Transforming the Academic Zone

A Case Study in Institutional Renewal

Kevin Garvey | William Paterson University
Daniel Topping, AIA, LEED AP BD+C | NK Architects

ALBANY 2019
STRIVING FOR SYNERGIES
SUNY/PPAA NYAPPA

WILLIAM PATERSON UNIVERSITY

NKA NEW YORK NEW JERSEY PHILADELPHIA

Learning Objectives

- Look beyond pure “quantified” space program toward fuller considerations.
- See a process that promotes the qualitative needs of a campus.
- Understand how to analyze aging campus facilities and determine how to move forward with a comprehensive process for renewal.
- Discuss how benchmarking and occupancy reviews can inform the planning process.

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The Challenge

"The impacts of two historic waves of construction are taking their toll on campuses. The buildings continue to age faster than they can be renovated. And this is happening at a time when capital funding has contracted."

James A. Kadamus | Sightlines

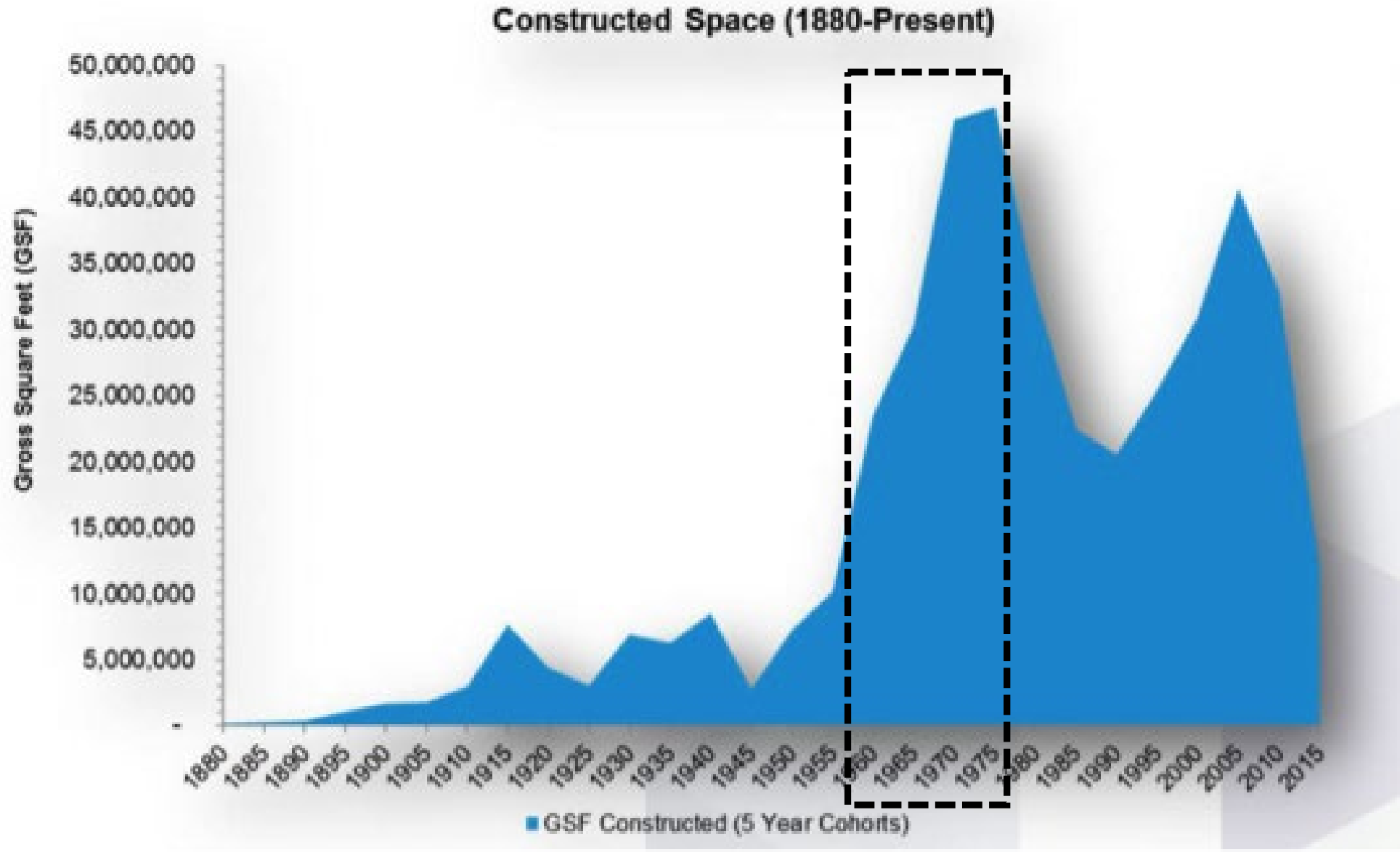
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US College & University Construction Boom: 1960-1975

- Baby Boomer Generation
- More construction in this period than in previous 100 years combined.
- Large percentage of campus buildings are from this period (>50% typically)
- Buildings built hastily; not necessarily well.

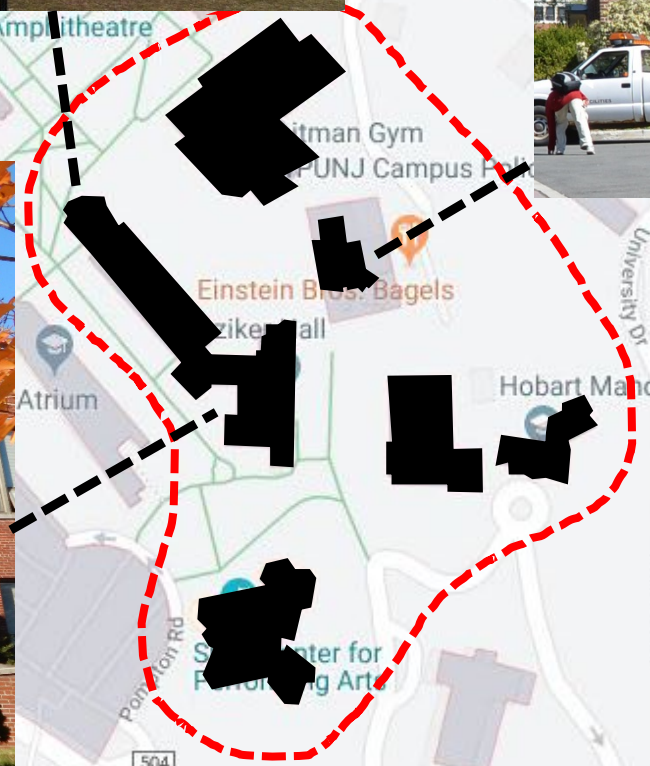



Coderm
Kindred Hospital
New Jersey - Wayne
J. Drillings, MD, PA
Brother Bruno's
Pizza, Deli & Bagels
QuickChek
Pompton Rd
American Heroes
Smokehouse
Ratzer Rd
CVS
504
Gaeds Pond
Overlook South
West Rd
Science Hall West
Ben Shahn
University Ballroom
Speert Hall
William
Paterson
University
Science Hall East
Lot 2
University Dr
Dormas Hill Rd
Zanfino Plaza
Amphitheatre
David and Lorraine
Cheng Library
Atrium
1960
1959
1880
1877
1951
1968
1968
Einstein Bros. Bagels
Hobart Manor
WILLIAM
PATERSON
UNIVERSITY


SPEERT GARDEN

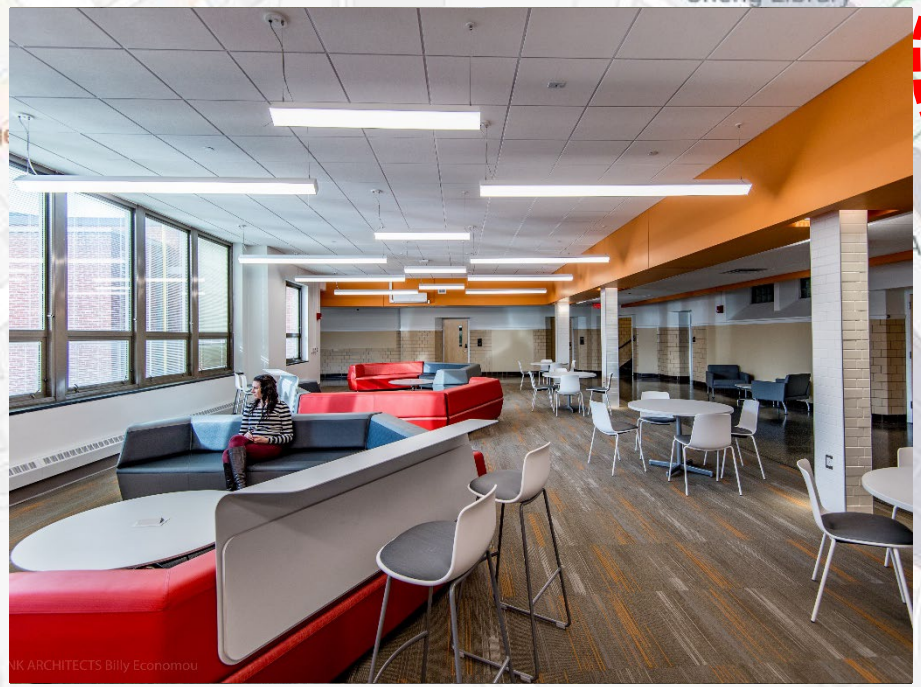





Hall West
Amphitheatre
David and Lorraine
Cheng Library
Einstein Bros Bagels
Atrium
Hobart Manor
University Dr
504




WP
Will. Power.
WILLIAM PATERSON UNIVERSITY




QuickChek
David and Lorraine Cheng Library
Amphitheatre
Hobart Manor
University Dr
504

WILLIAM PATERSON UNIVERSITY

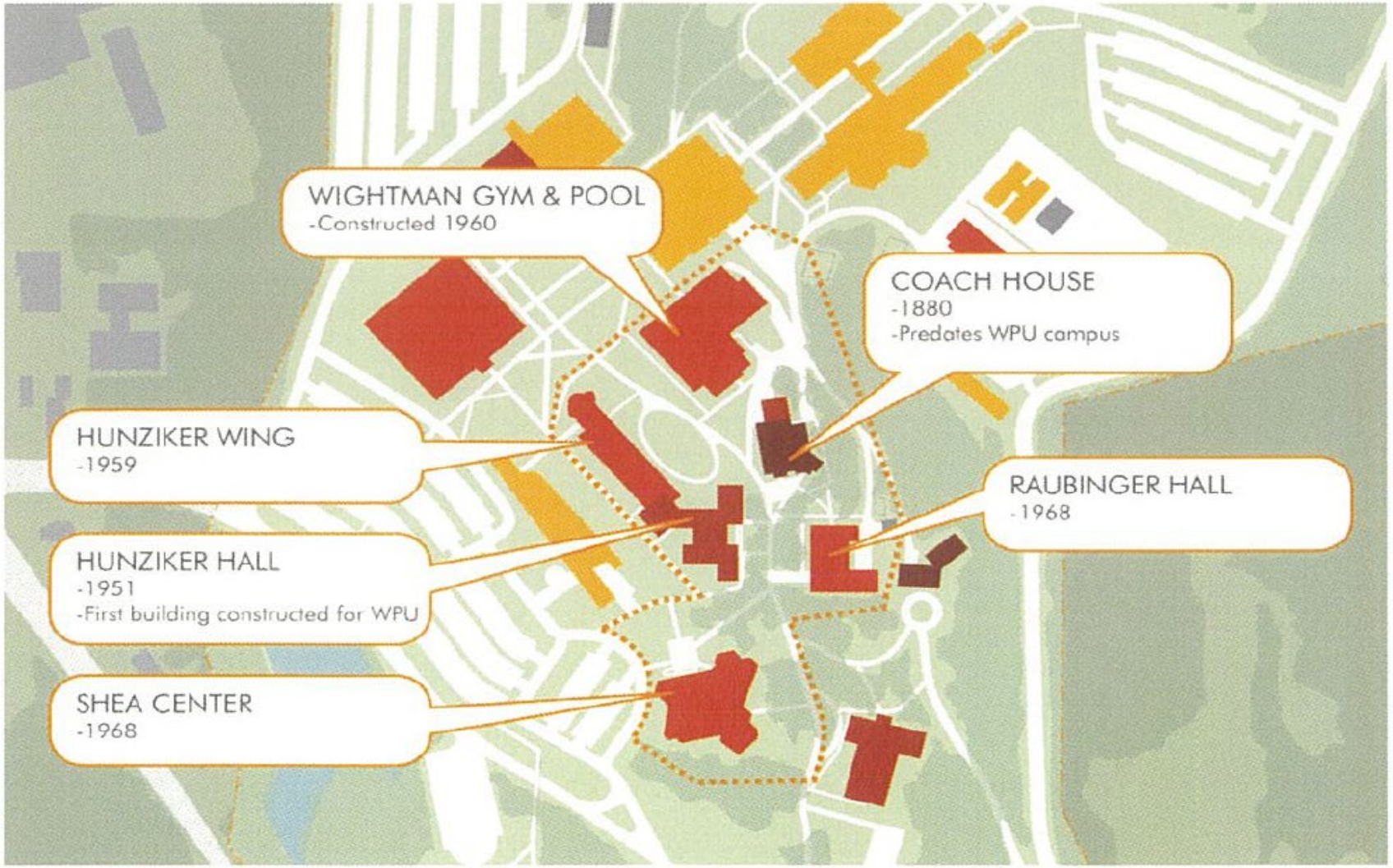
- Founded in Paterson, NJ in 1855 as a teacher's college.
- Moved to Wayne, NJ in 1950 with large enrollment gains.
- Enrollment is approx. 11,500 students.
  - +/- 8,500 FTE Undergraduates
  - +/- 1,600 Graduate Students
- 5 Colleges
- 2.3 million square feet
- Division III (NJAC)
- 75% of Undergrads and nearly all Grads commute.
- Diverse student population representative of the urban and suburban areas surrounding the University.



Academic Zone
Mid-Century Construction

Graphic 3.7
Chronological Development of Academic Zone

Pre-1900
1951-1958
1959-1969
1970 and Beyond



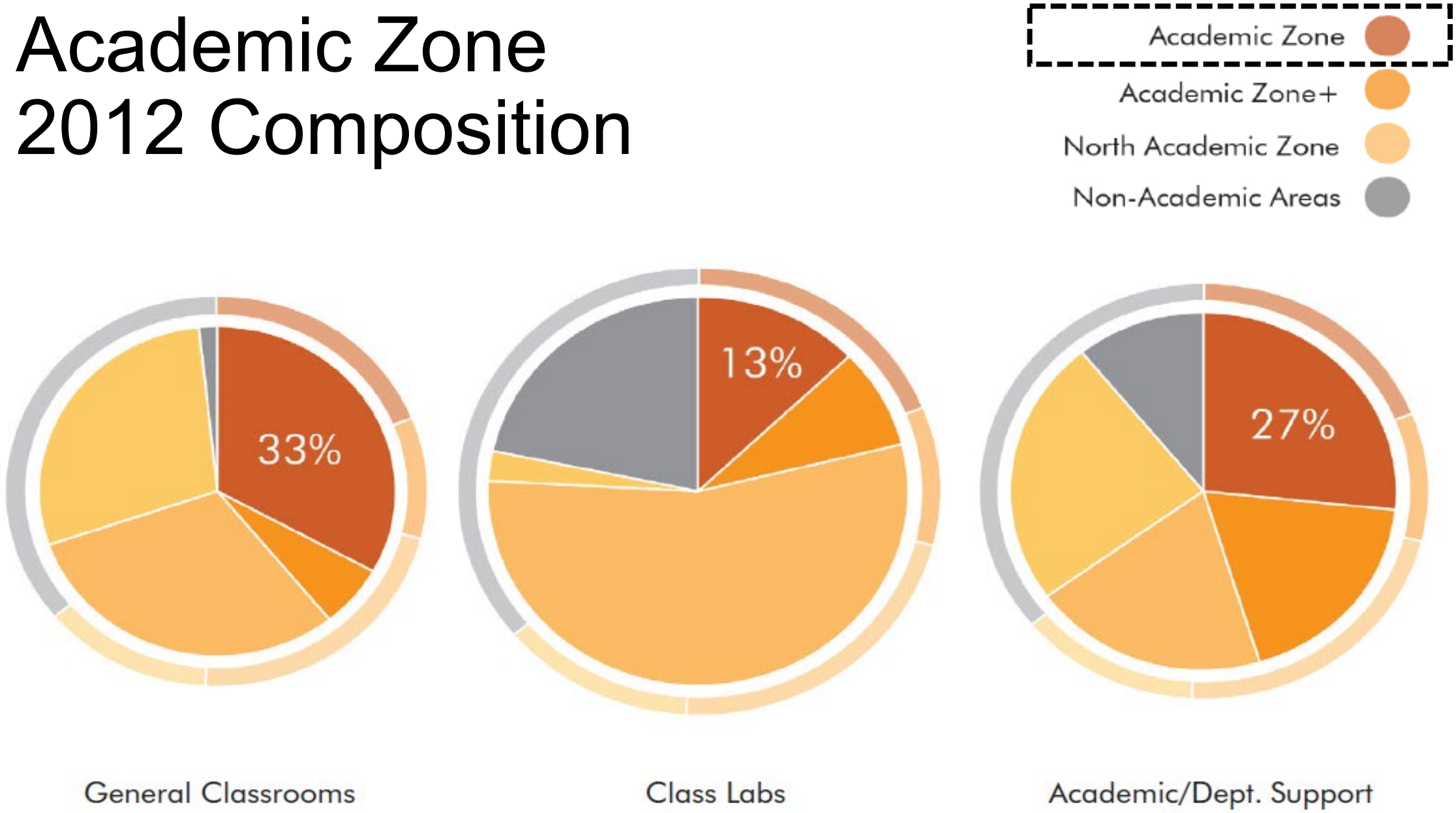
Academic Zone
Mid-Century Construction

	Const.	Renovated
Hobart Manor (Zone adj.)	1877	1914-1919, 1985
Coach House	1919?	(various renovations/additions)
Hunziker Hall	1951	n/a
Morrison Hall (Zone adj.)	1955	2012
Hunziker Wing	1959	n/a
Wightman Gym	1960	n/a
Cheng Library (Zone adj.)	1965	1993
Raubinger Hall	1968	n/a
Shea Center	1968	n/a
Student Center (Zone adj.)	1972	2008
Atrium (Zone adj.)	1995	n/a



Shea Center circa 1968

Academic Zone 2012 Composition



Academic Zone
Effects of Zone Planning

Before

- Uncertainty
- Competing Ideas & Goals
- Lack of consensus/approval
- No roadmap

After

- Space programs
- Construction/project budgets
- Schedule and phasing
- Identify major disruptions
- Sites identified
- Decision making process determined
- Consensus among stakeholders

Academic Zone
Chronic Issues

- Six core academic buildings were not programmatically suitable for current uses
- Not enough classrooms
- Not enough room for current faculty/staff or projected growth
- Buildings predated central air conditioning
- No collaboration space
- No food availability nearby
- No swing space

Academic Zone
Characteristics of Mid-Century Construction

- Floor mounted heating systems
- No central air; window units; no controls
- CMU interior walls; ACT flooring
- Not sprinklered
- No provisions for technology
- Double loaded corridors; little/no common space
- Not energy efficient
- Significant deferred maintenance; no renovations

Academic Zone
2012 Typical Conditions



Academic Zone
2012 Typical Conditions



Academic Zone
2012 Typical Conditions





Stakeholder Engagement

- Recommendations and decisions
- All academic recommendations via Dean and Provost
- Questionnaires
- Learning Spaces Committee
- Parking Committee
- Facility Advisory Committee
- Climate Action Committee
- Board of Trustees

University Hall – Opened 2016



Qualitative Goals

"create a sense of place"

"learning happens everywhere"

"promote a stronger sense of community"

"postcard building"

"the most competitive higher ed environments are those that breakdown rigid barriers and conceive of all college space within the spectrum of learning environments"

"flagship building"

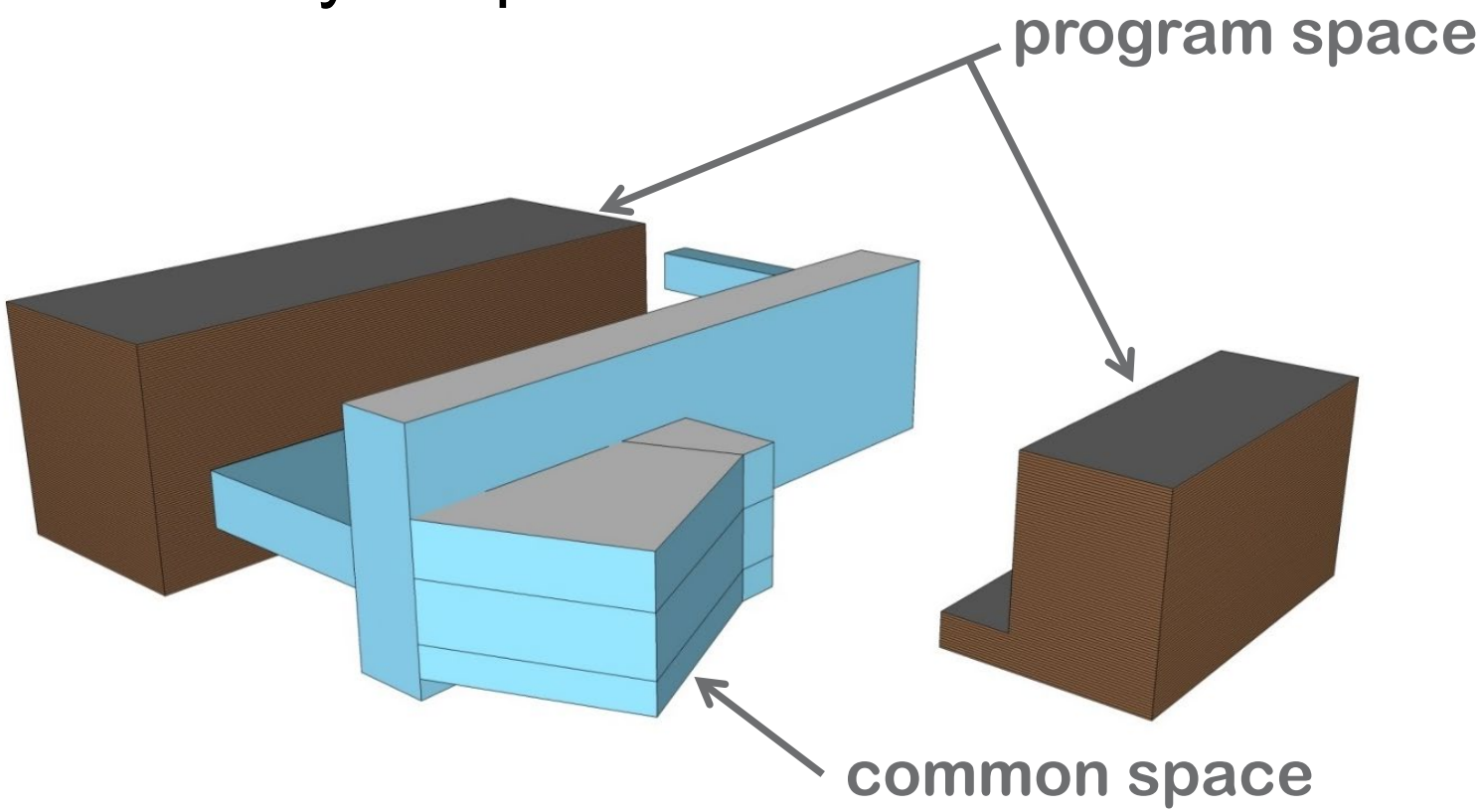
"the paradigm shift is rooted in major changes in American and western society that include the flattening of social hierarchies and increase of informal interaction"

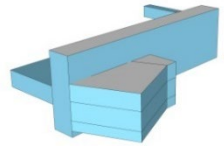
"the face of wpu"

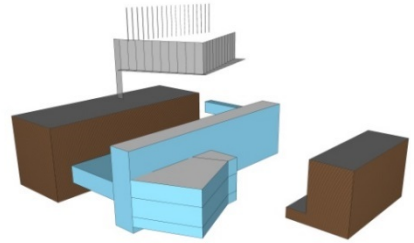
"a visual hive of social activity, intellectual investigation and cross-campus interaction"

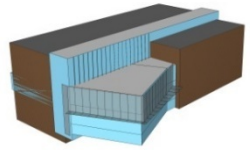
‘BIG’ idea

- Transparency
- Connection
- Hierarchy of spaces













‘BIG’ idea

- Transparency



‘BIG’ idea

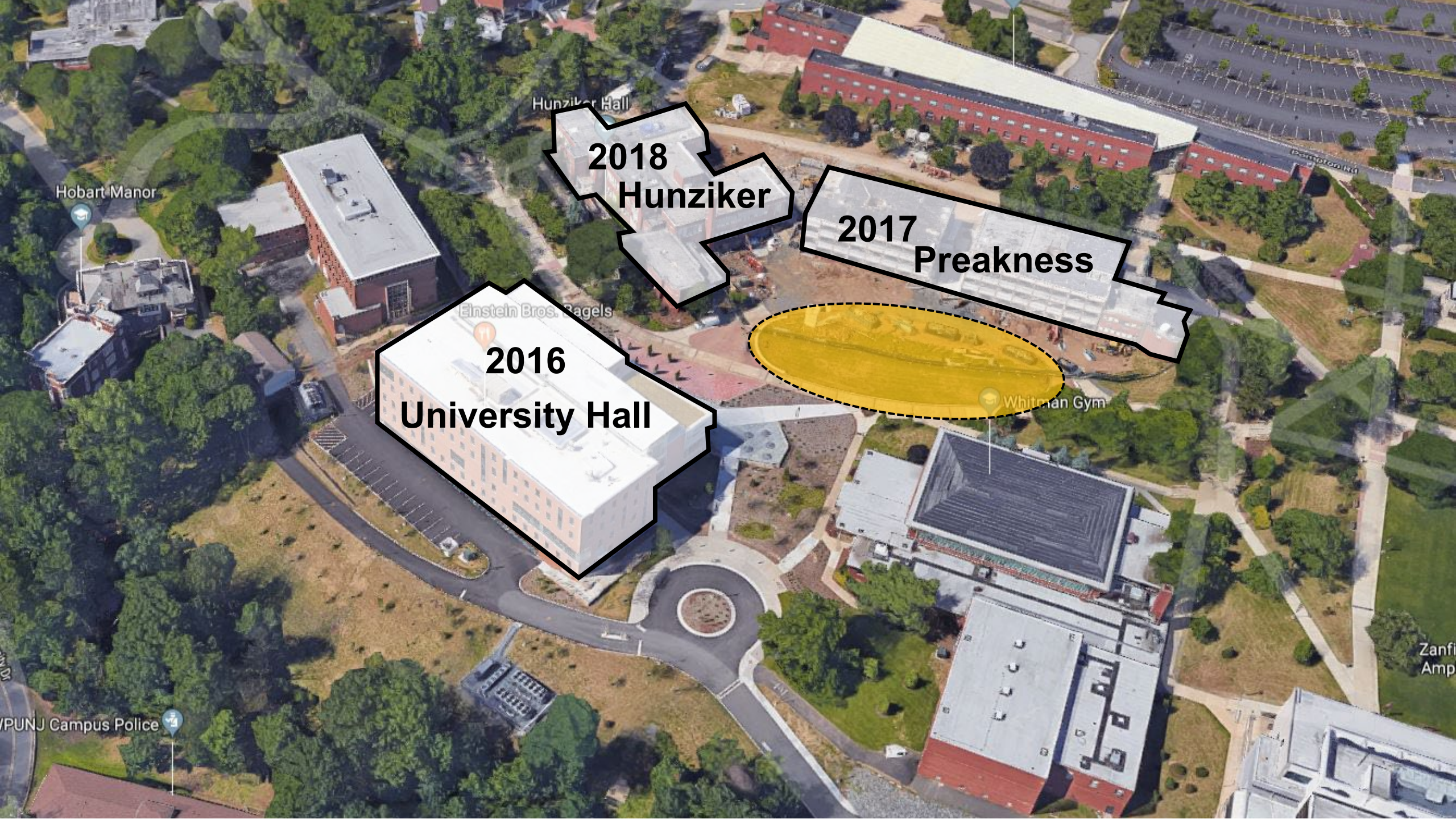
- Connection

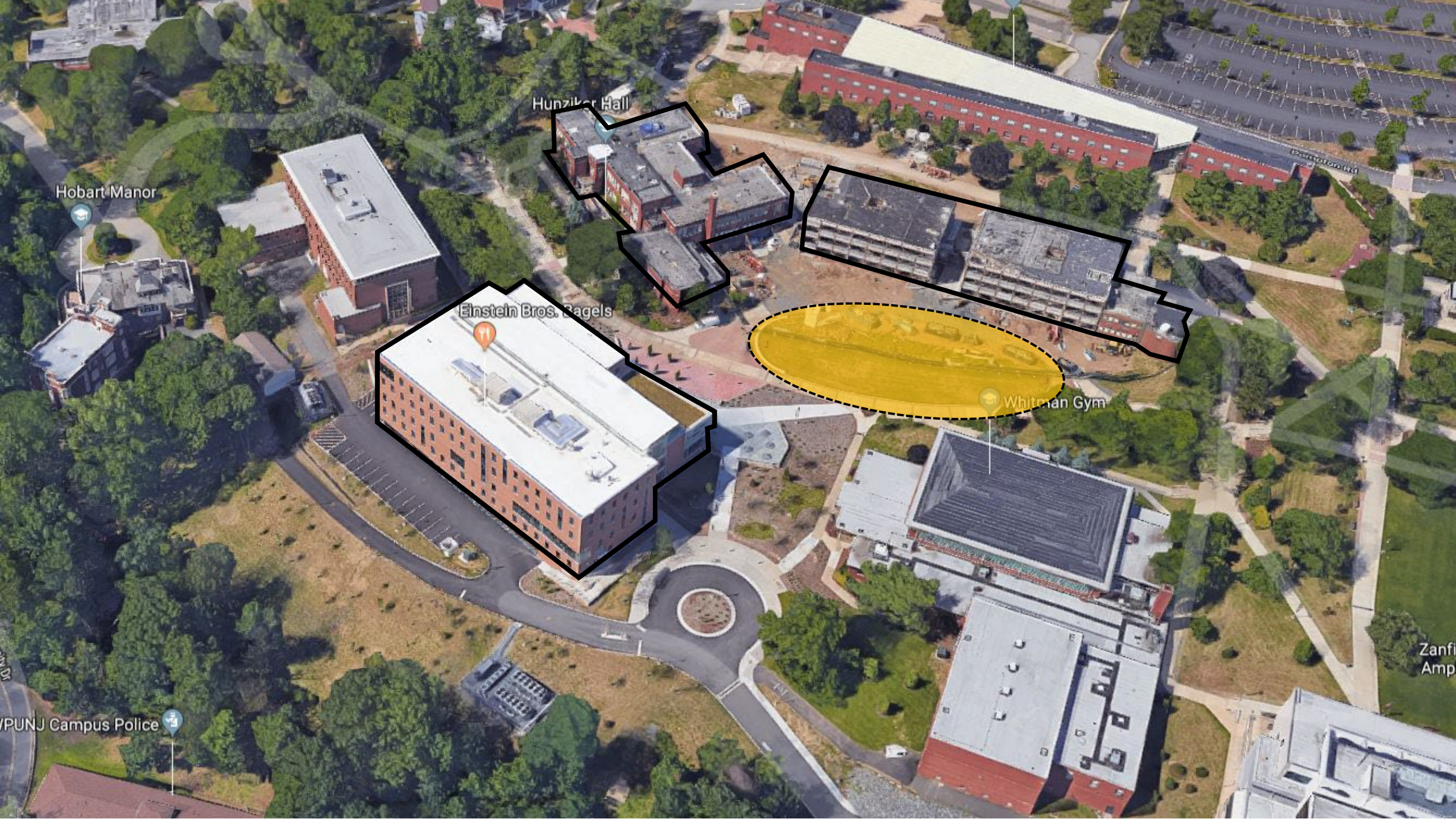


Spine > Corridor



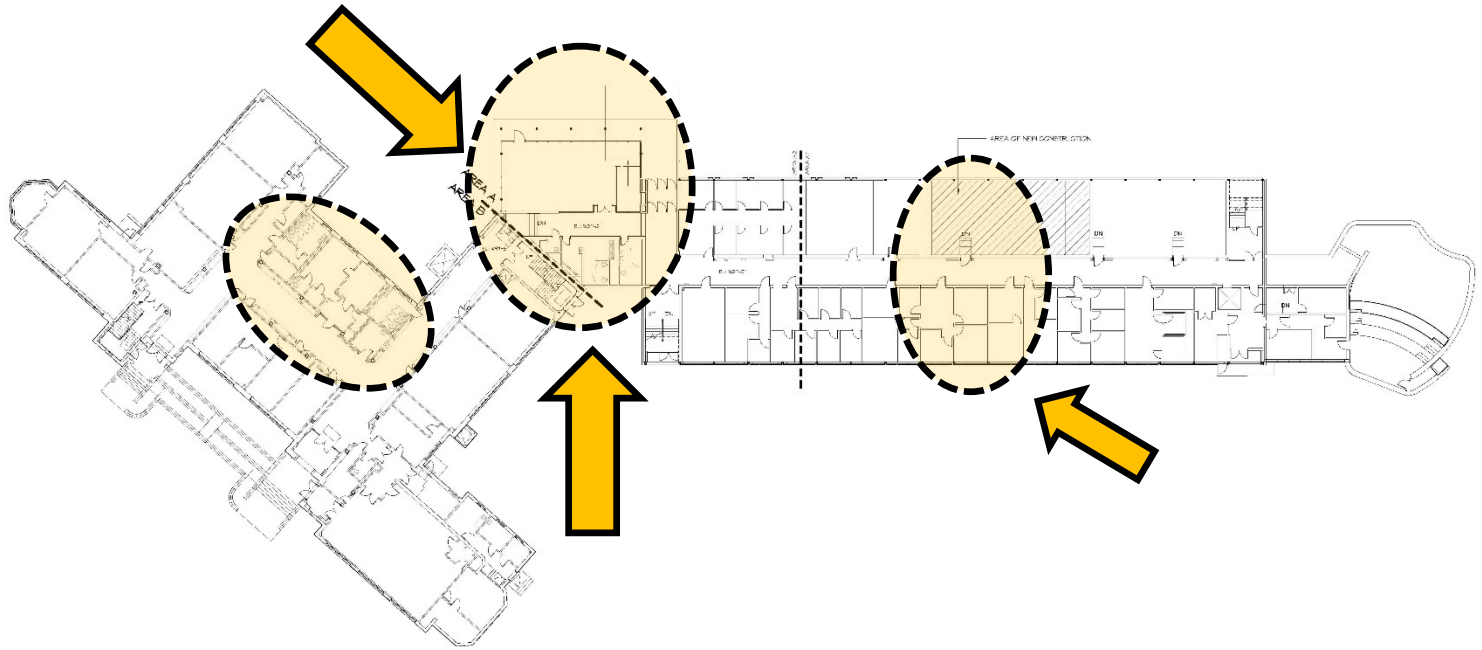



2018
Hunziker
2017
Preakness
2016
University Hall
Hobart Manor
Einstein Bros. Bagels
Whitman Gym
PUNJ Campus Police

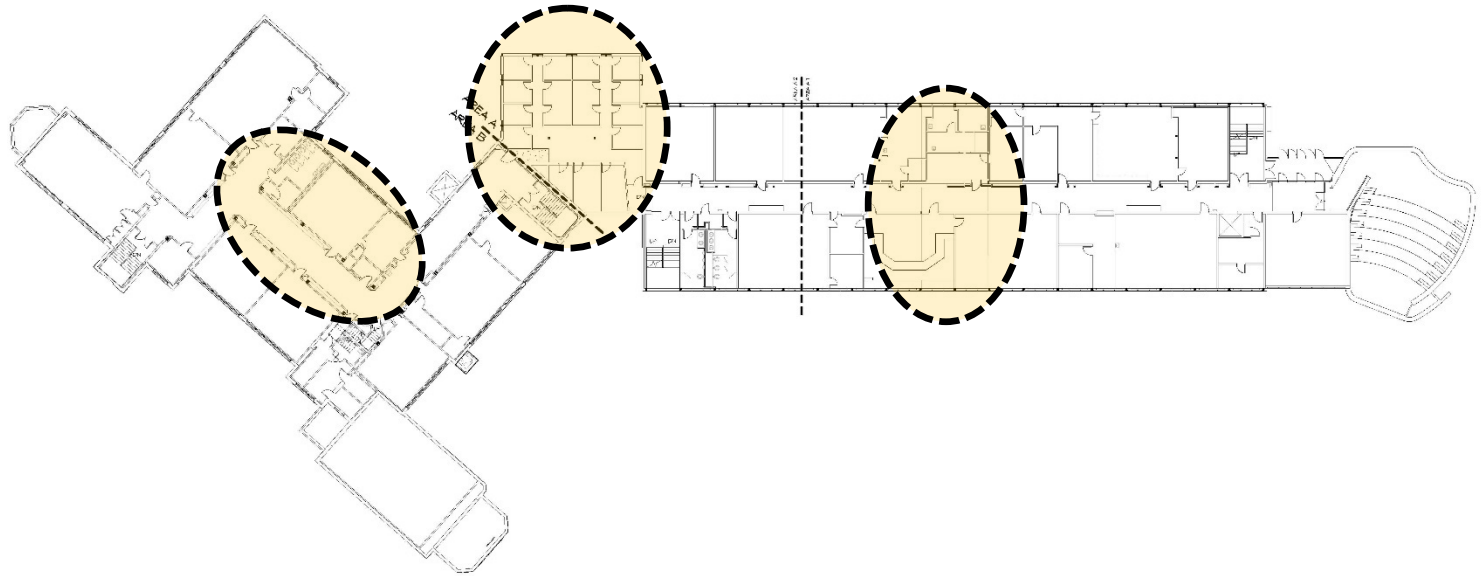

Hobart Manor
Einstein Bros. Bagels
Whitman Gym
Campus Police



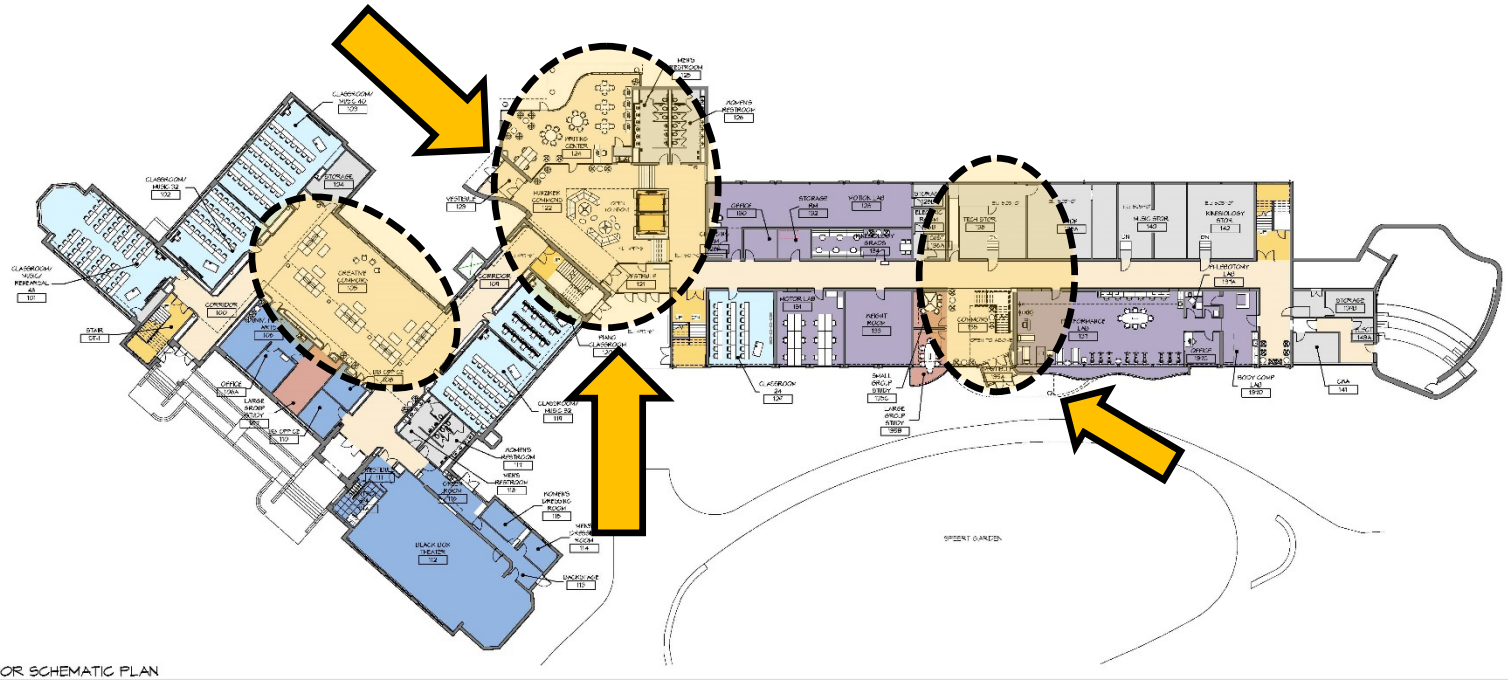
Hunziker/Preakness Renovations



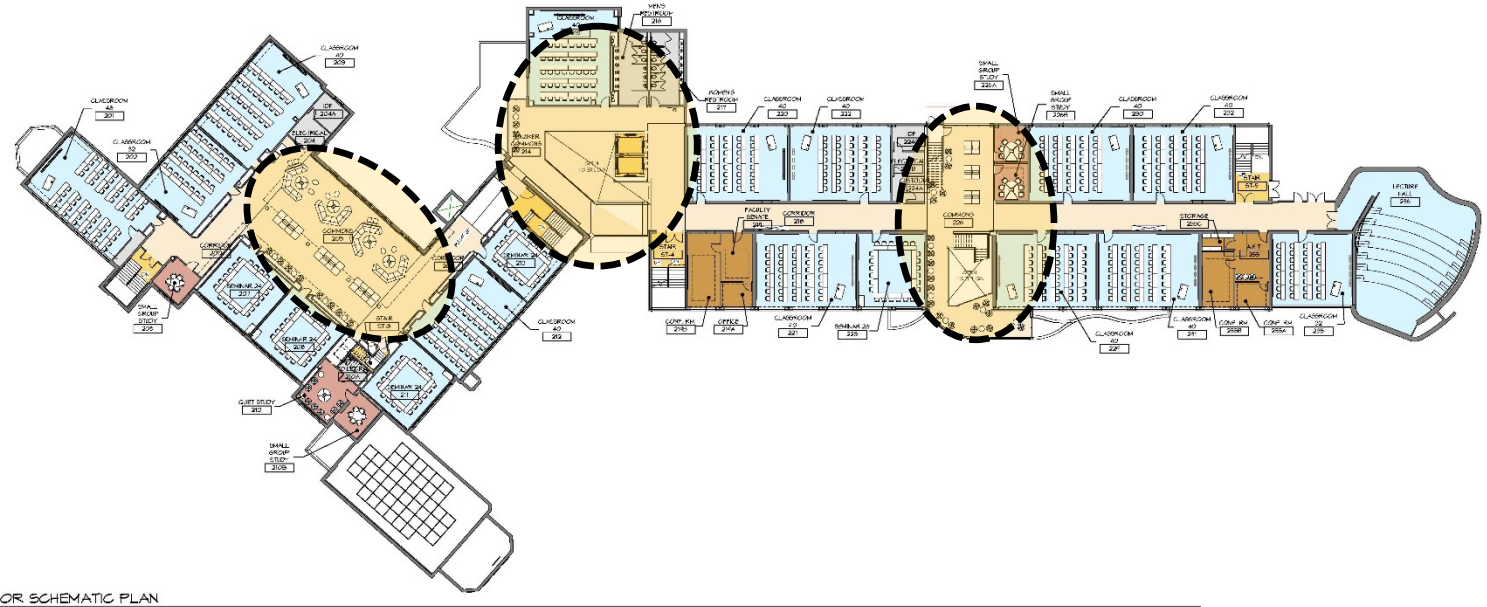
1 FIRST FLOOR EXISTING PLAN
1/16" = 1'-0"



2 SECOND FLOOR EXISTING PLAN
1/16" = 1'-0"



FIRST FLOOR SCHEMATIC PLAN
1/16" = 1'-0"



SECOND FLOOR SCHEMATIC PLAN
1/16" = 1'-0"

Classroom Right Sizing



Classroom Right Sizing



Common Space



Common Space



Common Space



Common Space




SPEERT GARDEN


SPEERT GREEN

Results: Academic Space

Classroom Count Academic Year	2015	2016	2017	2018
University Hall	0	16	16	16
Hunziker Wing	15	0	14	14
Hunziker Hall	14	14	0	13
Total	29	30	30	43
Net Difference from FY2015		1	1	14

Seat Count Academic Year	2015	2016	2017	2018
University Hall	0	562	562	562
Hunziker Wing	735	0	567	567
Hunziker Hall	571	571	0	420
Total	1306	1133	1129	1549
Net Difference from FY2015		-173	-177	243

Results: Right Sizing

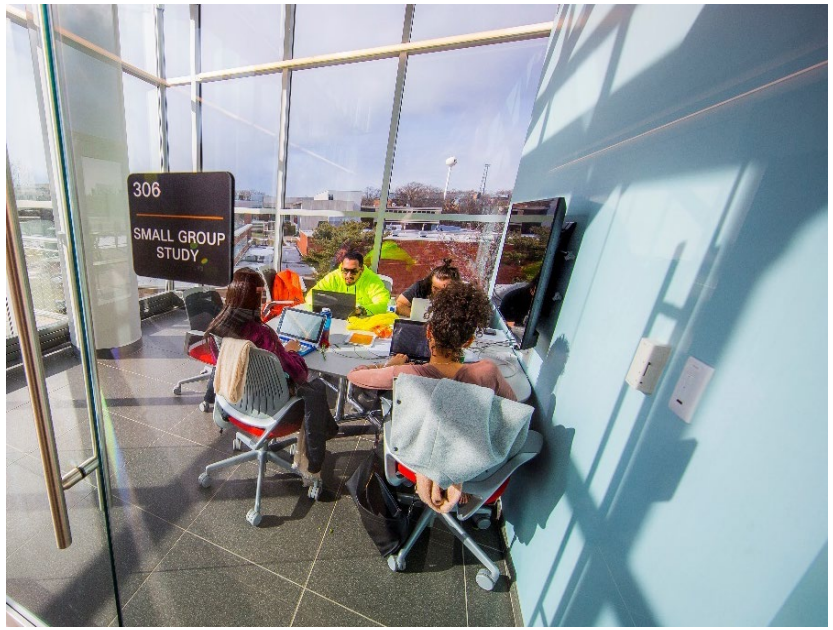
Classroom GSF Academic Year	2015	2016	2017	2018
University Hall	0	14368	14368	14368
Hunziker Wing	12138	0	12780	12780
Hunziker Hall	8482	8482	0	9000
Total	20620	22850	27148	36148

Station Size Academic Year	2015	2016	2017	2018
	NSF/Sta	NSF/Sta	NSF/Sta	NSF/Sta
University Hall	0	26	26	26
Hunziker Wing	17	0	23	23
Hunziker Hall	15	15	0	21

Results: Group Study Rooms

	2014	2018
Library	11	22
University Hall		14
Hunziker/Preak		11
Total	**11**	**47**







Results: Cost Metrics

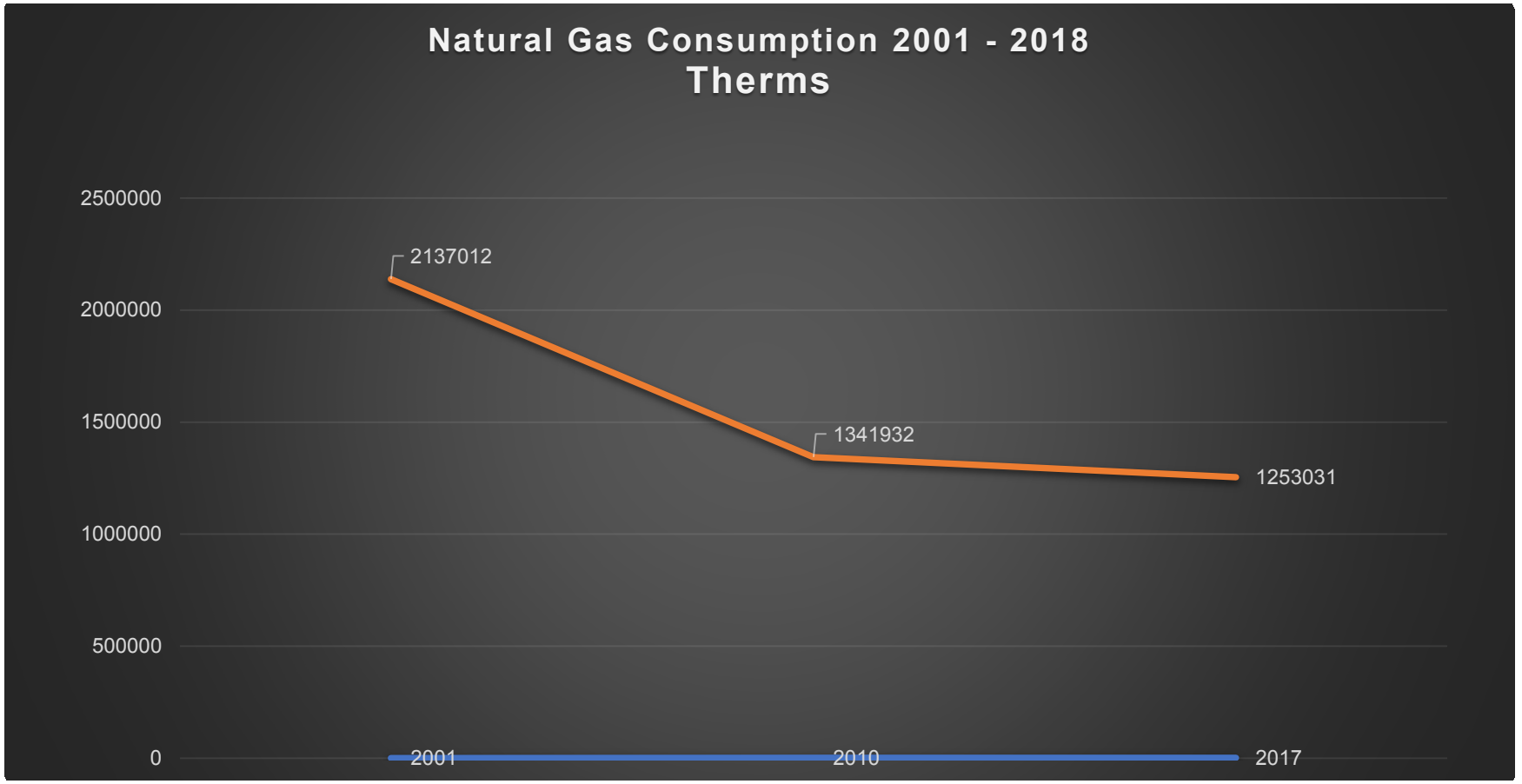
Project	Construction Cost	Const. Cost PSF	Benchmark	Project Cost	Proj. Cost PSF
University Hall (New)	$26,200,000	$326	$384	$35,000,000	$436
80,253 sq. ft.					
Hunziker (Renovation)	$23,750,000	$260	N/A	$30,500,000	$382
91,519 sq. ft					

- Benchmark from *College Planning and Management 2015 Construction Cost Report.*
- Both Renovation and New Construction included demolition and abatement.
- Renovation had to preserve central campus fiber hub.
- Renovation shortened construction period.
- Renovation is more sustainable.
- Renovation 20% less PSF for construction cost; 13% less PSF for project cost.

Results: Energy Metrics

Natural Gas Consumption

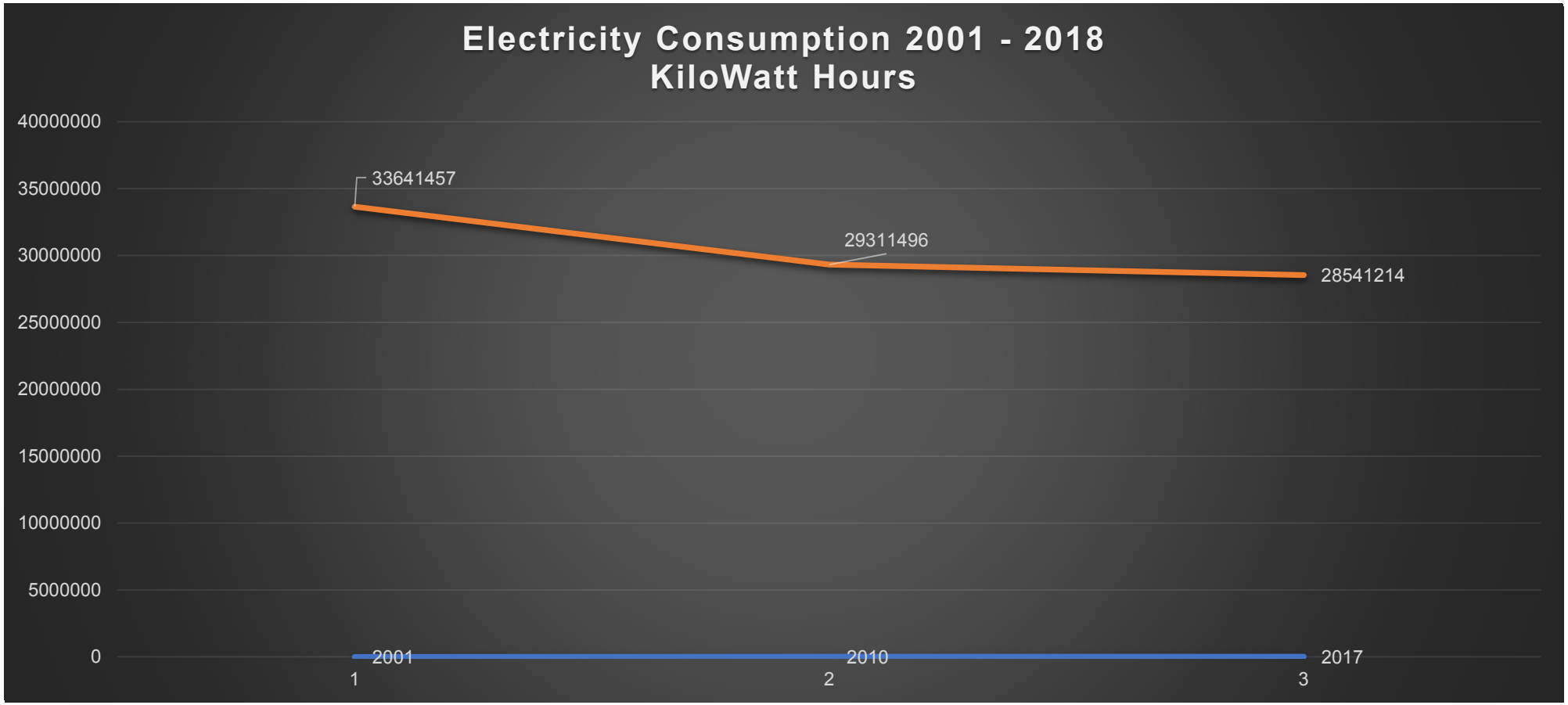
Year	NG	Electricity	Building Space
2001	2137012	33641457	1797018
2010	1341932	29311496	1911361
2018	1253031	28541214	2053157



Results: Energy Metrics

Electricity Consumption

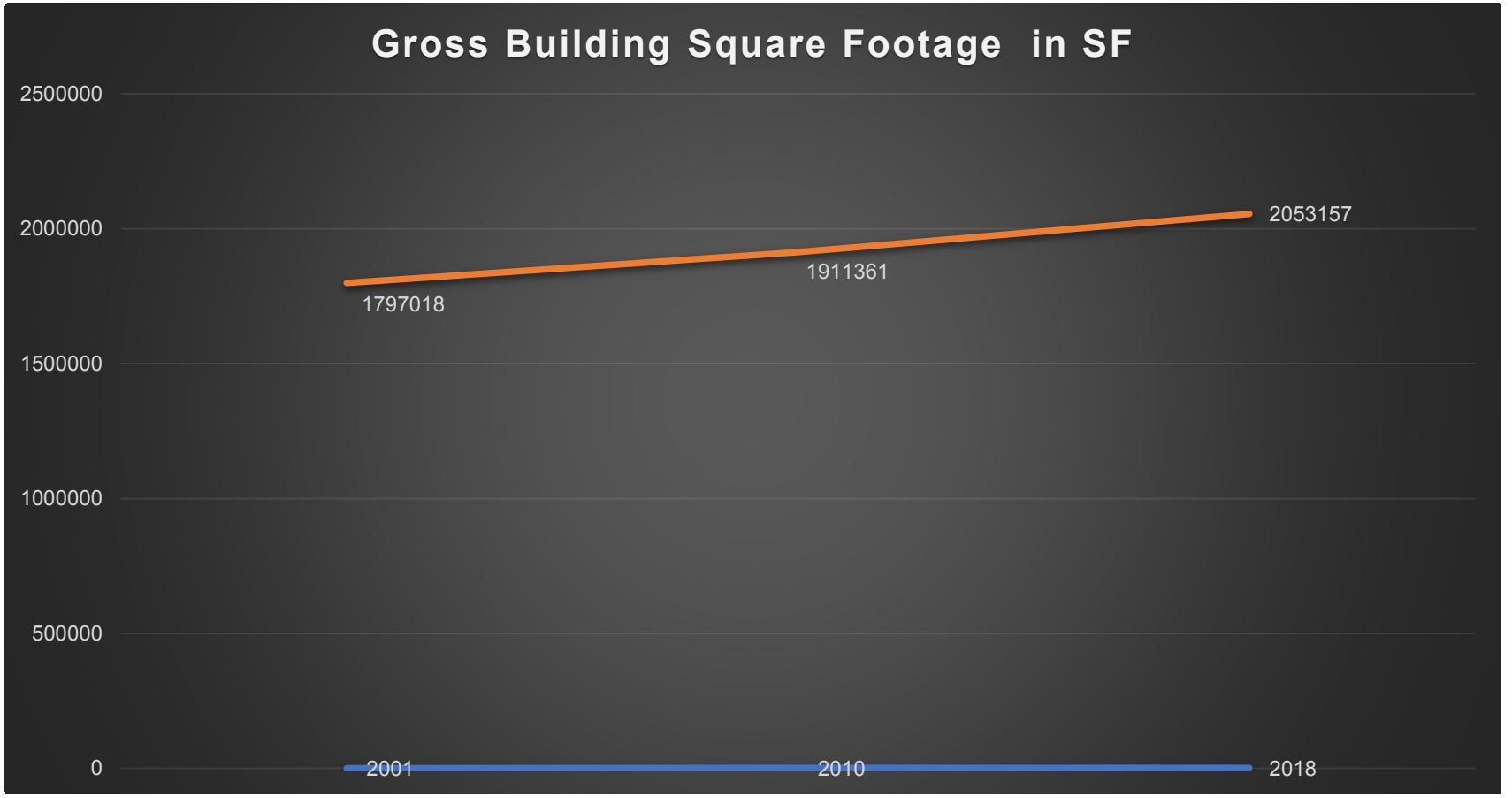
Year	NG	Electricity	Building Space
2001	2137012	33641457	1797018
2010	1341932	29311496	1911361
2018	1253031	28541214	2053157



Results: Energy Metrics

Gross Building Square Footage

Year	NG	Electricity	Building Space
2001	2137012	33641457	1797018
2010	1341932	29311496	1911361
2018	1253031	28541214	2053157



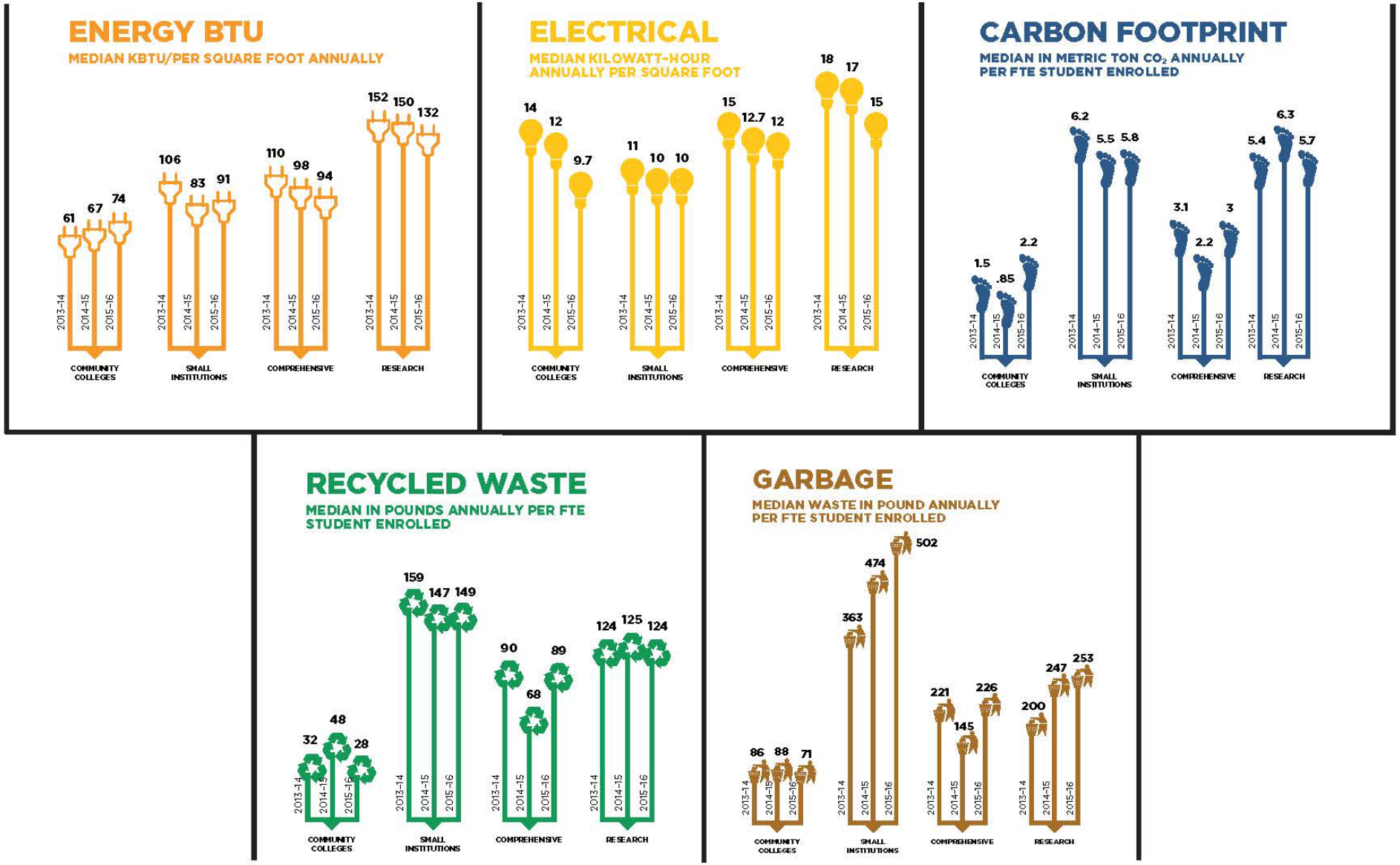
Results: Energy Metrics

Power Purchase Agreement (PPA)

PPA Generation Performance (actual vs anticipated)
and University Hall (kwH & savings since inception)

Month	DESIGNED	FY2014	FY2015	FY2016	FY2017
	kWh	Actual kWh	Actual kWh	Actual kWh	Actual kWh
July	364,788	364,219	116,187	392,298	383,057
August	321,583	333,270	216,412	402,627	379,064
September	323,180	326,634	309,760	314,223	279,319
October	230,638	249,235	184,568	259,380	197,970
November	167,759	181,920	121,892	172,130	225,744
December	156,899	71,353	85,426	108,930	167,282
January	188,779	75,713	75,713	149,620	142,387
February	214,429	37,007	6,637	129,760	208,252
March	293,235	273,149	113,233	269,690	255,032
April	286,840	379,720	185,452	364,660	276,485
May	421,999	283,265	230,158	335,870	272,498
June	422,249	228,857	385,397	409,460	344,535
Grand Total	3,392,378	2,804,342	2,030,835	3,308,648	3,131,625
% of Design		83%	60%	98%	92%
Cost		$388,682	$281,474	$458,579	$495,191
% of Total		10%	7%	12%	12%
			University Hall array	(since inception)	76,173
			Savings	(since inception)	$9,902.45

Results: Campus Resource Metrics



Results: Resource Benchmarking

Resource Benchmarking with Other Comprehensive Institutions				
	2018	2017	Benchmark median	
Energy (kBTUs)/per square foot	61.01	62	94	Natural Gas
Electrical (KWHs)/per square foot	13.90	16.2	12	includes electric and solar
Carbon Footprint (tons CO2)/student FTE	2.32	2.5	3	includes electric and gas (no solar)
Garbage (lbs)/student FTE	188	135	226	excludes construction waste
Recycled Waste (lbs)/student FTE	50.09	45	89	excludes construction waste

Benchmark Source: NACUBO/APPA

WPU is 2 million square feet

Conclusions:

WPU uses more electricity psf - night classes, latitude, air conditioning produced by electricity

WPU uses less natural gas than other institutions (less % of dining and residential participation); more electrical generated HVAC

On a square foot basis, buildings appear efficient or are more highly utilized.



wpunj First day hangs Have you checked out our new #PreaknessHall yet? #WPUNJ

__princessk @melvmina okk I see you!

backpackboii That girl's blue fuzzy slippers...iconic!

fouziadana Such a beautiful family

nkarchitects Great shot, enjoy your new space! Mind if we repost?

wpunj @nkarchitects Thanks! Please do ☺

abigail_debel @lydiardb this is awesome!

castingwithpop Very cool!

heyguysheyphoto @thejerc remember our construction tunnel to wayne hall #memories

449 likes

1 DAY AGO

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catesguerra • Follow
William Paterson University Nursing Departm...

catesguerra How long can we keep these scrubs white? Let's find out #clustertings #weregonnamakeit

Aaliyah Leslie
@aleelee_

Follow

Honestly can't wait to take selfies in University Hall...that lighting though #wpunj

RETWEETS 5 LIKES 10

12:28 PM - 13 Jan 2016



wpunj
William Paterson Uni...

182 likes

wpunj Repost from @its.a.me_b
you try to take a selfie in perfect
but the background steals the s
#studyroomviews #wpunj"

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468 likes 4d

wpunj Finals week hustle ◆•◆ #wpunj

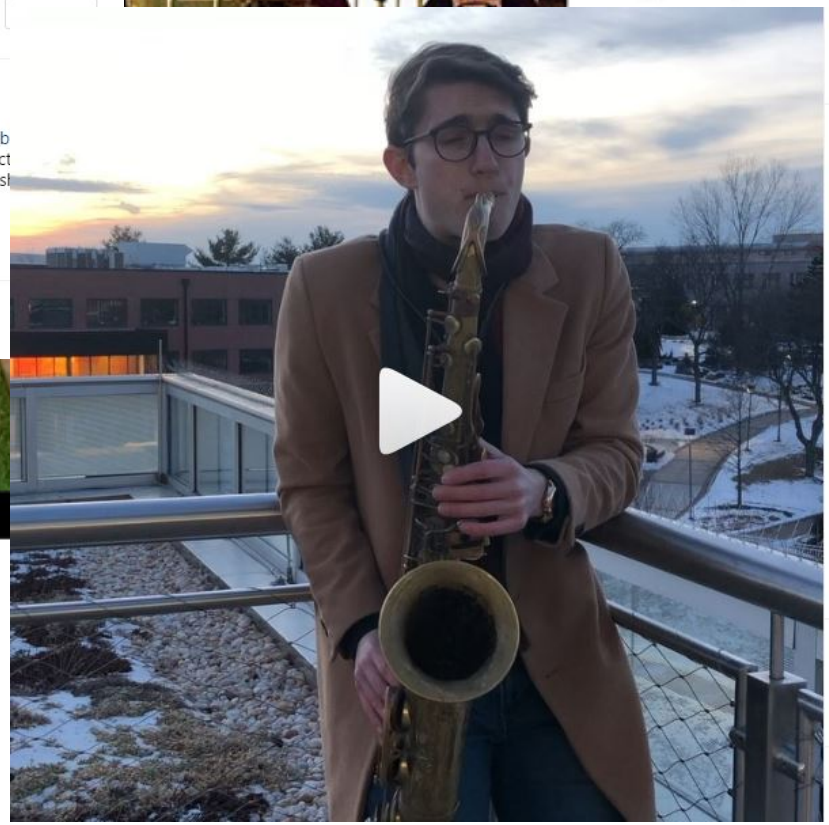
anastasia.gonz Is that you @backpackboii ?

backpackboii @anastasia.gonz yea

mikaelagongora_tto @backpackboii lmfaoooo we made it

twilliams_tto @mikaelagongora_tto we all in there

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William Paterson University of New Jersey

yesterday!!! I heard from outside the library lol. That's awesome!

9w 1 like Reply

View replies (2)

wpunj This is incredible! Do you mind if we share it on our social media?

9w 2 likes Reply

View replies (1)

ryan_ciser Nice and clean

8w 1 like Reply

View replies (1)

1,173 views

FEBRUARY 14

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the big picture

William Paterson University is renewing their campus and community by embarking on a strategic plan to reinvigorate their primary academic zone.







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