Facility Condition Assessment & Space Study Project Presentation of Findings

KRS 164 / M-05468008

April 4, 2007

VFA

Paulien & Associates

NCHEMS

Presentation of Findings

- Facility Lifecycle Condition Needs
- Space Adequacy & Capacity
- Funding Options

Facility Lifecycle Condition Assessment Study

Peter Scanlon

Project Director

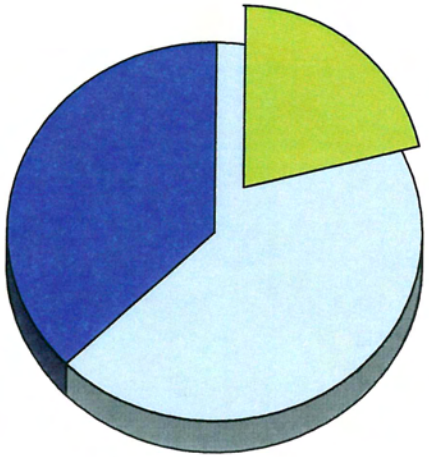
VFA

Boston, MA

Facilities Included in Study

	# of Facilities	Gross Square Feet	% of Space
Kentucky Postsecondary System Total	2,016	47,897,000	100%
VFA Condition Study – Lifecycle Condition Total Assessed [1]	736	29,940,000	62.5%
Paulien & Associates – Adequacy & Fit-for-Continued-Use [2]	141	10,038,000	21.0%

1. Space not assessed includes auxiliary, housing, athletics, farms, parking garages, off-campus/ extended campus sites, and other public service facilities.
2. The Paulien study is a subset of the VFA, Inc., total space assessed.



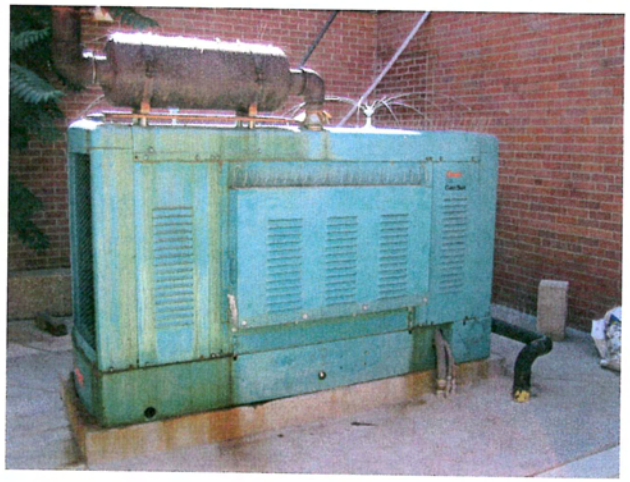
VFA Paulien & Associates NCHEMS

Condition Assessment examined the lifecycle of major building systems.

- E&G Facilities

- Building profile
- Systems profile
  - Type
  - Replacement cost
  - Expected life
  - Remaining life
  - Renewal year
  - Renewal cost

- Not detailed requirements
- Not deferred maintenance
- Not rating of maintenance operations



VFA Paulien & Associates NCHEMS

Rating Facilities: Facility Condition Index

Figure 4.1: Kentucky Postsecondary Education System Statewide Facility Condition Index

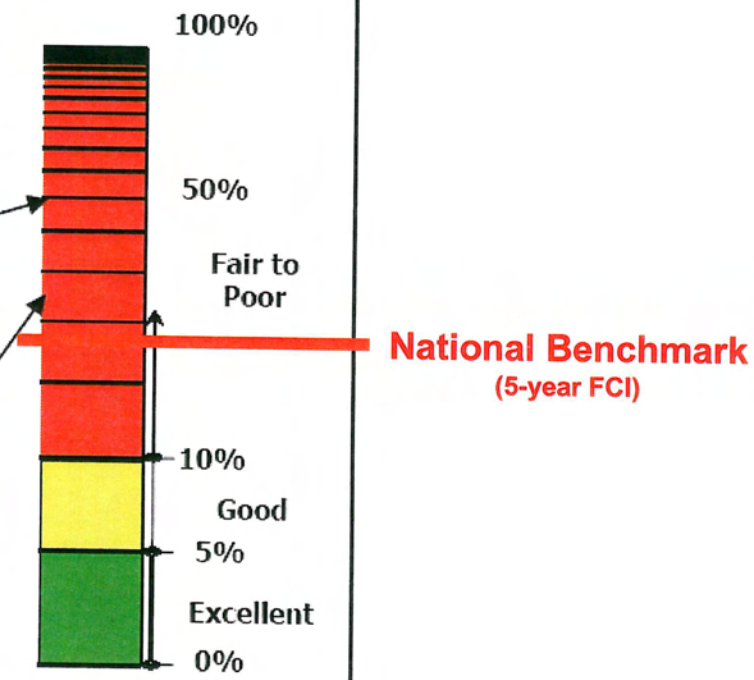
$$FCI = \frac{\text{cost of renewal needs}}{\text{current replacement value}}$$

5 year horizon

$$FCI_5 = \frac{\$3.4b}{\$8.9b} = 38\%$$

1 year horizon

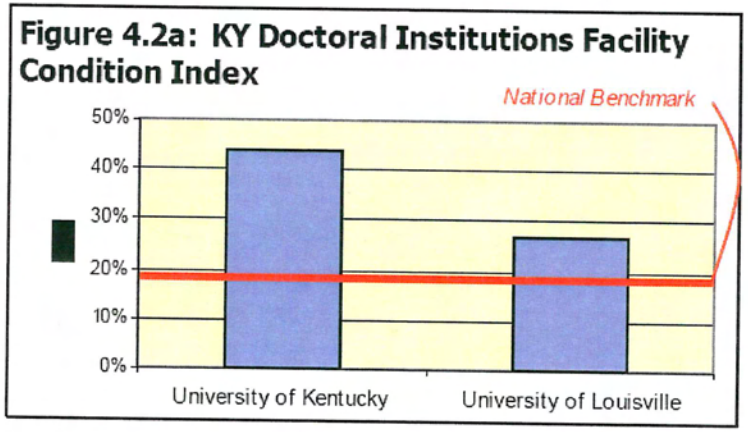
$$FCI_1 = \frac{\$2.0b}{\$8.9b} = 22\%$$

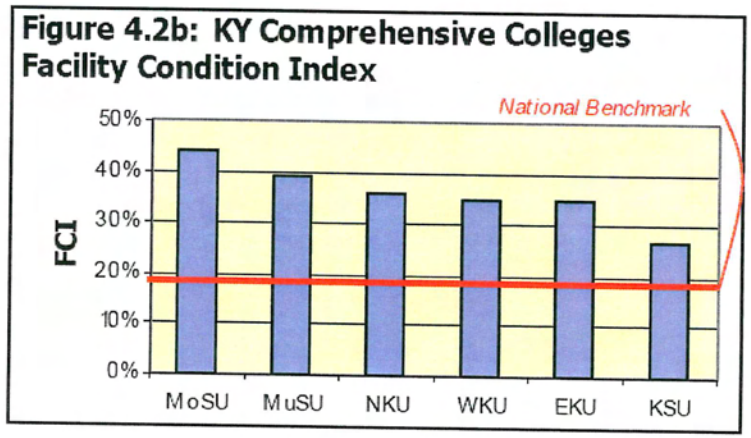


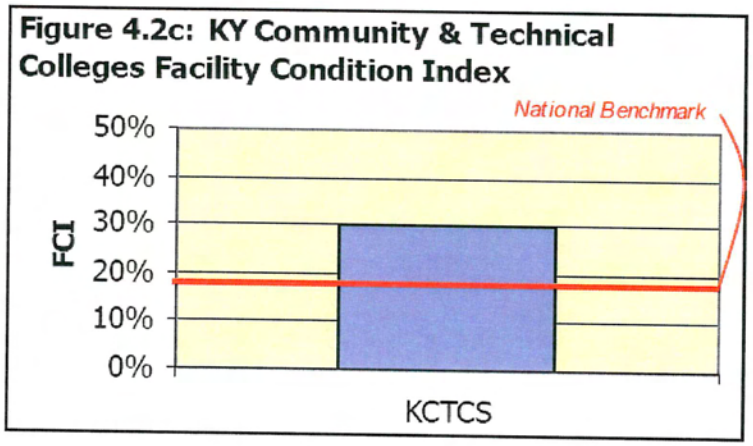
Condition ratings based on International Facilities Managers Association standards.

VFA Paulien & Associates NCHEMS

How KPES facilities compare to national benchmark

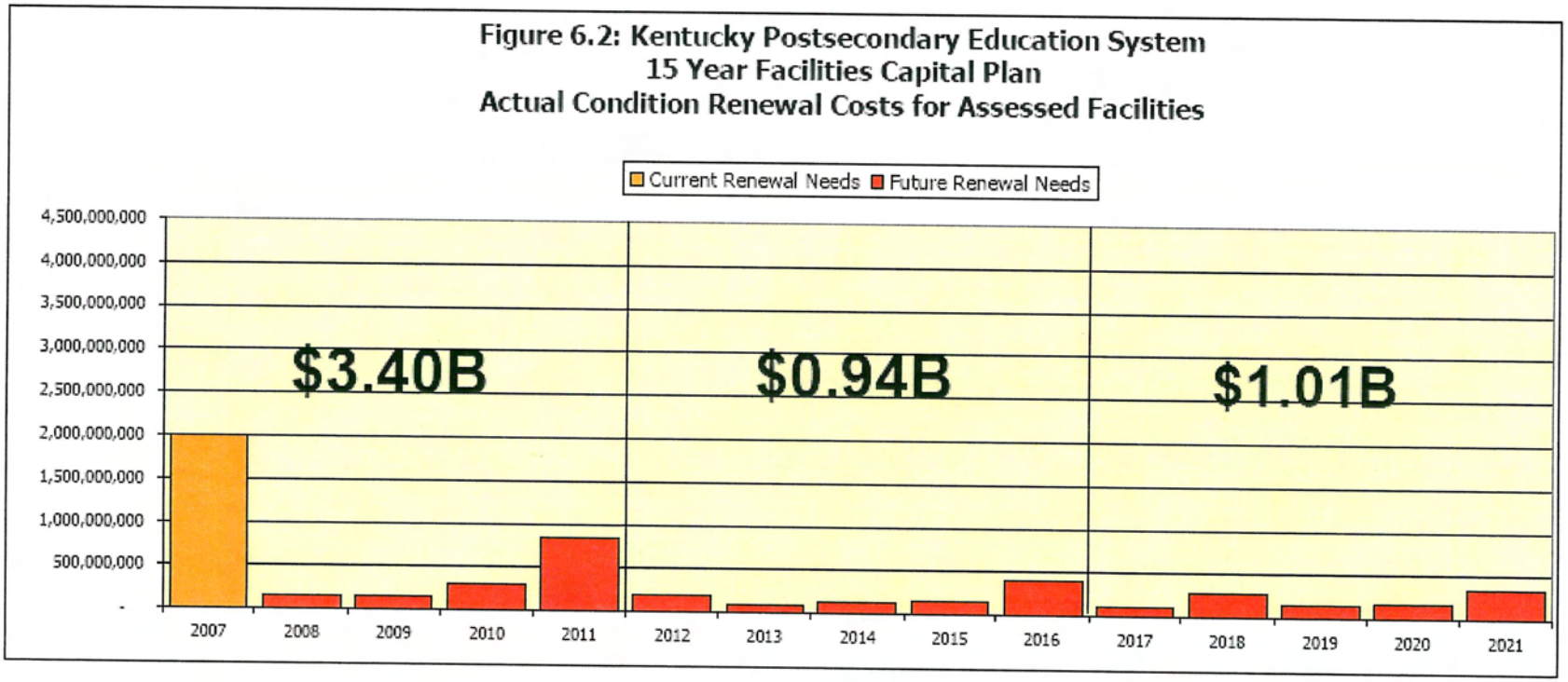






VFA Paulien & Associates NCHEMS

Summary of 15-year capital needs



VFA Paulien & Associates NCHEMS

Space Adequacy & Capacity Study

Daniel K. Paulien
Paulien & Associates
Denver, CO

Evaluation of Educational Adequacy and Fit for Continued Use

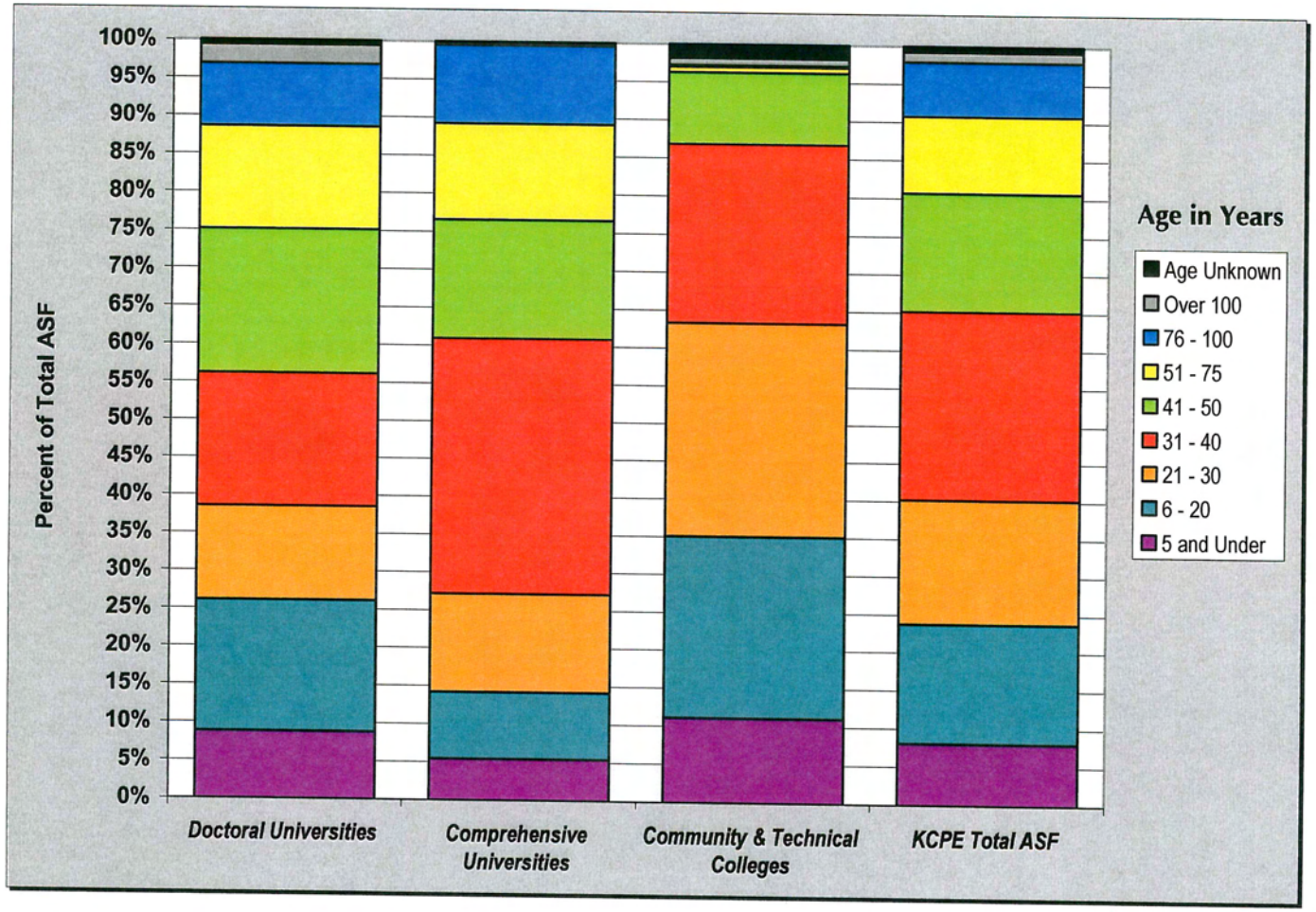
- Represents 21% of total GSF in portfolio

Summary of Fit for Continued Use Costs

Institution	No. of Buildings Assessed	Total Gross Square Feet	Total Renovation Costs
Doctoral Universities			
University of Kentucky	51	3,564,946	**$290,900,140**
University of Louisville	36	2,469,961	**$242,308,870**
Doctoral Universities Total	***87***	***6,034,907***	***$533,209,010***
Comprehensive Universities			
Eastern Kentucky University	10	867,593	**$48,661,565**
Kentucky State University	7	148,841	**$7,013,060**
Morehead State University	11	813,450	**$66,291,650**
Murray State University	3	203,667	**$22,557,550**
Northern Kentucky University	5	649,987	**$61,956,375**
Western Kentucky University	10	809,809	**$79,402,850**
Comprehensive Universities Total	***46***	***3,493,347***	***$285,883,050***
Community & Technical Colleges			
Elizabethtown Community and Technical College	2	144,009	**$7,200,450**
Hazard Community and Technical College	3	113,498	**$12,842,800**
Jefferson Community and Technical College	3	252,306	**$23,032,000**
Community & Technical Colleges Total	***8***	***509,813***	***$43,075,250***
TOTAL	**141**	**10,038,067**	**$862,167,310**

VFA Paulien & Associates NCHEMS

Age of Existing Facilities



VFA Paulien & Associates NCHEMS

Current and Future Space Needs
(in assignable square feet)

- 2020 KCPE Enrollment Projections are a 58% increase in Student FTEs

Space Needs Model

		Fall 2004 *Student FTE = 147,006* *Staffing FTE = 23,051* *Research Expenditures = $334,074,855*			2020 *Student FTE = 232,582* *Staffing FTE = 38,128* *Research Expenditures = $1,041,225,963*		
Space Category	**Existing ASF**	**Guideline ASF**	**Surplus/ (Deficit)**	**Percent Surplus/ (Deficit)**	**Guideline ASF**	**Surplus/ (Deficit)**	**Percent Surplus/ (Deficit)**
Classrooms & Service	2,089,321	1,836,599	252,722	12%	2,879,109	(828,839)	(40%)
Teaching Laboratories	2,290,520	2,400,186	(109,666)	(5%)	3,625,654	(1,371,738)	(61%)
Open Laboratories	926,457	1,125,601	(199,144)	(21%)	1,789,379	(882,334)	(97%)
Research Laboratories	1,279,609	2,057,969	(778,360)	(61%)	4,598,599	(3,330,400)	(263%)
Office Suites	4,826,247	4,376,970	449,277	9%	7,268,260	(2,475,543)	(52%)
Library	1,513,342	1,513,342	0	0%	1,509,218	0	0%
Physical Education & Recreation	958,774	1,136,112	(177,338)	(18%)	1,832,872	(874,098)	(91%)
Special Use & General Use Space	2,100,778	2,461,647	(360,869)	(17%)	3,947,373	(1,850,826)	(88%)
Support Space	1,267,565	1,072,424	195,141	15%	1,747,172	(482,184)	(38%)
TOTAL	**17,252,613**	**17,980,850**	**(728,237)**	**(4%)**	**29,197,636**	**(12,095,962)**	**(71%)**

ASF = Assignable Square Feet

VFA Paulien & Associates NCHEMS

Space Needs Model Findings by Institution

Institution	Existing ASF	Fall 2004 Guideline ASF	Fall 2004 Surplus/ (Deficit)	Fall 2004 Percent Surplus/ (Deficit)	2020 Guideline ASF	2020 Surplus/ (Deficit)	2020 Percent Surplus/ (Deficit)
Doctoral Universities							
University of Kentucky	4,326,941	4,238,754	88,187	2%	7,556,381	(3,229,440)	(75%)
University of Louisville	2,476,144	3,120,784	(644,640)	(26%)	5,025,852	(2,549,708)	(103%)
Subtotal	***6,803,085***	***7,359,538***	***(556,453)***	***(8%)***	***12,582,234***	***(5,779,149)***	***(85%)***
Comprehensive Universities							
Eastern Kentucky University	1,634,906	1,411,177	223,729	14%	2,305,186	(670,280)	(41%)
Kentucky State University	482,227	379,125	103,102	21%	656,840	(174,613)	(36%)
Morehead State University	861,551	782,006	79,545	9%	1,196,076	(334,525)	(39%)
Murray State University	1,209,822	882,619	327,203	27%	1,440,950	(231,128)	(19%)
Northern Kentucky University	917,163	1,119,296	(202,133)	(22%)	2,067,303	(1,150,140)	(125%)
Western Kentucky University	1,272,008	1,556,789	(284,781)	(22%)	2,710,977	(1,589,908)	(142%)
Subtotal	***6,377,677***	***6,131,012***	***246,665***	***4%***	***10,377,332***	***(4,150,594)***	***(67%)***
Community & Technical Colleges							
Ashland Community and Technical College	250,594	225,617	24,977	10%	311,059	(60,465)	(24%)
Big Sandy Community and Technical College	332,669	269,508	63,161	19%	373,446	(40,777)	(12%)
Bluegrass Community and Technical College	451,201	716,548	(265,347)	(59%)	1,004,460	(553,259)	(123%)
Bowling Green Technical College	178,683	111,866	66,817	37%	156,304	22,379	13%
Elizabethtown Community and Technical College	240,066	278,833	(38,767)	(16%)	389,333	(149,267)	(62%)
Gateway Community and Technical College	143,145	123,459	19,686	14%	173,677	(30,532)	(21%)
Hazard Community and Technical College	316,686	252,367	64,319	20%	344,983	(28,297)	(9%)
Henderson Community College	97,924	106,543	(8,619)	(9%)	145,643	(47,719)	(49%)
Hopkinsville Community College	120,568	177,342	(56,774)	(47%)	244,798	(124,230)	(103%)
Jefferson Community and Technical College	451,330	677,078	(225,748)	(50%)	942,108	(490,778)	(109%)
Madisonville Community College	203,712	212,574	(8,862)	(4%)	295,466	(91,754)	(45%)
Maysville Community College	161,016	149,464	11,552	7%	208,352	(47,336)	(29%)
Owensboro Community and Technical College	212,660	259,499	(46,839)	(22%)	358,371	(145,711)	(69%)
Somerset Community College	355,698	341,717	13,981	4%	475,371	(119,673)	(34%)
Southeast Kentucky Community and Technical Colleg	261,096	253,011	8,085	3%	351,169	(90,073)	(34%)
West Kentucky Community and Technical College	294,803	334,874	(40,071)	(14%)	463,530	(168,727)	(57%)
Subtotal	***4,071,851***	***4,490,300***	***(418,449)***	***(10%)***	***6,238,070***	***(2,166,219)***	***(53%)***
TOTAL	**17,252,613**	**17,980,850**	**(728,237)**	**(4%)**	**29,197,636**	**(12,095,962)**	**(71%)**

ASF = Assignable Square Feet

Paulien & Associates
NCHEMS

Space Needs represented as Gross Square Feet

Space Model GSF Needs Findings

Institution	Base Year Total Gross Square Feet Needed	2020 Total Gross Square Feet Needed
Doctoral Universities		
University of Kentucky	749,295	5,295,180
University of Louisville	1,063,766	4,112,434
Doctoral Universities Total	***1,813,061***	***9,407,614***
Comprehensive Universities		
Eastern Kentucky University	16,761	1,081,866
Kentucky State University	74,864	340,574
Morehead State University	22,118	553,787
Murray State University	3,147	373,278
Northern Kentucky University	332,614	1,855,064
Western Kentucky University	624,261	2,564,368
Comprehensive Universities Total	***1,073,765***	***6,768,937***
Community & Technical Colleges		
Ashland Community and Technical College	21,105	114,443
Big Sandy Community and Technical College	25,011	88,218
Bluegrass Community and Technical College	456,980	892,353
Bowling Green Technical College	14,144	24,131
Elizabethtown Community College	62,527	240,753
Gateway Community and Technical College	42,600	82,748
Hazard Community and Technical College	0	101,189
Henderson Community College	40,330	91,251
Hopkinsville Community College	92,922	200,371
Jefferson Community and Technical College	364,111	791,576
Madisonville Community College	42,391	147,990
Maysville Community College	14,442	76,348
Owensboro Community and Technical College	81,897	235,018
Somerset Community College	41,840	195,242
Southeast Kentucky Community and Technical College	11,271	145,278
West Kentucky Community and Technical College	87,419	272,141
Community & Technical Colleges Total	***1,398,990***	***3,699,050***
TOTAL	**4,285,816**	**19,875,601**

Note: Assumes a 62% net to gross ratio.

VFA Paulien & Associates NCHEMS

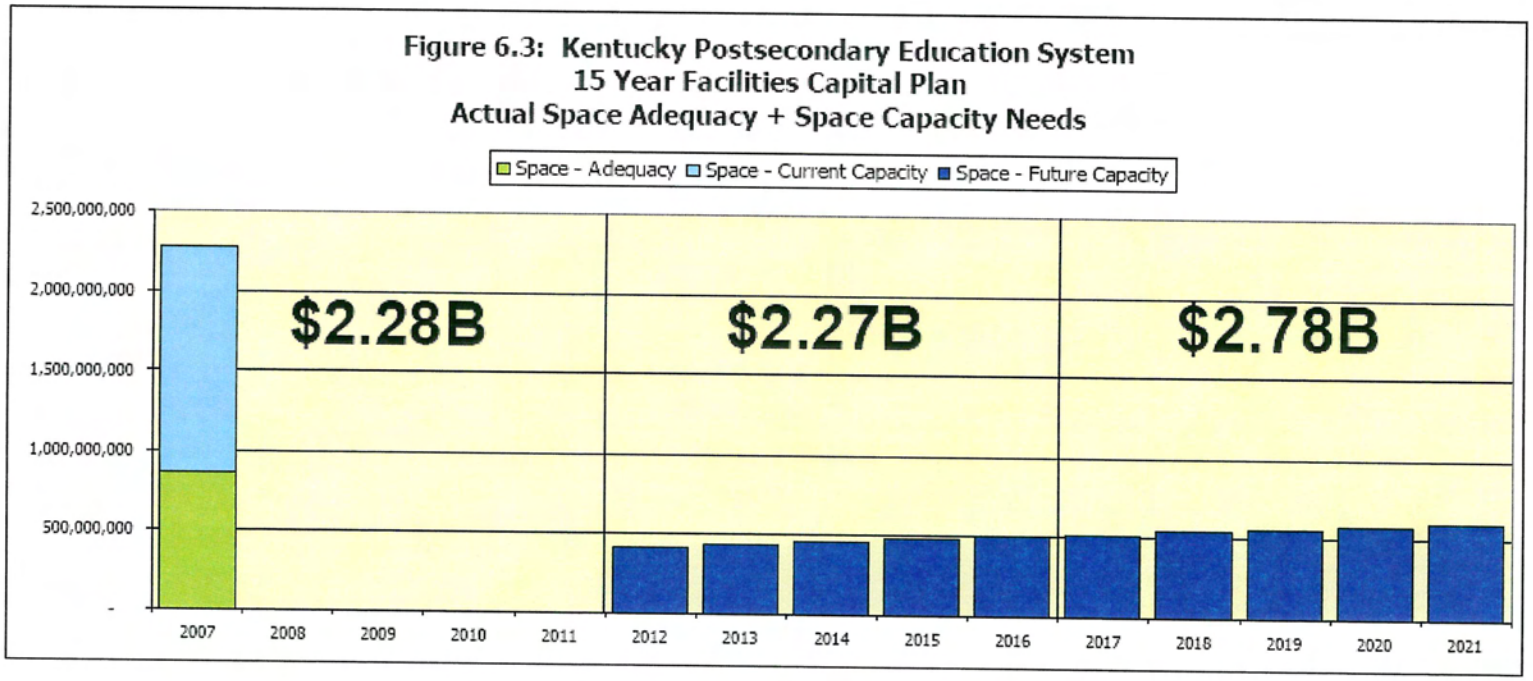
Capital Required to fulfill the Space Needs

Space Model Capital Needs Findings

Institution	Base Year Total Capital Needed	2020 Total Capital Needed
Doctoral Universities		
University of Kentucky	$274,921,100	$1,840,861,360
University of Louisville	375,280,750	1,444,510,340
Doctoral Universities Total	***$650,201,850***	***$3,285,371,700***
Comprehensive Universities		
Eastern Kentucky University	$4,693,080	$317,159,920
Kentucky State University	29,945,600	117,137,980
Morehead State University	8,106,470	166,350,540
Murray State University	881,160	109,632,110
Northern Kentucky University	98,095,230	544,590,170
Western Kentucky University	187,713,630	769,409,960
Comprehensive Universities Total	***$329,435,170***	***$2,024,280,680***
Community & Technical Colleges		
Ashland Community and Technical College	$5,909,400	$35,886,690
Big Sandy Community and Technical College	7,003,080	26,344,150
Bluegrass Community and Technical College	145,151,930	282,049,110
Bowling Green Technical College	3,960,320	6,756,680
Elizabethtown Community College	18,054,680	73,451,280
Gateway Community and Technical College	11,928,000	23,574,320
Hazard Community and Technical College	0	32,138,890
Henderson Community College	13,248,760	29,386,490
Hopkinsville Community College	31,270,050	64,768,760
Jefferson Community and Technical College	116,815,930	249,748,520
Madisonville Community College	14,109,130	47,662,090
Maysville Community College	4,043,760	22,663,970
Owensboro Community and Technical College	23,827,370	71,417,570
Somerset Community College	11,715,200	59,319,680
Southeast Kentucky Community and Technical College	3,155,880	45,058,790
West Kentucky Community and Technical College	28,218,470	86,486,680
Community & Technical Colleges Total	***$438,411,960***	***$1,156,713,670***
TOTAL	**$1,418,048,980**	**$6,466,366,050**

VFA Paulien & Associates NCHEMS

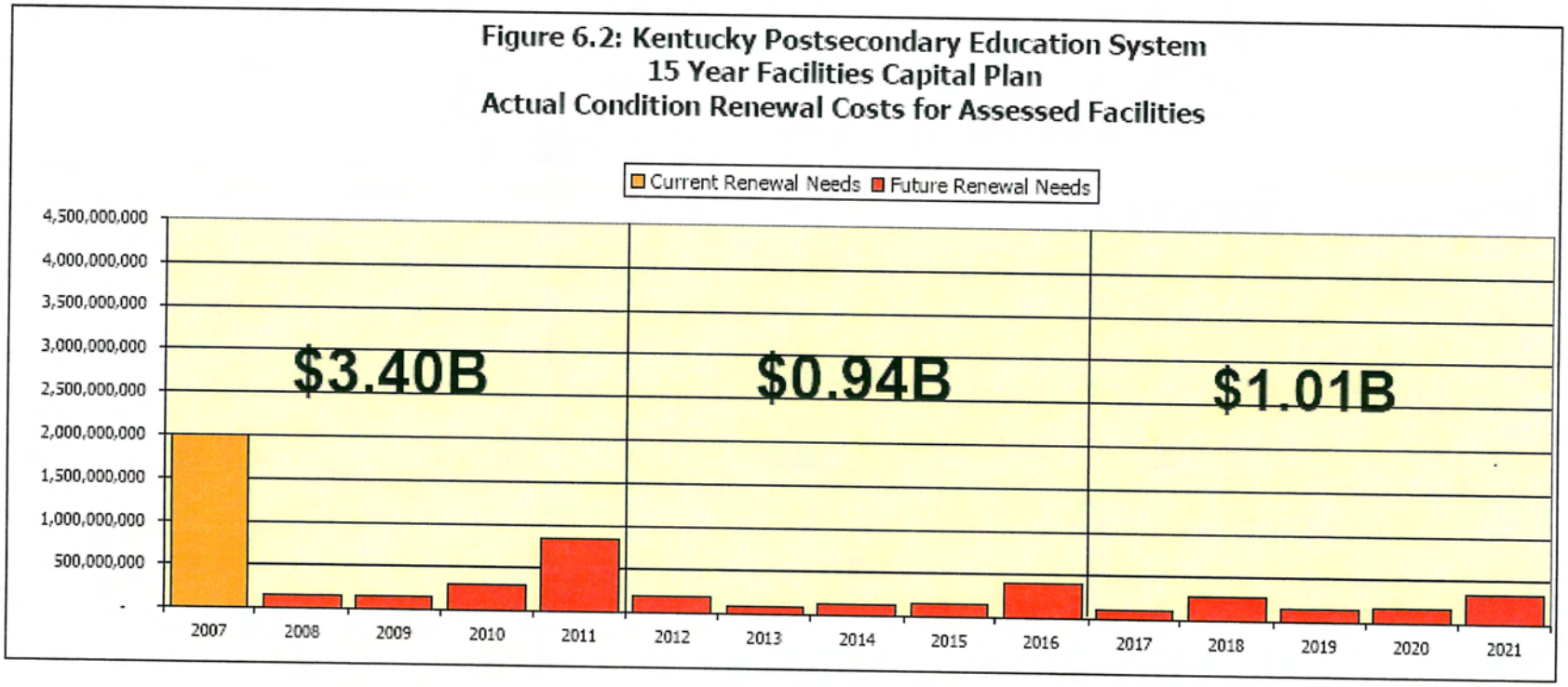
Summary of Capital Needed for Space Adequacy and Capacity



VFA Paulien & Associates NCHEMS

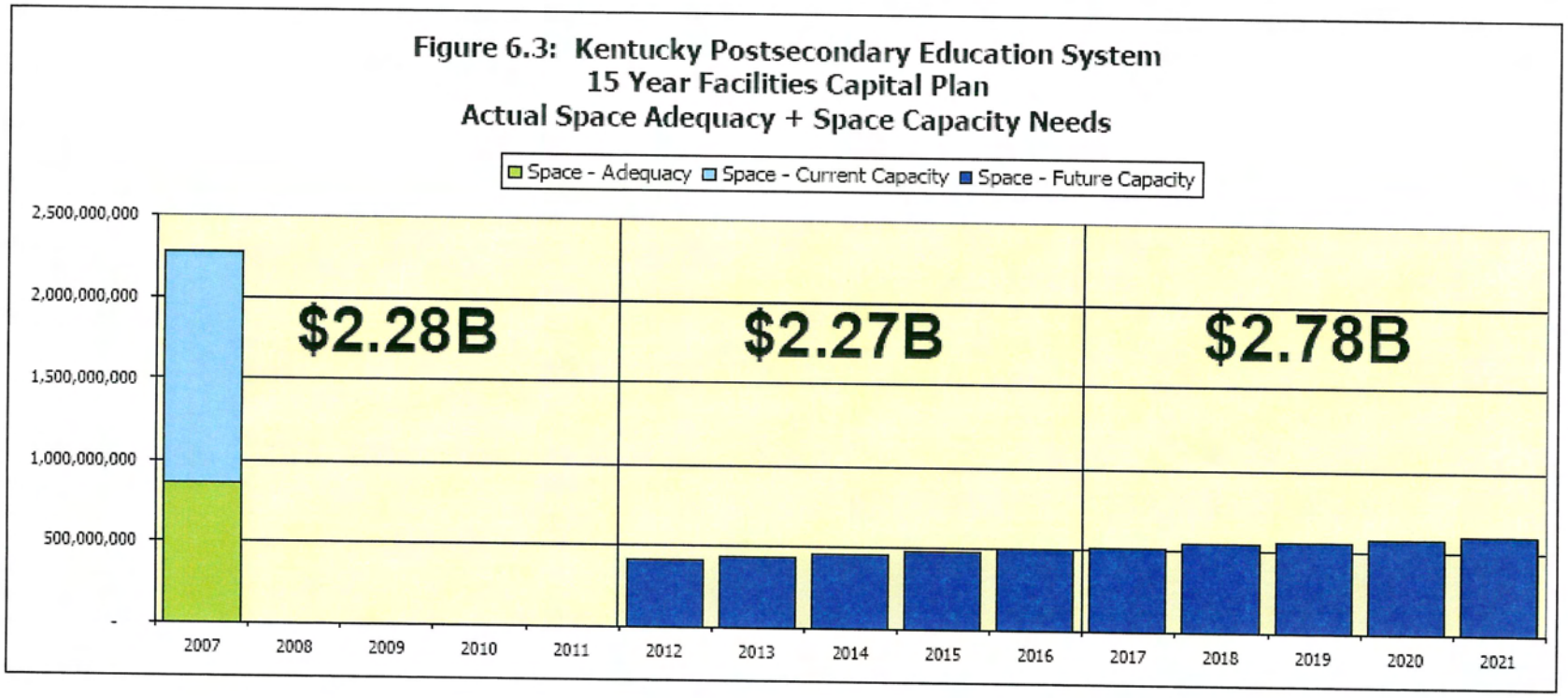
Total Needs for Study Portfolio

Summary of 15-year capital needs



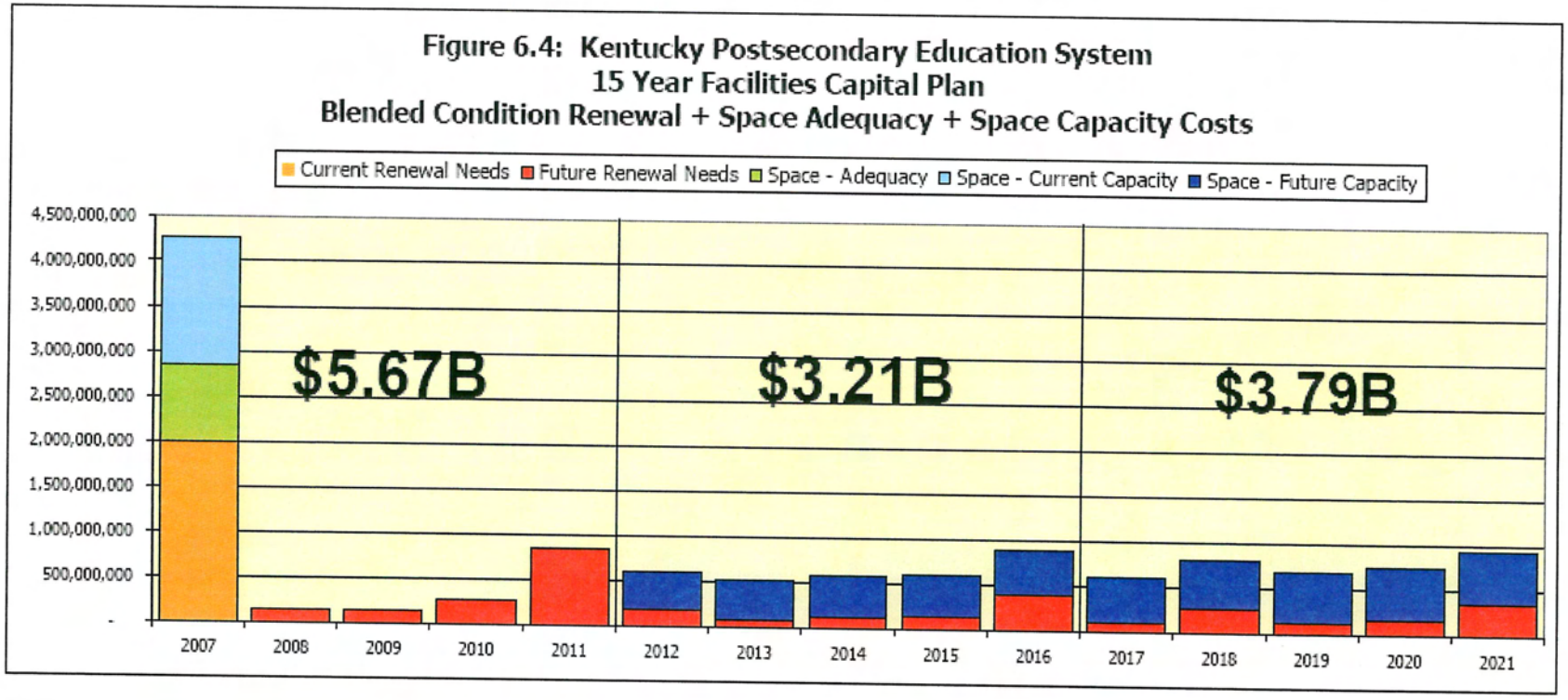
VFA Paulien & Associates NCHEMS

Summary of 15-year capital needs



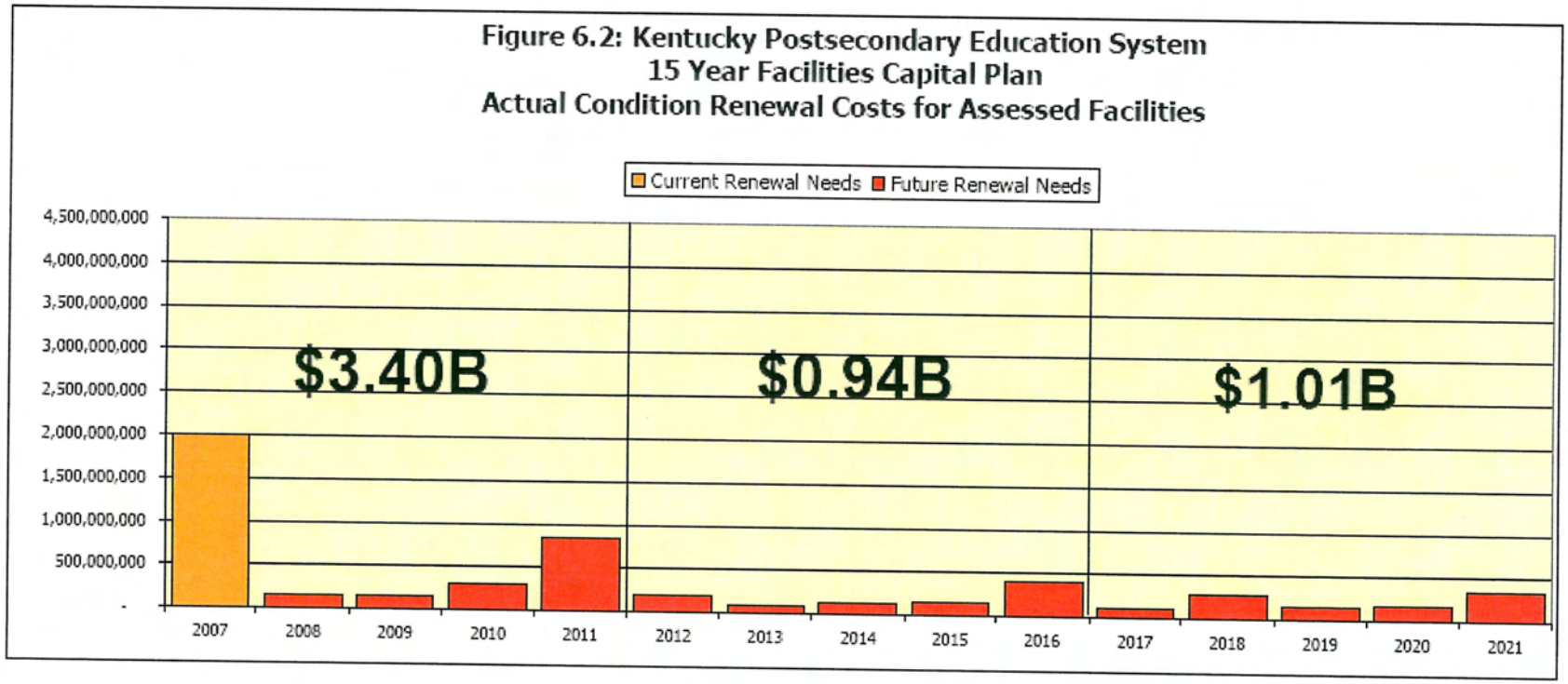
VFA Paulien & Associates NCHEMS

Summary of 15-year capital needs



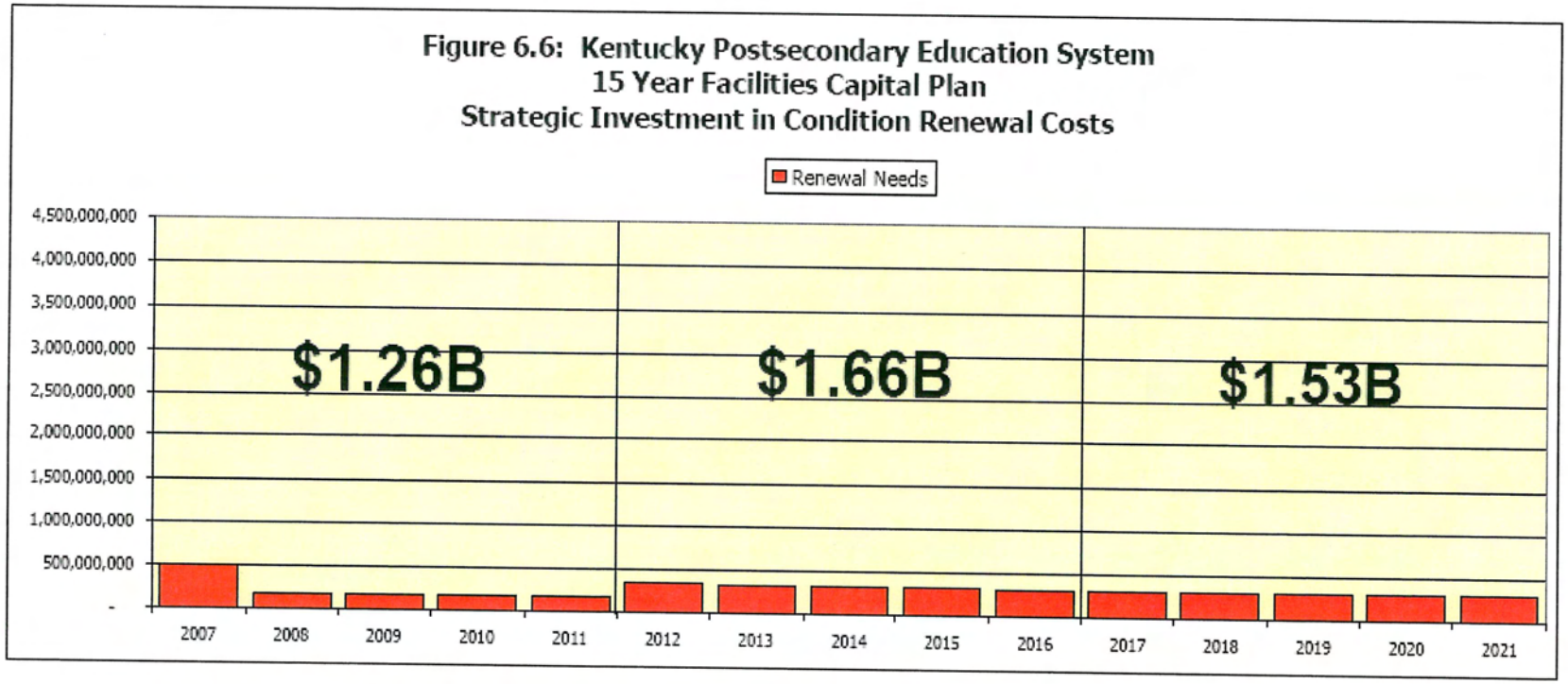
VFA Paulien & Associates NCHEMS

Summary of 15-year capital needs



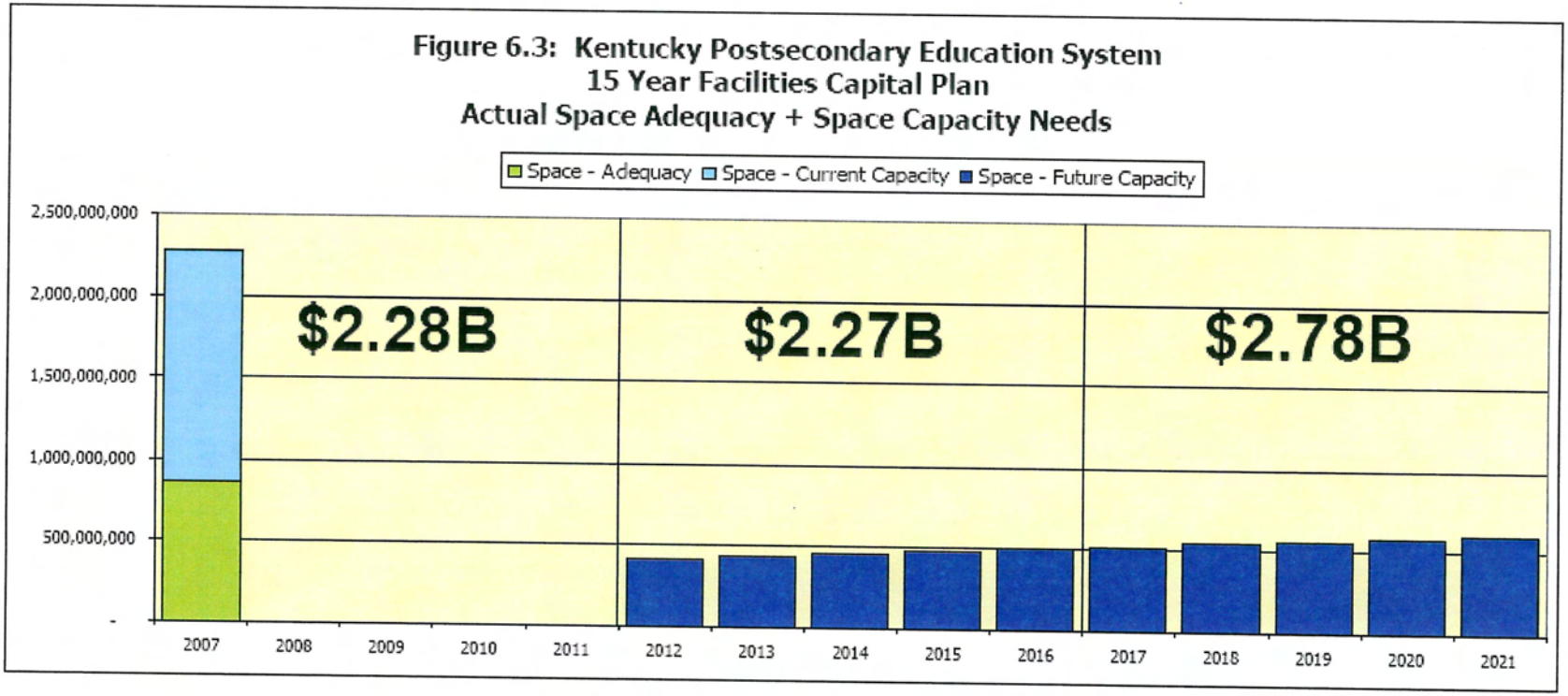
VFA Paulien & Associates NCHEMS

Capital plan to achieve "Good" condition rating



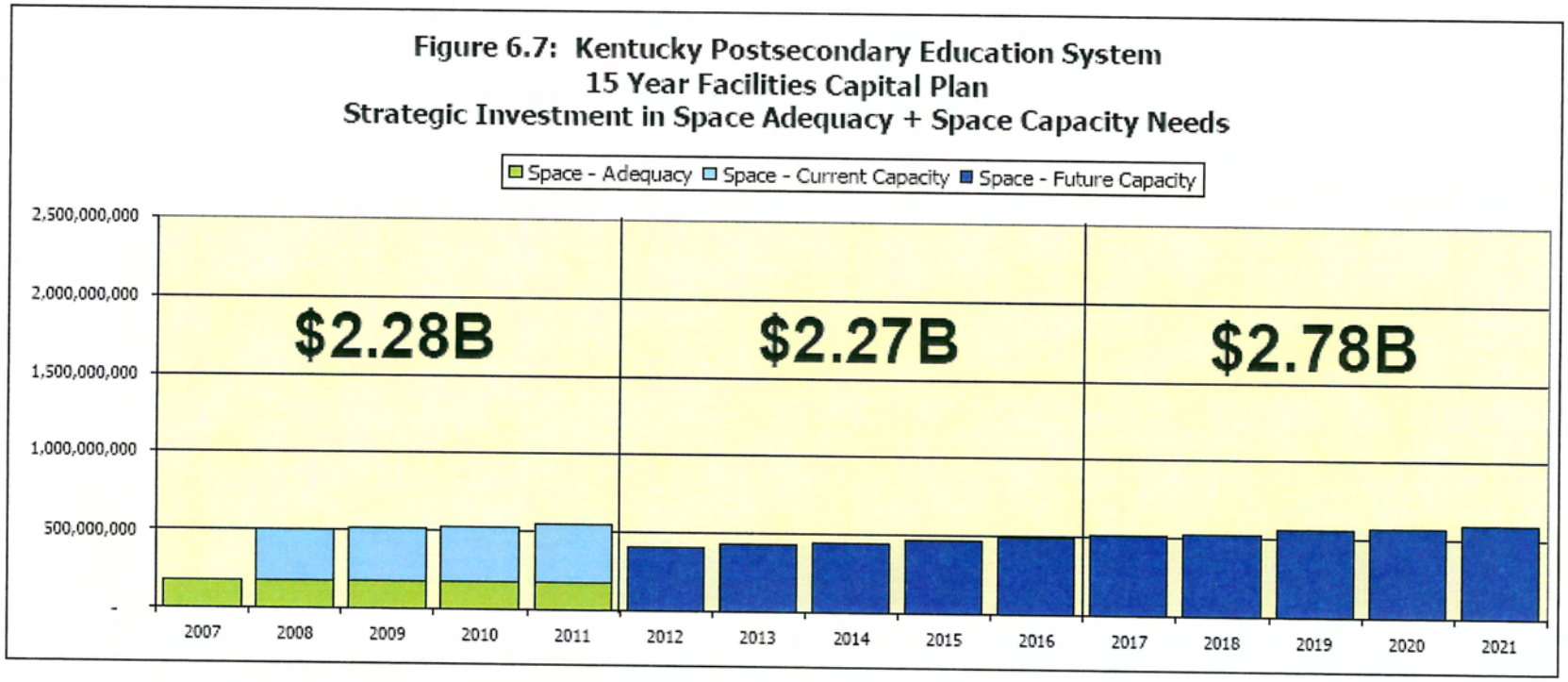
VFA Paulien & Associates NCHEMS

Summary of 15-year capital needs



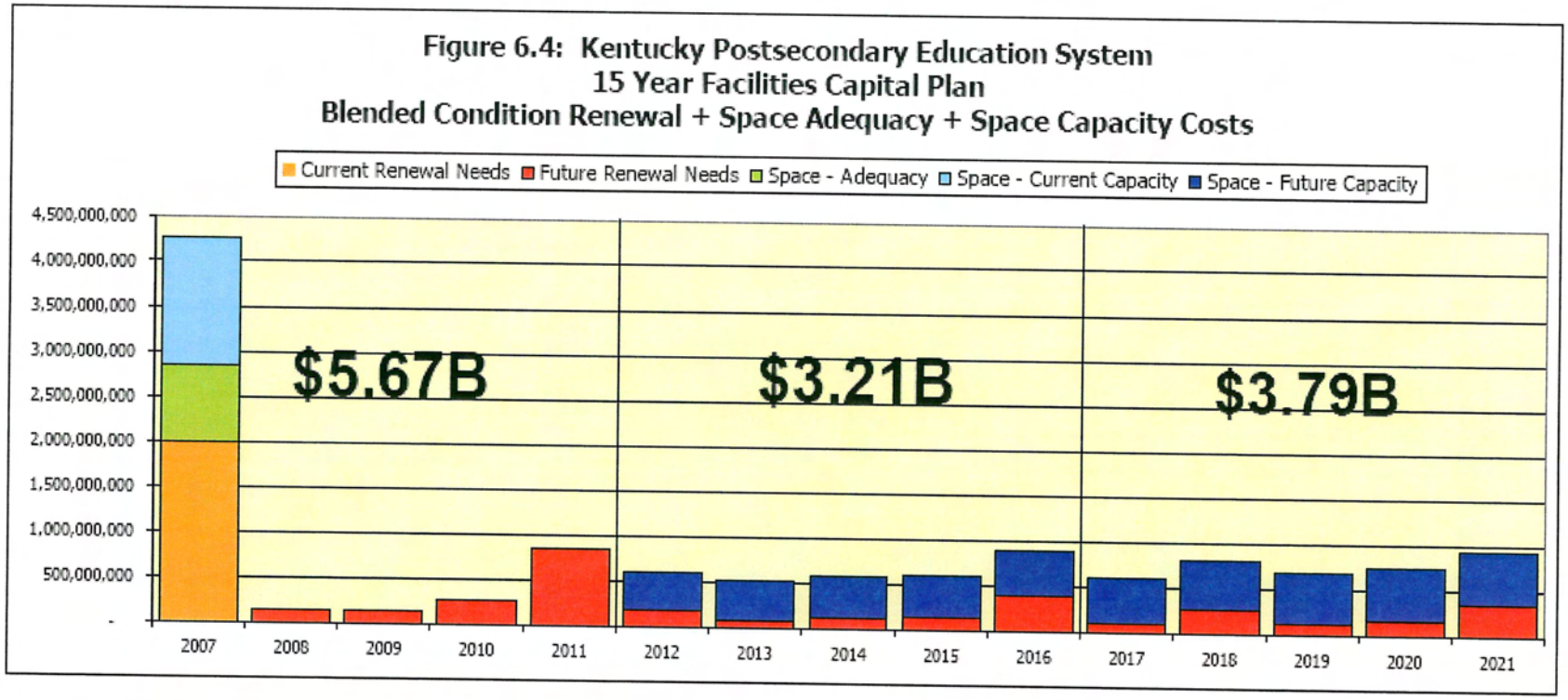
VFA Paulien & Associates NCHEMS

Capital plan to achieve "Good" condition rating



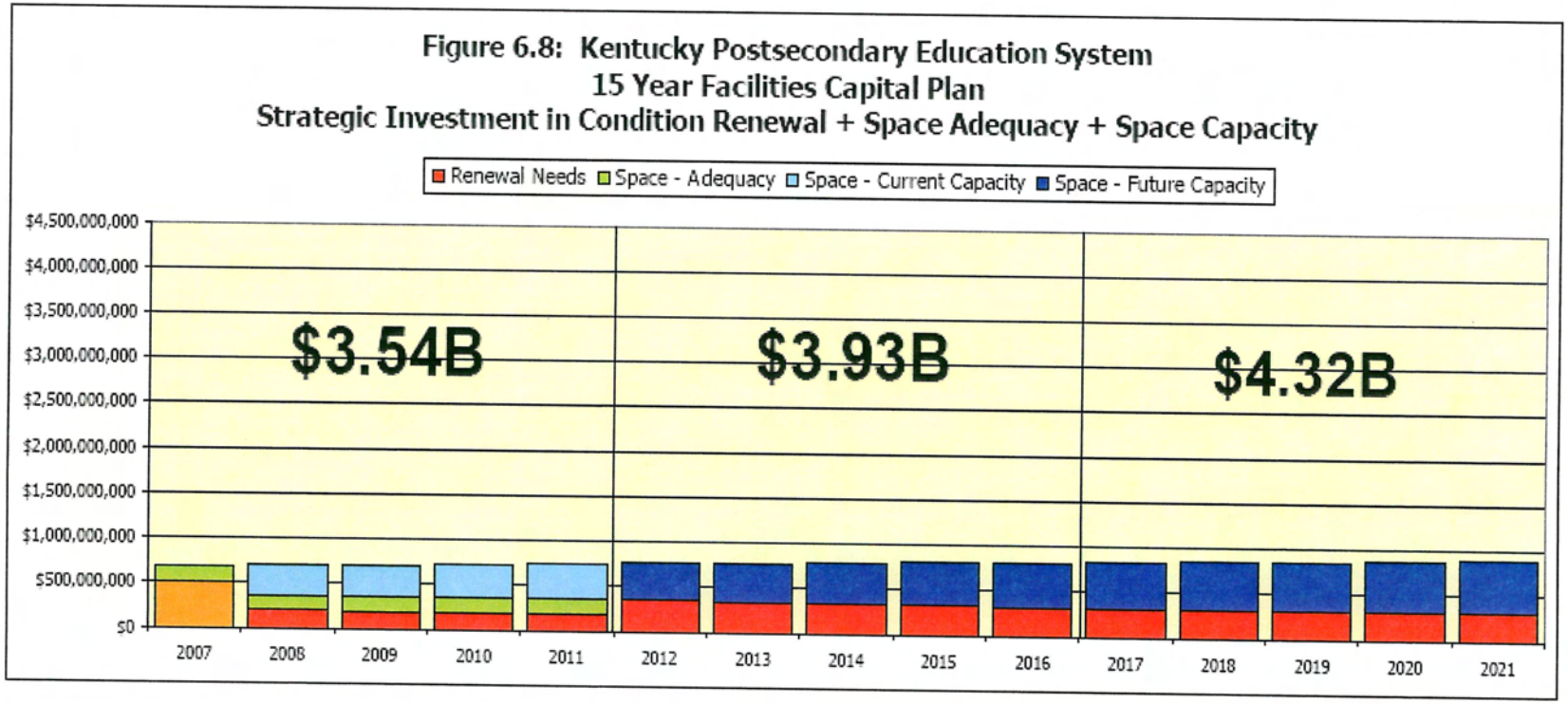
VFA Paulien & Associates NCHEMS

Summary of 15-year capital needs



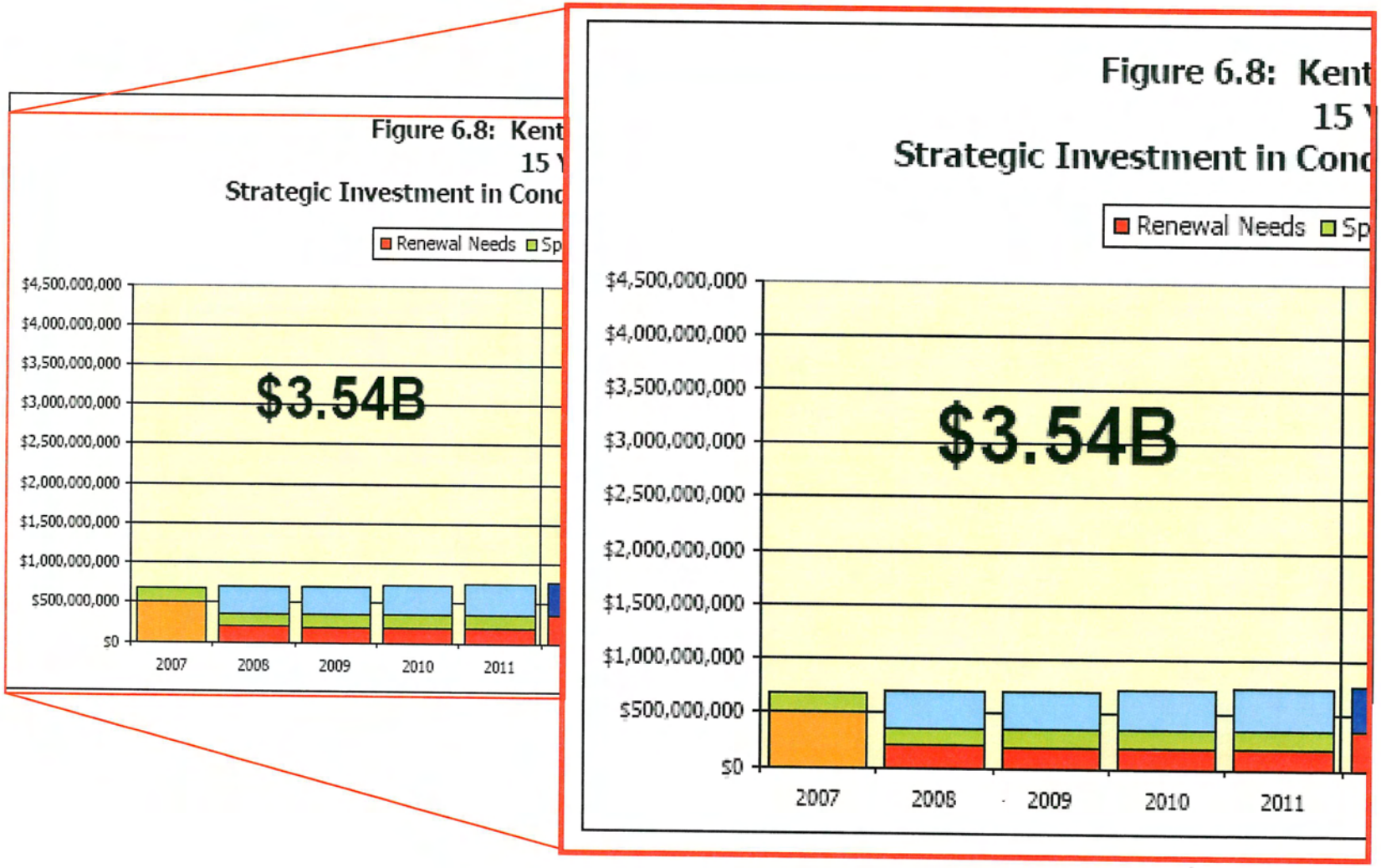
VFA Paulien & Associates NCHEMS

Capital plan to achieve "Good" condition rating



VFA Paulien & Associates NCHEMS

Capital plan to achieve "Good" condition rating



VFA Paulien & Associates NCHEMS

Financing College and University Facilities

Dennis Jones

NCHEMS National Center for Higher Education Management Systems
3035 Center Green Drive, Suite 150 Boulder, Colorado 80301-2251

Financing of What?

- Renewal and Renovation Projects
- New Construction Projects
  - Auxiliaries
  - General Academic
  - Research

Funding Sources

- Students
- State Government
- Local Government
- Federal Government
- Donors
- Institutions

Primary Funding Patterns for Higher Education Facilities

Primary Funding Patterns for Higher Education Facilities

USES	SOURCES					
	Students	State	Local Govt.	Federal Govt.	Donors	Institutional Funds
Renewal and Renovation	—	Approp./debt	—	—	—	Approp./debt
New Construction						
• Auxiliary						
– Residential/dining	Use charges	—	—	—	—	—
– Recreation	Fees	Approp./debt	—	—	Gifts	—
• Academic facilities	Fees	Approp./debt	Debt	—	Gifts	Lease/purchase
• Research facilities	—	Approp./debt	—	Grants	Gifts	—

VFA Paulien & Associates NCHEMS

KPES Funding Patterns Worksheet for Higher Education Facilities

KPES Funding Patterns Worksheet for Higher Education Facilities

USES		SOURCES					
	Amount Needed, from 2006 Study	Students	State	Local Govt.	Federal Govt.	Donors	Institutional Funds
Renewal and Renovation							
• Condition/End of Life	$4.458m		Approp./debt				Approp./debt
• Space Adequacy	$862m		Approp./debt				Approp./debt
New Construction							
• Auxiliary	n/a						
2006 Capacity							
• Academic facilities	$902m	Fees	Approp./debt	Debt		Gifts	Lease/ purchase
• Research facilities	$515m		Approp./debt		Grants	Gifts	
2020 Capacity							
• Academic facilities	$3,415m	Fees	Approp./debt	Debt		Gifts	Lease/ purchase
• Research facilities	$1,633m		Approp./debt		Grants	Gifts	
TOTAL	$11,786m						

VFA Paulien & Associates NCHEMS

Facility Condition Assessment & Space Study Project Presentation of Findings

VFA

Paulien & Associates

NCHEMS