



## 2 EXECUTIVE SUMMARY

### PROJECT OVERVIEW

This Facilities Master Plan summarizes future requirements and recommends guidelines for developing the buildings, campuses, roads, infrastructure, and landscaping of the built environment that supports the educational mission and strategic intent of Broward College. The plan concentrates on the Near-Term horizon of nominally 2020 and establishes a Long-Term vision to guide a context for development planning to 2030 or beyond.

Included in the Facilities Master Plan are the properties owned by the college and covered by the State's Capital Outlay Funding program.

**A. Hugh Adams Central Campus**

3501 S.W. Davie Road  
Davie, FL 33314

**North Campus**

1000 Coconut Creek Blvd.  
Coconut Creek, FL 33066

**Judson A. Samuels South Campus**

7200 Pines Blvd.  
Pembroke Pines, FL 33024

**Willis Holcombe (Downtown) Center**

225 East Las Olas Blvd.  
Fort Lauderdale, FL 33301

**Automotive Training Center  
(Miramar) (aka "Maroone")**

7451 Riviera Blvd.  
Miramar, FL 33023

The other properties occupied by Broward College are leased facilities that house academic centers. These facilities were included in the Facility Condition Assessment task and evaluated for Enrollment and Space Needs Projections. However, because they are leased facilities and are not considered by the State for the Capital Outlay Funding, the college chose not to include them in the facilities portion of the master plan.

The college established three major tasks or deliverables for this project.

1. Property Surveys and Infrastructure Mapping
  - a. Perform boundary surveys and topographical mapping of all owned properties
  - b. Investigate, locate, survey and map all infrastructure/utility systems on all owned properties
2. Facility Condition Assessment (FCA) of all facilities
  - a. Conduct a systems-level life-cycle condition assessment of all buildings and site improvements occupied by the college (owned and leased)
  - b. Conduct a systems-level life-cycle condition assessment of all infrastructure systems mapped in Task 1
3. Facilities Master Plan (FMP)
  - a. Evaluate the current Educational Master Plan
  - b. Predict 10-year enrollment levels and project related space needs
  - c. Establish Campus Master Plans for owned sites
  - d. Propose an Implementation Plan to guide development and funding

The Facilities Master Plan promotes these objectives for Broward College.

- Comply with Florida Department of Education (FDOE) requirements and procedures including the State Requirements for Educational Facilities (SREF),

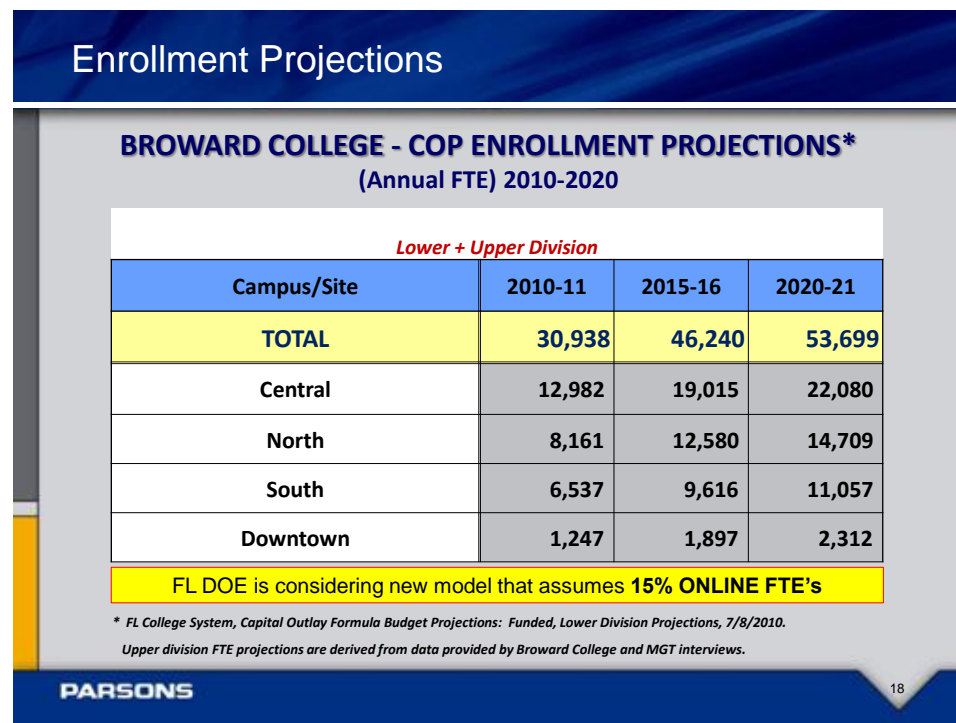


the 5-year Educational Plant Survey process, and requests for projects to be included in the annual Capital Improvements Plan (CIP).

- Provide well-planned and well-maintained physical environments that promote student success.
- Provide aesthetically pleasing and functional campuses that engender civic pride and appreciation for the educational endeavors that occur there.
- Establish a logical framework within which growth and redevelopment can occur as funds are provided through the vagaries of the legislative process.
- Identify opportunities for additional academic and support facilities while being good stewards of the existing facilities through capital renewal.
- Promote enhancement of the academic core campus and a pedestrian-friendly circulation system.
- Enhance the provisions for parking and improve access to and within the campus by both private vehicles and public transportation.
- Promote, preserve, and enhance open space and the use of native, non-invasive plants in the landscape.

## DISTRICT-WIDE PLANNING PARAMETERS

### ENROLLMENT PROJECTIONS



For the 5-year period beginning in school year 2010-11 and continuing through 2015-16, FDOE predicts the total enrollment in Full-Time Equivalents (FTE's) will increase dramatically by an aggressive 49%.

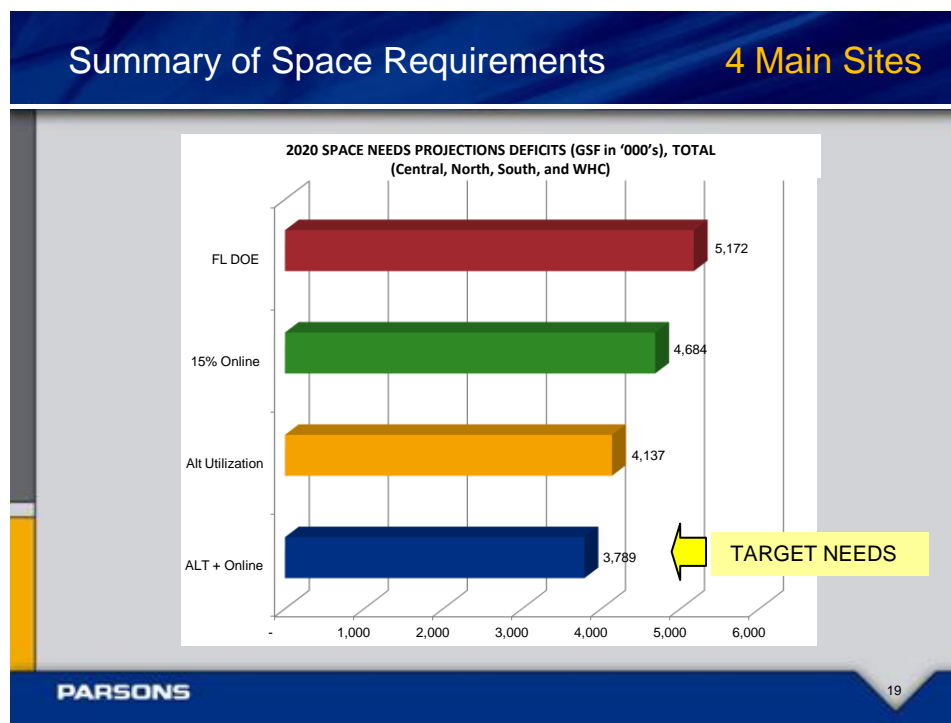
FDOE only publishes 5-year enrollment projections. To better plan for long-term trends, campus land use demands, and facility funding cycles, MGT of America looked at other



demographics sources and trends to project a growth rate for years 6 -10 out to 2020-21 in the order of an additional 16%, less aggressive but still substantial.

### SPACE NEEDS PROJECTIONS

Using the FDOE standard formulas, MGT determined that the 10-year enrollment projections will require 5.172 million gross square feet (GSF) over and above what the college currently has (depicted by the RED bar in the following chart).



Reality strongly suggests that there will never be enough resources available to build anywhere near that amount of space, especially within the 10-year planning time frame and the current recession.

Current utilization of all facilities greatly exceeds the norms around which the standard space needs formulas are based. Furthermore, FDOE is considering modifying the standard formulas to recognize the impacts of the growing use of online and hybrid (mixed online- and classroom-based instruction) courses. The factor being considered at the time of this report is a reduction of 15% in the effective FTE's as applied to instructional spaces. Other space types would use the full FTE projections.

Therefore, three other scenarios were calculated to explore more realistic targets for space needs.

- The YELLOW bar in the chart depicts a utilization rate similar to but slightly less intense than the current rate experienced at Broward College.
- The GREEN bar depicts the total space (RED bar) after applying the 15% FTE reduction to instructional space.
- The BLUE bar shows the further reduction in projected needs by applying the online reduction factor to the higher utilization scenario (YELLOW bar).



As shown on the graphic above, the BLUE bar represents the space needs target that this plan is based on.

### PROJECT SELECTION USING UNMET RELATIVE NEED

FDOE utilizes the analysis of unmet space needs by category of space type as a major criterion for allocating funds for capital projects. These rankings are updated each year.

Broward College is the second largest college in the Florida system. It also ranks either first or second in the most important categories of unmet space needs, a not-so-desirable position. The following chart indicates the most recent rankings by space type category and clearly shows the focus that Broward College should utilize when selecting and promoting projects to be included in the annual CIP.

Florida College System RELATIVE NEED BY SPACE CATEGORY September 2011					
	RANK				
Category	#1	#2	#3	#4	#5
<b>TOTAL SPACE</b>	Valencia	<b>BROWARD</b> 42%	Miami-Dade	Pasco-Hernando	Hillsborough
<b>All Instructional</b>	<b>BROWARD</b> 36%	Miami-Dade	Valencia	Pasco-Hernando	Hillsborough
<b>Classroom</b>	<b>BROWARD</b> 47%	Miami-Dade	St. Pete	Daytona	FSC at Jax
<b>Non-Voc Lab</b>	<b>BROWARD</b> 30%	Pasco-Hernando	Miami-Dade	Edison	Valencia
<b>Voc Lab</b>	Valencia	<b>BROWARD</b> 32%	Polk	NW Fla	St. John's
<b>Student Services</b>	<b>BROWARD</b> 18%	Daytona	Valencia	Miami-Dade	Seminole
<b>Office</b>	Valencia	<b>BROWARD</b> 61%	Miami-Dade	Seminole	Palm Beach
<b>Support Services</b>	<b>BROWARD</b> 56%	Valencia	Edison	Palm Beach	Santa Fe

**PARSONS** 20

### FACILITY CONDITION ASSESSMENT

The underlying purpose of conducting and updating an FCA program is to focus on the fiduciary duty of stewardship of existing assets entrusted to the college. (The details of the Facility Condition Assessment (FCA) are reported in a separate document.)

All buildings and site improvements, whether owned or leased, were evaluated and assessed for their life-cycle status. Systems and major components that have reached the end of their useful life (based on guidelines promulgated by BOMA, the Building Owners and Managers Association International) and not yet repaired or replaced are considered Deferred Maintenance. The Parsons FCA system also predicts when systems will reach the end of their useful life. These “expired” systems are candidates for Capital Renewal. The resulting Renewal Schedule is a useful budgeting tool for future renovation and replacement projects. If systems are not renewed when they exceed their useful life, then they are added to the growing pool of deferred maintenance.



As an example of the current conditions at Broward College, when the assessment was conducted in the Fall of 2010, the total Deferred Maintenance was calculated at \$63.6 million (includes buildings, site improvements, and infrastructure); the next year 2011 as shown in the table below, crept up to \$64.5 million. If no significant replacements are made, the total in 2016 would grow to over \$121 million. Deterioration over time – the relentless progression of aging – never stops. Furthermore, with the high utilization of the facilities and the reductions in maintenance budgets and personnel, the wear and tear will accelerate the need for capital renewal.

Individual buildings can be identified as current or future candidates for renovation or even replacement using various indices and cost projections from the FCA. The most prevalent metric and most easily understood is the Facility Condition Index or “FCI”. The following graphic explains the simple calculation of a decimal ratio, often expressed as a percentage, of the total cost of repairs and capital renewal divided by the current replacement value for the facility as it was originally designed but if it were built to today’s construction standards.

### The Facility Condition Index (FCI)

■ **FCI**

**FORMULA:** 
$$\frac{\text{Needed Repairs (\$)}}{\text{Current Replacement Value (\$)}} = \text{FCI}$$

**EXAMPLE:** 
$$\frac{\text{Needed Repairs of 10K}}{\text{CRV of 100K}} = \frac{10,000}{100,000} = .10 \text{ FCI or } 10\%$$

**Industry “Standards”:**

FCI	Condition
< .05	Good
.05 thru .10	Fair
.10 >	Poor

**Average project threshold:**  
~.25 to .35

~.65-.70 is a flag to consider demolition and replacement

PARSONS

Calculation of Facility Condition Index or “FCI”

The following chart lists all nine college locations and applies to the FCI the condition rating scale promoted by BOMA: 0% to 5% is “Good”; >5% to 10% is “Fair”; and, >10% is “Poor”. The BOMA scale as applied to public-supported institutions is perhaps harsh given the reality of public funding that most buildings will not receive major renovation projects until the FCI reaches the 25-35% range or beyond. Whereas this practice may make sense from a funding “critical mass” point of view, the relentless process of aging puts deferred building systems at risk of failure and collateral damage. The wear-and-tear from heavy use and reduced maintenance from funding cuts exacerbates the problem.



For this study, the stringent BOMA guidelines have been applied to demonstrate the importance of keeping up with deferred maintenance and capital renewal.

Campus	Number of Facilities	FCI%	Condition Rating
Broward College	73	11.23%	Poor
Central Campus	31	15.52%	Poor
Downtown Center	4	4.58%	Good
Weston Center (Leased)	1	0.00%	Good
North Campus	15	11.13%	Poor
South Campus	12	7.46%	Fair
Tigertail Water Sports Complex (Leased)	3	4.70%	Good
Pines Center (Leased)	4	0.18%	Good
Maroone Automotive Center	2	3.61%	Good
Miramar Town Center (Leased)	1	0.00%	Good

Summary of 2010 Campus-wide FCI and Application of BOMA Condition Rating

The following table summarizes the Facility Condition Index (FCI), deferred maintenance values, and future capital renewal values for the campuses and centers covered in this report.

Campus	Number of Buildings	Gross Square Footage	Campus Avg. FCI	2011 Deferred Maintenance Estimated Budget Cost	2020 Capital Renewal Cumulative Budget Cost	Current Replacement Value
Broward College	73	2,248,319	11.39%	\$64,494,118	\$192,208,223	\$566,108,637
Central	30	826,618	15.80%	\$38,907,822	\$90,583,127	\$246,310,511
North	15	516,288	11.15%	\$14,335,497	\$50,333,021	\$128,611,227
South	12	316,858	7.49%	\$7,803,543	\$38,342,755	\$104,137,726
Downtown (w/o #32)	4	222,384	4.61%	\$2,353,970	\$8,057,048	\$51,014,456
Maroone	2	104,434	4.39%	\$1,006,542	\$3,160,070	\$22,907,355

Summary of 2011 FCI, Deferred Maintenance, and Capital Renewal Estimates

Keeping abreast of deferred maintenance through renovation and future capital renewal is important not only for keeping the existing facilities operationally adequate, but the capital costs must be weighed against the long-term disposition of facilities that may have outlived their usefulness for the future mission. An example is the necessity of renovating the original 1-story buildings on Central Campus versus demolition and replacement with 4- or 6-story buildings that will add much needed capacity and capability to support current and future instructional technology and teaching styles. Several of these decisions are reflected in the recommendations for new facilities.





## CAMPUS SUMMARIES

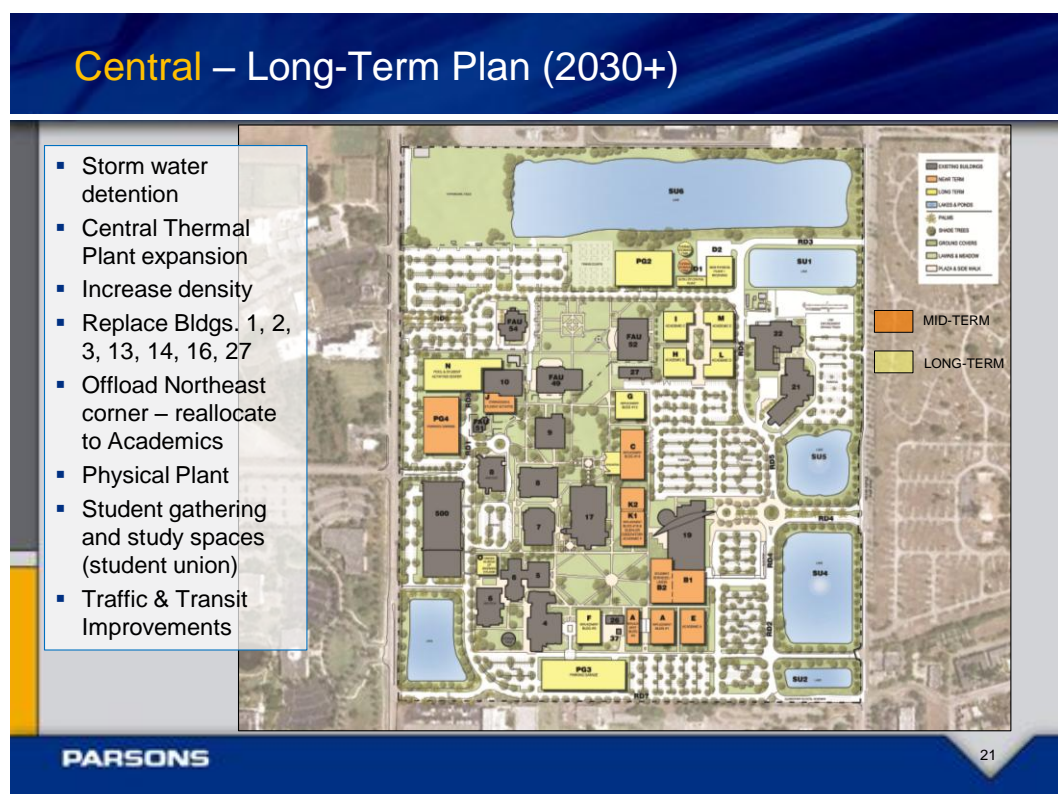
This Executive Summary presents a brief synopsis of the recommendations for continued development of the Facilities Master Plan for the Central, South, and North Campuses and the Downtown Center. There are no plans for changes or additions to the Maroone site in the Near-Term.

Foldout 11" x 17" maps of the rendered or pictorial versions of the Long-Term (2030+) site plans for each campus are attached at the end of this summary.

Basic planning parameters that are applied to all sites:

- Increase capacity by increasing density both vertically and in plan
- Promote density by compact building placement (in-fill) while maintaining effective open space
- Establish Long-Term framework plan as a context for Near-Term decisions
- Recommend Near-Term (2020) plan based on 2020 space needs
- Recommend new buildings to be a minimum of 4-stories
- Roadway and circulation problems and parking capacity will be remedied
- Key site amenities/features will be preserved or created: open spaces, "quads", ponds, pedestrian walkways and plazas.

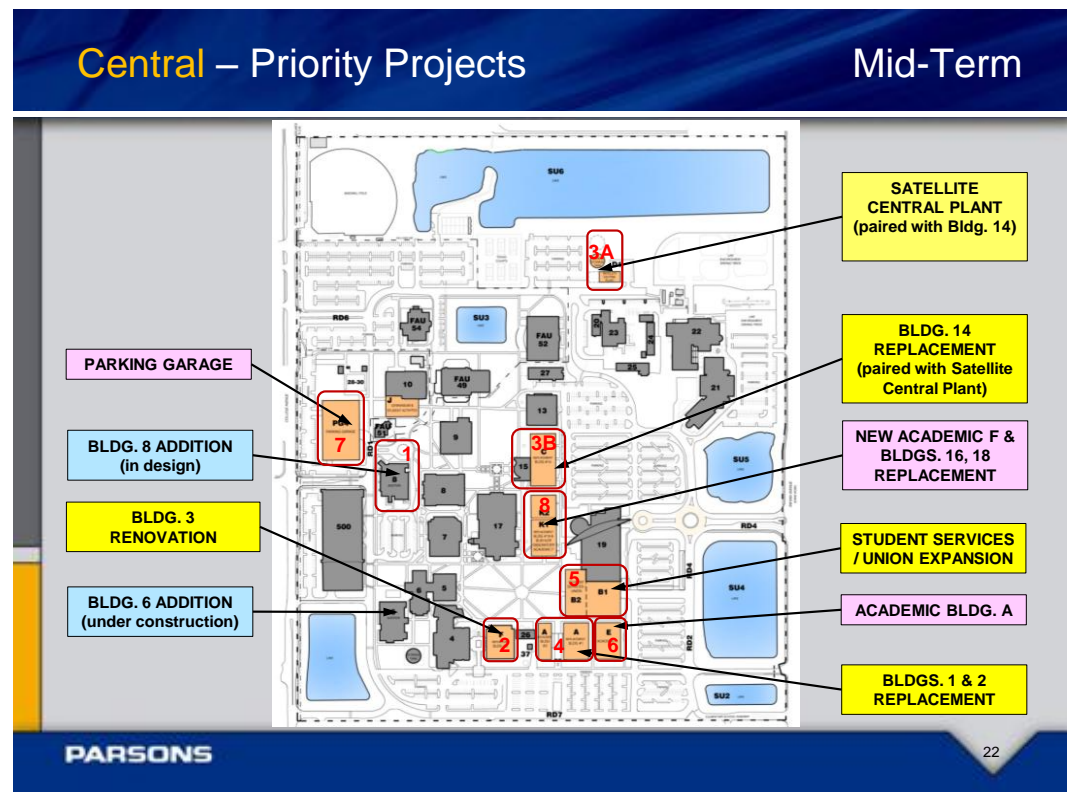
## CENTRAL CAMPUS





## Features of the Central Campus Plan

- Meet storm water detention requirements with additional ponds
- Develop a satellite central plant to meet chilled water needs
- Increase land use density and accommodate programs
  - Replace 1-story buildings 1, 2, 3, 13, 14, 16, 27 with 4-stories
  - Construct all buildings at least 4-stories; consider 6-stories if feasible
  - In-fill potential building sites around the central green spaces
  - Offload Northeast corner – reallocate to Academics
    - Move Physical Plant, Receiving, off-site to free up land
    - Move Public Safety driving pad (and eventually programs) off-site to a larger, better facility and convert to detention pond. Reallocate buildings to Academics eventually
  - Expand Student Services Bldg. 19
    - Student gathering and study spaces (student union)
- Build garages and enhance road alignments for increased traffic
- Accommodate increased use of public transportation







### Recommended Projects for Near-Term Consideration CENTRAL CAMPUS

Label	Name/Type of Facility	Priority	GSF	Footprint	Budget
<b>NEAR-TERM (2020)</b>					
A	Bldgs. 1 & 2 Replacements	4	122,600	W=10,000 E = 20,650	\$ 45,151,000
B1	Student Services & Union Addition to Bldg. 19	5A	78,000	26,000	\$ 26,653,000
B2	Student Services & Union Addition to Bldg. 19	5B	88,000	22,000	\$ 30,863,000
C	Bldg. 14 Replacement	3	120,000	30,000	\$ 38,939,000
D1	Satellite Central Plant & Thermal Storage Tank	2	5,000	5,000	\$ 4,305,000
E	Academic Bldg. A	6	82,600	20,650	\$ 27,558,000
F	Bldg. 3 Renovation	1	existing	22,000	\$ 3,986,000
J	Gymnasium Addition, Student Activities		56,000	14,000	\$ 20,852,000
K1	Academic Bldg. F (Bldgs. 16 & 18 Replacement)	8A	82,600	(S) 20,650	\$ 30,637,000
K2	Academic Bldg. F (Bldgs. 16 & 18 Replacement)	8B	52,000	(N) 13,000	\$ 20,604,000
RD1	Drop-Off Circle at Bldg. 8 Addition (part of project)		-	-	\$ 750,000
RD2	Reconfigure SE Loop Road		-	-	\$ 1,678,000
RD4	Drop-Off Circle at Bldg. 19, modify Loop Road		-	-	\$ 1,681,000
RD5	Reroute Northeast Loop Road		-	-	NA
RD6	Realign North Loop Road		-	-	NA
PG4	New West Parking Garage #2	7	-	-	\$ 9,989,000
SU2	New Detention Pond at SE corner				\$ 456,000
SU3	not used				
SU4	Expand existing detention pond				\$ 592,000
SU5	Expand existing detention pond				\$ 547,000
SU6	Expand existing detention pond				\$ 3,095,000
	Near-Term Total GSF		686,800		\$ 268,336,000



## SOUTH CAMPUS

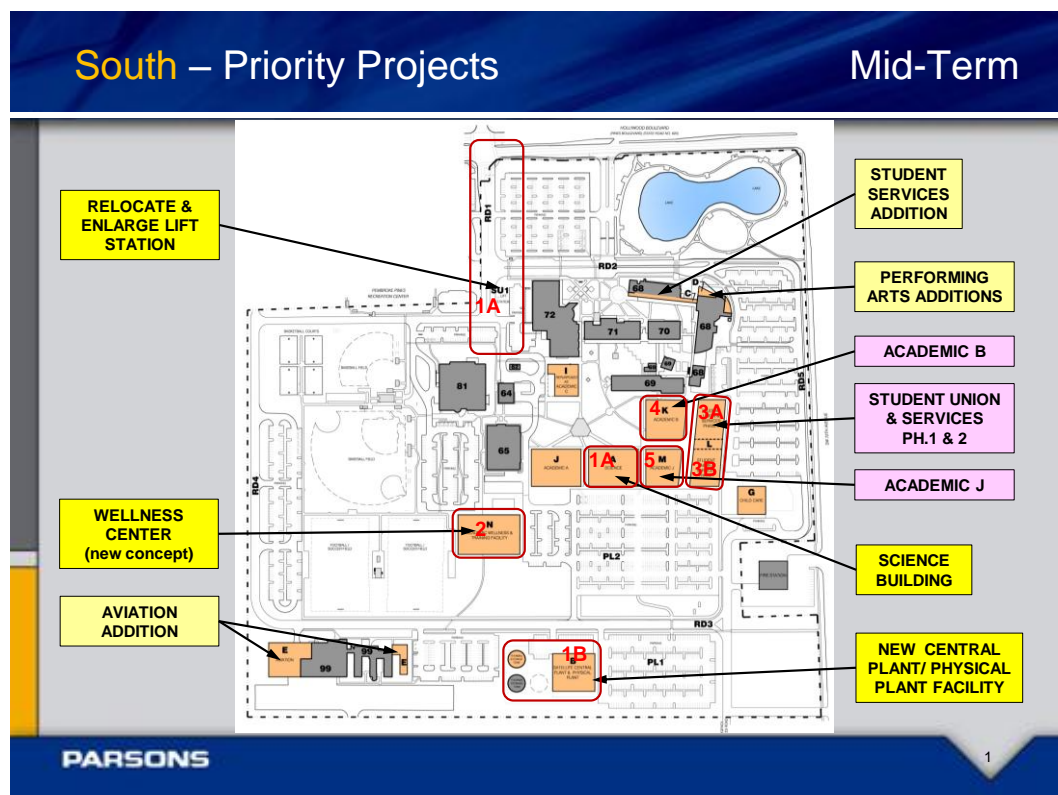
### South – Long-Term Plan (2030+)

- Science & Math building
- Central Thermal Plant expansion
- Access from 72<sup>nd</sup> Avenue
- Student activity & study spaces (student union)
- Increased academic and support space
- Traffic & Transit Improvements
- College-wide Athletic Center



#### Features of the South Campus Plan

- Begin framing the southern edge of the Quad with new Science building
- Develop a satellite central plant to meet chilled water needs
- Work with City of Pembroke Pines to develop new entrance at 72<sup>nd</sup> Avenue
- Develop a Student Union facility to increase student gathering and study spaces
- Maintain or increase land use density pattern with a compact building arrangement around green spaces while increasing academic and support space
- Construct all new buildings at least 4-stories; replace 1-story buildings with 4-stories eventually
- Enhance the appearance and traffic flow of existing entrances
- Reconfigure campus road alignments for increased traffic
- Accommodate increased use of public transportation
- Anticipate future parking garages with building placements and road alignments
- Prepare for becoming the college-wide Athletic Center

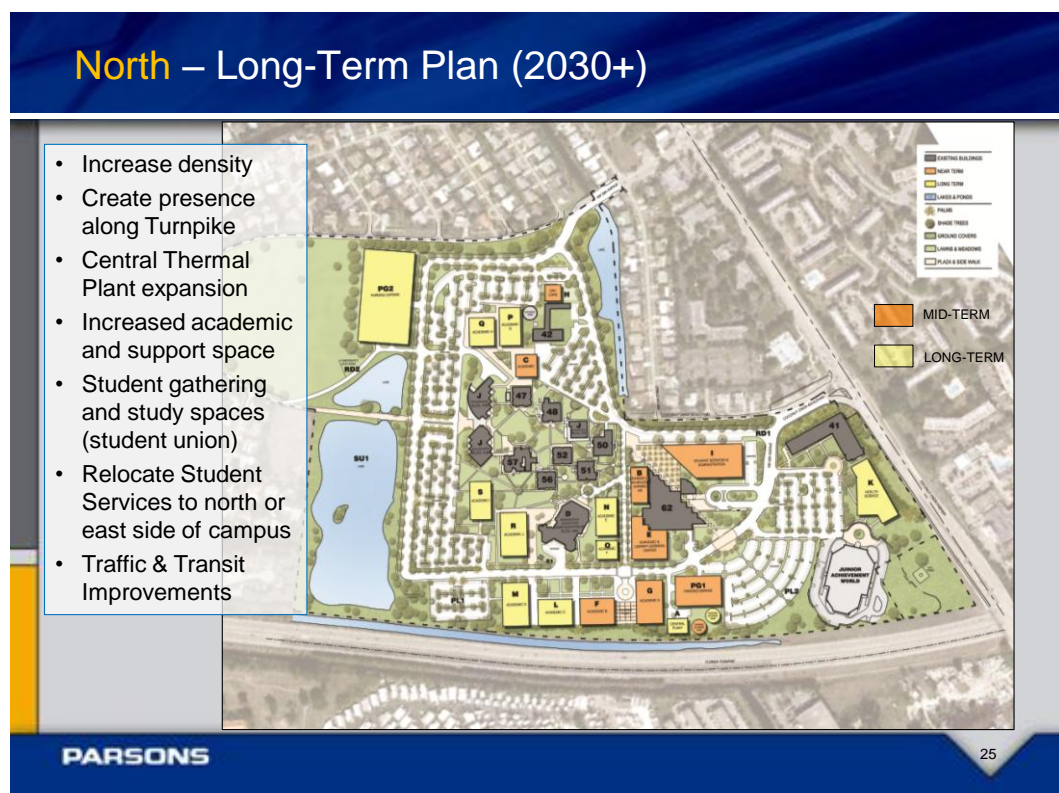


### Recommended Projects for Near-Term Consideration SOUTH CAMPUS

Label	Name/Type of Facility	Prior-ity	GSF	# Flrs.	Budget
<b>NEAR-TERM (2020)</b>					
A	Science Building	1A	120,000	4	\$ 42,839,000
B	New Physical Plant (20,000 GSF) & Satellite Central Plant (5,000 GSF)	1B	25,000	1	\$ 4,241,000
C	Student Services Addition		12,000	1	\$ 9,918,000
D	Performing Arts Addition		14,500	2?	\$ 6,578,000
E	Aviation Addition		25,500	1	\$ 9,322,000
G	Child Care Relocation		13,000	1	\$ 6,031,000
H	not used				
I	Academic Bldg. C (repurpose Child Care)		-	1	\$ 5,120,000
J	Academic Bldg. A		120,000	4	\$ 43,922,000
K	Academic Bldg. B	4	100,000	4	\$ 38,841,000
L1	Student Union & Services - Ph. 1	3A	80,000	4	\$ 30,606,000
L2	Student Union & Services - Ph. 2	3B	80,000	4	\$ 30,606,000
M	Academic Bldg. J	5	80,000	4	\$ 30,767,000
N	Wellness Center & Locker Rooms	2	160,000	4	\$ 59,207,000
RD1	MacArthur St. Entry Expansion	1C	-	-	\$ 1,712,000
RD2	North Roadway improvements		-	-	\$ 985,000
RD3	Entry at 72nd Ave., Road Realignment		-	-	\$ 724,000
SU1	Relocate & Expand Sewer Lift Station	1D	-	-	\$ 471,000
PL1	New South Parking Lot		-	-	\$ 2,035,000
PL2	Expand Existing South Parking Lot				\$ 1,732,000
	Near-Term Total GSF		830,000		\$ 325,657,000



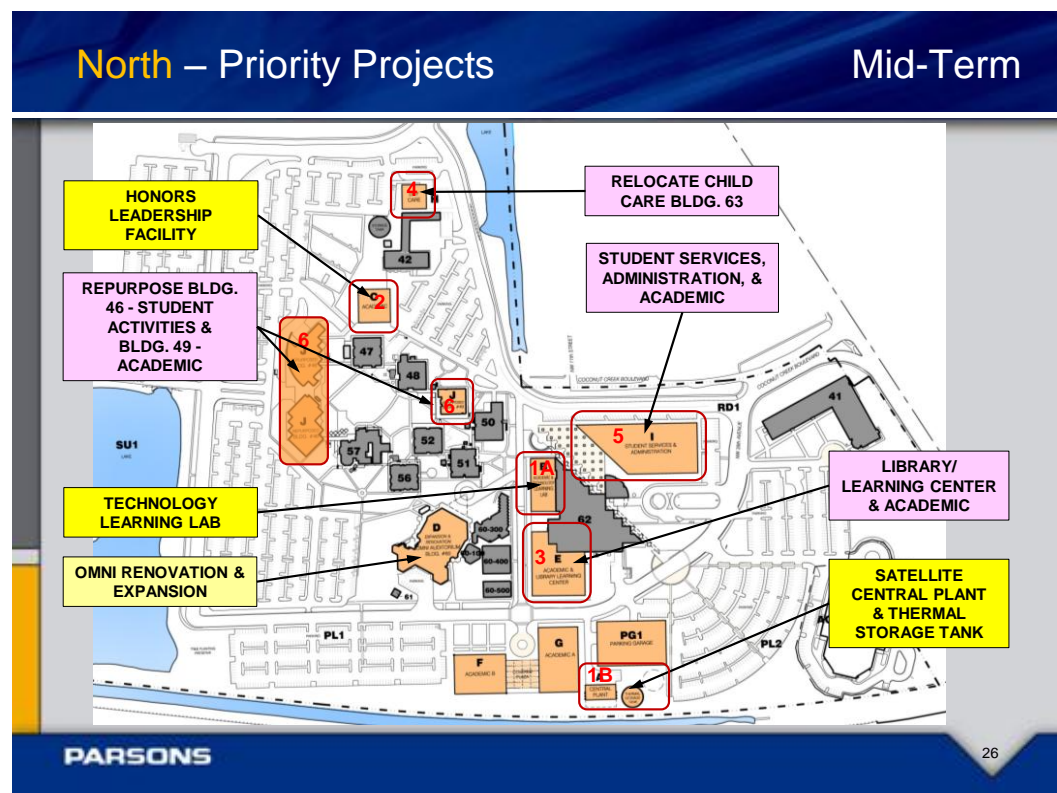
## NORTH CAMPUS



### Features of the North Campus Plan

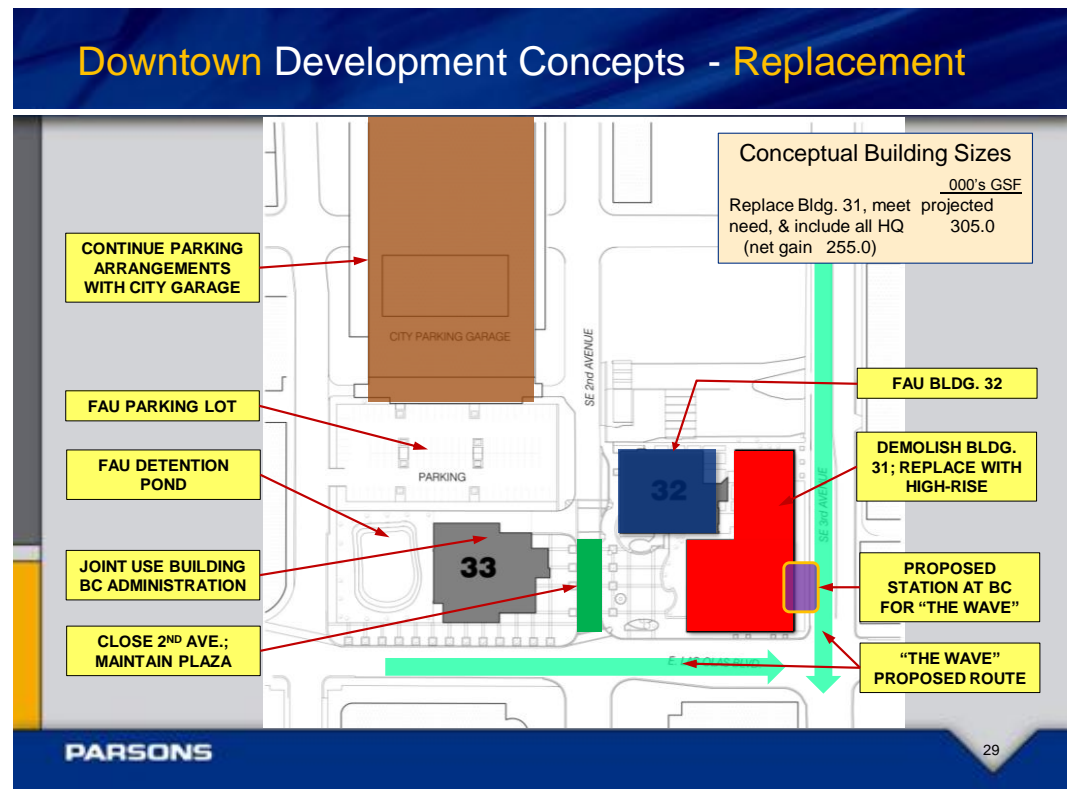
- Develop a satellite central plant to meet chilled water needs
- Maintain the “village” core while increasing land use density pattern with a compact building arrangement around green spaces
- Construct all new buildings at least 4-stories; replace 1-story buildings with 4-stories eventually
- Develop a dynamic appearance along the Florida Turnpike frontage
- Enhance the appearance and traffic flow of existing entrances
- Develop a Student Union facility to increase student gathering and study spaces
- Relocate Administration and Student Services to north side of County Library plaza to improve access by students and prospective students, and visitors
- Repurpose Bldgs. 10 and 46 for Academics
- Anticipate future parking garages with building placements and road alignments





### Recommended Projects for Near-Term Consideration NORTH CAMPUS

Label	Name/Type of Facility	Prior-ity	GSF	Footprint	Budget
<b>NEAR-TERM (2020)</b>					
A	Satellite Central Plant	1B	5,000	5,000	\$ 4,293,000
B	Technology Learning Center	1A	60,000	15,000	\$ 19,796,000
C	Honors Leadership Bldg.	2	46,000	11,500	\$ 18,024,000
D	Omni (Bldg. 60) Expansion & Renovation		33,000	15,500	\$ 10,894,000
E	Library/Learning Center & Academic Bldg.	3A	120,000	30,000	\$ 43,105,000
F	Academic Bldg. B		88,000	22,000	\$ 31,728,000
G	Academic Bldg. A		112,000	28,000	\$ 39,551,000
H	Child Care Relocation	4	6,400	6,400	\$ 3,071,000
I	Student Services & Administration	5A	150,000	50,000	\$ 52,815,000
J	Repurpose Bldgs. 46 & 49	6	0	-	\$ 14,585,000
PL1	New Parking Lot (in increments)		-	-	\$ 1,610,000
PL2	Parking Lot B Expansion	3B	-	-	\$ 696,000
RD1	Loop Road NW Leg Completion	5B	-	-	\$ 1,758,000
PG1	East Parking Garage				\$ 8,681,000
SU1 + RD2	Expand Lake and Build Emergency Exit Road				\$ 1,078,000
	Near-Term Total GSF		620,400		\$ 250,607,000

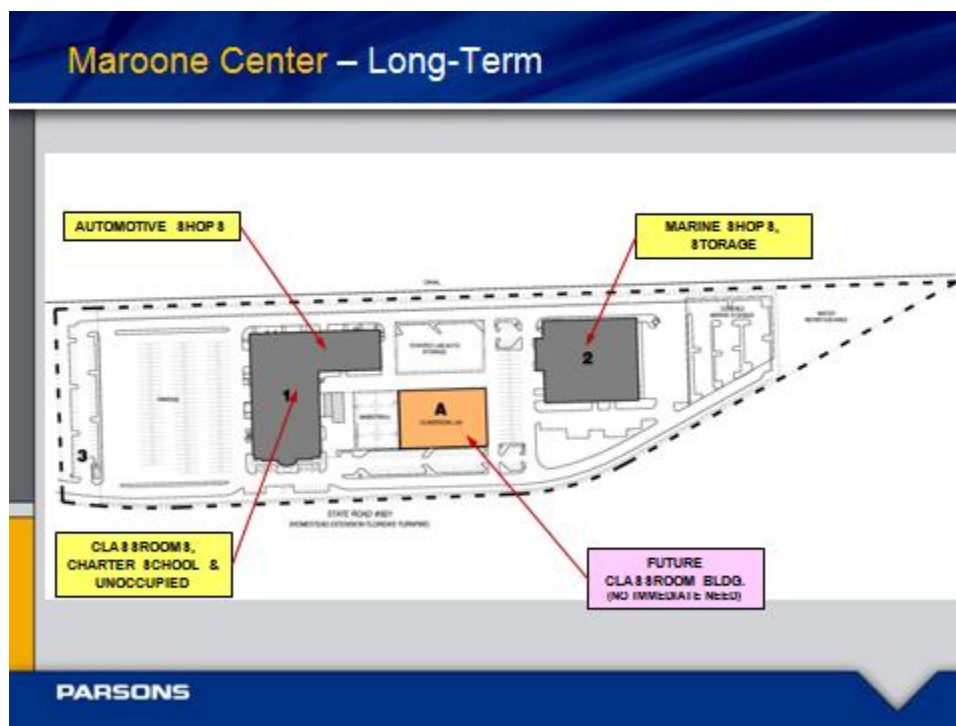
**DOWNTOWN CENTER****Features of the Downtown Holcombe Center Plan**

- Increase academic capacity in appropriate facilities and enhance the mini-campus setting
  - Move Administrative Services offsite – infill with classrooms
  - Demolish & replace Bldg. 31 with an urban college multi-purpose facility
- Connect with "The Wave" light rail and plan to accommodate public interaction at the street level
- Accommodate the City of Ft. Lauderdale's Gateway concept at 3<sup>rd</sup> Ave. and Las Olas Blvd.
  - Become the hub of Downtown's Education Corridor
  - Consider incorporating a conference center
- Provide for a mini-student union





## MAROONE AUTOMOTIVE TRAINING CENTER



### Features of the Maroone Center Plan

- The facilities are well suited to the automotive and marine technology training programs.
- Utilize the storage and empty bay in Bldg. 2 to expand shop programs
- When feasible, take over unused auto dealer facilities for additional classrooms and offices
- Maintain good working arrangements with the charter school
- Long-term a new classroom and lab building could be built in the parking lot between the buildings but in the interim if the charter school leaves a large expansion area would become available with minimal expense to adapt.

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Following are 11"x17" fold-outs of the rendered Near-Term and Long-Term Site Plans for the Central, South and North Campuses.