

University of Virginia

Grounds Plan Preferred Direction

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June 15, 2007



Preferred Direction

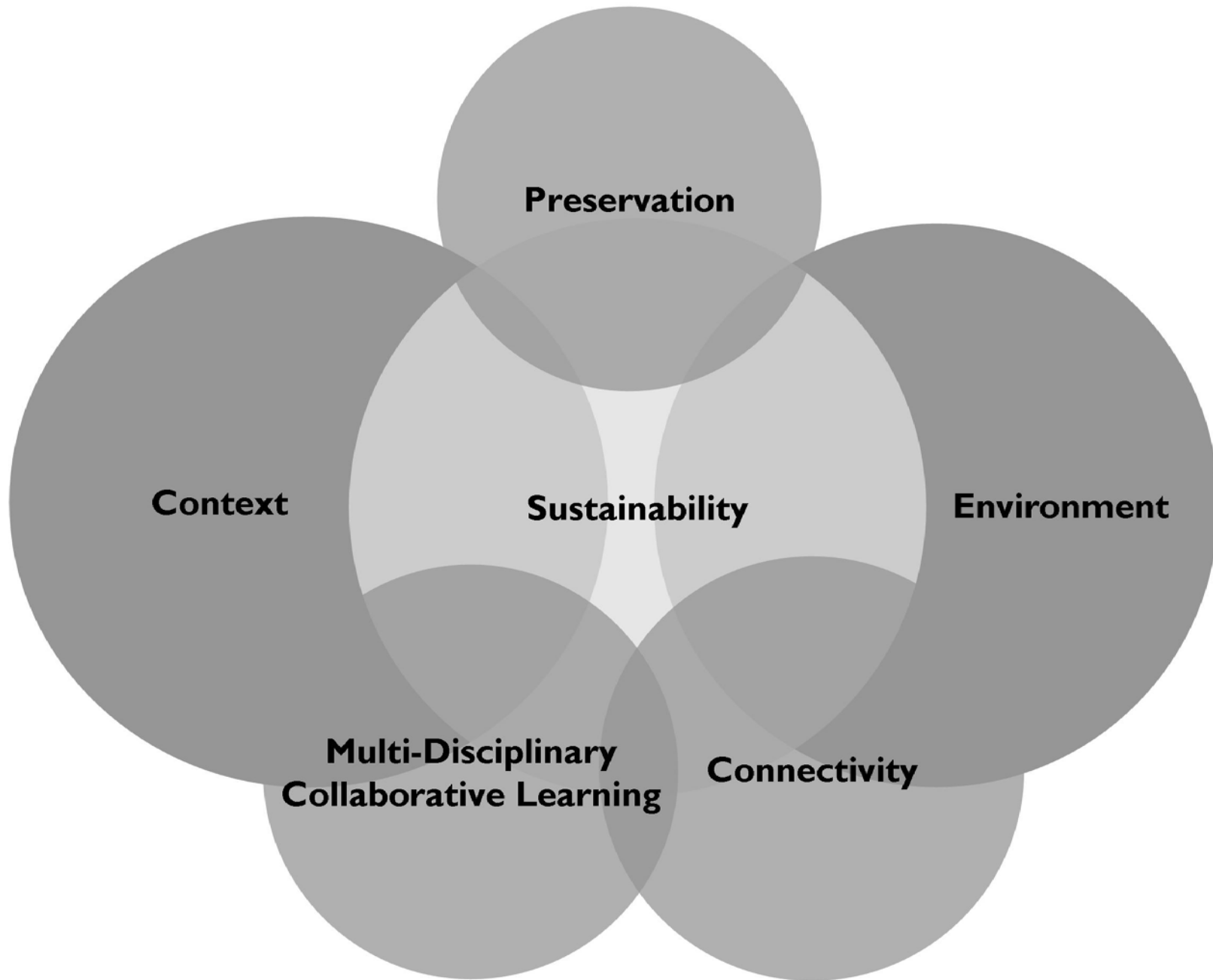
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- **Environmental** – maintain and advocate for the protection of our natural environs, including air and water quality
- **Context** – plan for opportunities to connect appropriately with the developed community and surrounding open space
- **Connectivity** – increase linkage throughout campus fabric
- **Multi-disciplinary** – enhance mixed use developments to foster interaction and collaboration
- **Preservation** – continue to enhance our cultural building and landscape resources
- **Sustainability** – protect opportunities for future generations and minimize energy use



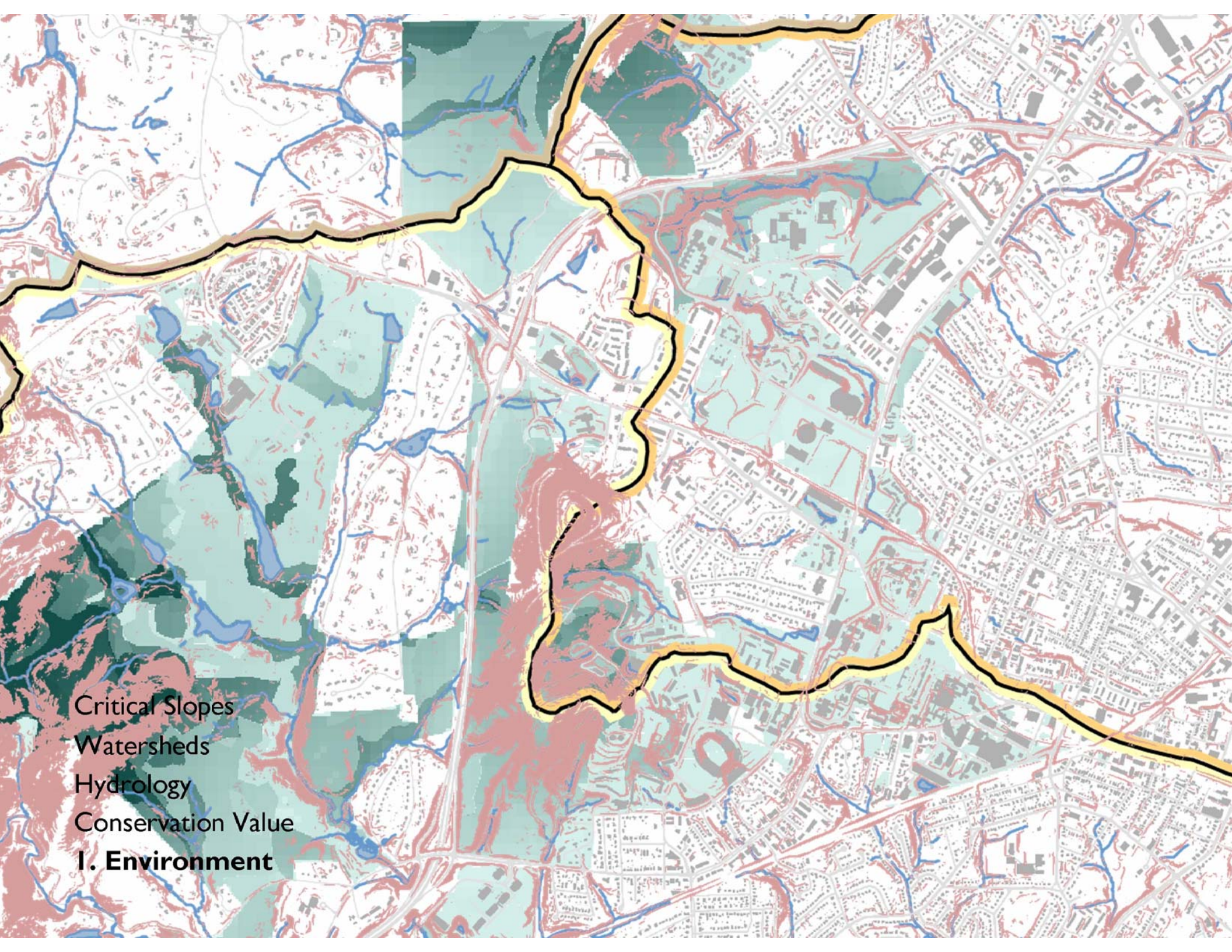
Grounds Plan Objectives

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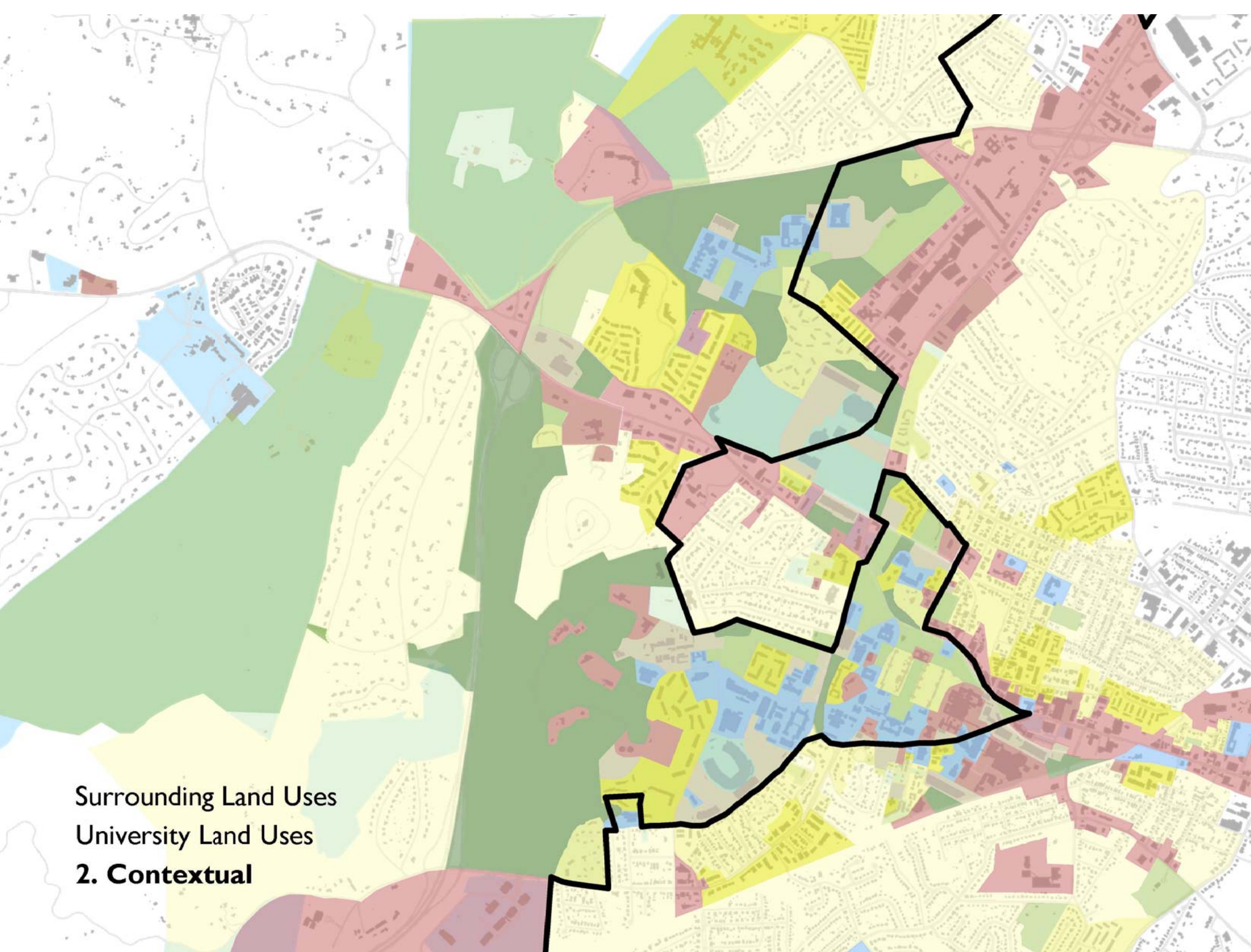


Grounds Plan Objectives

Office of the Architect for the University



Critical Slopes
Watersheds
Hydrology
Conservation Value
I. Environment



Surrounding Land Uses
University Land Uses
2. Contextual



Pedestrian Network

Bike Routes

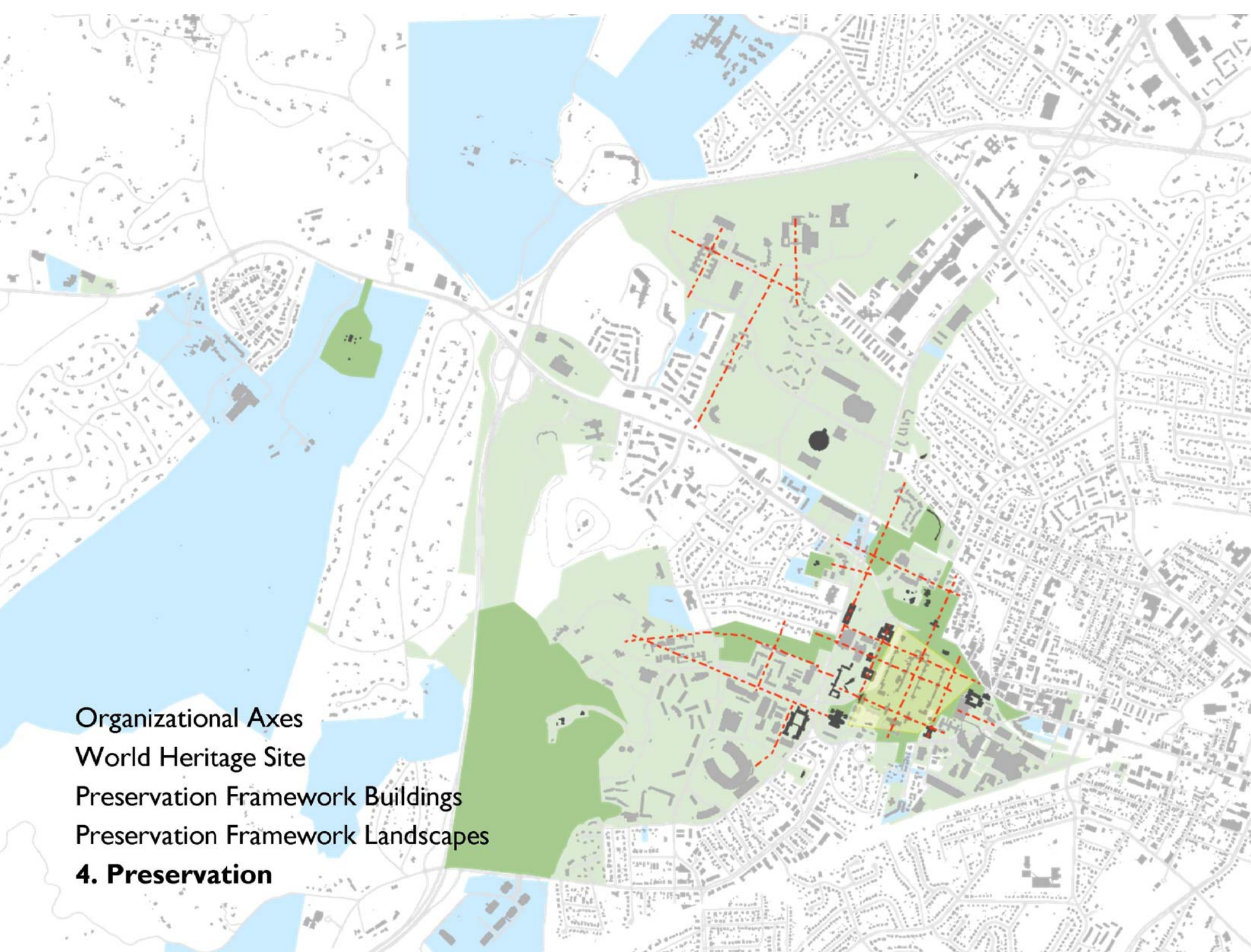
UTS & CTS Transit

Parking Lots and Garages

Roads, Existing and Proposed

Railroad

3. Connectivity



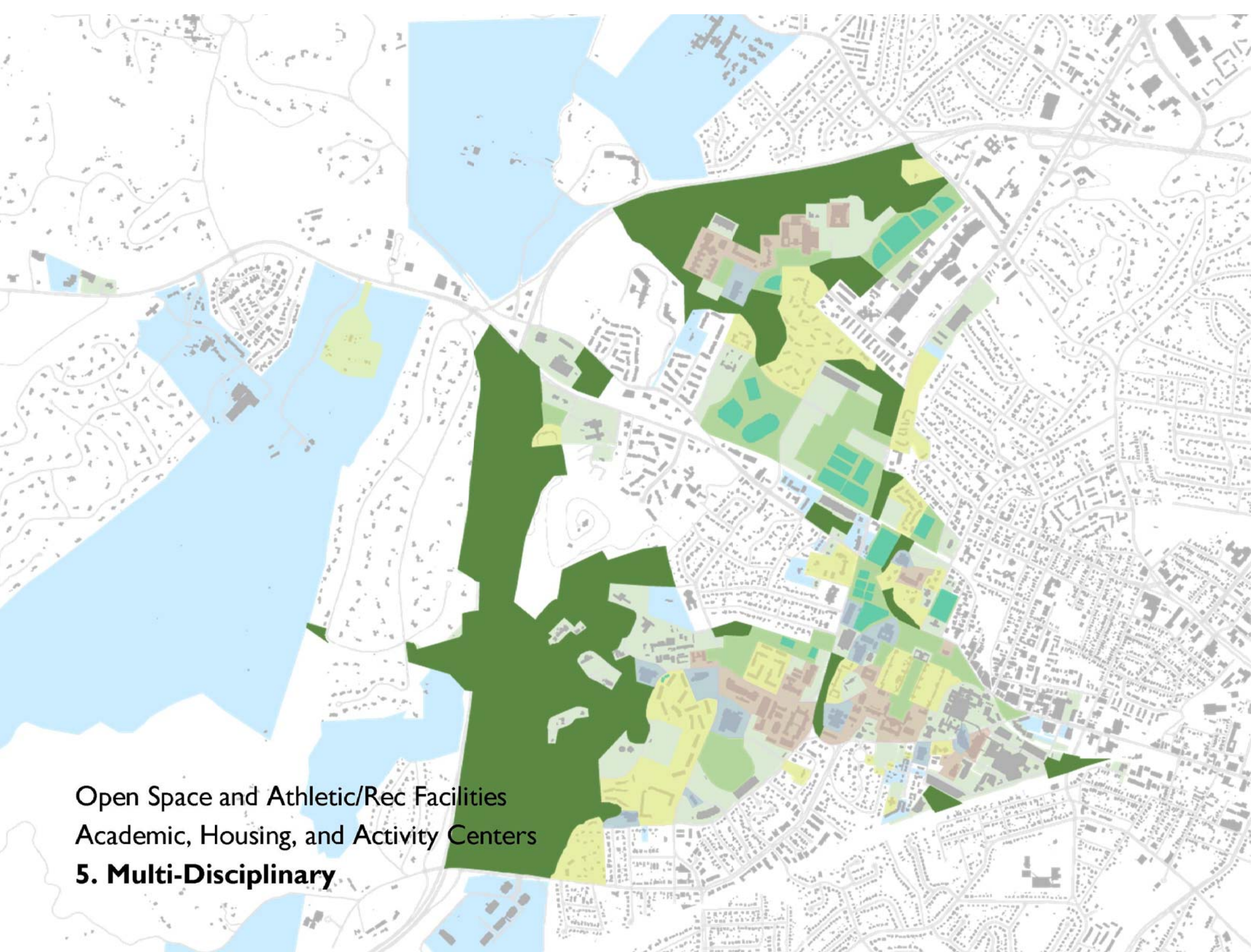
Organizational Axes

World Heritage Site

Preservation Framework Buildings

Preservation Framework Landscapes

4. Preservation

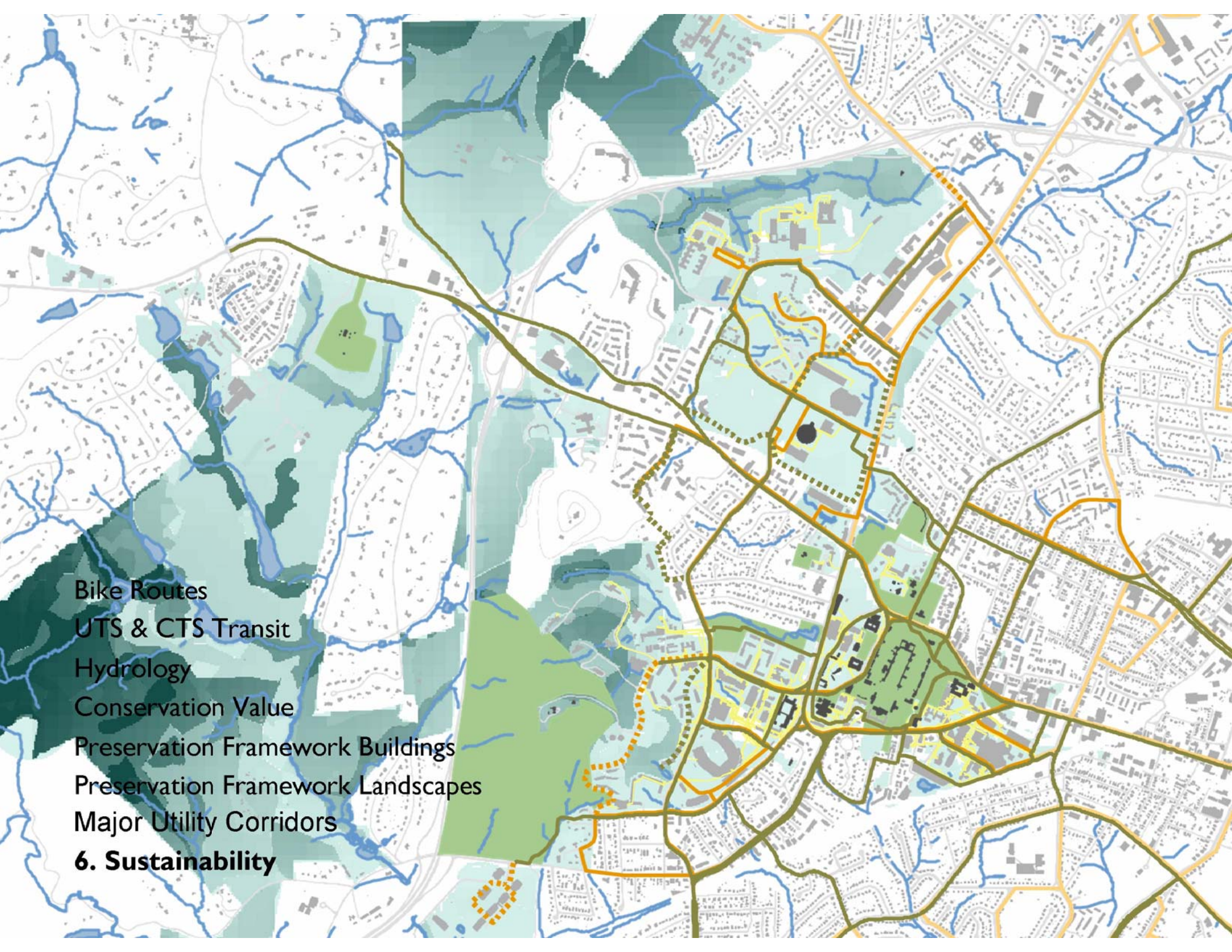


Open Space and Athletic/Rec Facilities
Academic, Housing, and Activity Centers
5. Multi-Disciplinary



- Selected Development Zones
- Current Building Projects
- Open Space and Athletic/Rec Facilities
- Academic, Housing, and Activity Centers

5. Multi-Disciplinary



Bike Routes
UTS & CTS Transit
Hydrology
Conservation Value
Preservation Framework Buildings
Preservation Framework Landscapes
Major Utility Corridors

6. Sustainability

- Develop two program alternatives for the Grounds Plan based on UVA's planned growth (Steady State - 1,500 by 2015) and on additional growth that would occur with increased research capacity (Research-Centric)
- Develop the carrying capacity of the existing Grounds (1,135 acres) based on the opportunities and constraints established in the analyses
- Analyze the two program alternatives against the carrying capacity to establish surplus or deficit that may occur in both 2015 and 2025 – our two future planning horizons

A - Steady-State Scenario

Population	1995	2005	2015	2025
Undergraduate Students	11,663	13,421	14,521	15,771
Graduate Students	6,106	6,387	6,787	7,262
Total Faculty	1,587	2,410	2,714	2,927
Total Staff	4,644	5,813	6,238	6,720
Total Students, Faculty, Staff	24,000	27,981	30,215	32,680

Housing	1995	2005	2015	2025
SINGLE STUDENT (Beds)	2,793	3,071	3,357	3,652
Res-Years	7,793	3,079	3,310	3,607
Other Undergrad (Upperclass)	3,120	3,310	3,500	3,615
Graduate Single	315	180	170	182
Total Single Staff Housing	6,228	6,558	7,158	7,760

FAMILY HOUSING (Units)	1995	2005	2015	2025
Student Family	323	323	345	372
Faculty	115	77	100	145
Total Family Housing	438	400	445	518

Housing Capacity	Needed	Supply ²	Deficit/Surplus
Single Student	1,205	3463	2,258
Student Family	40	618	578
Faculty	60	30	(30)

Academic Space ⁴	1995	2005	2015	2025
ACADEMY (ASF)	1995	2005	2015	2025
Academic Space	131,265	148,248	312,208	338,721
Teaching	234,202	304,515	443,372	484,605
Research	343,710	455,587	647,829	704,831
Office	138,864	218,408	307,804	354,784
Other	307,651	1,444,647	1,730,865	1,882,872
Sub-Total Academic Space	105,890	98,647	106,126	114,938
Student Services	382,900	403,181	433,851	459,777
University Library	169,826	148,189	231,050	250,150
Business Operations	1,785,722	1,892,700	2,284,911	2,483,025
Institutional Support Space	437,211	618,344	604,511	649,382
Interior Renovation	134,884	219,025	235,033	255,174
Interior Athletics	213,860	300,263	300,263	300,263
Sub-Total Support Space	3,089,521	3,481,692	4,090,749	4,418,282
TOTAL ACADEMY (ASF)	4,077,752	4,726,187	5,927,749	6,406,203
Darden School of Business	81,759	217,283	217,283	248,587
School of Law	48,820	203,778	203,778	229,778
School of Medicine	681,938	687,302	1,138,388	1,213,938
TOTAL GRAD-ONLY SCHOOLS (ASFP)	689,717	1,308,423	1,659,417	1,688,478
TOTAL GROUND (ASF)	4,766,786	6,062,927	7,621,483	8,197,198

Academic Capacity ⁵	Needed	Supply ⁴	Deficit/Surplus ⁴
Academic	2,588,178	2,494,928	879,750
Graduate-Only Schools	651,162	834,801	83,339

B - Research-Centric Scenario

Population	1995	2005	2015	2025
Undergraduate Students	11,643	13,401	14,222	15,102
Graduate Students	6,106	6,387	6,807	7,262
Total Faculty	1,587	2,410	2,529	3,170
Total Staff	4,644	5,813	6,262	7,000
Total Students, Faculty, Staff	24,000	27,981	31,814	35,534

Housing	1995	2005	2015	2025
SINGLE STUDENTS (Beds)	2,793	3,071	3,310	3,607
Res-Years	7,793	3,079	3,310	3,607
Other Undergrad (Upperclass)	3,120	3,310	3,600	3,615
Graduate Single	315	180	170	243
Total Single Staff Housing	6,228	6,558	7,111	7,868

FAMILY HOUSING (Units)	1995	2005	2015	2025
Student Family	323	323	380	433
Faculty	115	77	140	166
Total Family Housing	438	400	520	600

Housing Capacity	Needed	Supply ²	Deficit/Surplus
Single Student	1,210	3463	2,253
Student Family	130	618	488
Faculty	91	38	(53)

Academic Space ⁴	1995	2005	2015	2025
ACADEMY (ASF)	1995	2005	2015	2025
Academic Space	131,265	148,248	312,208	348,221
Teaching	234,202	304,515	443,372	484,605
Research	343,710	455,587	647,829	718,526
Office	138,864	218,408	307,804	354,784
Other	307,651	1,444,647	1,730,865	1,931,272
Sub-Total Academic Space	105,890	98,647	111,124	123,616
Student Services	382,900	403,181	484,220	508,264
University Library	169,826	148,189	241,050	259,278
Business Operations	1,785,722	1,892,700	2,284,911	2,483,025
Institutional Support Space	437,211	618,344	605,507	710,510
Interior Renovation	134,884	219,025	248,726	274,439
Interior Athletics	213,860	300,263	300,263	300,263
Sub-Total Support Space	3,089,521	3,481,692	4,142,891	4,518,444
TOTAL ACADEMY (ASF)	4,077,752	4,726,187	5,981,450	6,582,272
Darden School of Business	81,759	217,283	217,283	254,739
School of Law	48,820	203,778	203,778	229,778
School of Medicine	681,938	687,302	1,138,388	1,243,938
TOTAL GRAD-ONLY SCHOOLS (ASFP)	689,717	1,308,423	1,659,417	1,688,478
TOTAL GROUND (ASF)	4,766,786	6,062,927	7,673,584	8,197,198

Academic Capacity ⁵	Needed	Supply ⁴	Deficit/Surplus ⁴
Academic	2,889,800	3,494,928	864,828
Graduate-Only Schools	636,702	834,801	(201,281)

Capacity Analysis

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	2005	2015	2025
Population			
Undergraduate	13,401	14,501	15,771
Graduate	6,357	6,757	7,250
Faculty	2,410	2,714	2,927
Staff	5,813	6,238	6,701
Total	27,981	30,210	32,649

A - Steady-State Scenario

Population	1995	2005	2015	2025
Undergraduate Students	11,643	13,401	14,501	15,771
Graduate Students	6,109	6,357	6,757	7,250
Total Faculty	1,587	2,410	2,714	2,927
Total Staff	4,644	5,813	6,238	6,701
Total Students, Faculty, Staff	24,983	27,981	30,210	32,649

Housing ¹	1995	2005	2015	2025
SINGLE STUD HSG (Beds)				
East-Leans	2,753	3,073	3,307	3,602
Other Undergrad (Upperclass)	3,120	3,119	3,500	3,115
Graduate Single	315	165	110	102
Total Single Stult Housing	6,228	6,357	7,158	7,760
FAMILY HOUSING (Units)				
Student Family	323	323	345	372
Faculty	116	77	136	145
Total Family Housing	439	400	481	518

Housing Capacity	Needed	Supply ²	Deficit/Surplus
Single Student	1,205	3463	2,258
Student Family	40	616	576
Faculty	69	39	(30)

Academic Space ³	1995	2005	2015	2025
ACADEMY (ASP)				
Academic Space				
Teaching	131,305	145,043	312,308	338,781
Research	236,202	304,518	443,372	484,555
Office	243,710	455,887	667,878	724,831
Other	159,546	233,685	371,305	354,124
Sub-Total Academic Space	770,763	1,140,133	1,794,863	1,902,291
Student Services	100,880	99,647	706,126	714,938
University Library	352,300	403,151	433,851	459,777
Project/Controlled Classrooms	169,859	148,185	231,050	280,190
Business Operations	1,749,722	1,692,700	2,385,511	2,453,505
Instructional Support Space	437,211	618,344	694,511	649,382
Indoor Recreation	134,884	219,005	235,553	265,174
Indoor Athletics	210,850	302,381	300,263	300,263
Sub-Total Support Space	3,049,921	3,481,692	4,090,749	4,458,292
TOTAL ACADEMY (ASP)	4,077,752	4,725,187	5,927,749	6,404,203
GRAD-ONLY SCHOOLS (ASP)				
Graduate School of Business	41,750	217,252	217,263	248,687
School of Law	49,920	303,778	303,778	303,778
School of Medicine	561,338	687,382	1,138,368	1,213,814
TOTAL GRAD-ONLY SCHOOLS (ASP)	653,008	1,208,412	1,659,410	1,766,279
TOTAL GROUND (ASP)	4,730,760	5,933,600	7,587,159	8,170,482

Academic Capacity ⁴	Needed	Supply ⁵	Deficit/Surplus ⁶
Academic	2,648,118	3,494,828	846,710
Graduate-Only Schools	551,162	834,601	283,439

Capacity Analysis indicates there will be surplus land availability for both academic and housing facilities

Steady State

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Population	2005	2015	2025
Undergraduate	13,401	14,252	15,102
Graduate	6,357	8,007	9,657
Faculty	2,410	2,953	3,370
Staff	5,813	6,662	7,802
Total	27,981	31,874	35,931

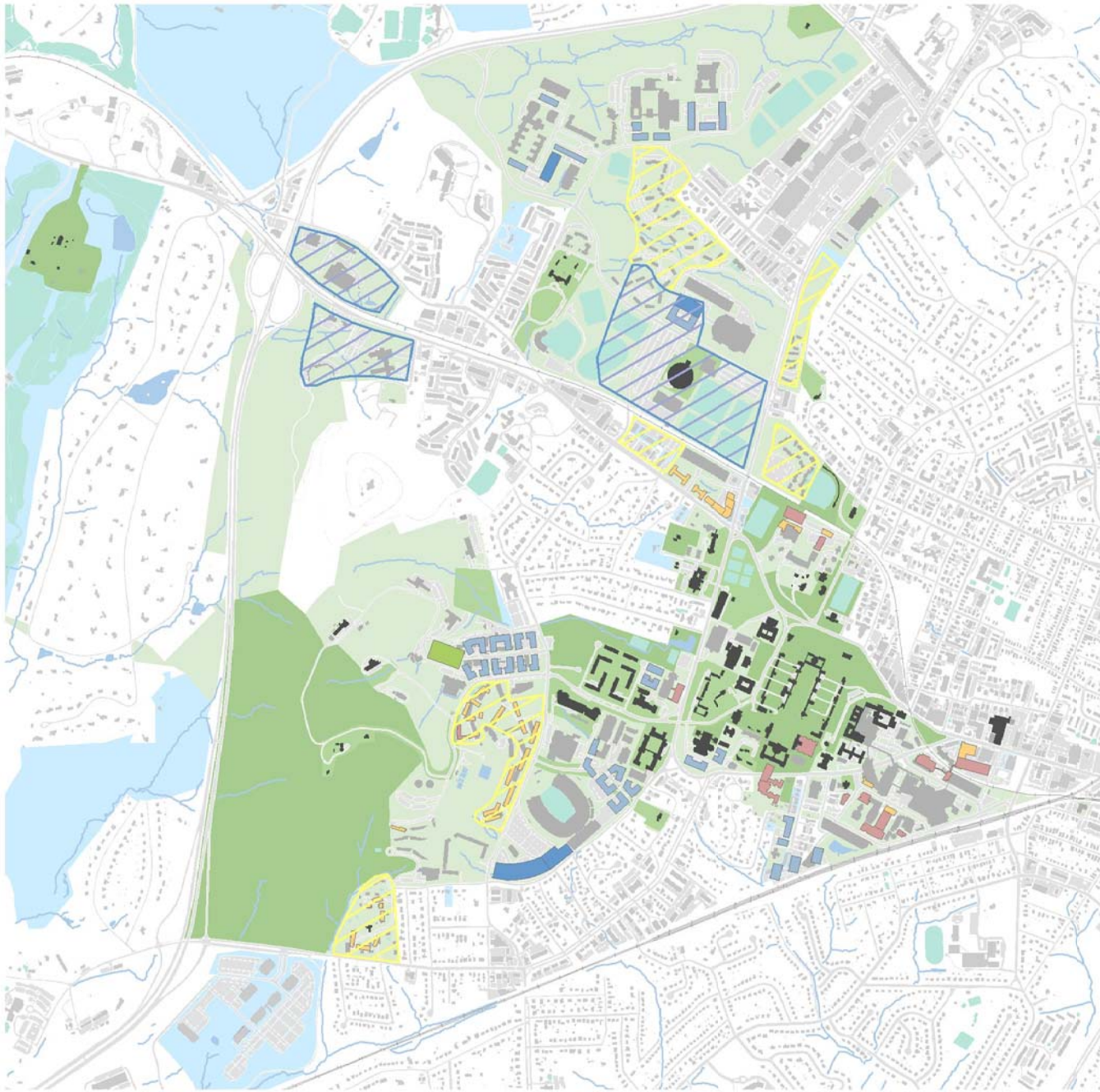
B - Research-Centric Scenario

Population	1995	2005	2015	2025
Undergraduate Students	11,943	13,401	14,252	15,102
Graduate Students	0,108	6,007	6,007	6,007
Total Faculty	1,967	2,410	2,953	3,370
Total Staff	4,544	5,013	6,002	7,002
Total Students, Faculty, Staff	24,462	27,831	31,874	35,311
Housing				
STUDENT RESIDENTS (beds)	1995	2005	2015	2025
On-Campus	2,763	1,293	3,310	3,637
Off-Campus (apartments)	3,120	3,019	3,630	3,015
Graduate Single	315	100	100	243
Total Single Staff Housing	6,228	6,558	7,111	7,455
FAMILY HOUSING (beds)				
Student Family	123	323	338	413
Faculty	110	77	140	150
Total Family Housing	433	608	638	632
Housing Capacity		Needed	Supply ²	Deficit/Surplus
Single Student		1,010	3493	2,483
Student Family		120	616	496
Faculty		91	38	53
Academic Space³				
ACADEMY (AS ²)	1995	2005	2015	2025
Academic Space				
Teaching	131,090	140,040	312,308	345,021
Research	254,300	304,518	443,372	400,238
Office	343,710	410,587	647,878	718,030
Other	189,464	205,600	207,300	205,600
Sub-Total Academic Space	907,684	1,144,847	1,730,858	1,913,212
Student Services	100,880	88,847	111,134	123,616
University Library	262,800	493,191	454,238	526,244
Podded/Centralized Classrooms	169,628	148,188	241,958	200,078
Business Operations	1,769,720	1,842,700	2,294,007	2,455,610
Instructional Support Space	437,211	510,344	626,057	710,510
Indoor Recreation	134,334	310,008	244,738	274,410
Water Attractions	210,880	300,263	390,283	500,263
Sub-Total Support Space	3,069,120	3,781,692	4,141,692	4,678,494
TOTAL ACADEMY (AS ²)	6,077,752	8,726,187	6,881,650	6,591,212
Garden School of Business	81,750	319,263	217,263	304,716
School of Law	40,820	203,778	293,778	203,778
School of Medicine	661,208	877,302	1,134,308	1,343,308
TOTAL GRAND ONLY BODIES (AS ²)	693,778	1,306,422	1,685,417	1,851,802
TOTAL GROUNDS (AS ²)	4,783,786	6,047,927	7,575,684	8,438,210
Academic Capacity³		Needed	Supply ²	Deficit/Surplus ³
Academics		2,110,000	3,454,923	654,023
Graduate-Only Schools		826,782	654,501	(201,281)

Capacity Analysis indicates there will be surplus land availability for housing facilities and a slight deficit for academic facilities

In both program scenarios, we are able to achieve UVA's planned growth for 2015 and 2025 **within the existing Grounds development area, yielding multiple benefits:**

- Reinforce objectives of the Grounds Plan by fostering connectivity and multi-disciplinary collaboration within the University community
- Respect our context by retaining growth within existing University development
- Future growth occurs in areas with existing utilities, infrastructure, and transportation services
- Compact growth with existing services provides substantial economic and resource savings
- Growth is compact and primarily achieved through infill and redevelopment
- Land conservation is achievable in zones designated with the highest quality natural resources

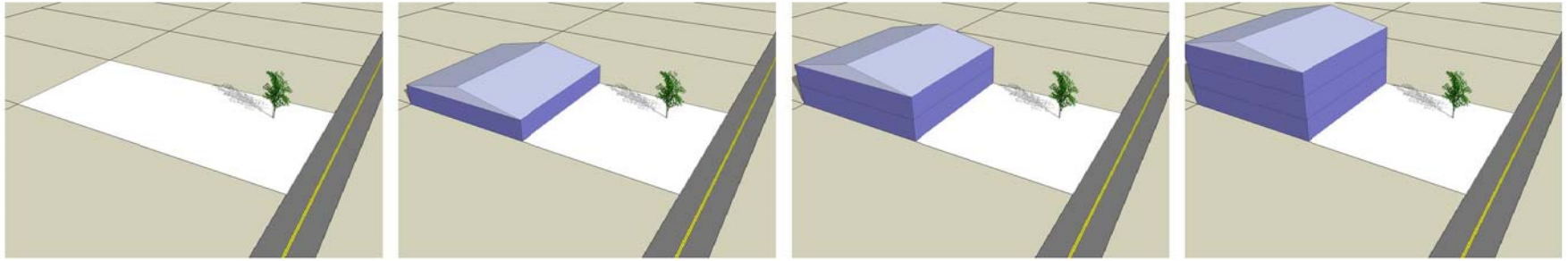


Preferred Direction Diagram

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Ground Area Coverage (GAC)

Ratio of building footprint to the size of the parcel



0 GAC

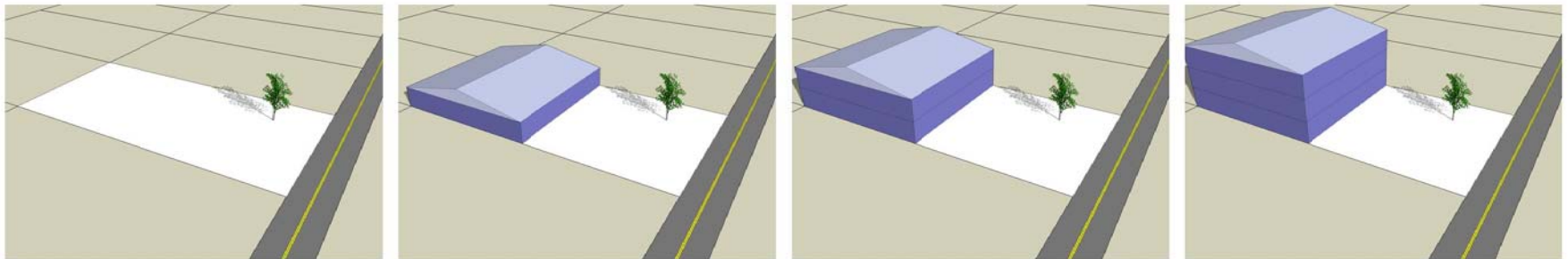
.5 GAC

.5 GAC

.5 GAC

Floor Area Ratio (FAR)

Ratio of total interior floor area (GSF) to the size of the parcel



0 FAR

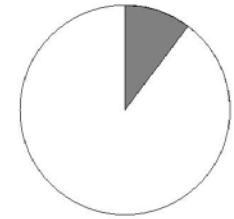
.5 FAR

1.0 FAR

1.5 FAR

GAC and FAR

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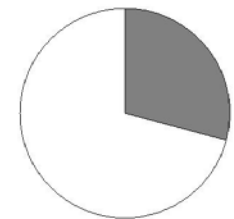
Site Area
49,200,000 Sq. Feet

Footprint
5,120,000 Sq. Feet

$$\frac{5,120,000}{49,200,000}$$

$$\div$$

.1 GAC



Floor Area
14,802,000 GSF

$$\frac{14,335,000}{49,200,000}$$

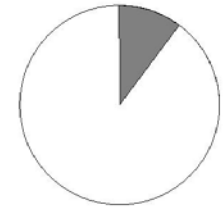
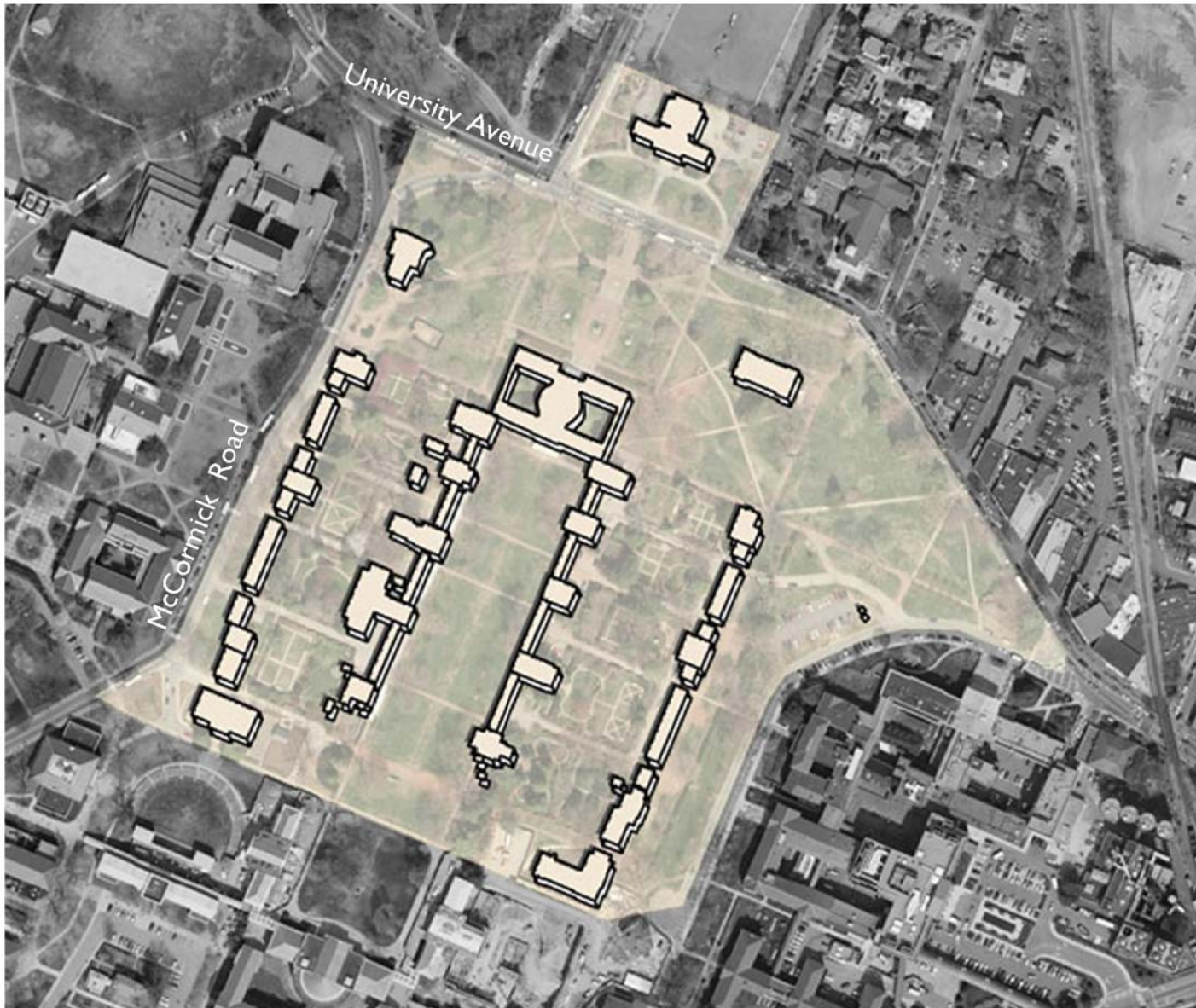
$$\div$$

$$\frac{14,335,000}{49,200,000}$$

.29 FAR

GAC & FAR – Overall Grounds

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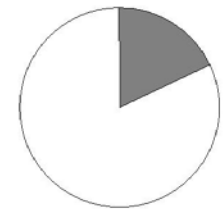


Site Area
1,384,000 Sq. Feet

Footprint
143,000 Sq. Feet

$$143,000 \div$$

$$\frac{1,384,000}{.1 \text{ GAC}}$$



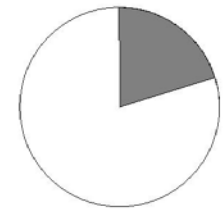
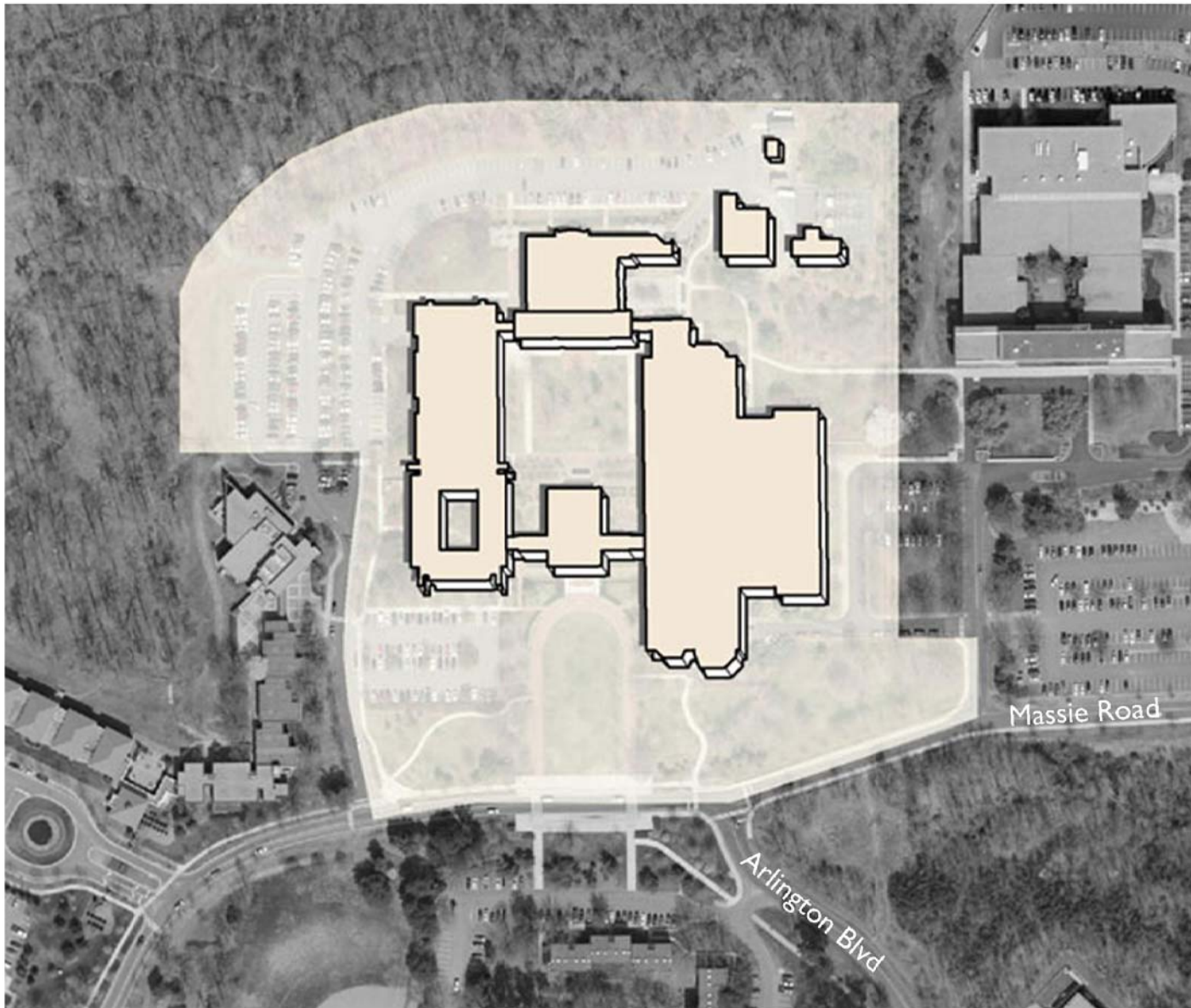
Floor Area
250,000 GSF

$$250,000 \div$$

$$\frac{1,384,000}{.18 \text{ FAR}}$$

Density Study – Lawn

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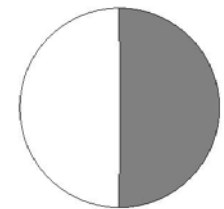
Site Area
798,000 Sq. Feet

Footprint
162,000 Sq. Feet

$$162,000 \div$$

$$798,000$$

.2 GAC



Floor Area
400,000 GSF

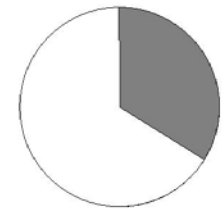
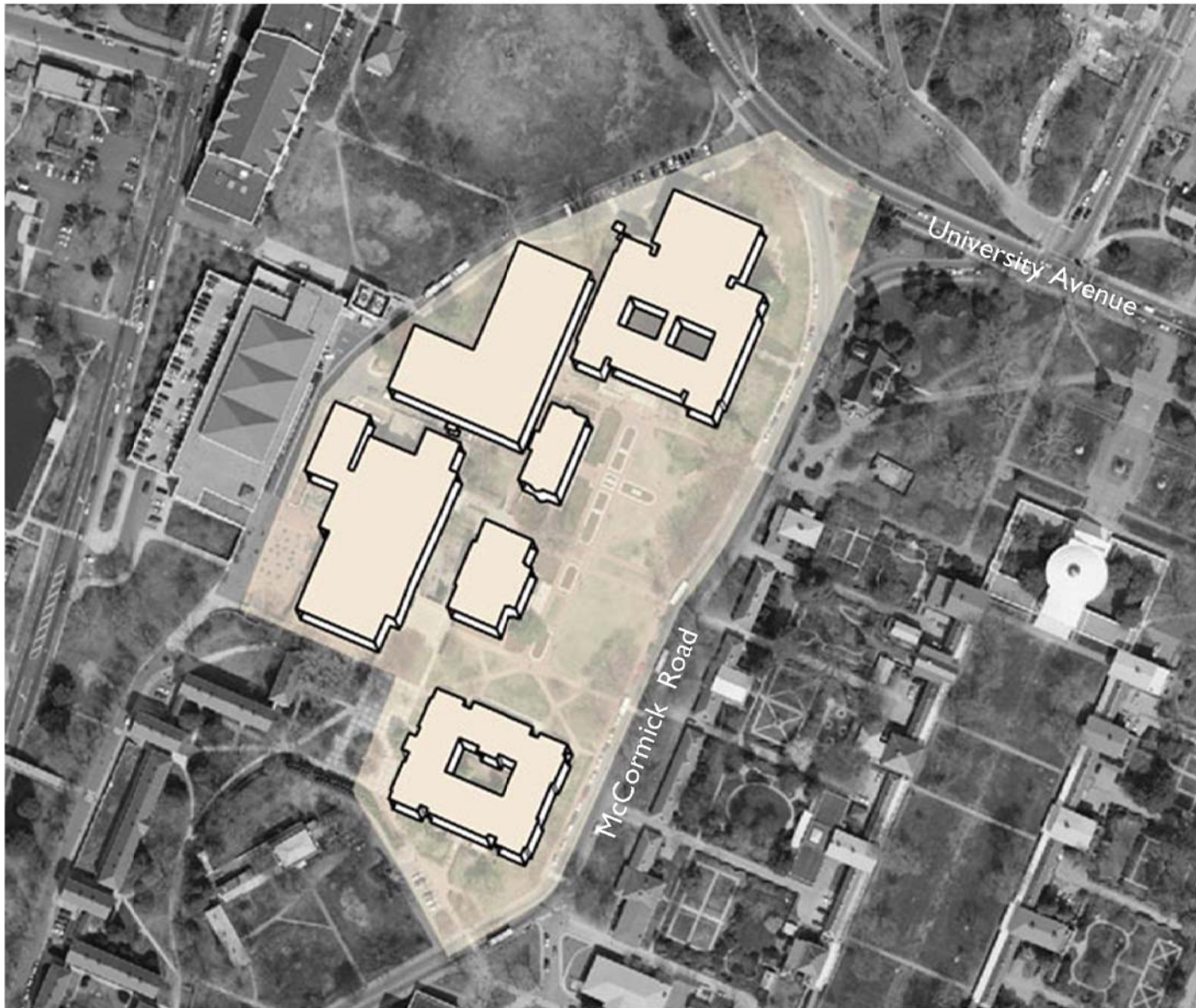
$$400,000 \div$$

$$798,000$$

.5 FAR

Density Study – Law School

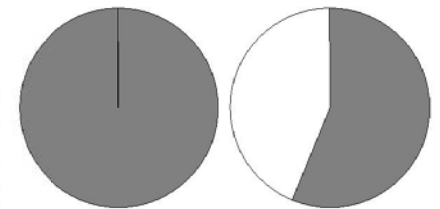
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Site Area
482,000 Sq. Feet

Footprint
164,000 Sq. Feet

$$\frac{164,000}{482,000} = \mathbf{.34 \text{ GAC}}$$

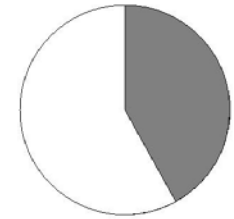
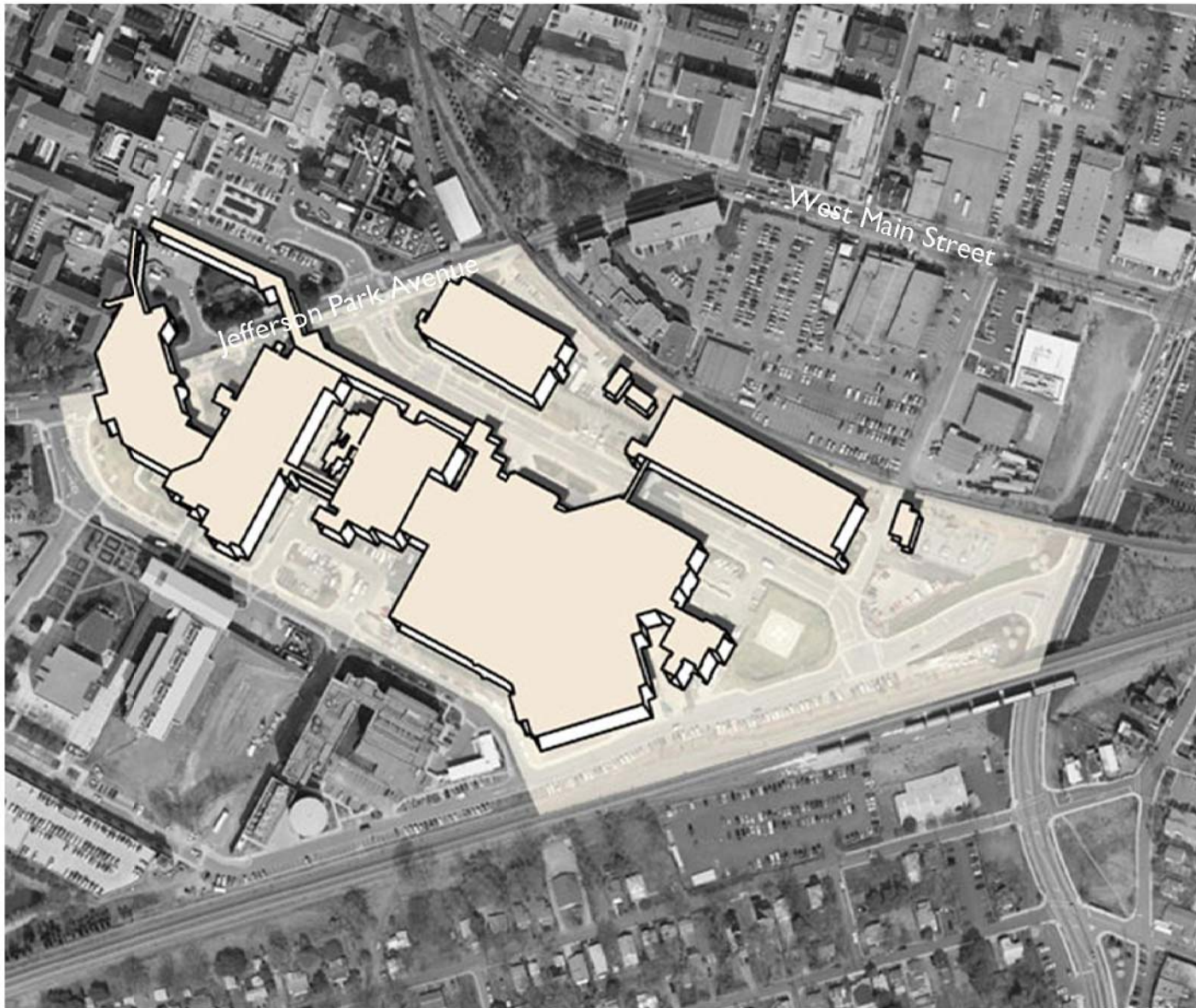


Floor Area
754,000 GSF

$$\frac{754,000}{482,000} = \mathbf{1.6 \text{ FAR}}$$

Density Study – Library Quad

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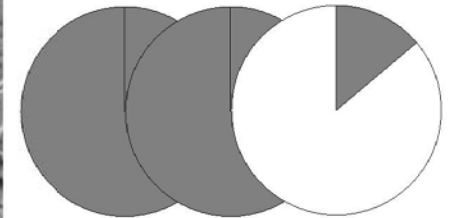


Site Area
975,000 Sq. Feet

Footprint
410,000 Sq. Feet

410,000
÷

975,000
.42 GAC



Floor Area
2,086,000 GSF

2,086,000
÷

975,000
2.14 FAR

Density Study – Hospital

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Ground Area Coverage (GAC)

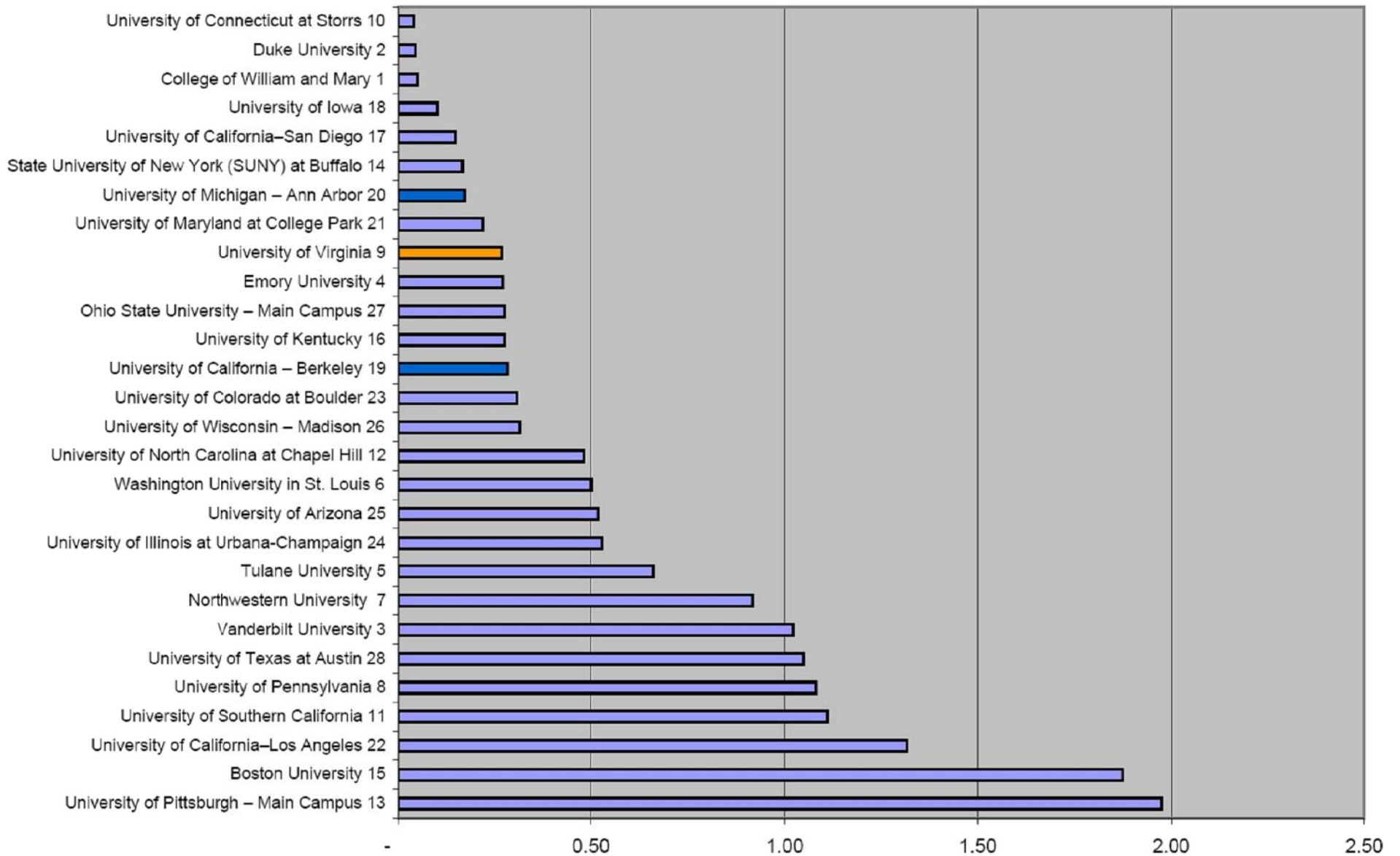


Floor Area Ratio (FAR)

Density Study – Overall Grounds

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Floor Area Ratio (GSF/Total Number of Acres)



Benchmarking: FAR by Campus

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FAR = .29



Comparisons – Virginia

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FAR = .29



Comparisons - Berkeley

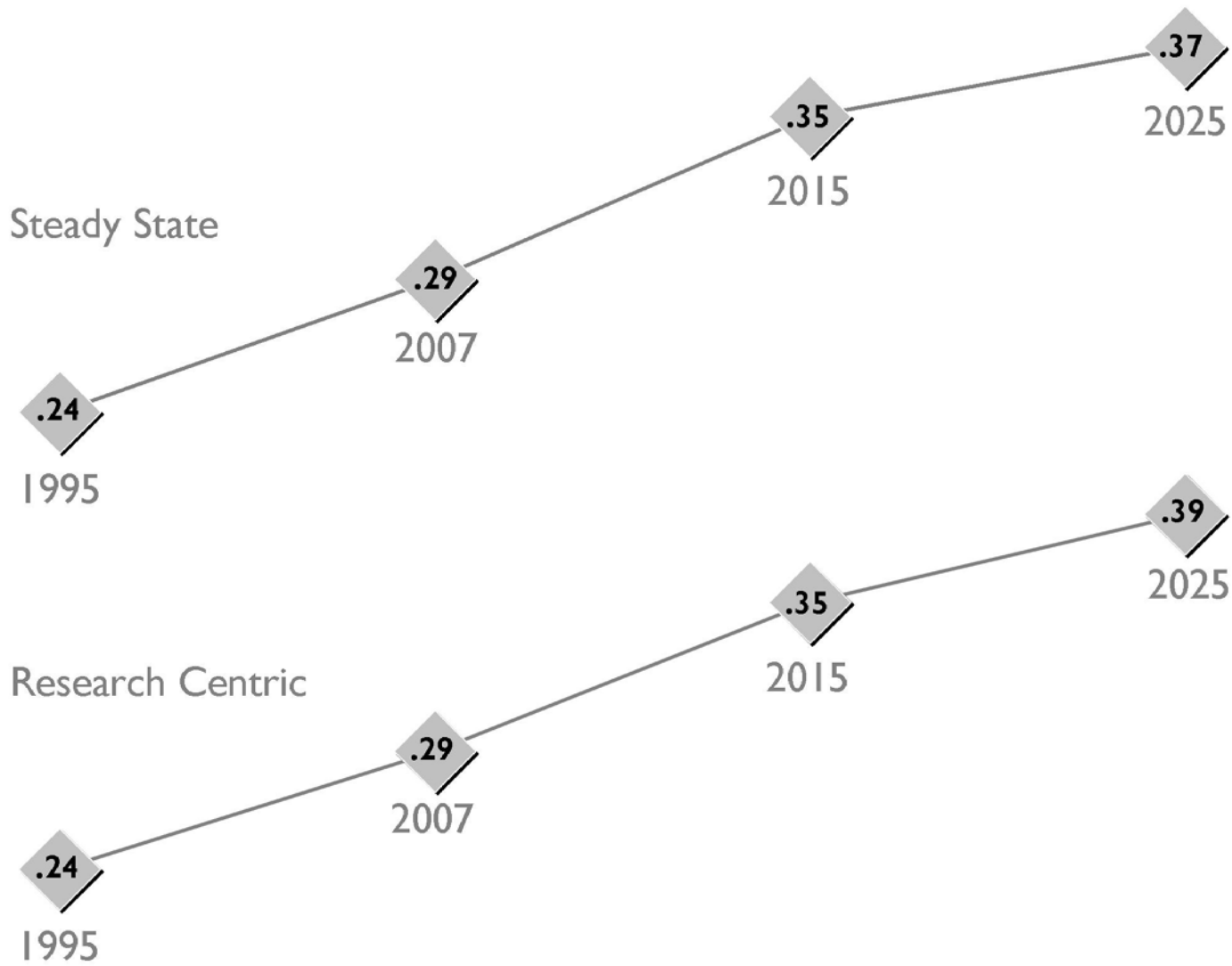
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FAR = .17



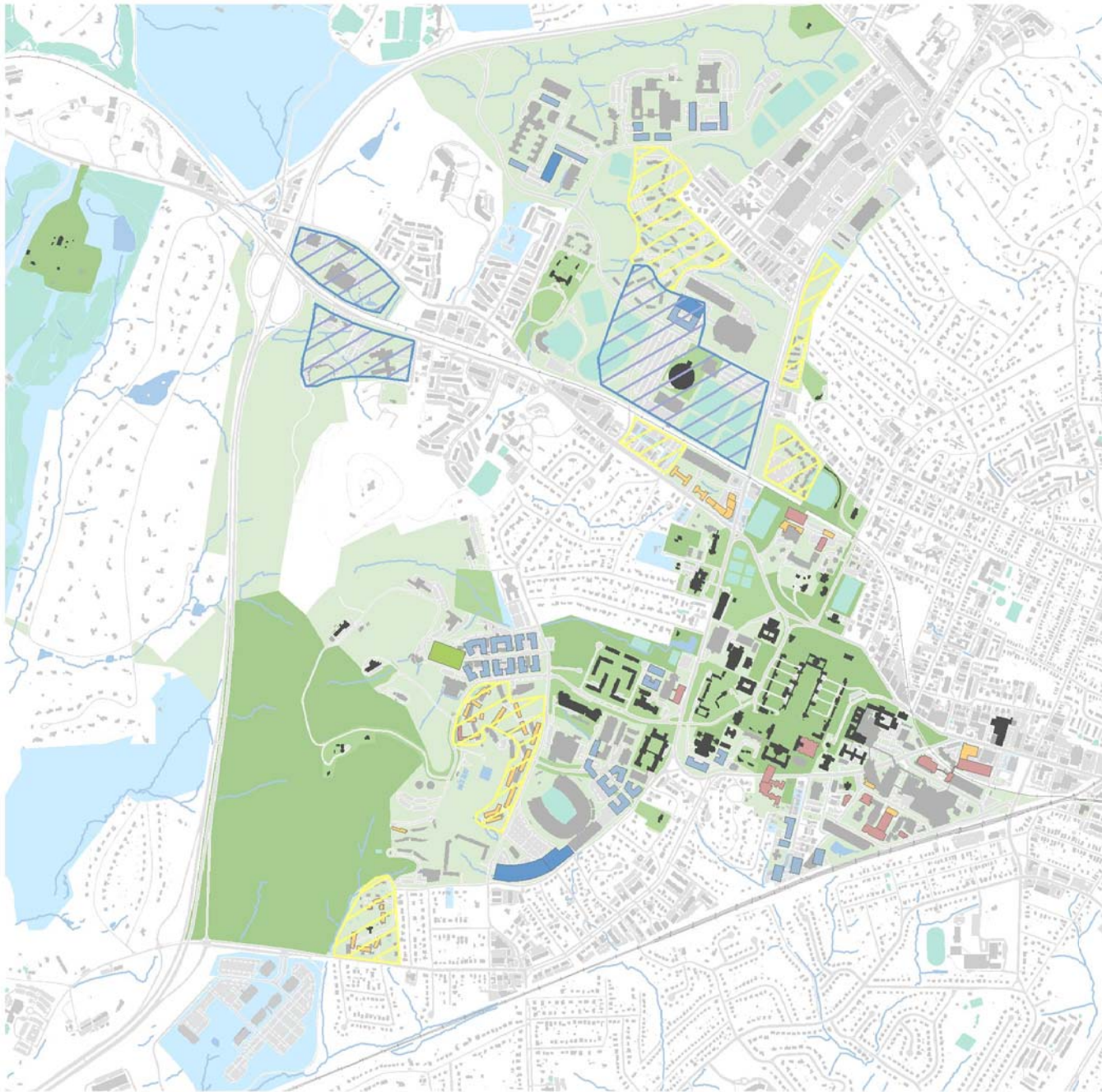
Comparisons - Michigan

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Future FAR Range

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Preferred Redevelopment Zones

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