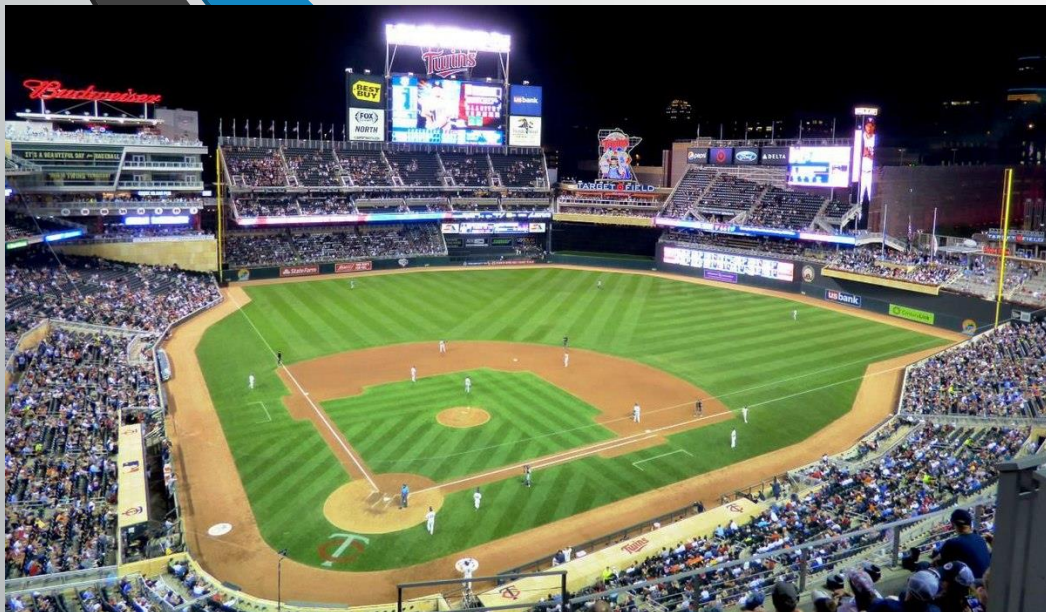


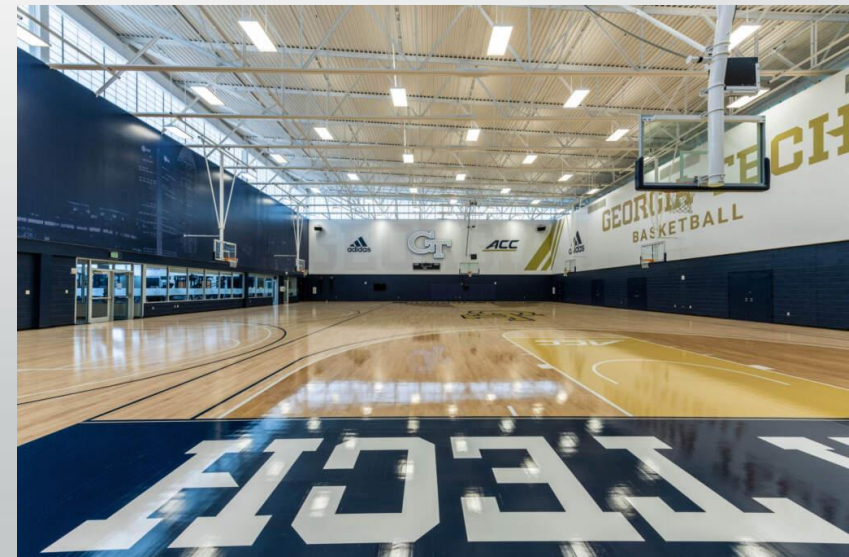
EXAMINING SUSTAINABILITY IN COLLEGIATE ATHLETIC BUILDINGS THROUGH LEED CERTIFICATIONS

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RESEARCH QUESTION

WHAT LEED CATEGORIES ARE COLLEGIATE ATHLETIC BUILDINGS EARNING THE HIGHEST PERCENTAGE OF POINTS IN?



BACKGROUND

- LEED CERTIFICATIONS- MEASURES SUSTAINABILITY
- PRO-SPORTS-STADIUMS ARE BECOMING GREENER, SOME HAVE BEEN LEED CERTIFIED
- COLLEGE SPORTS- HIGH AWARENESS OF SUSTAINABILITY ISSUES, DISCONNECT BETWEEN AWARENESS AND KNOWLEDGE

LEED Categories	Possible Points
Sustainable Sites	26
Water Efficiency	10
Energy and atmosphere	35
Materials and Resources	14
Indoor Environmental Quality	15
Innovation and Design	6

METHODOLOGY

- EXAMINE THE PERCENTAGE OF POINTS EARNED FOR EACH LEED CATEGORY
- OVERALL EXAMINATION OF ATHLETIC BUILDINGS
- POWER 5 CONFERENCE SCHOOLS VS. NON-POWER 5
- OLDER VS. NEWER LEED CERTIFIED ATHLETIC BUILDINGS
- ATHLETIC VS. NON-ATHLETIC COLLEGE BUILDINGS

Conference	Football Sub-division	Total Schools	Received LEED Certification		Registered for LEED Certification	
			Number of Facilities	Percentage of Schools Represented	Number of Facilities	Percentage of Schools Represented
Power 5 Conferences						
Atlantic Coast Conference (ACC)	FBS	15	9	47%	3	20%
Big Ten	FBS	14	4	29%	5	14%
Big 12	FBS	10	2	20%	1	10%
Pacific 12 (Pac 12)	FBS	12	4	25%	1	8%
Southeastern Conference (SEC)	FBS	14	7	36%	4	29%
Other Division I Conferences						
Atlantic 10	FCS	14	2	14%	0	0%
American	FBS	11	0	0%	2	18%
Colonial Athletic Association (CAA)	FCS	10	1	10%	0	0%
Conference USA (C-USA)	FBS	14	3	21%	1	7%
Eastern College Athletic Conference (ECAC)	FCS	12	1	8%	0	0%
FBS Independents	FBS	7	2	29%	0	0%
Mid-Atlantic Conference (MAC)	FBS	12	0	0%	1	8%
Missouri Valley	FCS	10	1	10%	1	10%
Mountain West (MW)	FBS	11	1	9%	1	9%
Summit	FCS	9	1	11%	0	0%
Sun Belt	FBS	12	0	0%	1	8%
Total facilities			38		21	

Note: 8 of 11 Division I Football Bowl Subdivision (FBS) conferences are represented in the sample of athletic facilities with LEED certification; 5 of 13 Division I Football Championship Subdivision conferences (FCS) are represented in the sample.

Percentage of schools represented accounts for schools having multiple LEED buildings

ATHLETIC BUILDINGS OVERALL

Categories	Average Percentage of Credits Earned			
	Certified	Silver	Gold	Platinum
Sustainable Sites	46%	68%	74%	92%
Water Efficiency	51%	58%	58%	75%
Energy and Atmosphere	29%	29%	51%	76%
Materials and Resources	44%	41%	43%	43%
Indoor Environmental Quality	58%	61%	62%	87%
Innovation in Design	26%	67%	81%	100%
Number of buildings with certification	4	23	9	2

Categories	Percentage of Buildings with Credits Earned
Sustainable Sites	69%
Water Efficiency	59%
Energy and Atmosphere	37%
Materials and Resources	42%
Indoor Environmental Quality	62%
Innovation in Design	68%

POWER 5 VS. NON-POWER 5

Categories	Average Percentage of Credits Earned		Difference	T-Statistic
	Power 5 Conferences	Other Division I Conferences		
Sustainable Sites	68%	71%	-3	-0.59
Water Efficiency	61%	53%	8	0.88
Energy and Atmosphere	41%	29%	12	2.05
Materials and Resources	42%	43%	-1	-0.25
Indoor Environmental Quality	61%	65%	-4	-0.57
Innovation in Design	72%	58%	14	1.50
Number of buildings with certification	26	12		

OLDER VS NEWER ATHLETIC BUILDINGS

Categories	Average Percentage of Credits Earned		Difference	T-Statistic
	Pre-2015 Buildings	2015 and After Buildings		
Sustainable Sites	65%	72%	7	1.67
Water Efficiency	63%	56%	-7	-0.67
Energy and Atmosphere	31%	41%	10	1.85
Materials and Resources	42%	42%	0	0.06
Indoor Environmental Quality	61%	64%	3	0.52
Innovation in Design	68%	68%	0	0.04
Number of buildings with certification	18	20		

ATHLETIC VS. NON-ATHLETIC COLLEGE BUILDINGS

Categories	Average Percentage of Credits Earned		Difference
	Athletic Buildings	Campus Buildings	
Silver Certification Credits Earned			
Sustainable Sites	68%	56%	12
Water Efficiency	58%	68%	-10
Energy and Atmosphere	29%	29%	0
Materials and Resources	41%	43%	-2
Indoor Environmental Quality	61%	64%	-3
Innovation in Design	67%	70%	-3
Gold Certification Credits Earned			
Sustainable Sites	74%	64%	10
Water Efficiency	58%	66%	-8
Energy and Atmosphere	51%	48%	3
Materials and Resources	43%	49%	-6
Indoor Environmental Quality	62%	70%	-8
Innovation in Design	81%	87%	-6

LIMITATIONS

- LIMITED INFORMATION AVAILABLE
- DIFFICULTY SEARCHING FOR EVERY COLLEGE ATHLETIC BUILDING
- NO KNOWN DATABASE



QUESTIONS?