 dollars. The cost of all work items after this date should be adjusted accordingly.

Priority	*Total Cost*
Priority - 1	*$836,192.16*
	$334,893.84
	$405,744.00
	$8,988.00
Totals	*$1,585,818.00*

	PRIORITY-1	PRIORITY-2	PRIORITY-3	PRIORITY-M	COST
	$18,618.00	$6,420.00	$208,650.00	$642.00	**$234,330.00**
	$12,840.00	$297,657.84	$158,574.00	$0.00	**$469,071.84**
	$321,000.00	$0.00	$38,520.00	$8,346.00	**$367,866.00**
	$160,500.00	$0.00	$0.00	$0.00	**$160,500.00**
	$0.00	$30,816.00	$0.00	$0.00	**$30,816.00**
	$323,234.16	$0.00	$0.00	$0.00	**$323,234.16**
ty Totals	**$836,192.16**	**$334,893.84**	**$405,744.00**	**$8,988.00**	$1,585,818.00

Totals P1	$836,192.16
Totals P1+P2	$1,171,086.00
Totals P1+P2+P3	$1,576,830.00
Totals P1+P2+P3+PM	$1,585,818.00

Campus Assessment Totals

Proposed Work Items

Print Date: 5/16/2018

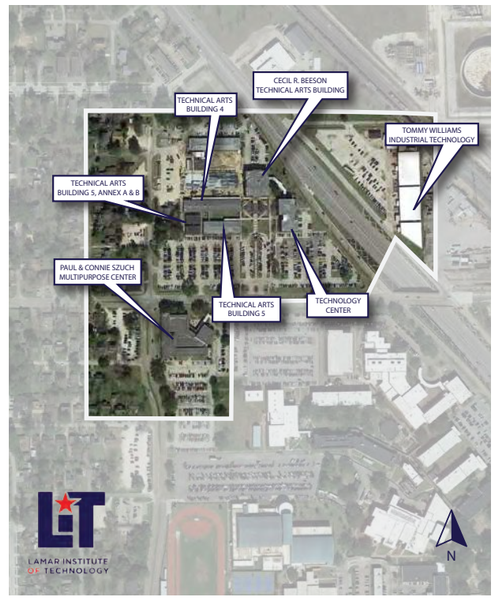
All costs are shown in 2019 dollars. The cost of all work items after this date should be adjusted accordingly.

FACILITY NAME	PRIORITY-1 1 - 2 Years (2018-2019)	PRIORITY-2 3 - 5 Years (2020-2024)	PRIORITY-3 6 - 10 Years (2025-2034)	PRIORITY-M	TOTAL COST
Academic Facilities					
Cecil R. Beeson Technical Arts Building	$836,192.16	$334,893.84	$405,744.00	$8,988.00	$1,585,818.00
Technical Arts Building 4	$729,639.10	$664,767.89	$281,915.04	$12,840.00	$1,689,162.03
Technical Arts Building 5	$1,761,768.70	$371,132.50	$188,234.40	$642.00	$2,321,777.59
Technical Arts Building 5 Annex A	$106,302.36	$26,271.92	$0.00	$0.00	$132,574.28
Technical Arts Building 5 Annex B	$106,302.36	$26,271.92	$0.00	$0.00	$132,574.28
Technology Center	$1,111,322.54	$178,296.24	$128,400.00	$6,163.20	$1,424,181.98
Tommy Williams Industrial Technology Building 1	$0.00	$38,520.00	$642.00	$1,605.00	$40,767.00
Tommy Williams Industrial Technology Building 2	$0.00	$0.00	$84,180.97	$1,605.00	$85,785.97
Subtotal	$4,651,527.22	$1,640,154.32	$1,089,116.41	$31,843.20	$7,412,641.14
Support Facilities					
Paul & Connie Szuch Multi-Purpose Center	$97,584.00	$804,361.80	$429,757.37	$3,210.00	$1,334,913.17
Subtotal	$97,584.00	$804,361.80	$429,757.37	$3,210.00	$1,334,913.17
Campus-wide Improvements					
Campus-wide Parking Improvements	$70,870.38	$161,463.00	$1,926.00	$0.00	$234,259.38
Campus-wide WiFi Upgrades	$0.00	$385,200.00	$0.00	$0.00	$385,200.00
Campus-wide Access Control Upgrades	$0.00	$321,000.00	$0.00	$0.00	$321,000.00
Campus-wide Security Cameras Improvements	$0.00	$160,500.00	$0.00	$0.00	$160,500.00
Campus-wide Technology Upgrades	$0.00	$321,000.00	$0.00	$0.00	$321,000.00
Campus-wide Cleaning Budget	$0.00	$0.00	$0.00	$128,400.00	$128,400.00
Campus-wide Way-finding Signage Improvements	$0.00	$192,600.00	$0.00	$0.00	$192,600.00

PBK

Page 1 of 2

EXECUTIVE SUMMARY
FACILITIES ASSESSED // KEY MAP

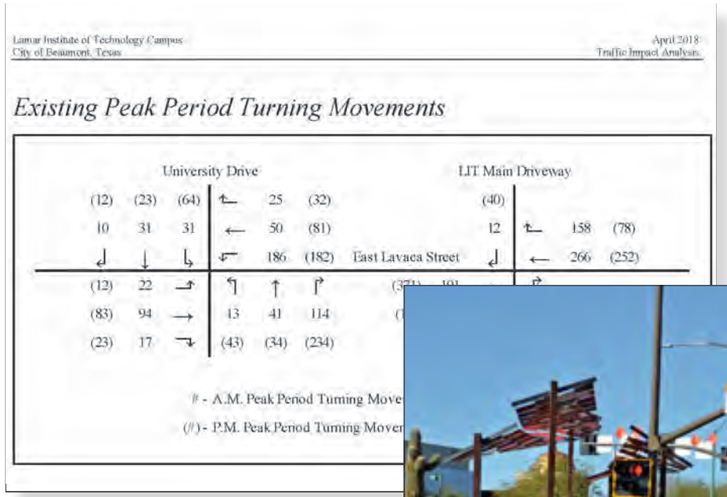


LAMAR INSTITUTE OF TECHNOLOGY PBK

TRAFFIC STUDY

In order to ensure that future expansion can be accommodated by the current campus land uses as well as looking for opportunities to improve the campus in terms of access, Dally Traffic group conducted a study to analyze the existing and future traffic operations at this campus. The major findings include:

- The need for additional parking, preferably on the edges of campus as new buildings come online due to the new buildings usage of existing parking areas.
- The existing roadways can handle the future peak traffic loads before reaching capacity.
- Based on future traffic projections, a Pedestrian Hybrid Beacon is recommended to provide pedestrians with a safe passage across East Lavaca Street.

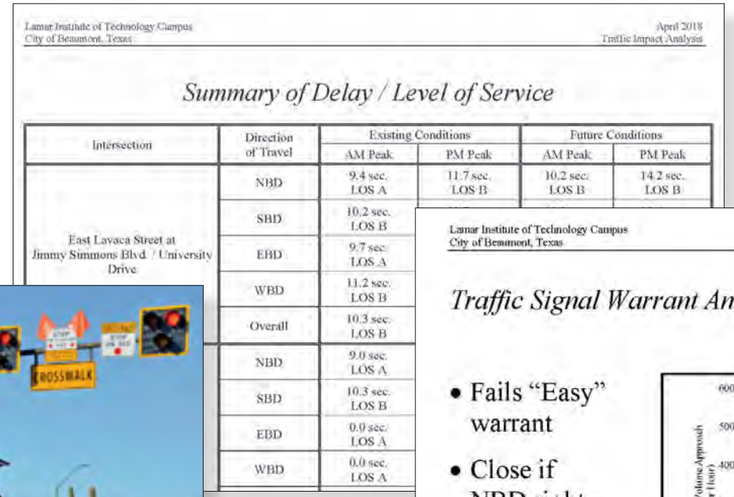

Lamar Institute of Technology Campus
City of Beaumont, Texas
April 2018
Traffic Impact Analysis

Existing Peak Period Turning Movements

University Drive / LIT Main Driveway / East Lavaca Street

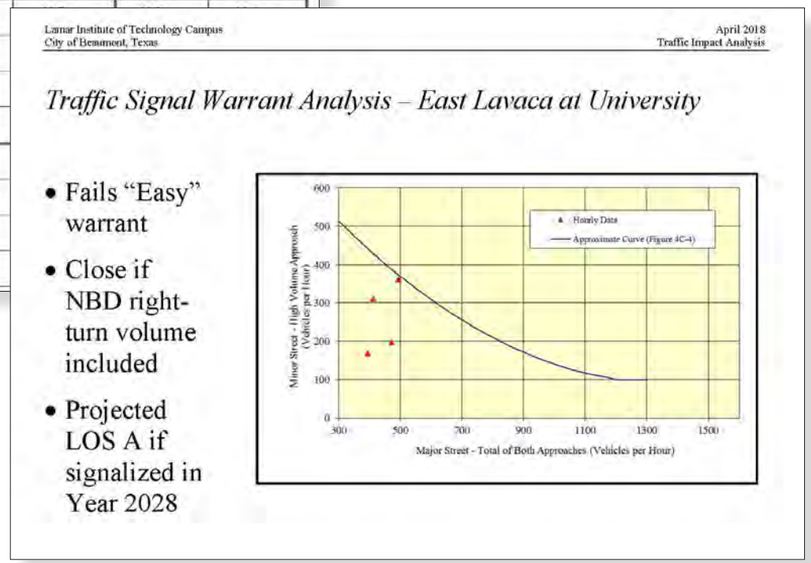
(12)	(23)	(64)	↰	25	(32)		(40)			
10	31	31	←	50	(81)		12	↰	158	(78)
↲	↓	↳	↰	186	(182)	East Lavaca Street	↲	←	266	(252)
(12)	22	↱	↰	↑	↱					
(83)	94	→	13	41	114					
(23)	17	↴	(43)	(34)	(234)					

- A.M. Peak Period Turning Move
(#) - P.M. Peak Period Turning Mover


Lamar Institute of Technology Campus
City of Beaumont, Texas
April 2018
Traffic Impact Analysis

Summary of Delay / Level of Service

Intersection	Direction of Travel	Existing Conditions AM Peak	Existing Conditions PM Peak	Future Conditions AM Peak	Future Conditions PM Peak
East Lavaca Street at Jimmy Simmons Blvd. / University Drive	NBD	9.4 sec. LOS A	11.7 sec. LOS B	10.2 sec. LOS B	14.2 sec. LOS B
	SBD	10.2 sec. LOS B			
	EBD	9.7 sec. LOS A			
	WBD	11.2 sec. LOS B			
	Overall	10.3 sec. LOS B			
	NBD	9.0 sec. LOS A			
	SBD	10.3 sec. LOS B			
	EBD	0.0 sec. LOS A			
	WBD	0.0 sec. LOS A			

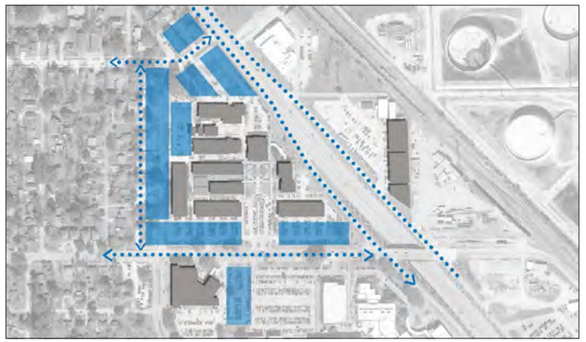

Lamar Institute of Technology Campus
City of Beaumont, Texas
April 2018
Traffic Impact Analysis

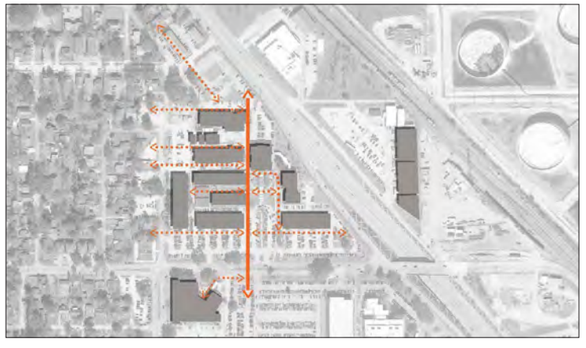
Traffic Signal Warrant Analysis – East Lavaca at University

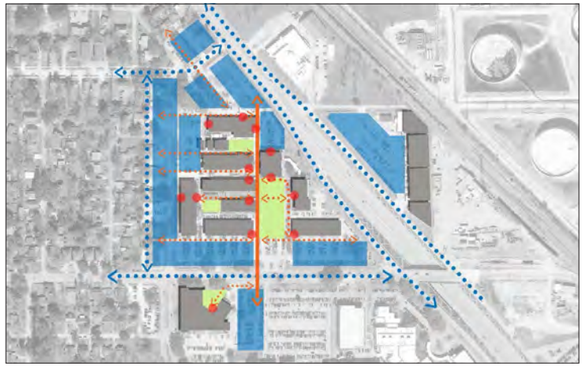
- Fails "Easy" warrant
- Close if NBD right-turn volume included
- Projected LOS A if signalized in Year 2028

CAMPUS MASTER PLAN

Once the information was collected and digested, the team identified the following 12 initiatives that would focus the Master Plan on critical areas that will usher LIT into a new era.







INITIATIVES

1 ADDITIONAL CLASSROOMS AND LABS

In order to accommodate the goal of 10,000 enrolled students in 10 years, the Design Team estimates that an additional 24 classrooms and labs will be required for the additional students on campus. These classrooms will be designed to accommodate 32 students and the labs will be flexible to be used in multiple curriculum.

2 CLASSROOM STANDARDIZATION

Due to the college's sporadic growth over the years, the instructional facilities are a smattering of sizes and shapes. This initiative is to standardize classrooms and lab sizes/shapes in order to ensure ease of scheduling moving forward.

3 WORKFORCE TRAINING

One of the ways the college will look to add enrolled students is through continuing education for area companies and corporations. This workforce training area will have its own branded entrance, and the classrooms will be of a similar size to be used for traditional classes when not in use for workforce training.

4 TOMMY WILLIAMS IMPROVEMENTS

The conversion of the Tommy Williams cluster of buildings will continue with several improvements. Relocating the Police and EMT programs to a vacant building will allow for a purpose-built space. Adding a vending area and spot for food trucks will provide food for this side of campus.

5 ADDITIONAL LAND PURCHASES

By purchasing adjacent properties to campus, the master plan will be able to provide needed additional parking spaces on the edge of campus as well as improving the aesthetics on the western edge.

6 RELOCATE UNIVERSITY DRIVE

A stretch goal for the campus, upon the purchase of adjacent properties, would be to relocate the road further west. This would provide a more contiguous campus for the staff and students.

7 BUS DROP OFF FOR EARLY COLLEGE

The early college programs need a space on campus designated for the drop off and pick up of students to transport the high school students to and from campus.

8 NURSING PROGRAM

The third new building in the master plan will allow the college to create a nursing program and expand their current programs. Nursing is one of the highest need professions, and this will allow the college to help serve the local area hospitals and doctors.

9 PEDESTRIAN HYBRID BEACON

In order to assist students, faculty and staff navigate East Lavaca, the Traffic Study recommends creating a Pedestrian Hybrid Beacon, a traffic light strictly for pedestrian crossing a busy street, to allow for safe passage.

THESE INITIATIVES ACCOMPANIED BY SOME OTHER SMALLER PROJECTS WILL SERVE THE LAMAR INSTITUTE OF TECHNOLOGY FOR THE NEXT 10 YEARS AND BEYOND.

10 WAYFINDING AND SIGNAGE

Wayfinding and Signage: Improve the ability of students and visitors to find their way around campus while improving and updating the look and feel of the campus and buildings.

11 CAMPUSWIDE WIFI

For a campus of this size creating a network that allows for staff, students, and faculty to remain on WiFi even as they move between building to building was a soft requested goal during the process of creating this master plan.

12 CAMPUS SECURITY IMPROVEMENTS

Among the security improvements discussed for the entire campus were access control and security cameras. These two features can be linked to alert first responders when someone is getting unauthorized access to a door. In addition, access control can be simply more convenient for staff and easier for the school to control.


TECHNOLOGY
SCIENCE

LAMAR INSTITUTE
OF TECHNOLOGY

Lamar Institute of Technology

Campus Master Plan

The Path to Achieving 10 in 10

Prepared by:

PBK FACILITY PROGRAMMING AND CONSULTING

OVERVIEW

LAMAR INSTITUTE OF TECHNOLOGY (LIT) currently operates one large campus in Beaumont with several satellite spaces in the surrounding areas. As an integral component to any long range master plan exercise, exhaustive research, attention to detail and time must be spent on the current layout and environment of the existing campus. One must fully understand how to proceed with recommendations for altering existing campus fabric when projecting for future growth and adaptation. Over the last eight months, PBK and their consultants have obtained significant details and developed relationships with campus personnel in order to comprehend the positives, challenges, and idiosyncrasies.

Lamar Institute of Technology began as a part of Lamar University when LU was created in 1949. Through the decades that followed, the name underwent several changes, but the mission of providing technical and vocational higher education never changed. The college serves as a critical step to employment for citizens of the Golden Triangle communities that include Beaumont, Port Arthur and Orange along with their surrounding communities. In most recent years, the college has identified numerous goals to improve its campus; several of these were achieved in the past master plan. To begin the current master plan, an assessment of what was working and what could be improved was necessary prior to beginning the site studies and phasing plans. Having served as architect for the latest two major projects, PBK was very interested in continuing the architectural and landscaping initiatives that began with the Petrochemical and Advanced Technology Building and Student Success Center.

Over the last 15 years, the college has watched its annual enrollment remain rather constant. The overall trend for enrollment has been very steady, even in recession years like 2010 when a spike of enrollment could reasonably be expected due to high unemployment. The last 10 years, the college has witnessed a bit of stagnation, prompting it to embark on an ambitious goal of reaching a student population of 10,000 within the next 10 years, the same duration of this campus master plan. With the surrounding areas declining in population, this ambitious goal will prompt smaller sub goals to help drive both traditional and non-traditional students to campus and accessing content online. LIT's leadership team has had the foresight to look at numerous areas in which additional students could be added, and this campus master plan will help document and establish a timeline to complete the necessary steps for goal achievement. This plan has been conducted while also looking to the future and preparing for growth, as well as the ever-changing student experience and learning dynamics that will be required.

There are a couple of challenges that the plan will also address, the first being the limited size of the campus overall. With defined roads on all sides and several adjacent tracks of land owned by others outside the college, finding space for additional buildings and parking must be analyzed. A second challenge of unifying the center of campus to create a central core that is common place on college campuses to support student life and activities must be considered. Finally, work must be done to connect and support those parts of the college, like the Tommy Williams Complex and the Multipurpose Building to make them either more self-sufficient or more a part of the main campus.

ASSESSMENT METHODOLOGY

The planning team visited the main campus and each satellite location to document existing conditions for analysis and impact on future development. The site analysis provided the planning team with an idea of the campus's carrying capacity for additional facilities. The main campus is comparably small and has limited open or green space; it appears that existing parking lots will have to make way for new buildings and these spaces replaced on the periphery of campus. The addition of new, purpose-built classrooms and labs will be a priority with growth being a critical goal of the master plan. The analysis and subsequent documentation of the campus includes an examination of the following:

BUILT ENVIRONMENT

- Existing Buildings
- Service and Core Areas
- Vehicular Circulation
- Parking Lots
- Pedestrian Circulation
- Recreation Areas

Following the site analysis of each campus, the planning team developed a series of map overlays that showed diagrammatically the critical points and opportunities of the existing campus. These diagrammatic studies provided the planning team with the ability to graphically interpret and evaluate the campus. The following considerations were examined:

OPPORTUNITIES & CONSTRAINTS

- Opportunities for New Buildings
- Adjacencies
- Nodes
- Pedestrian Circulation
- Vehicular Circulation

The analysis provided the Lamar Institute of Technology leadership and planning team with some direction in identifying development concepts that emerged as "form givers," creating the framework that will shape the ultimate plan of each campus.

OVERALL SITE INFO

Lamar Institute of Technology's main campus is located in Beaumont, Texas. LIT covers approximately 20 acres. The campus boundaries are: Adams Street, East Lavaca Street to the south, Martin Luther King Parkway to the east, and University Drive to the west. The campus contains 13 buildings on its contiguous main campus surrounded by approximately 1,250 total parking spaces, the main campus offers limited of opportunity for growth lacking areas without some type of existing infrastructure. From a land perspective, this campus has the potential to accommodate future phases of growth. The surrounding land of single- and multi-family residences on the west side may provide opportunity for expansion. The benefit of any new buildings should focus on a better student experience, enhanced classrooms and labs of a standard size, and be organized around the critical new functions that are needed on campus.

TRAFFIC AND PEDESTRIAN PATHWAYS

The campus itself is very accessible by automobile, with entries from the north, west and south providing easy access for staff and students. However, the proximity of the parking spaces right in the heart of campus can leave limited space for campus events and student life. Due to the unique and unnatural setup of existing surface parking lots and their connecting primary access road, students and faculty alike are often times required to cross major internal roads after parking their cars, increasing the potential for vehicle/pedestrian incidents and diminishing the campus arrival experience. Most parking is on a first come basis, there is one controlled lot for faculty and staff near the Beeson building and visitor spots are marked.

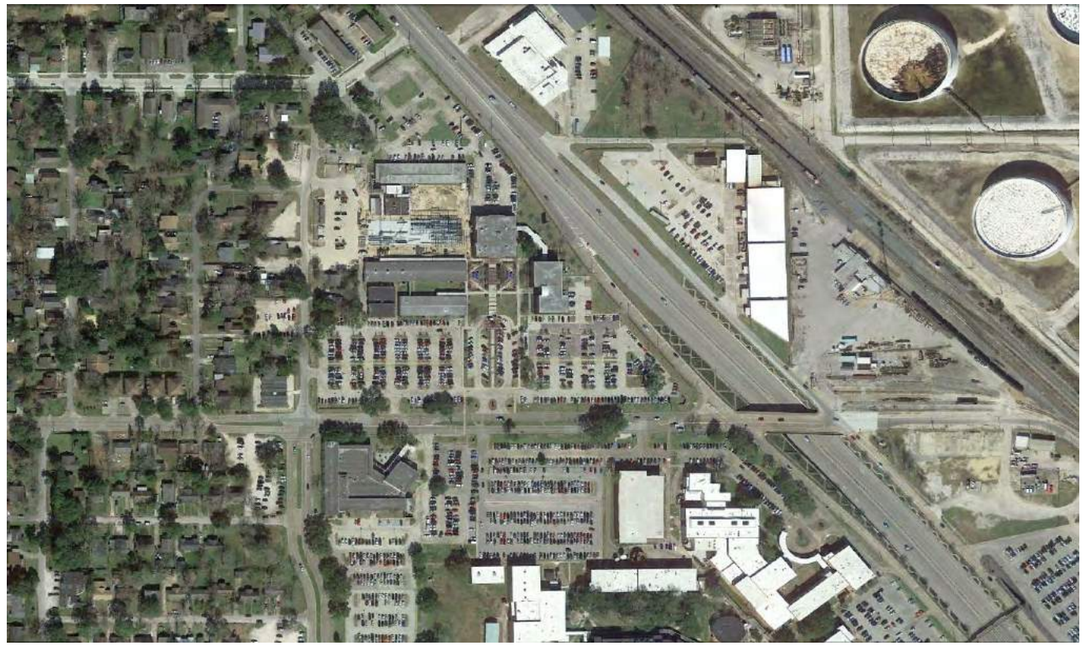
Current pedestrian pathways throughout the campus are clear and easy to navigate. One interesting feature is covered walkways connecting a few of the buildings. One major decision for the college will be whether or not to expand this network of walkway covers. The current recommendation is to use the buildings as cover and remove the walkway covers. The terrain is relatively flat, so most of the pathways are navigable from an accessibility standpoint. More concrete and brick paver walks will need to be incorporated in order to provide access to new buildings as they are brought online. In addition, a central circulation spine connecting the major campus buildings to the southern campus could provide an opportunity for these pedestrian paths to provide a place for student life activities and social functions. Campus wayfinding signage could also be improved inside campus to help navigate from building to building. The perimeter signage that recently has been upgraded could be a stylistic starting point for these signs.

LANDSCAPING

The campus's central quad/green space is a divided area with part parking, part sitting area, and a portion that is just a connecting sidewalk. There is a major opportunity here to improve the look and feel of the campus as the visitor parking spots are relocated to reclaim more green space and continue developing the quad south toward East Lavaca Street with landscaping and hardscaping improvements. This can be both aesthetically pleasing and functional by providing a place for campus activities. The master plan should seek to simultaneously unify and segregate the campus with landscaping in different areas using different typologies. The central region of the campus can become more unified through creating a large space with a consistent language enclosing it for large student activities and campus events. Separately, landscaping can be used to create small intimate spaces for small group work or individual reflection away from the bustle of campus life. These pockets can flank main paths or be tucked in and around buildings providing flexible areas for use during good weather during class and before and after classes for impromptu study or socializing.

Natural Environment

- Vegetation
- Drainage Patterns
- Terrain



FUTURE EXPANSION

Any campus that is limited in size, as LIT is with about 20 contiguous acreage, should look at any and every option available to expand the campus footprint for the future and current needs where applicable. Currently, there is a dual reason for this expansion as the adjacent single and multi-family residents are not quite as visually appealing as they once were, adding an additional benefit to the college for taking over these areas near campus. The Institute currently owns several single family tracts of land and should look to purchase the adjacent pieces of property as they are available or by other necessary means of action.

LAMAR INSTITUTE
OF TECHNOLOGY

Lamar Institute of Technology

Campus Master Plan

The Path to Achieving 10 in 10

Prepared by:

PBK FACILITY PROGRAMMING AND CONSULTING

OVERVIEW

To better understand how demographics are likely to impact the future requirements of Lamar Institute of Technology (LIT) and provide a basis for strategic decisions, analysis was prepared in collaboration with a demographer. Areas of focus for the data gathering and analysis include economic indicators (income, occupied housing units, educational attainment, employment, growing and declining industries and employment, new single-family homes), historical and projected population (by census tract), as well as student residence and ethnicity. The data and analysis then provided the basis for four enrollment projections, each illustrating different potential enrollment growth scenarios.

MARKET SUMMARY

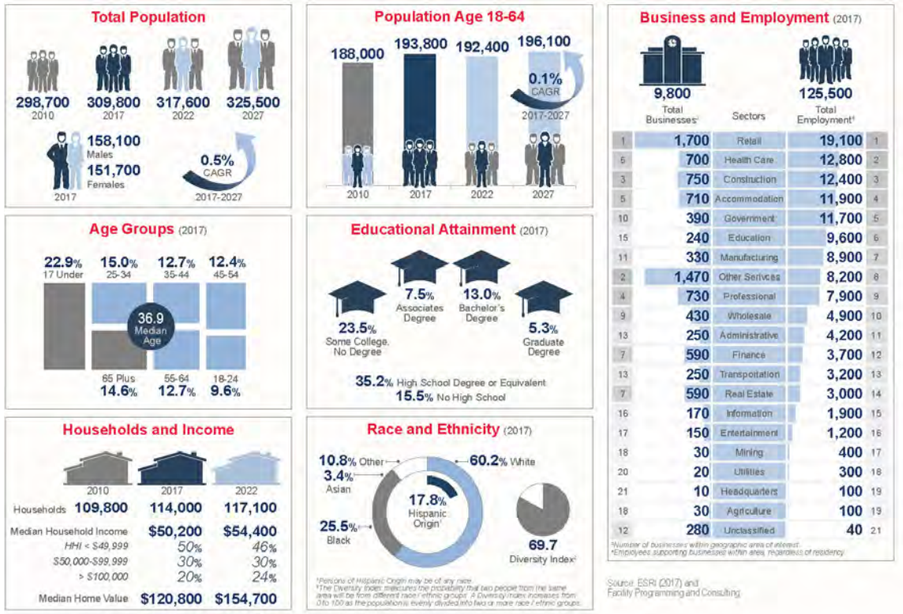
The local area surrounding LIT generally includes Beaumont, Nederland, Port Arthur, Port Neches, Lumberton, Vidor and East Chambers County. Income and housing data describe stable, lower to middle class communities with a relatively modest level of home ownership. The population is older and less affluent than average for the State of Texas. Almost 15% of the population is over 65, compared to only 6.7% for the state. The median age is 36.9 which is almost 4 years older than the State of Texas average of 33 years. Half of all household have an annual household income of less than $50,000.

The need for educational opportunities is significant. Only approximately one-quarter of the population has completed an associate degree or higher level of educational attainment. Roughly half of the population are high school graduates (35.2%) or have “some college” (23.5%) education.

The private sector employs approximately three-quarters of all workers, one-tenth (8.1%) are self-employed, and roughly 15% work for local, state or the federal government. Fastest growing industries and occupations are dominated by health services, retail and construction. These areas, plus other identified needs in the truck driving and cyber security appear to be good targeted groups for future LIT Graduates to enter the workforce locally and immediately.

LAMAR INSTITUTE OF TECHNOLOGY

Market Summary



CATCHMENT AREA STATISTICS

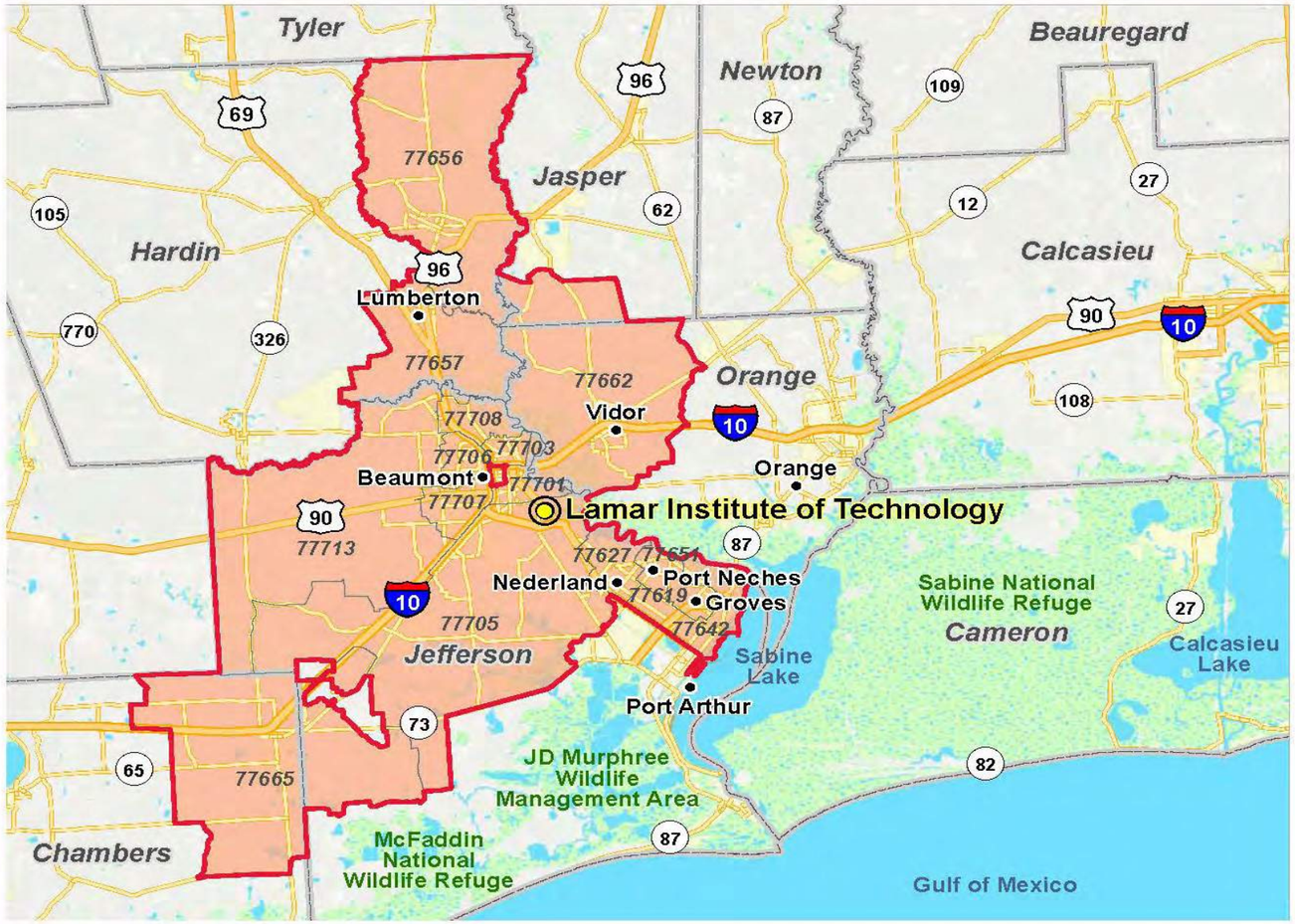
A catchment area is the area from which an institution attracts a population that uses its services. For colleges catchment areas are defined by cumulative contributory zip codes. For LIT the fourteen zip codes that provide 75.8% of cumulative enrollment define the catchment area. The map to the right shows the number of enrolled students at LIT by zip code within the catchment area.

Proximity, access to transportation corridors, and population centers contribute to the definition of the catchment area. However, an item to note is that a zip code (77665) has a relatively high capture rate compared to more local and larger zip codes. The college has developed a close relationship with the principal of the local high school in that vicinity. This could be a strategy that could be duplicated in closer zip codes.

Campus Catchment Area (Cuml. 75.8%)
Student Resident by ZIP Code

ZIPs	Rank	Students	Percent	Cuml. Percent
77705	1	273	9.3%	9.3%
77706	2	226	7.7%	17.0%
77707	3	195	6.6%	23.6%
77657	3	195	6.6%	30.3%
77708	4	163	5.6%	35.8%
77701	5	161	5.5%	41.3%
77703	6	148	5.0%	46.4%
77627	7	139	4.7%	51.1%
77656	8	134	4.6%	55.7%
77642	9	133	4.5%	60.2%
77662	10	128	4.4%	64.5%
77713	11	96	3.3%	67.8%
77651	12	85	2.9%	70.7%
77619	13	83	2.8%	73.5%
77665	14	67	2.3%	75.8%

Catchment Area



Legend

0 2.5 5 10 Miles
Source: ESRI and Facility Programming and Consulting

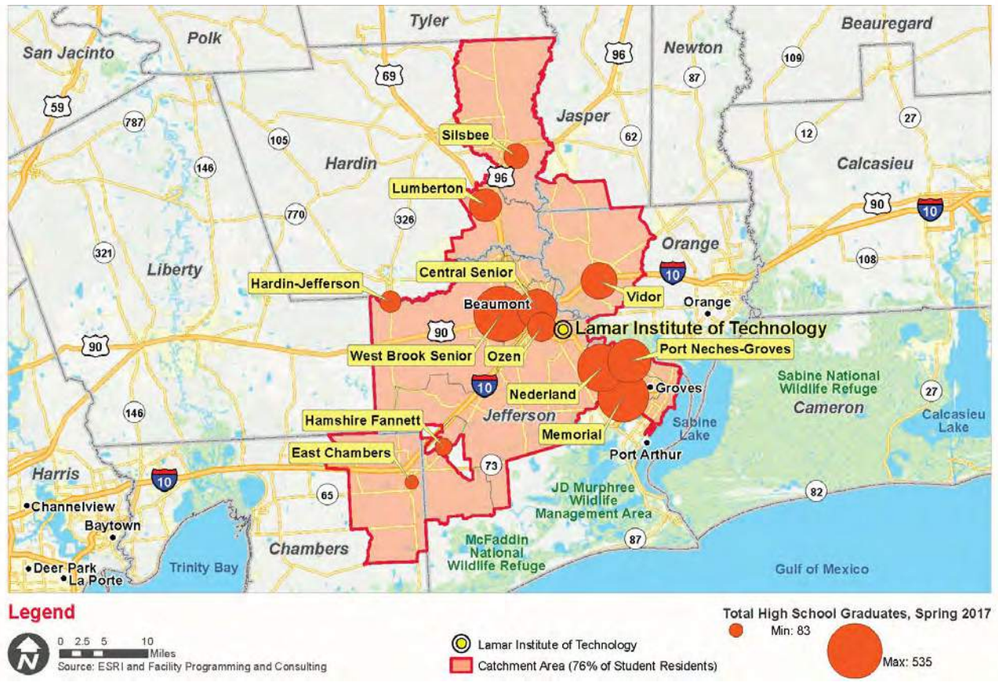
Lamar Institute of Technology
Catchment Area (76% of Student Residents)

CONTRIBUTORY HIGH SCHOOLS

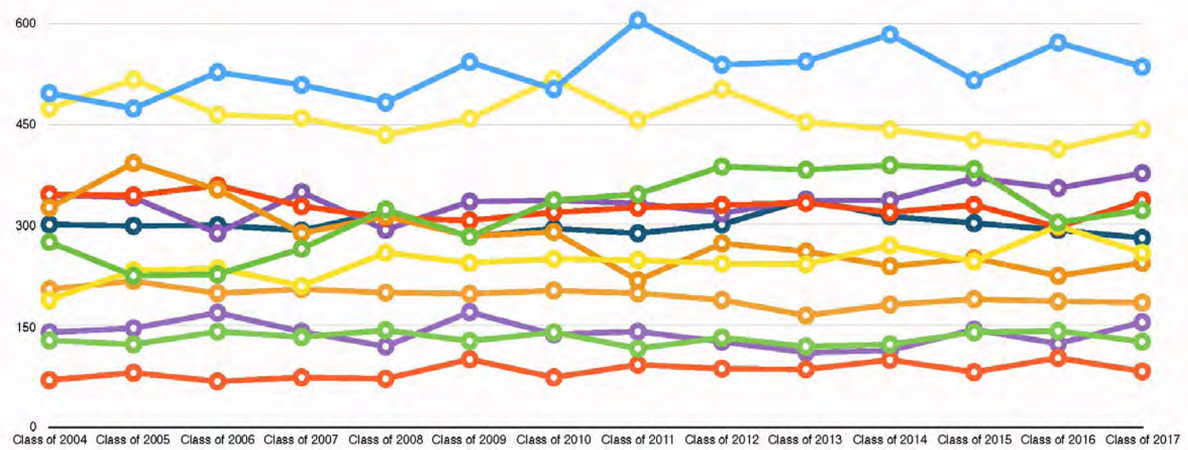
For regional colleges and universities the largest 'target demographic' is graduating area high school students. High school capture rate analysis measures the number of students indicating high school of origin as a proportion of the number of graduating seniors. Although there is not a direct correlation from high school graduation to college enrollment, the capture rate suggests how effective the school is in serving a given high school.

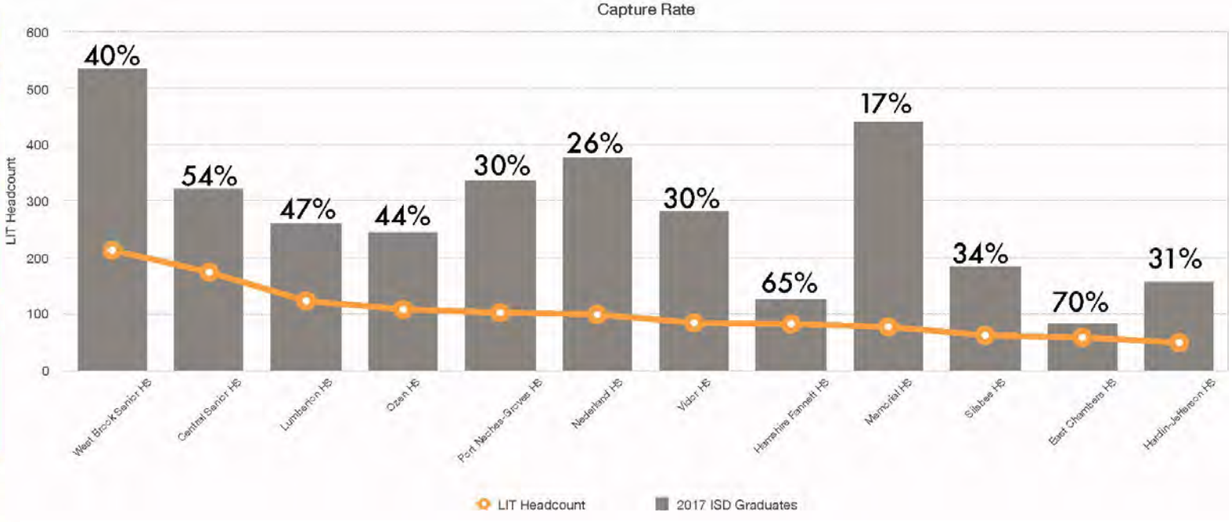
Based on the analysis of the collected demographic information there are a few interesting findings. First, there are several high schools in the local vicinity that are being out-performed in enrollment percentage and quantities than several in more outlying areas. Second, three of the largest population zip codes have among the lowest capture rates by percentage. It is recommended that these schools are the focus of targeted marketing efforts and relationship building to increase the capture rate in the nearest, largest high schools to help achieve enrollment goals.

Population Census Tract 2000–2010



Graduates Within Contributory High Schools





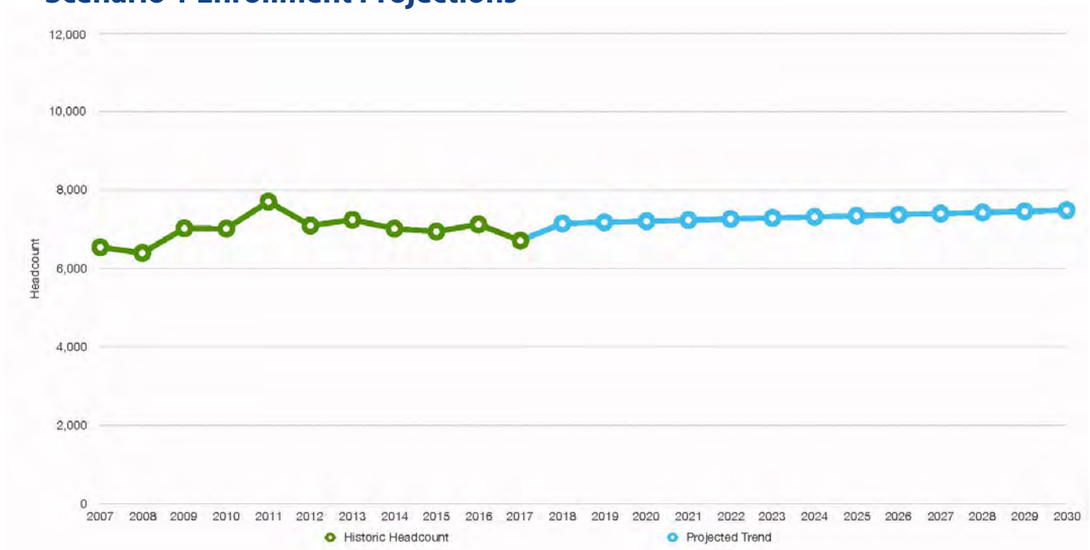
ENROLLMENT PROJECTIONS

SCENARIO 1 (Baseline)

PROJECTED TREND

The Projected Trend enrollment projection is a trend line based on actual historical fall enrollment for the eleven-year period 2007 through 2017, effectively using demonstrated historical enrollment to project forward. Historical enrollment has been flat over the last decade. Extrapolation from this data shows little future enrollment growth.

Scenario 1 Enrollment Projections

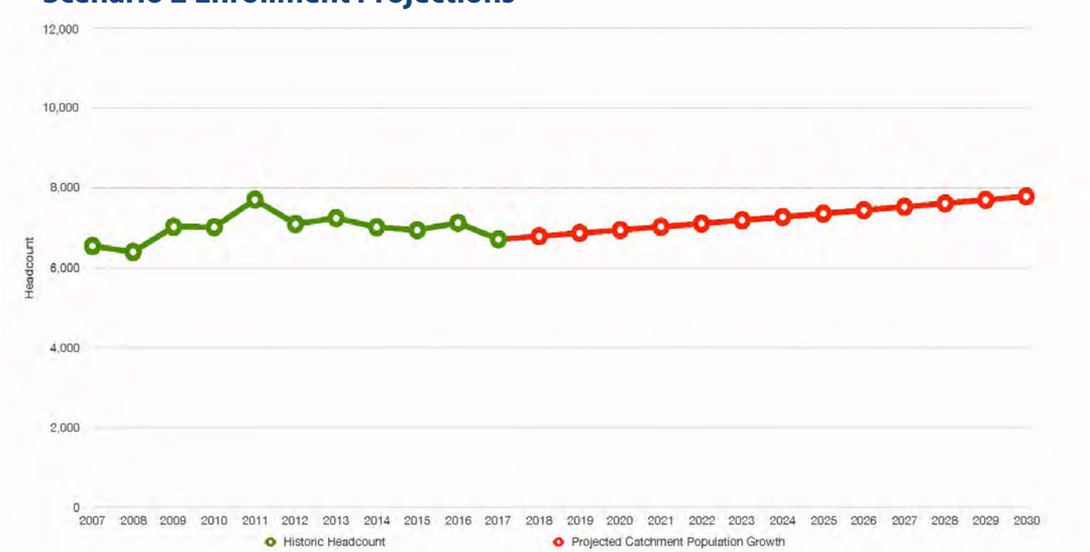


SCENARIO 2 (Low)

PROJECTED CATCHMENT POPULATION GROWTH

The Projected Catchment Population Growth scenario holds the enrollment capture rate constant for each zip code within the catchment area and "grows" enrollment by the expected compounded annual growth rate for the adult population. The catchment area population and LIT enrollment are projected to grow relatively slowly with headcount enrollment of approximately 8,000 by 2030.

Scenario 2 Enrollment Projections



SCENARIO 3 (Mid)

PROJECTED HIGH SCHOOL ENROLLMENT TREND

The Projected High School Enrollment trend uses the changes to local high school enrollment of schools within the catchment area as a predictor for future enrollment at the college. The methodology holds the high school graduate capture rate constant and the growth is provided by the historical trend in number of graduates for each school. The historical trend and the subsequent enrollment projection are flat.

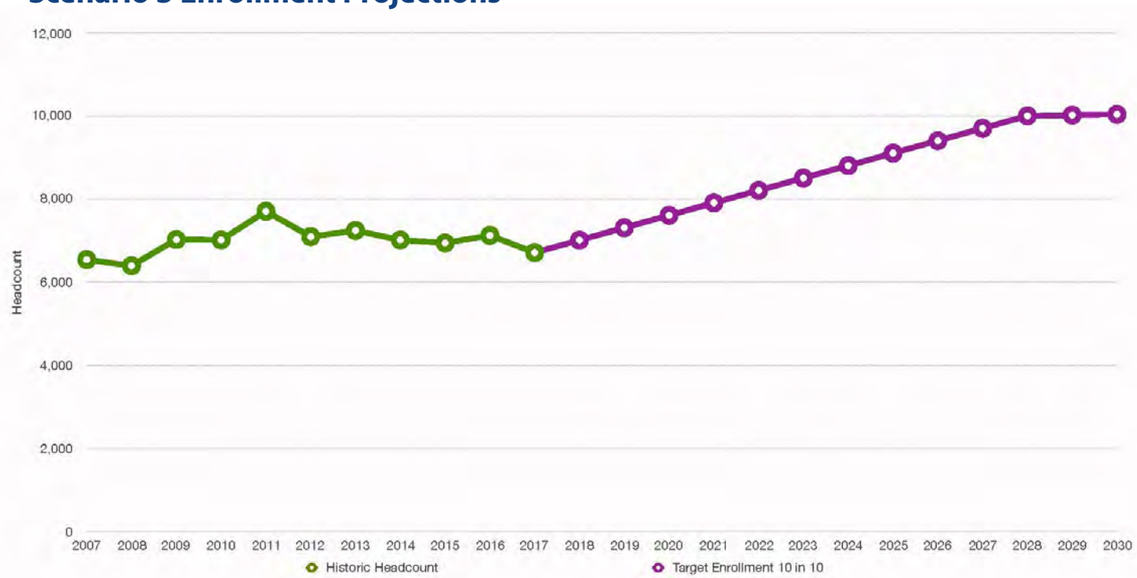
Scenario 3 Enrollment Projections

SCENARIO 4 (High)

TARGET ENROLLMENT 10 X 10

The Target Enrollment 10 X 10 shows the annual growth required to achieve the campus goal of achieving 10,000 enrolled students in the 10-year horizon of this master plan. This graph was primarily created to show the delta between the estimated baseline enrollment scenarios projected from area demographics versus what is required to achieve the goal for the campus.

Scenario 3 Enrollment Projections



SUMMARY OBSERVATIONS

Every enrollment scenario for the Lamar Institute of Technology based on the demographics of the catchment area suggests enrollment growth will be minimal during the planning horizon of the Master Plan. The historical population growth has been low and there is no compelling rationale to expect faster growth in the next 10-years. Unfortunately, the Institute does not enjoy a demographic "tailwind" that many vocational colleges receive from localized population growth near their main campus. This suggests enrollment growth for the main campus will need to be driven by physical and programmatic improvements that draw more traditional and non-traditional students. The college doesn't have the luxury of relying on contributory population growth to achieve faster growth rates.

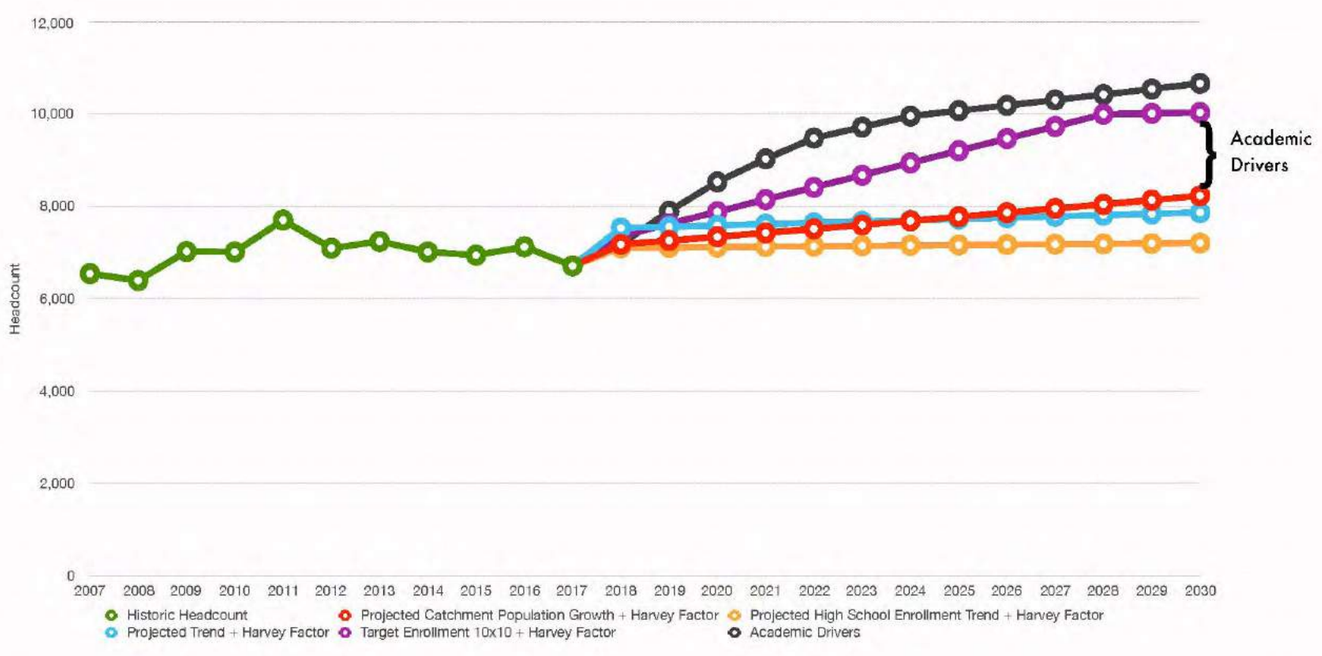
Physical proximity to local high schools affects attendance. Data from a wide variety of technical and vocational college's catchment areas throughout Texas confirms that convenience primarily to residence and secondarily to workplace correlates to enrollment and capture rates. Effort is required in marketing and recruitment, often literally at location within high schools near the LIT Main Campus. Analysis of demographics and enrollment suggest that to maximize enrollment a significant "presence" is required at these schools to get the word out about LIT, it's programs, and most importantly student outcomes.

The area that surrounds LIT has a relatively unique situation in that the local population has a low level of college level achievement compared to many communities. This is both an opportunity and a challenge. There are a significant number of potential students looking for additional education, however, there are likely also significant barriers to educational attainment.

To achieve the stated goal of headcount enrollment of 10,000 students LIT must rely on new programs and initiatives. The result of the implementation of new programs and opportunities is expressed in the Green Line in the graph to the left. College Administrators identified the following programs to increase enrollment.

- Expand Existing Early College Partnerships
- New Early College Partnerships
- New Dual Credit Partnerships
- New Programs
  - Cyber Security Program
  - EMS/ Emergency Management
  - Environmental Science
  - Allied Health
- New Recruitment + Retention Program
- Online Partnership with SHSU

Projected Enrollment Scenarios - All



LAMAR INSTITUTE
OF TECHNOLOGY

Lamar Institute of Technology

Campus Master Plan

The Path to Achieving 10 in 10

Prepared by:
PBK
FACILITY PROGRAMMING AND CONSULTING

NEXT GENERATION STUDENT EXPERIENCE

NEXT GENERATION student experience is an important factor in student recruitment and retention for post secondary institutions. Students are looking for engagement from their teachers, a personalized learning plan that includes diverse course offerings, excellent learning environments and opportunities for social interaction and sharing. Colleges and universities are shifting their focus to respond to this demand by focusing on what students do. By analyzing what students do – time and energy devoted to educationally purposeful activities – they can align their institutions to use effective educational practices to induce students to do the right things. Many studies have been published regarding the need to engage students entering post secondary institutions, as many come apathetic or disengaged. In the study titled “Student Apathy and Disengagement in American Higher Education”, Darielle Christman explains that due to the lack of engagement, students tend to miss classes, not participate in any of the institution’s events or student organizations, and are generally unprepared and avoid class participation.

However, changes in instructional delivery and environmental changes – both social and physical – have proven to be effective in bridging this gap. Colleges and all higher education institutions will continue to see rapid change in how we share knowledge, how we leverage technology and how we deliver a more diverse, quality education. These changes will affect what happens in the classroom, and what happens within college campuses.

Newer methods of online and technology-enhanced course delivery, including “flipped classrooms,” are showing promising student outcomes. A “flipped classroom” is a newer strategic instructional model that reverses the traditional learning environment. The traditional learning environment has instruction occurring in the classroom and activities, considered as homework, occurring outside of the classroom. The “flipped classroom” utilizes delivering content outside of the classroom, typically online, and moving the activities into the classroom environment with the guidance of a mentor. “Flipped” instruction models in particular have resulted in greater student engagement. Adaptive learning technology has also received significant interest. However, in spite of advances in distance learning, students will continue to demand state-of-the-art physical spaces where they can interact with other students and with faculty, where they can put their new skills into action, and where they can focus on their learning.

A shift to next generation learning is needed in order to engage these students. According to “Next Generation Learning: The Pathway to Possibility”:

> “Next generation learning” isn’t about educating the next generation of students. It’s about engaging with today’s students through “next gen” teaching and learning designs that promise significantly higher achievement for many more students than current generation approaches have been able to generate.”

Lamar Institute of Technology has been a provider of high quality learning for area students, however its facilities are showing their age. In order to continue this success these buildings need to be able to incorporate the next generation learning goals by adopting strategies such as the design of learning spaces and classrooms that respond to student needs, as well as a master planned approach to outdoor learning spaces and wayfinding. The following pages provide detailed information on opportunities available to the college, as well as research to support those findings. We have focused on four major components as there is significant evidence to their impact on retention and recruitment.

TRANSFORM FROM EXISTING TO NEXT GENERATION LEARNING ENVIRONMENTS

Lamar Institute of Technology (LIT) academic buildings are efficient in their design and layout, with classrooms and labs flanking double loaded corridors. In some instances, wider hallways and gathering spaces are sprinkled throughout, providing gathering opportunities for students and staff. The buildings are traditional in nature and have been well maintained, having successfully served the needs for students over the last 50 years.

As LIT looks towards the next 10 years, the environments within these buildings need to change in order to serve the next generation of students. Today's students have changed, educators have changed, learning itself has changed. According to Milton Chen, Senior Fellow & Executive Director, Emeritus of The George Lucas Educational Foundation, 21st Century learning builds upon such past conceptions of learning as core knowledge in subject areas and recasts them for today's world, where a global perspective and collaboration skills are critical. It's no longer enough to know things. It's even more important to stay curious about finding out things.

This shift results in a different way of teaching. By putting the focus on students experiencing the environment, they will start developing their higher order thinking skills, effective communication skills, collaboration skills, and all other skills that they will need in today's workplace. Technology also plays a major role by allowing for 24/7 access to information, constant social interaction, and shared digital content. Next generation learning allows educators to leverage technology to create an engaging and personalized environment to meet the changing educational needs of today's and future generations.

LIT's learning environments will need to evolve to best support this shift in the educational model. Next generation learning environments are active, agile environments that can change to enhance learning activities. These environments are open and fluid, no longer isolating activities from each other, but rather working together to provide a constant learning experience.

NEXT GENERATION LEARNING SPACES

In the PST framework proposed by Radcliffe in 2009, Pedagogy, Space and Technology (PST) form a triangle that contains the learner. They influence each other in a reciprocal manner.

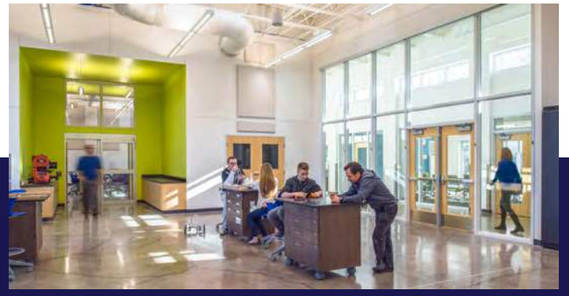
The triangle represents the learning environment in which all four elements – Pedagogy, Space, Technology and the Learner - play an active part. The learner is an active participant inside the triangle, influencing, and being influenced by these three elements.

COMPONENTS OF NEXT GENERATION LEARNING ENVIRONMENTS

COLLABORATIVE AREAS

Collaborative work areas and spaces allow for students to work together before, during and after class, and provide the setting for collaboration and team work. These are important spaces as they provide students with the opportunity to interact with peers and socialize. Collaborative areas provide locations for students to remain on campuses between classes, which increases their overall engagement.

TRANSPARENCY



Classrooms open up to the adjacent areas with the introduction of movable glass walls, allowing for learning to spill out into the collaboration areas. Glass walls also allow for connectivity between the activities inside the classroom, and those in the collaborative areas. An additional benefit of glass walls is that is allows for borrowed light to permeate the center of the classroom areas, as light is “borrowed” from the exterior windows through the glass.

ROBUST TECHNOLOGY

All learning areas are enhanced by a robust wireless access system, as well as having technology tools that foster collaboration and interaction, such as interactive LED screens, tablets and linked project centers. Charging stations are also provided throughout the spaces allowing students work areas on off periods. Technology is also used for signage and displays that are interactive and invite staff and students to participate.

FLEXIBLE FURNITURE

Furniture plays a vital role in these environments by changing from the traditional static furniture to very active furniture. The ease for reconfiguration allows for team activities as well as individual student learning. In addition, a variety of settings can be accomplished with the introduction of soft seating and casual furniture in the collaborative spaces.

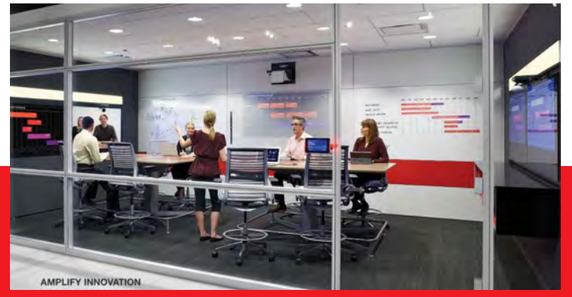
HIGH PERFORMANCE COMPONENTS

Natural light, LED lighting and improved acoustics are essential to the learning environments. Research has proven these components can increase student and staff performance. Next generation learning environments utilize high performance elements that also improve energy efficiency and reduce operational costs.

FACULTY AND STAFF WORK AREAS

Professional learning and collaboration is enhanced by the introduction of shared work areas located within each academic area. These shared spaces foster conversation and provide faculty and staff with work areas throughout the campus to support their lesson planning.

HUDDLE ROOMS



Small conference rooms are located throughout the academic areas to provide a space for students and faculty and staff to work on shared tasks and projects. These are often lined with glass walls to allow for visibility in and out of the room, and they provide quiet work spaces for students to utilize before, during and after class.

TRANSFORMING LAMAR INSTITUTE OF TECHNOLOGY'S LEARNING ENVIRONMENTS

Lamar Institute of Technology buildings can be renovated to become next generation learning environments that will provide varied and diverse settings for its students. The renovations can be simply performed by maximizing the existing spaces and introducing next generation elements into the spaces. One opportunity for this is the Tommy Williams Building. The space is very efficient, with classrooms and offices flanking the hallways. As new buildings are added to campus with more efficient design and Next Generation Learning environments, the existing spaces could then be renovated into Next Generation Learning environments, as well, that take advantage of these large spaces and existing infrastructure. Next Generation renovations at this campus would include:

SYSTEMS IMPROVEMENTS

As part of the campus master plan, improvements to major building systems should be included. These improvements would include upgrades to state-of-the-art, energy efficient LED lighting, as well as heating, venting and air conditioning systems upgrades for maximum energy efficiency. In addition, architectural finishes such as paint and floor finishes need to be refreshed to bring the environments to current materials and color palettes.

LEARNING COMMONS

The planning team created a space in the center of the wing that can serve as a Learning Commons. This space can be used for class or large presentations. It is open to the hallways, allowing for participation from all college students. This space would include movable furniture as well as interactive technology.

COLLABORATIVE AREAS

Some of the classrooms could be combined to create a large collaborative space that can be used for class, or by students before or after class. These would be equipped with furniture that would promote collaboration, as well as be equipped with technology to support the learning activities.

TRANSPARENCY

Glass walls from the classroom to the hallways and learning commons will allow for connectivity between classroom areas and the active learning environments outside them.

MEDIA BAR AND TOUCHDOWN SPACES

Students today need the opportunity to work independently, and, charge devices between classes. Touch down spaces and the media bar allow for this to take place, happening more quietly in the touch down locations, and more socially in the media bar.

HUDDLE ROOMS

These rooms could be used by staff and students for quick impromptu meetings, as well as for concentrated work that requires more quietness and focus. These rooms would have glass to the open spaces, for continued connectivity and enhanced safety.

ACTIVE FURNITURE

Essential to all renovations in Lamar Institute of Technology is the need for active furniture that can be moved easily to create a diverse variety of learning settings. These need to include not only classroom furniture, but casual seating areas for students to congregate before and after class.

COMPONENTS OF SUCCESSFUL OUTDOOR LEARNING AND ENGAGEMENT SPACES

LARGE GATHERING AREAS

The outdoor learning and engagement spaces come alive when a college organizes events such as concerts or performances. Successful outdoor spaces include a theater and stage that can be totally man made, or completely natural. Stepped amphitheaters provide for a diversity of uses and activities, such as presentations or concerts, while at the same time providing for comfortable settings for student down time. The key factor in designing these performance venues is to integrate it into the overall master plan, so that it is not alien in feel to the rest of the space.

VARIED LANDSCAPE

Landscaping in the courtyard should include a variety of trees and plants, as well as lawn areas. Well groomed lawn areas are inviting to people, and create a playing area for all. Tree selection should include large trees, or trees that will be large at maturity. Large trees provide shade, which is usually a most welcome outdoor feature. Plants should include color variation and flowers. Research has shown that outdoor settings that include colorful flowers help reduce stress and feelings of discouragement. In order to define open spaces, dense planting areas should be created, as they can help frame the outdoor environment. A densely planted area with a variety of trees, shrubs and flowers can serve as a backdrop to an outdoor learning space.

LANDMARK OR FOCAL POINT

A landmark or focal point in an outdoor learning and engagement space can provide a visual focus that differentiates an outdoor learning and engagement space from others. The addition of a statue, sculpture, tower, gathering spot or water fountain, helps people navigate through the space. This landmark can also serve as a branding icon for the college campus.

CAMPUS ART

A simple but often forgotten way to provide visual interest and flair to the campus is a large campus art piece. Though sometimes controversial, the right piece can elevate the aesthetic and be used in campus marketing efforts. Technological pieces offer new cutting edge ways to add life to campus, but can be more maintenance then more traditional forms of art.

INTERACTION

Clear access from buildings to the outdoor learning and engagement spaces will allow students and staff the opportunity to interact in a natural setting. Outdoor learning and engagement spaces can include areas for impromptu conversation, such as large boulders grouped next to each other. Other more planned areas, like benches and tables, should be sprinkled throughout the space to allow for students to work or visit with fellow students. Moreover, walkways and pathways should be planned to create intersections linking all surrounding buildings, and directing users to meet and converse.

Open spaces can be sequenced to connect a variety of settings into a holistic system, creating order and direction for the space. These spaces can be linked to allow for increased interaction, while still maintaining their individuality by utilizing different materials, such as colored pavers and plants.

WAYFINDING AND SIGNAGE

1. Lamar Institute of Technology was carefully designed and master planned, resulting in a character that is timeless. The location was carefully selected so as to best serve the needs of local students. While the location of the campus is excellent, their suburban setting makes it sometimes difficult to see the entrance for the college from the roadways, as signage is not always visible from the overpass or side streets. In addition, once on campus, it is not always easy to find the way, as the overall signage is not clear and visible.
2. The lack of accessibility and ease of travel to and within college campuses can deter a student from enrolling, as attending college can be daunting enough. Great campus wayfinding offers clear direction, is accessible, and blends effortlessly into its environment, making the college experience more pleasant.
3. The goal of a site signage and wayfinding master plan is to produce a clear, concise program that defines the border of the campus and safely and efficiently guides people to their destinations. In addition, the master plan should serve to support the college's brand, with a look and character representative of the college. Wayfinding takes a layered approach, starting with directing users safely on to the site and efficiently finding parking. Once parked, a detailed level of wayfinding and signage is implemented at the pedestrian level.

THE PSYCHOLOGY OF WAYFINDING

1. A recent study conducted on wayfinding strategies concluded that we have eight seconds to provide the right answers to a new user or visitor to the system. A person will become frustrated and walk away if they spend more than eight seconds interpreting signs and maps. With the many distractions of everyday life, our mental ability is greatly diminished, so complex or non-existent signage will lead to frustration and anger. A successful wayfinding master plan provides for simple cues that easily direct us to our destination.

Signage can be designed and installed to represent landmarks, or "bread crumbs" along the travel path. In his Ted Talk "Making sense of Maps", Aris Venetikidis explained how our brain reads and recreates maps. Our brains simplify the information into simple diagrams with landmarks along the way. This helps us remember where we are going and how we got there.

LAMAR INSTITUTE
OF TECHNOLOGY

Lamar Institute of Technology

Campus Master Plan

The Path to Achieving 10 in 10

Prepared by:

PBK
FACILITY PROGRAMMING AND CONSULTING

5 UTILIZATION

THE UTILIZATION MODEL

Utilization measures the extent of the current practical use of existing instructional facilities in conformance with goals established by the Texas Higher Education Coordinating Board (THECB). These goals are derived from and consistent with standards established by the Association for Learning Environments (formerly the Council of Educational Facilities Planners, International). It is important to note the utilization model for instructional spaces has been adjusted for limited Friday scheduling.

For classrooms, Target Utilization - by definition - assumes that 65% of the available classroom seats are occupied 32 hours per week (on average). In the Utilization Model, a building or campus at the Target Utilization measures 65%. A measure below 65% Utilization indicates that sections are small relative to the available seats in the classroom, and/or more sections could be scheduled during weekdays.

For classrooms, Theoretical Maximum Utilization - by definition - assumes that 65% of the available classrooms seats are occupied for 40 hours per week on average. In the Utilization Model, a building or campus at Theoretical Maximum Utilization, measures approximately 81%. A measure between 65% and 81% Utilization indicates that sections are practically full or that few classrooms are available for additional sections during weekdays. A measure above 81% Utilization usually indicates that sections are practically full and additional sections would most likely have to be scheduled during weeknights or weekends. In this scenario, with some classes already being scheduled outside normal hours, access is likely being denied to students unable to attend classes during non-standard times. At a minimum, the lack of capacity during peak periods of demand creates barriers to use.

CLASSROOMS VERSUS INSTRUCTIONAL LABORATORIES

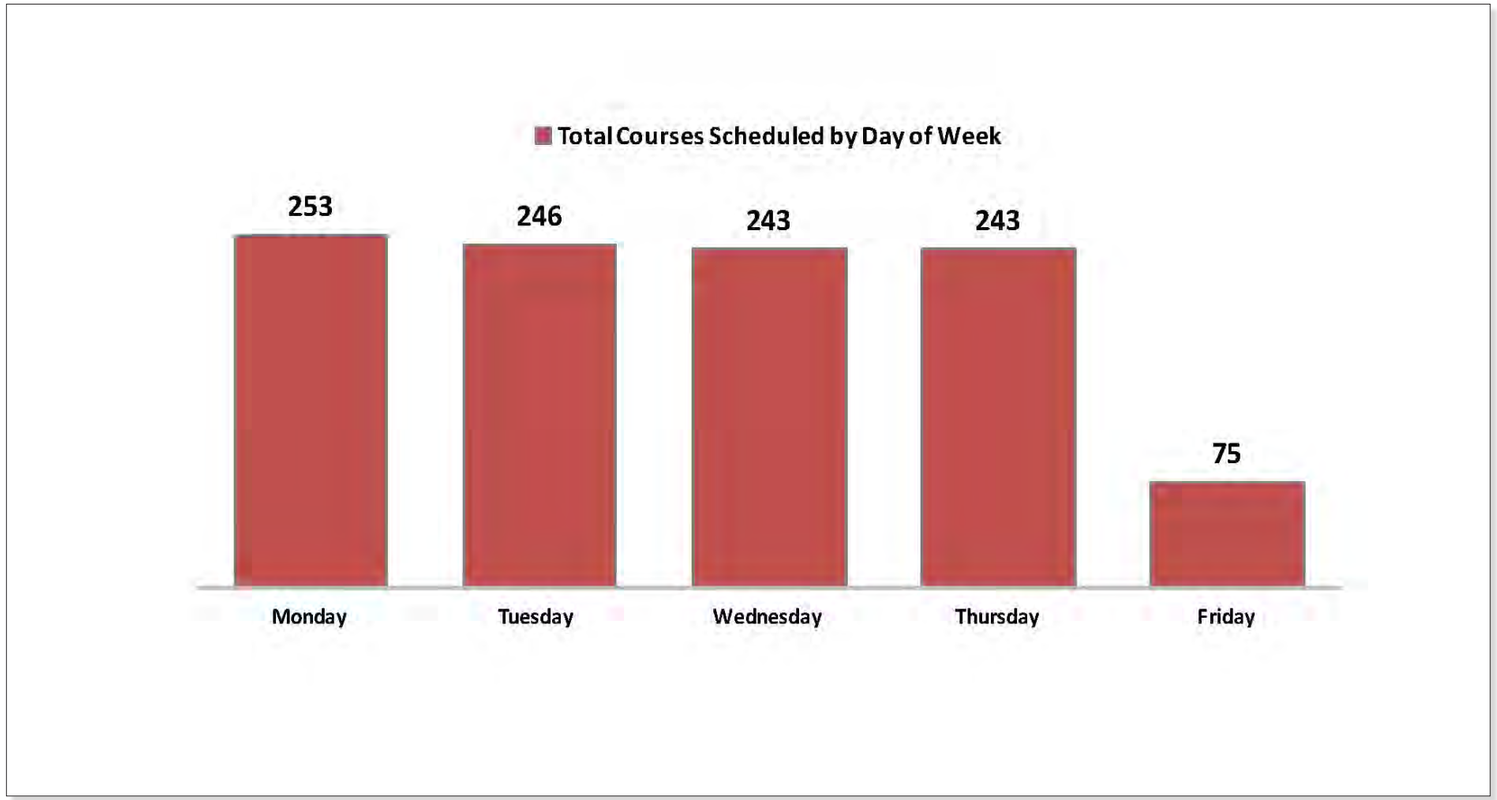
Utilization for instructional laboratories is evaluated separately from classrooms. Their specialized capabilities and usage often prevents laboratories from being used as intensely as classrooms. Evaluating classrooms and laboratories together is likely to present a lower utilization than actually exists. For laboratories, Target Utilization, by definition, assumes that 75% of the available classroom seats are occupied for 25 hours per week on average.

ROOM UTILIZATION AND SECTION OCCUPANCY

Distinctions can be made by looking at the components of utilization measurement. Room utilization measures only the hours per week that sections are scheduled against the standard of 32 available per week. How full the sections are is ignored. A measure of 100% room utilization indicates that rooms are scheduled for an average of 32 hours per week. Counterintuitively, room utilization can, and often does, exceed 100% for popular heavily used classrooms or laboratories. This simply means the room was scheduled more than an average of 32 hours per week.

Section Occupancy only measures the fullness of scheduled sections that are assigned to rooms. How often the rooms are scheduled is ignored. A measure of 100% Section Occupancy indicates the rooms are full when in use. Section Occupancy above 100% can only be achieved by crowding additional seats into the room. Management of Section Occupancy can be used to indirectly manage the efficiency of operating costs related to faculty.

OVERALL UTILIZATION

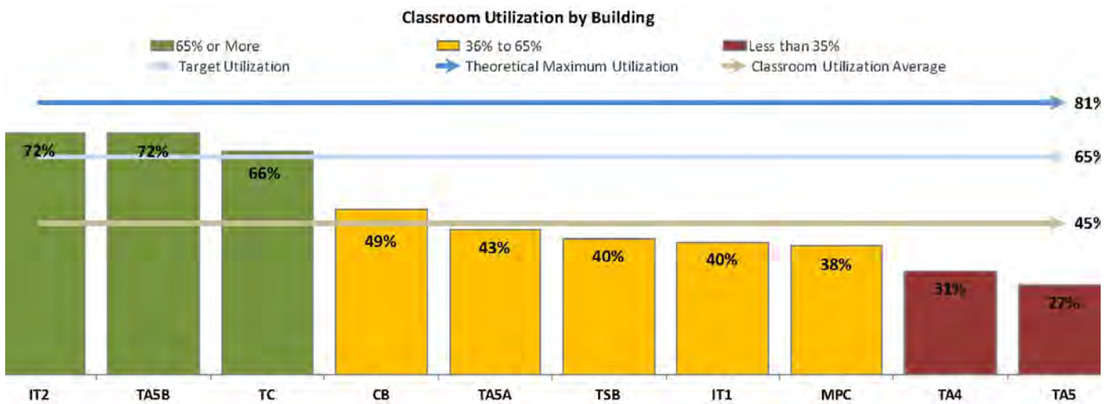


Although the model specifically analyzes classrooms and laboratories separately, overall utilization can provide a general sense of scheduling demand versus capacity for a campus. Lamar Institute of Technology is effective at scheduling of instructional space Monday through Thursday to meet the standard target. Limited scheduling occurs on Friday or weekends. Further observations require looking discretely at classrooms and laboratories.

CLASSROOM UTILIZATION

Overall classroom utilization, a combination of scheduling and section fill, is approximately 45% with approximately 26 hours of classroom usage per week. Both metrics are below the utilization goals of the Texas Higher Education Coordinating Board.

There are several factors that lead to these inefficiencies and make classroom size standardization a goal moving forward. First, a wide range of classroom capacity is inherently difficult to schedule compared to campuses with standard size rooms of 32-36 capacity. Simply stated, there are too many small classrooms and not enough large classrooms. Second, there are two older buildings that are scheduled to be renovated and currently have limited use. Finally, the wide range of scheduling intensity appears driven by scheduling "silos" created by scheduling by academic discipline.



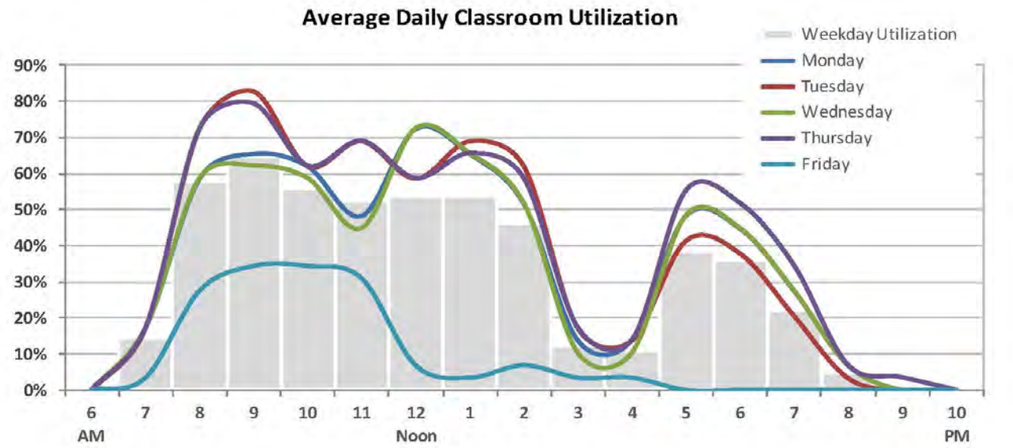
Green: *On average, 65% or more of the time, the classrooms are filled near capacity for 32 hours per week.*

Yellow: *On average, 36% to 65% of the time, the classrooms are filled near capacity for 32 hours per week.*

Red: *On average, less than 35% of the time, the classrooms are filled near capacity for 32 hours per week.*

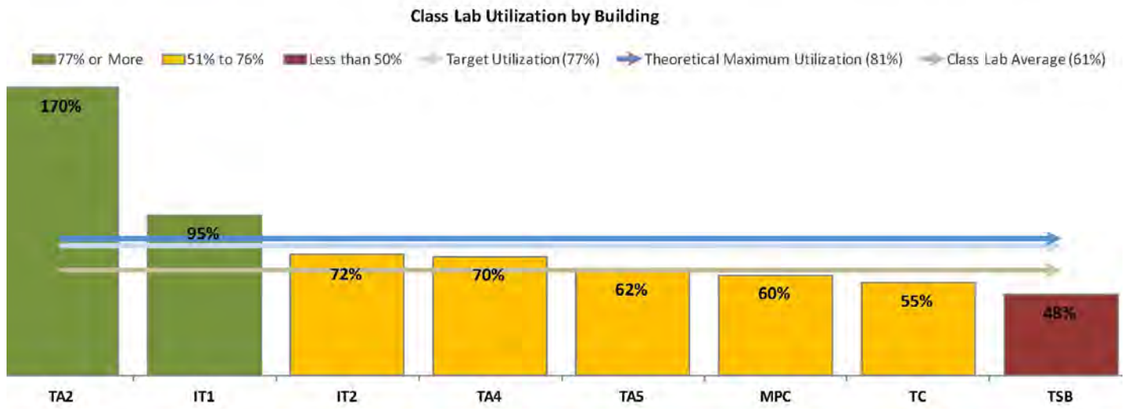
CLASSROOM UTILIZATION: PEAK PERIOD DEMAND

Peak period demand for classrooms is between 8:00 AM and 12:00 AM, Monday through Thursday. Limited classroom instruction occurs on Friday with peak scheduling of approximately 25% of classrooms between 9:00 AM and 11:00 AM. On Monday through Thursday, during the peak period morning hours, between 80% and 90% of classrooms are scheduled. This suggests that classroom scheduling during peak periods is at or approaching effective full occupancy.



LABORATORY UTILIZATION

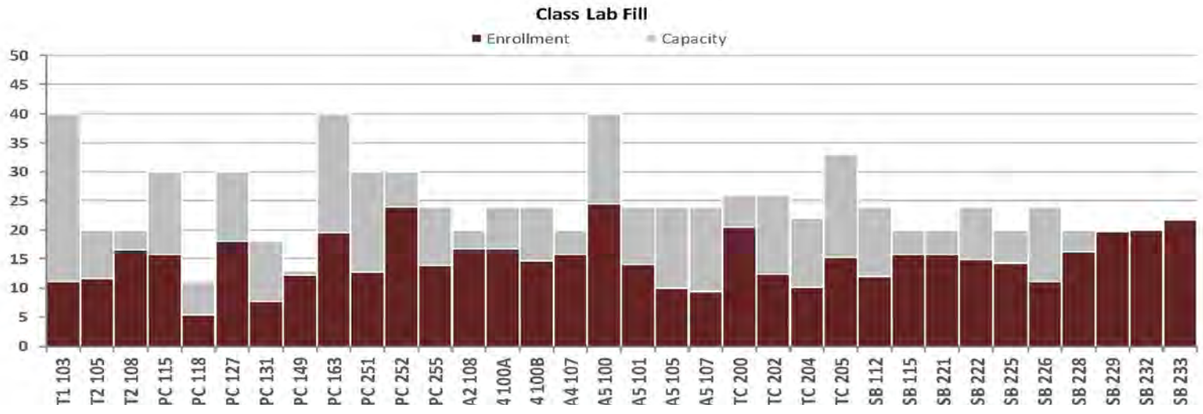
Overall laboratory utilization, a combination of scheduling and section fill, is approximately 62%, below the THECB goal for utilization. However, there is a disparity between scheduling and fill for labs. The Campus lab scheduling averages approximately 24 hours per week, essentially the THECB goal. However, the larger labs consistently have fill rates well below the THECB goal, and generally utilization issues are much more location and discipline specific.



Green: *On average, 77% or more of the time, the class labs are filled near capacity for 25 hours per week.*

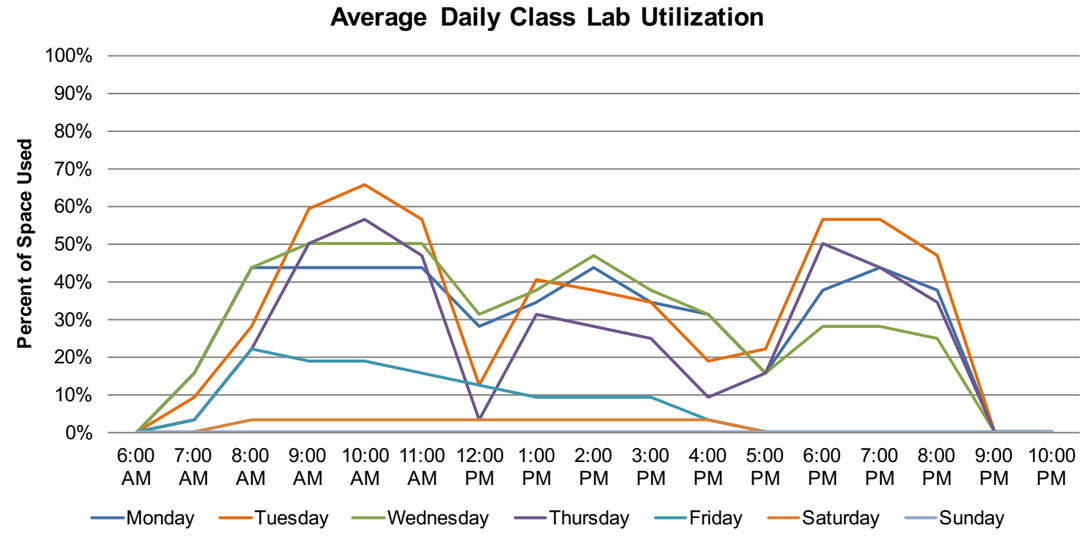
Yellow: *On average, 51% to 76% of the time, the class labs are filled near capacity for 25 hours per week.*

Red: *On average, less than 50% of the time, the class labs are filled near capacity for 25 hours per week.*



LABORATORY UTILIZATION: PEAK PERIOD DEMAND

Peak period demand for laboratories is Tuesday and Thursday in the morning with a significant secondary peak in the evening. Limited laboratory instruction occurs on Friday with peak scheduling of approximately 20% of classrooms between 8:00 AM and 10:00 AM. On Tuesday, during the peak period morning hours, between 60% and 70% of classrooms are scheduled.



THE CB UTILIZATION TARGETS

CLASSROOM: 32 hours per week

CLASS LAB: 25 hours per week

AVERAGE CLASSROOM FILL: 65% minimum

AVERAGE CLASS LAB FILL: 75% minimum

All analysis below was calculated based on information provided by the College

OBSERVATIONS

The utilization analysis indicates that classroom scheduling Monday through Thursday in the mornings is at effective full capacity. This indicates, that if significant enrollment growth is a goal, additional classroom capacity will be needed to avoid barriers to use. The campus also has issues effectively scheduling because of non-uniform and poor “fit” with demand for classroom and lab sizes. To this end, it is imperative that new buildings that may be recommended in this and future master plans be constructed with uniformity in mind for both class and lab sizes.


Over 70% of
sexual assaults
are planned.

LAMAR INSTITUTE
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Campus Master Plan

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OVERVIEW

LAMAR INSTITUTE OF TECHNOLOGY facilities condition assessment involved a multi-step assessment methodology that provided a comprehensive and consistent assessment. Steps included:

1. **CONDUCT ASSESSMENT KICKOFF:** The assessment began in December 2017, with a Lamar Institute of Technology meeting to establish goals and objectives for the assessment along with a schedule of milestone activities. This kickoff meeting also established the lines of communication and the questions to ask in regards to the Facilities Questionnaire, which would be distributed to key facilities personnel.

2. **ASSESSMENT WALKS:** For the on-site assessments, the facilities conditions assessment teams were organized to assess each building's general condition. Each team consisted of a senior architect, structural engineer, mechanical engineer, plumbing engineer, electrical engineer, senior IT/technology engineer and a facilities expert. The teams visited and walked each facility and completed data collection assessment forms, as well as photo documentation identifying current deficiencies at each location, along with building systems and subsystems for each building with the estimated remaining life. The on-site assessments were conducted over a six week period in January and February 2018.

3. **DATA ANALYSIS AND COST ESTIMATING:** Following the assessments, collected data was entered into PBK's database system where an internal quality assurance review was conducted. Necessary revisions were made to the database as required, and the database was thoroughly vetted to provide the college all necessary and required information. Each item entered into the database was assigned a construction cost based on 2018 dollars along with adjustments for inflation, contractor costs and soft costs. At this time items were assigned both priority and system codes.

4. **CAMPUS PRESENTATIONS:** Once the consultant team had reviewed the assessment results, data was presented by campus to the Lamar Institute of Technology Planning Committee for final review and approval.

2018Long-Range Master Plan

Lamar Institute of Technology

FACILITY CONDITION ASSESSMENT CODE INDEX

DISCIPLINE							
C	CIVIL	E	ELECTRICAL	S	SECURITY	NA	NOT ASSIGNED
B	BUILDING ENVELOPE	P	PLUMBING	SP	ATHLETICS / ACTIVITIES		
A	ARCHITECTURAL	T	TECHNOLOGY	NS	NUTRITION SERVICES		
M	MECHANICAL	FL	FIRE & LIFE SAFETY	O	OTHER		
CLASSIFICATION CODE							
ACO	Accustical Treatment	ED	Electrical Distribution	MW	Millwork	SD	Site Drainage
ACM	Asbestos	EG	Emergency Generator	MEQ	Miscellaneous Equipment	SF	Site Fencing
AE	Athletic Events	ESOF	Exterior Soffit	NA	Not Assigned	SPN	Site Paving (New)
AF	Athletic Fields	FA	Fire Alarm System	OTH	Other	SPM	Site Paving Maintenance
AT	Athletic Track	FSPR	Fire Sprinkler	PTG	Painting	SU	Site Utilities
AV	Audio/Visual/Sound	FIXT	Fixtures (sinks, urinals, etc.)	PGE	Playground Equipment	SR	Sound Reinforcement
BLC	Bleachers	FLR	Flooring (carpet, tile, etc.)	PLB	Plumbing	STO	Storage
ADD	Building Addition	GRP	Graphics	PA	Public Address	STR	Structural/Foundation
CWK	Casework	HDW	Hardware	REN	Renovation	TECH	Technology
CLG	Ceiling	HVAC	Heat, Vent & Air	RFM	Roof Maintenance	TC	Tennis Courts
CLK	Clock	INT	Interior Finish	RFR	Roof Replacement	TP	Toilet Partition
CDE	Code Compliance	IRR	Irrigation	SEC	Security	WRE	Wall Repair (Exterior)
CNPY	Covered Walkway/Canopy	LS	Life Safety	SCM	Security - Cameras	WRI	Wall Repair (Interior)
DC	Display Case	LTG	Lighting (Interior)	SCR	Security - Card Readers	WS	Waterproofing Sealant
DR	Door	SL	Lighting (Site)	SIA	Security - Door Locks	WDW	Window
EA	Educational Adequacy	LOC	Locker	SIA	Security - Intrusion Alarm	BLD	Window Blinds
EDF	Electric Drinking Fountain	MBTB	Markerboard/Tackboard	SWR	Showers		
ELE	Electrical	MECH	Mechanical	SGN	Signage		
PRIORITY CODE							
1	Must Do: Legal, Safety Reasons or Critical Replacements - *(Life Expectancy: **1 - 2 years**)*						
2	Should Do: Curricular, Instructional, Program Need - *(Life Expectancy: **3 - 5 years**)*						
3	Would Like to Do: Curricular, Instructional, Program Enhancement - *(Life Expectancy: **5 - 10 years**)*						
4	Future Consideration: Not to be addressed at this time *(Life Expectancy: **10+ years**)*						
M	To be Addressed with Maintenance Funds and Personnel						
TBD	To Be Determined / Items Under Review By LIT						
LOCATION CODE							
ADMIN	Administration	CUST	Custodial	LRM	Locker Room	RR	Restroom
ATH	Athletics	FA	Fine Arts	MECH	Mechanical	SHOP	Shop
AUD	Auditorium/Theater	GYM	Gymnasium	MULTI	Multi-Purpose Room	SITE	Site
CAMP	Campus-Wide	KIT	Kitchen	NA	Not Assigned	SPED	Special Education
CLASS	Classroom	LAB	Laboratory	OLN	Outdoor Learning		
COR	Corridor/Hallway	LIB	Library	PORT	Portable Building		
SOURCE CODE							
CA	Consultant Assessment						
CAP	Consultant Assessment with COM Personnel						
QI	Staff or Faculty Questionnaire / Interview						
SI	Staff Input						
COM	Community Input						

BUILDING CONDITION ASSESSMENT

The facility condition assessment at Lamar Institute of Technology was a comprehensive evaluation that assessed both current deficiencies and building systems in need of future repair or replacement. The assessment looked at the ages of systems and finishes in a building to forecast system replacement as it reaches the end of its serviceable life. A comprehensive assessment looks at all deficiencies that require correction based on an assigned priority. An example of a system replacement might be carpet with a 10 year life that has been in place for 15 years and is in need of replacement. An example of a current deficiency might include broken gypsum board wall finish or a drainage problem on the site.

A building condition assessment evaluates the general health of physical facilities by identifying and prioritizing deficiencies that require correction for long-term use of the campus. Observations are typically organized into civil, architectural, mechanical, electrical, plumbing and building envelope disciplines. At the conclusion of the building assessment, renovation requirements are collected and renovation costs are generated for each campus facility.

Survey teams walked the facilities individually or, if the facilities manager desired, were accompanied around campus. All members of the team recorded existing conditions, identified problems and deficiencies, documented corrective action and qualities, and identified the priority of the repair. Published checklists and code definitions were used for consistency and completeness of the data among the survey team. Digital photos were taken to better identify the deficiencies and so the college could review the items outlined in the report. Following the assessment, the team entered the data using a specific code structure to ensure accuracy into the assessment database.

For planning and budgeting purposes, facility assessments customarily add a soft cost multiple onto the repair cost estimates. This soft cost multiple accounts for a markup that a college would typically incur when contracting for renovation and construction services. For our assessment, the team utilized a multiple that was inclusive of the following: seven-percent inflation for two years, general contractor overhead, soft costs such as professional fees and college administration fees, and contingencies.

FACILITIES ASSESSMENT FINDINGS – OVERVIEW

The total repair costs across the entire Lamar Institute of Technology improvements amount to almost $10,500,000. By discipline, the architectural, building envelope and MEP items seem to have a relatively even distribution of the items to be repaired or will become an issue during the 10 year horizon of this master plan. This was expected by the team, as most buildings were constructed more than 15 years ago and have never had any type of significant renovation. The largest single items seem to be re-roofs that will need to be budgeted for near the end of the 10 years. Also, some projects required in buildings T4 and T5 are already scheduled to be implemented during the first few years of the master plan as the project has already received some funding. Below is a breakdown of the college total costs both campus-wide and per building.

FACILITY NAME	PRIORITY-1 1 - 2 Years (2018-2019)	PRIORITY-2 3 - 5 Years (2020-2024)	PRIORITY-3 6 - 10 Years (2025-2034)	PRIORITY-M	TOTAL COST
Academic Facilities					
Cecil R. Beeson Technical Arts Building	$836,192.16	$334,893.84	$405,744.00	$8,988.00	$1,585,818.00
Technical Arts Building 4	$729,639.10	$664,767.89	$281,915.04	$12,840.00	$1,689,162.03
Technical Arts Building 5	$1,761,768.70	$371,132.50	$188,234.40	$642.00	$2,321,777.59
Technical Arts Building 5 Annex A	$106,302.36	$26,271.92	$0.00	$0.00	$132,574.28
Technical Arts Building 5 Annex B	$106,302.36	$26,271.92	$0.00	$0.00	$132,574.28
Technology Center	$1,111,322.54	$178,296.24	$128,400.00	$6,163.20	$1,424,181.98
Tommy Williams Industrial Technology Building 1	$0.00	$38,520.00	$642.00	$1,605.00	$40,767.00
Tommy Williams Industrial Technology Building 2	$0.00	$0.00	$84,180.97	$1,605.00	$85,785.97
Subtotal	$4,651,527.22	$1,640,154.32	$1,089,116.41	$31,843.20	$7,412,641.14
Support Facilities					
Paul & Connie Szuch Multi-Purpose Center	$97,584.00	$804,361.80	$429,757.37	$3,210.00	$1,334,913.17
Subtotal	$97,584.00	$804,361.80	$429,757.37	$3,210.00	$1,334,913.17
Campus-wide Improvements					
Campus-wide Parking Improvements	$70,870.38	$161,463.00	$1,926.00	$0.00	$234,259.38
Campus-wide WiFi Upgrades	$0.00	$385,200.00	$0.00	$0.00	$385,200.00
Campus-wide Access Control Upgrades	$0.00	$321,000.00	$0.00	$0.00	$321,000.00
Campus-wide Security Cameras Improvements	$0.00	$160,500.00	$0.00	$0.00	$160,500.00
Campus-wide Technology Upgrades	$0.00	$321,000.00	$0.00	$0.00	$321,000.00
Campus-wide Cleaning Budget	$0.00	$0.00	$0.00	$128,400.00	$128,400.00
Campus-wide Way-finding Signage Improvements	$0.00	$192,600.00	$0.00	$0.00	$192,600.00

FACILITY NAME	PRIORITY-1 1 - 2 Years (2018-2019)	PRIORITY-2 3 - 5 Years (2020-2024)	PRIORITY-3 6 - 10 Years (2025-2034)	PRIORITY-M	TOTAL COST
Subtotal	$70,870.38	$1,541,763.00	$1,926.00	$128,400.00	$1,742,959.38
Priority Totals	$4,819,981.60	$3,986,279.12	$1,520,799.77	$163,453.20	$10,490,513.69

Totals P1	$4,819,981.60
Totals P1+P2	$8,806,260.71
Totals P1+P2+P3	$10,327,060.49
Totals P1+P2+P3+PM	$10,490,513.69

CAMPUS WIDE ASSESSMENT FINDINGS

There are numerous projects that impact the campus as a whole or multiple buildings and so they are grouped into a Campus Projects section that is separate from the distinct buildings. The total campus projects budget is estimated to be almost $1,600,000. These include such critical infrastructure needs as providing WiFi for the entire campus, upgrading the security features including but not limited to security cameras and access control, plus some typical site infrastructure and site utility maintenance.

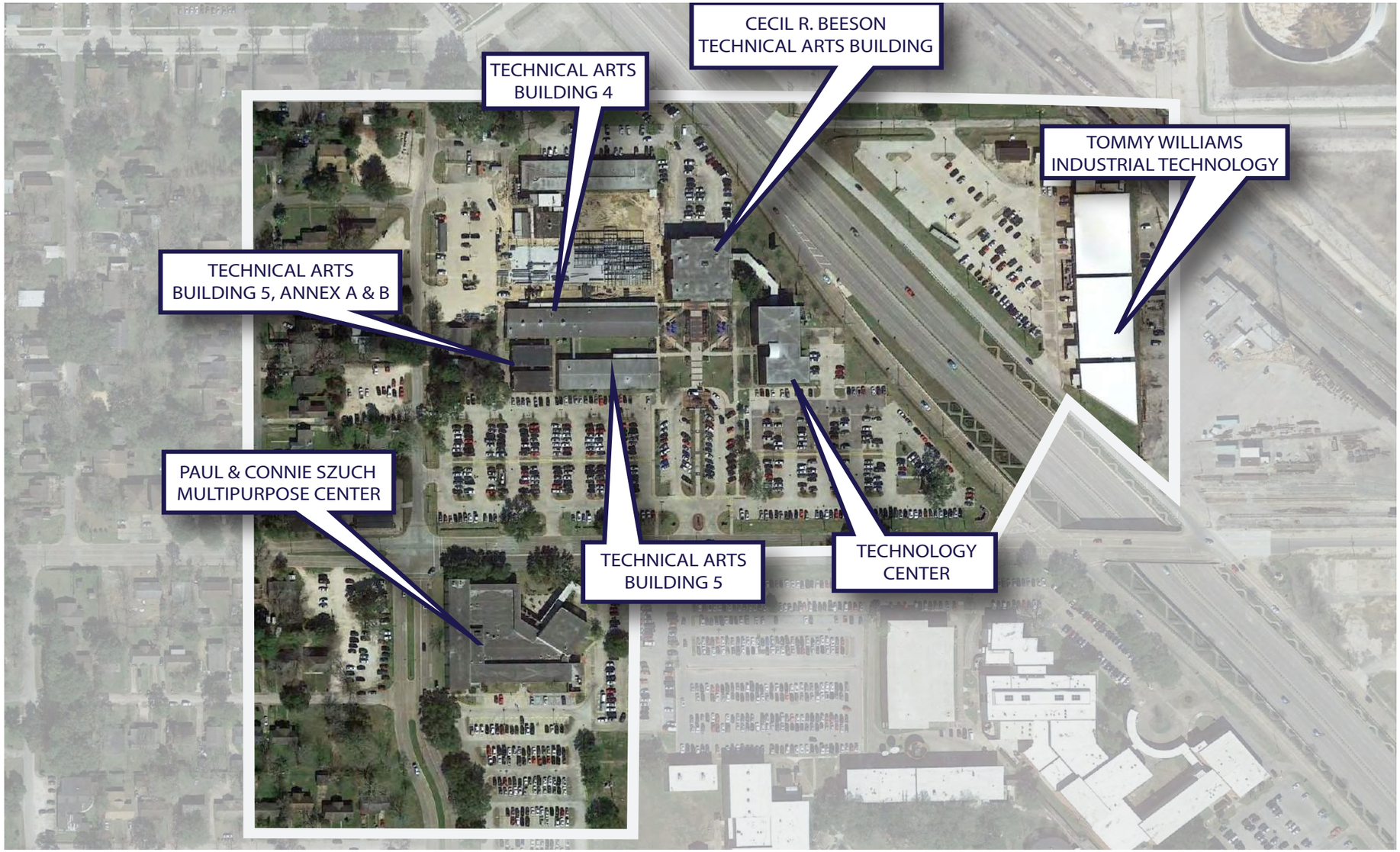
Priority	*Total Cost*
Priority - 1	*$836,192.16*
Priority - 2	*$334,893.84*
Priority - 3	*$405,744.00*
Priority - M	*$8,988.00*
Priority Totals	***$1,585,818.00***

DISCIPLINE	PRIORITY-1	PRIORITY-2	PRIORITY-3	PRIORITY-M	COST
Building Envelope	$18,618.00	$6,420.00	$208,650.00	$642.00	**$234,330.00**
Architectural	$12,840.00	$297,657.84	$158,574.00	$0.00	**$469,071.84**
Mechanical	$321,000.00	$0.00	$38,520.00	$8,346.00	**$367,866.00**
Electrical	$160,500.00	$0.00	$0.00	$0.00	**$160,500.00**
Plumbing	$0.00	$30,816.00	$0.00	$0.00	**$30,816.00**
Life Safety & Security	$323,234.16	$0.00	$0.00	$0.00	**$323,234.16**
Priority Totals	**$836,192.16**	**$334,893.84**	**$405,744.00**	**$8,988.00**	$1,585,818.00

Totals P1	$836,192.16
Totals P1+P2	$1,171,086.00
Totals P1+P2+P3	$1,576,830.00
Totals P1+P2+P3+PM	$1,585,818.00

DISCIPLINE	ITEM NO.	ITEM DESCRIPTION	CLASS. CODE	PRIORITY CODE	SOURCE CODE	TOTAL COST
BUILDING ENVELOPE						$234,330.00
	B1	Provide miscellaneous roof repairs. Provide retrofit kit a damaged lead and Yokem fitting, provide missing screws on equipment curbs, repair broken conduit and replace sealant in chem curb.	RFM	1	CA	$3,852.00
	B2	Clean existing stained walls, doors and soffits.	RFM	1	CA	$9,630.00
	B3	Regrade existing east elevation to prevent weeps from being covered	SGF	1	CA	$5,136.00
	B4	Tuckpoint weather damaged mortar.	WRE	2	CA	$6,420.00
	B5	Replace existing modified bitumen roof system with university standard. Existing was installed in 2007.	RFR	3	CA	$208,650.00
	B6	Provide appropriate weatherstripping at doors.	DR	M	CA	$642.00
ARCHITECTURAL						$469,071.84
	A1	Replace interior door hardware to ensure ADA accessibility.	HDW	1	CA	$12,840.00
	A2	Remove and replace ceiling with new acoustical lay-in ceiling tile and grid throughout facility.	CLG	2	CA	$74,780.16
	A3	Paint all interior surfaces. Repair/patch/prep walls prior to painting.	WRI	2	CA	$222,877.68
	A4	Replace carpet/vinyl composite tile (VCT) and base throughout facility (include ACM abatement where applicable).	FLR	3	CA	$158,574.00
MECHANICAL						$367,866.00
	M1	Replace two very old ahu's serving both 1st and 2nd floor and update ventilation air system to meet current requirements.	HVAC	1	CA	$321,000.00
	M2	Replace roof vents with building pressurization units.	HVAC	3	CA	$38,520.00
	M3	Remove abandoned condenser water pump and associated piping inside existing chiller room.	HVAC	M	CA	$3,852.00
	M4	Remove abandoned control system air compressor and associated pneumatic tubing inside existing chiller room.	HVAC	M	CA	$4,494.00
ELECTRICAL						$160,500.00
	E1	Replace all existing electrical switch gear in 1st floor mechanical room 104.The equipment is corroded.	ED	1	CA	$160,500.00
PLUMBING						$30,816.00
	P1	Replace non-ADA-compliant electric drinking fountains.	REN	2	CA	$30,816.00
LIFE SAFETY & SECURITY						$323,234.16
	LSS1	Add fire sprinkler system. (Need to consider Space for Fire Riser, Price for Meter ($90,000), and Civil cost to get the water to the building).	REN	1	CA	$323,234.16

1	Must Do: Legal, Safety Reasons, Critical Replacements - (Life Expectancy: 1 - 2 years)	$836,192.16
2	Should Do: Curricular, Instructional, Program Need - (Life Expectancy: 3 - 5 years)	$334,893.84
3	Would Like to Do: Curricular, Instructional, Program Enhancement - (Life Expectancy: 6 - 10 years)	$405,744.00
M	Maintenance: These assessment items are not counted in the standard report totals as they are to be addr	$8,988.00
		$1,585,818.00


CECIL R. BEESON
TECHNICAL ARTS BUILDING
TECHNICAL ARTS
BUILDING 4
TOMMY WILLIAMS
INDUSTRIAL TECHNOLOGY
TECHNICAL ARTS
BUILDING 5, ANNEX A & B
PAUL & CONNIE SZUCH
MULTIPURPOSE CENTER
TECHNICAL ARTS
BUILDING 5
TECHNOLOGY
CENTER

CAMPUS ACADEMIC FACILITIES ASSESSMENT SUMMARY

BEESON: Minor architectural improvements will be required. Re-roofing the building may be required at the end of this master plan when the roof hits the end of its recommended service life. Replace all existing electrical switchgear in 1st floor mechanical room 104. Replace two very old air handling units serving both 1st and 2nd floor and update ventilation air system to meet current requirements. If required, provide fire sprinkler.

MULTIPURPOSE CENTER: Minor architectural and building envelope items were documented. MEP Items include providing dedicated A/C system for the main distribution frame rooms. Re-roofing the building may be required when the roof hits the end of its recommended service life. Minor maintenance items in the near term include cleaning coils and drain pans, and during this master plan phase the boiler will need to be replaced.

TECHNOLOGY CENTER: The Technology Center is around 5 years younger than the Multipurpose Center and of similar construction. Minor architectural and building envelope items were documented. MEP Items include providing dedicated A/C system for the main distribution frame rooms. Re-roofing the building may be required when the roof hits the end of its recommended service life towards the end of this master plan. Provide a couple of dedicated A/C system for the main distribution frame rooms. Replace 90 tons air-cooled chiller.

T4 AND T5: The Institute will utilize the findings of the facility assessment as part of a renovation of both buildings. Some of the projects include new paint, flooring, light fixtures, recladding portions of the façade, repairing bricks, removing existing pipes, and upgrading MEP infrastructure.

TOMMY WILLIAMS: This series of buildings is relatively new and so has a few minor architectural and building envelope related items. In terms of MEP, replace existing refrigerant piping insulation and cover with aluminum/uv jacketing and replace badly corroded air compressor and air dryer where noted.


Lamar Institute of Technology

PBK

LIT Master Plan

Lamar Institute of Technology

PRELIMINARY PROJECT SCHEDULE

May 9, 2018

Project Job Number:
1810

- Project Initiation.....Febru
  - Kickoff Meeting / Visioning Session .....February 23rd,
- Owner approves Investigation/Assessment of Existing Phase.. F
  - Assessment Walks .....January 22 – Feb 20
  - Report Findings .....Feb 20 – March
  - Report Preliminary Assessment Findings.....March 9
  - Final Assessment Deliverable .....March 22
- Traffic Study..... Feb 1
- Demographic Study.....January 2
- Campus Utilization Study.....January
  - Report Preliminary Demo/Utl Findings ...
- Preliminary Programming and Analy
  - Report Futu

2018 "Life-Cycle" Facility Condition Assessment

Lamar Institute of Technology

FACILITY CONDITION ASSESSMENT CODE INDEX

DISCIPLINE

C	CIVIL	B	BUILDING ENVELOPE	A	ARCHITECTURAL	M	MECHANICAL
E	ELECTRICAL	P	PLUMBING	T	TECHNOLOGY	LSS	LIFE SAFETY & SECURITY
FS	FOOD SERVICES						

CLASSIFICATION CODE

ACO	Acoustical Treatment	FRN	Furniture	PTG	Painting	SD	Site Drainage
AV	Audio/Visual/Sound	FA	Fire Alarm System	PLDW	Plumbing - Domestic Water	SF	Site Fencing
ADD	Building Addition	FSPR	Fire Sprinkler	PLFXT	Plumbing - Fixtures	SGF	Site Grading/Fill
GRP	Building Graphics	FLR	Flooring (carpet, tile, etc.)	PLFD	Plumbing - Floor Drain	SPM	Site Paving - Maintenance
REN	Building Renovation	HDW	Hardware	PLGP	Plumbing - Gas Piping	SPN	Site Paving - New
CNPY	Canopy/Covered Walkway	HVAC	Healt, Vent & Air	PLGT	Plumbing - Grease Trap	SPR	Site Paving - Replacement
CWK	Casework	INT	Interior Finishes	PLSS	Plumbing - Sanitary Sewer	SU	Site Utilities
	Communication Systems/Equi	IRR	Irrigation	PLWC	Plumbing - Water Closet	SR	Sound Reinforcement
	Control Systems	LNDS	Landscaping	PLWH	Plumbing - Water Heater	STA	Stairs
	Drawers	LS	Life Safety	RL	Railing (guard rails, handrails, etc.)	STR	Structural/Foundation
	Electrical Services	LTG-I	Lighting (Interior)	RMP	Ramps	TECH	Technology - General / Misc.
	Fire Curtains	LTG-E	Lighting (Exterior)	RFM	Roof Maintenance	TA	Toilet Accessories
	Flooring	LTG-S	Lighting (Sports)	RFR	Roof Replacement	TP	Toilet Partitions
	Furniture	LOC	Locaters	SEC	Security - General / Misc.	WRE	Wall Repair - Exterior
		MBTB	Markerboards/Tackboards	SCM	Security - Cameras	WRI	Wall Repair - Interior
				SCR	Security - Card Readers	WS	Waterproofing Sealant
						WIN	Windows

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OF TECHNOLOGY

Lamar Institute of Technology

Campus Master Plan

The Path to Achieving 10 in 10

Prepared by:

PBK
FACILITY PROGRAMMING AND CONSULTING

OVERVIEW

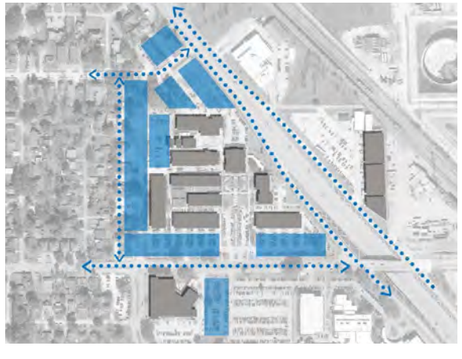
Despite the age of Lamar Institute of Technology, the campus has undergone quite a few changes over the past 20 years or so in terms of adding infrastructure. Such projects include the Technology Building, Multipurpose Building and Tommy Williams, the PATC Building and pending Student Success Building. With all of this recent development it was important that the master plan realize that any modifications to the campus should utilize these prominent buildings as fixtures while ensuring future additions complement their location and aesthetic.

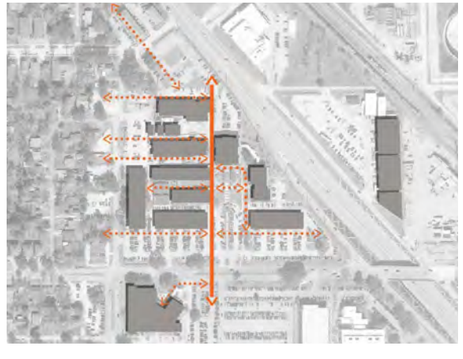
The addition of new facilities, parking, and outdoor environments should seek to enhance the student experience as well as that of the staff and faculty of LIT. The campus currently has been reported as having ample parking, however with the stated enrollment goals locations for additional parking spaces on the periphery of campus is sought as part of the master plan. Additionally, the visitor parking spots are recommended to be relocated to the student service building parking lot to be nearer the services they typically require.

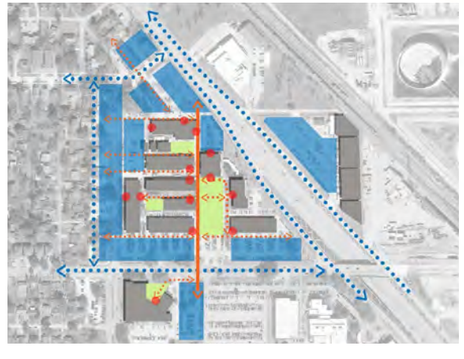
NEW MASTER PLAN - INTRODUCTION

There are several overarching tenets that good master planning incorporates in order to accentuate the ability of a campus environment to foster student life activities as well as learning environments. The first is to incorporate the goals of the strategic plan, in LIT's case the most important driver is the 10 in 10 goal which will require significant planning. The second is to look at the existing campus and accentuate the positive, such as the new sitting area outside of Beeson or the contemporary look of the PATC building.

Finally, the overarching design idea should work with the campus, and for LIT the replacement of parking near the quadrangle with new classroom and lab space will develop the flow and function of that critical gathering space and intercampus connector. In order to ensure that all of the goals have been incorporated, each initiative that was requested during the process has been outlined and the next section will go over them.







ASSESSMENT METHODOLOGY

The development plans for each campus were shaped by three key drivers: (1) the physical site and its carrying capacity; (2) new facility needs, (3) the key planning principles developed and documented during the meetings conducted with the college leadership groups for each campus.

The planning principles reflect the ideals that members of the college leadership groups feel are critical to maintaining and enhancing the character and quality of Lamar Institute of Technology as it responds to the growing needs of the system and service areas. Some of the planning principles that serve as baseline considerations for the development plans include:

1. Preserve the natural environment and physical character of the college.
2. Promote a pedestrian friendly campus.
3. Locate and orient buildings to create engaging outdoor spaces.
4. Enhance the convenience and accessibility for all campus users to navigate their way around campus – both vehicular and pedestrian, on-site and in buildings.
5. Enhance the quality of campus life for students, faculty, staff and visitors.
6. Provide new programs and facilities for today's labor demand.
7. Adapt to serve today's students needs and expectations.

These principles offered the planning team some clearer direction in identifying developmental concepts that emerged as "form givers," creating the framework for the master plan.

INITIATIVES

Based on findings and directions introduced earlier in the master plan, the planning team has outlined a few overlying initiatives for the college. The initiatives that follow are recommendations based on previously shown data, as well as the last six-and-a-half months of in-depth analysis:

1 ADDITIONAL CLASSROOMS AND LABS

In order to reach the 10 in 10 goal, additional properly sized purpose-built classrooms and labs will need to be constructed to accommodate the additional students. A new building to replace the classrooms that would be removed from T5A plus additional square footage would be a major building project for campus.

2 CLASSROOM STANDARDIZATION

Due to the college's sporadic growth over the years, the instructional facilities are a smattering of sizes and shapes. This initiative is to standardize classrooms and lab sizes/shapes in order to ensure ease of scheduling moving forward

3 WORKFORCE TRAINING

The Workforce Training building is another major project for the campus with a two-fold aim. First, providing a branded entrance for workforce programs near the Martin Luther King Jr. Parkway and East Lavaca Street intersection is a goal of the master plan. This would allow students a visible connection as they approach campus. The second is to provide ample space for the growing programs.

4 TOMMY WILLIAMS IMPROVEMENTS

The purchase of these buildings has been a considerable benefit to the Institute's Welding Program, and so the next phases of expansion of the welding program as well as the relocation of the Police and EMS programs should be considered to complete the transformation of this portion of campus.

5 ADDITIONAL LAND PURCHASES

Numerous single and multi-family tracts of land on the west side of campus would make excellent additions to campus to expand the campus footprint and provide for future growth and eliminate some unsightly perimeter issues.

6 RELOCATE UNIVERSITY DRIVE

A stretch goal for the master plan, as it requires all of the additional land purchases to be completed, would be to move University Drive further west in order to make for a larger contiguous campus.

7 BUS DROP OFF FOR EARLY COLLEGE HIGH SCHOOL

In order to have a well designated pick up and drop off spot for the high school students who attend LIT classes, a covered sitting area will help define this location for both students and the drivers picking them up.

8 NURSING PROGRAM

A major building project for the master plan would house a drastically expanded nursing program. With a total square footage of 16,000 SF just for nursing the new 33,000 square foot building would also house additional classrooms and labs for general use.

9 PEDESTRIAN HYBRID BEACON

In order to assist students, faculty and staff navigate East Lavaca Street, the Traffic Study recommends creating a Pedestrian Hybrid Beacon, a traffic light strictly for pedestrian crossing a busy street, to allow for safe passage.

10 WAYFINDING AND SIGNAGE

The campus has created an elegant and well branded series of 'edge defining' marquee signs. This concept of signage can now be directed into the interior of campus to assist students, staff, and visitors navigate between buildings as the campus grows.

11 CAMPUS WIDE WIFI

For a campus of this size creating a network that allows for staff, students, and faculty to remain on WiFi even as they move between building to building was, a soft requested, goal during the process of creating this master plan.

12 CAMPUS SECURITY IMPROVEMENTS

Among the security improvements discussed for the entire campus were access control and security cameras. These two features can be linked to alert first responders when someone is getting unauthorized access to a door. In addition, access control can be simply more convenient for staff and easier for the school to control.

1

ADDITIONAL CLASSROOMS AND LABS

Based on enrollment growth goals, there is not enough capacity for the additional 1,500 expected students to be seated on campus when the majority of students will be on campus. The programming exercise that was performed during the master plan process determined that 10 additional classrooms or labs would be required. To accomplish this as a part of the master plan, a new 30,000 SF Academic Building is recommended that would house at least the spaces below. Part of the additional classrooms will be replacements for the ones currently in building T5A to allow for these ‘temporary structures’ to be removed. The new Academic Building will house the following spaces:

- 1 Faculty Suite @ 2,500 asf each
- 14 Classrooms @ 1,000 asf each
- 2 Large Lecture @ 1,800 asf each
- 1 Computer Lab @ 900 asf each

2

CLASSROOM STANDARDIZATION

Even in the most uniform of circumstances, scheduling programs for students can be a challenge because of professor and student schedules (without the added complexity of varying room sizes and shapes that limit functional capacity). The largest building for classes on campus, Technical Vocational Building, is a smorgasbord of classroom sizes and shapes which is relatively typical of the buildings on campus. The future buildings on campus and the renovations for the campus should try to ensure consistent classroom shapes and sizes for both lecture and lab units to allow for maximum capacity of these rooms during periods of prime usage, with forty students in a classroom and twenty in a lab.

3

WORKFORCE TRAINING CENTER

The local community is full of commercial business that require training and continuing education for their employees. LIT can tap into this market of nontraditional students and should create a branded entrance that can be seen from East Lavaca Street and Martin Luther King Jr. Parkway. The Workforce Training Center would have several classrooms and an administrative suite. The college should utilize this project to build additional classrooms and labs to be used by traditional students as well. This will create flex space that will allow for the workforce programs to overflow when necessary as well as traditional scheduling, for example on Tuesday Morning peak periods. The master plan team recommends another approximately 30,000 square foot building to house these programs, which consist of the following spaces:

- 10 Classrooms @ 1,000 asf each
- 1 Large Lecture @ 1,800 asf each
- 2 Computer Labs @ 900 asf each
- 1 Workforce Suite @ 2,000 asf each
- 1 Faculty Suite @ 2,500 asf each

4

TOMMY WILLIAMS IMPROVEMENTS

There are major and minor renovations recommended for the Tommy Williams complex. The northernmost building would seem suited for a welding addition. The southernmost building has been identified for a relocation of the existing Police and EMS programs. Currently, they are located in traditional classroom settings within the MPC and would be better suited in an area with higher ceilings, near more outdoor space, and that can be specifically designed for their programs. In addition, the lack of food and beverage options can create unsafe situations where students are running across to MegaBytes. Two options have been proposed. Option one is an outside area for Food Trucks to come and serve food. Option two is a 24 / 7 vending and break area that can be available for students taking night classes.

5

ADDITIONAL LAND PURCHASES

There are approximately 8 and a half single family tracts of land along University Drive and a large multi-family tract along Adams Street that it is recommended that the LIT look at purchasing. There are multiple benefits to purchasing these pieces of land, and the first and foremost is to take advantage of the limited opportunity for future expansion. There is little opportunity for expansion on the East and South sides of campus because of Martin Luther King Jr. Parkway and Lamar University, so the only logical location is the small parcels of land flanking University Drive to the West and Adams Street to the North. The current situation on these parcels is also less than desirable, and so even creating parking lots on this land with landscaping will both create a defined campus edge and a more aesthetically pleasing environment. Based on the current tax assessment values of these properties at just under $1 million, the acquisition of this additional land is a cost benefit in order to create a more definitive and aesthetic boundary edge to the college to allow for the future growth goal and the ability to offer more educational programs and opportunities to the community in which the college serves.

6

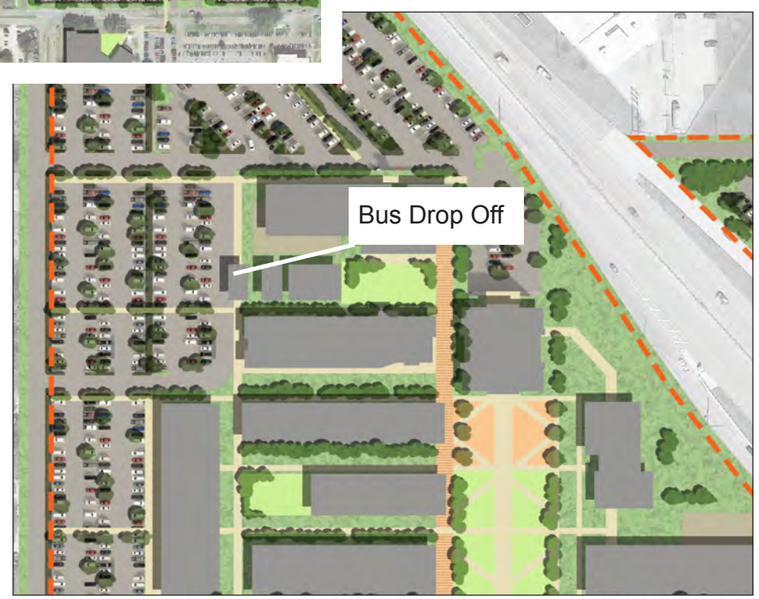
RELOCATE UNIVERSITY DRIVE

Currently, as with all campuses that are bisected by a major thoroughfare, Lamar Institute of Technology suffers from connectivity of the main campus to the Tommy Williams Complex and the Paul and Connie Szuch Multipurpose Center due to South Martin Luther King Junior Parkway and East Lavaca Street. Once all of the contiguous parcels of land are purchased via acquisition, and in coordination with city utilities and easements, the relocation of the section of University Drive between Adams Street and East Lavaca Street would be a major benefit for the college. This will allow the campus to be more contiguous, in lieu of having campus parking on the opposite side of the existing University Drive, thus providing for a safer campus environment for pedestrian and vehicular traffic.

7

BUS DROP OFF FOR EARLY COLLEGE HIGH SCHOOL

Whenever a college campus welcomes students who are minors and unable to drive, it can create an issue for where they arrive and are picked up on campus. By creating a specific covered drop off, the college will provide wayfinding for the students and drivers, as well as create a safe space for these younger students. A location that allows for right turns is a priority for school buses.



8

NURSING PROGRAM

The program with the largest need that also serves as the largest driver of enrollment is nursing. The existing nursing lab lacks space and the capacity required to meet the enrollment need and employment needs in the surrounding community. The planning committee recommends an approximately 30,000 square foot building that will house at minimum the following spaces:

- Nursing Labs (skills labs + simulation + support) @ 12,000 asf
- Nursing Large Lecture (72 Occupants) @ 1,800 asf
- Nursing Computer Lab/Testing (70 Spots) @ 2,000 asf
- Computer Lab to support new program (30 Computers)@ 900 asf
- Faculty Suite (10 offices + Adjunct support office) @ 2,500 asf

9

PEDESTRIAN HYBRID BEACON

A relatively new concept in pedestrian / vehicular circulation, the Pedestrian Hybrid Beacon acts as a stop light, but at a non-roadway intersection. This would allow pedestrians to cross East Lavaca Street by stopping vehicle traffic like a stop light would, thus the 'hybrid' moniker. If the college can prove the 'need' for a Pedestrian Hybrid Beacon, the local municipality can assist with the cost. No matter what, because of the intrusion into a public right of way, coordination with the local municipality will be required. This beacon would become dual-purposed, as it would stop and slow traffic for pedestrian crossing via technology and signage, but also be a gateway to the college and could be utilized for branding and logos. This pedestrian hybrid beacon would also encourage a connection back to Lamar University, who could also possibly share in the cost. There may be an opportunity for the Lamar Institute of Technology signage to be on the North side and the Lamar University signage to be on the South.

10

WAYFINDING AND SIGNAGE

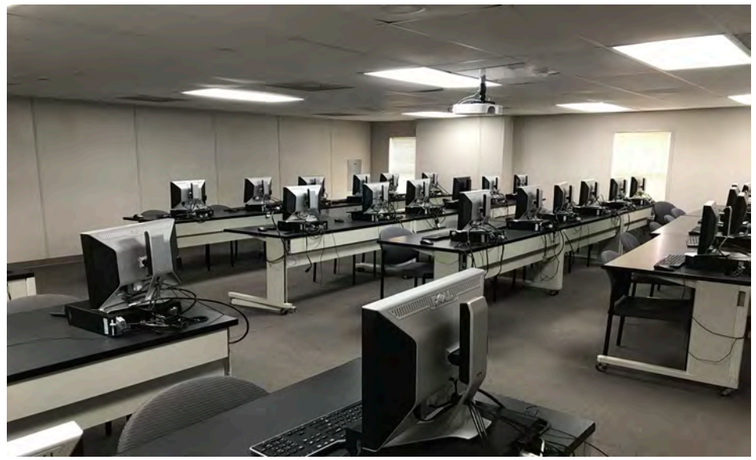
The college has placed elegant entry and edge defining signs around the perimeter of the campus. The next logical step is to add signage in the middle of campus, both to identify buildings and directions to take to arrive at various places. Great campus wayfinding offers clear direction, is accessible, and effortlessly compliments its environment, making the college experience more pleasant. During the planning team's visits, it was oftentimes hard to find our way on campus even though we had site plans and maps of them. Hidden paths and misplaced landscape make visual connectivity difficult, and simple signage can go a long way to alleviate this issue.

Pedestrian Signage and Maps / Displays will allow the navigator clear opportunities to succeed in finding their end destination once they have left their vehicle. These signs are dispersed throughout the campus proper and are critically important when sites have more than one building. These signs will be spread throughout the new quad and between buildings where visitors could get easily misguided. Technology can also be utilized for wayfinding, both, by physical display signage as well as apps designed specifically for the college. It was discussed that some of these signs should be technologically integrated to look like they belong on an Institute of Technology.

11

CAMPUS WIDE WIFI

Connectivity in the modern educational environment has slowly transitioned from luxury to necessity. One of the advantages of a small, compact campus is that with the acceleration of WiFi technology it gets easier and more cost effective to provide additional access points around campus and between buildings to ensure the entire campus is on a consistent, stable WiFi network. This will allow students to log on from anywhere and really activate the between building notes and landmarks to be used for studying, small group work and classroom activities.



12

CAMPUS SECURITY IMPROVEMENTS

Access control for all buildings can have numerous benefits for a college campus. The first is knowing who has accessed particular buildings (and when) can help establish usage patterns, as well as police access with the touch of a button rather than using keys - and all the headaches they cause when employees depart or don't have the right one.

Security cameras for a campus of this size will likely be used primarily for two reasons - first as a deterrent, and second as forensics research after the fact. It is unlikely the college will need a full time monitoring employee or service with the current incident rate, but at the same time there are advantages to keeping the campus secure by their presence.

AERIAL VIEW FROM SOUTH

AERIAL VIEW FROM NORTHWEST

AERIAL VIEW FROM SOUTHEAST

VIEW OF NEW NORTH ENTRY

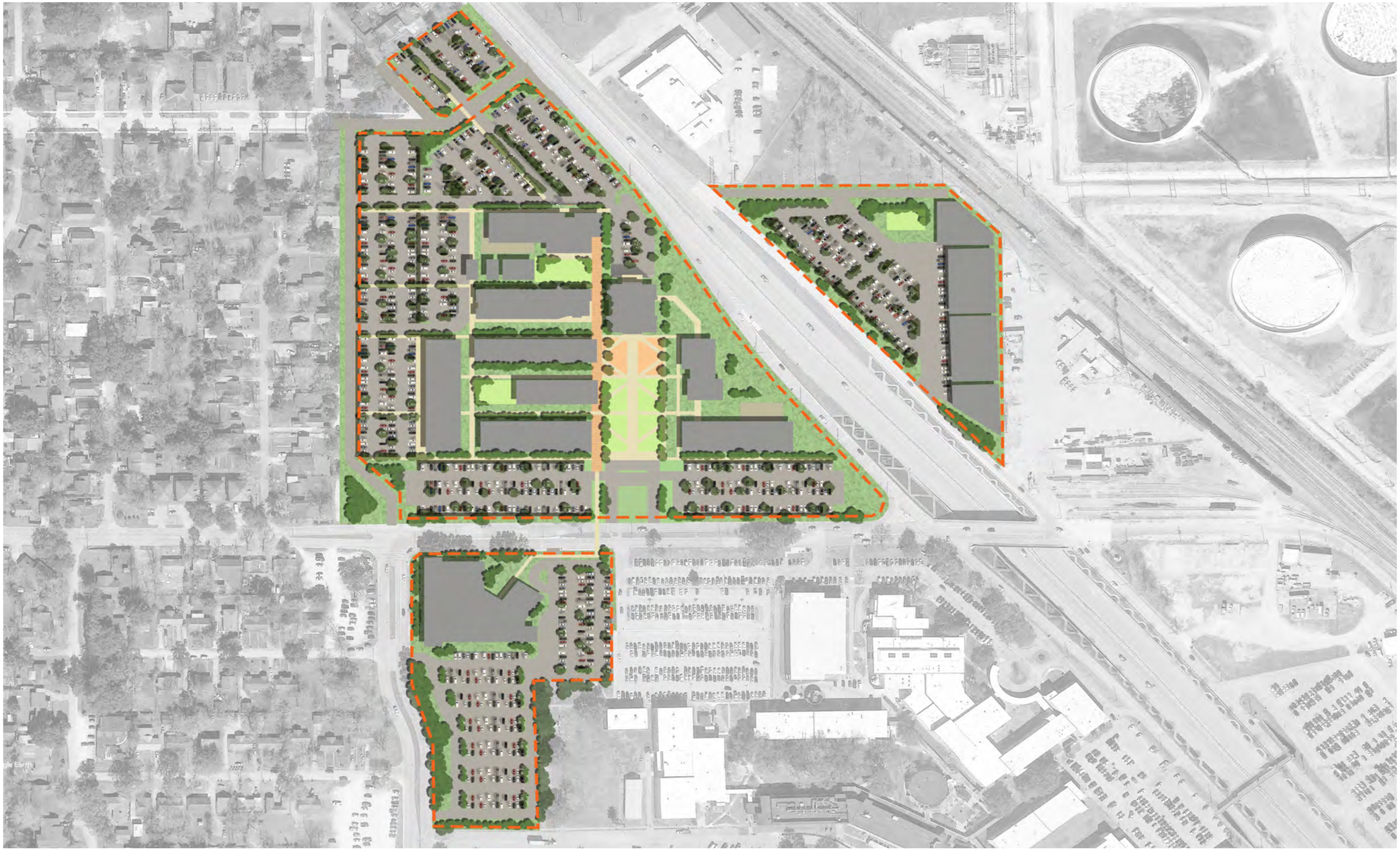
AERIAL VIEW OF EXPANDED QUAD

VIEW OF CAMPUS QUAD FROM MAIN ENTRY

VIEW LOOKING NORTH DOWN MAIN PEDESTRIAN PATHWAY

VIEW FROM MAIN ENTRY OFF OF EAST LAVACA STREET

FINAL COMPOSITE MASTER PLAN



MASTER PLAN INDIVIDUAL PROJECT COSTS

The following cost analysis was performed using Project Cost Resources, Inc. (PCR) to help the College understand the estimated financial impact of the proposed projects. These costs are the best estimate using 2018 based on the preliminary scope discussed with College Staff. These numbers are subject to change based on final project scope and anticipated project start date.

Lamar Institute of Technology Overall Budget Sheet

Project		Construction Cost	Soft Cost	Total Cost
Academic Building	New Construction	$12,000,000.00	$3,480,000.00	$15,480,000.00
Classroom Standardization	Renovation	$5,750,000.00	$1,725,000.00	$7,475,000.00
Workforce Training Center	New Construction	$13,500,000.00	$3,915,000.00	$17,415,000.00
Tommy Williams Improvements	New Construction/Renovation	$9,700,000.00	$2,910,000.00	$12,610,000.00
Additional Land Purchases	Acquisition	$1,500,000.00	$270,000.00	$1,770,000.00
Relocate University Drive	Infrastructure	$1,600,000.00	$288,000.00	$1,888,000.00
Bus Drop Off	New Construction	$200,000.00	$58,000.00	$258,000.00
Nursing Building	New Construction	$12,750,000.00	$3,697,500.00	$16,447,500.00
Pedestrian Hybrid Beacon	New Construction	$550,000.00	$159,500.00	$709,500.00
Wayfinding & Signage	Infrastructure	$200,000.00	$36,000.00	$236,000.00
Campus-wide WiFI & Technology	Infrastructure	$750,000.00	$135,000.00	$885,000.00
Campus-wide Security Improvements	Infrastructure	$500,000.00	$90,000.00	$590,000.00
Facility Assessment	Infrastructure	$9,150,000.00	$1,647,000.00	$10,797,000.00
				$86,561,000.00

MASTER PLAN PROJECT COSTS WITH ESCALATION

Taking the projects generated by the Master Plan and using a 1% per month factor for escalation, these following chart is a demonstration of the impact of construction cost escalation moving forward for future bonds and capital fundraising purposes. The numbers presented in this book have a very short duration for use because of the dynamic nature of economic forecasts and industry factors such as labor shortages or surpluses that greatly impact the cost of construction in the future but are unknown at the present time.

Lamar Institute of Technology Overall Escalation Costs

Project	2018 Cost	6 Month Escalation	12 Month Escalation	18 Month Escalation	24 Month Escalation
Academic Building	$15,480,000.00	$16,408,800.00	$17,393,328.00	$18,436,927.68	$19,543,143.34
Classroom Standardization	$7,475,000.00	$7,923,500.00	$8,398,910.00	$8,902,844.60	$9,437,015.28
Workforce Training Center	$17,415,000.00	$18,459,900.00	$19,567,494.00	$20,741,543.64	$21,986,036.26
Tommy Williams Improvements	$12,610,000.00	$13,366,600.00	$14,168,596.00	$15,018,711.76	$15,919,834.47
Additional Land Purchases	$1,770,000.00	$1,876,200.00	$1,988,772.00	$2,108,098.32	$2,234,584.22
Relocate University Drive	$1,888,000.00	$2,001,280.00	$2,121,356.80	$2,248,638.21	$2,383,556.50
Bus Drop Off	$258,000.00	$273,480.00	$289,888.80	$307,282.13	$325,719.06
Nursing Building	$16,447,500.00	$17,434,350.00	$18,480,411.00	$19,589,235.66	$20,764,589.80
Pedestrian Hybrid Beacon	$709,500.00	$752,070.00	$797,194.20	$845,025.85	$895,727.40
Wayfinding & Signage	$236,000.00	$250,160.00	$265,169.60	$281,079.78	$297,944.56
Campus-wide WiFI & Technology	$885,000.00	$938,100.00	$994,386.00	$1,054,049.16	$1,117,292.11
Campus-wide Security Improvements	$590,000.00	$625,400.00	$662,924.00	$702,699.44	$744,861.41
Facility Assessment	$10,797,000.00	$11,444,820.00	$12,131,509.20	$12,859,399.75	$13,630,963.74
Total	$86,561,000.00	$91,754,660.00	$97,259,939.60	$103,095,535.98	$109,281,268.13
Net Increase	$0.00	$5,193,660.00	$5,505,279.60	$5,835,596.38	$6,185,732.16

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