ILLINOIS
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

CAMPUS PRELIMINARY MASTER PLAN (DRAFT)

CAMPUS MASTER PLAN UPDATE
APRIL 2017

SMITHGROUP JJR

Agenda & Meeting Objectives

Agenda:

1. Planning Process Update
2. Master Plan Goals + Strategies
3. Preliminary Master Plan
4. District Level Initiatives
5. Campus Landscape Guidelines
6. Next Steps

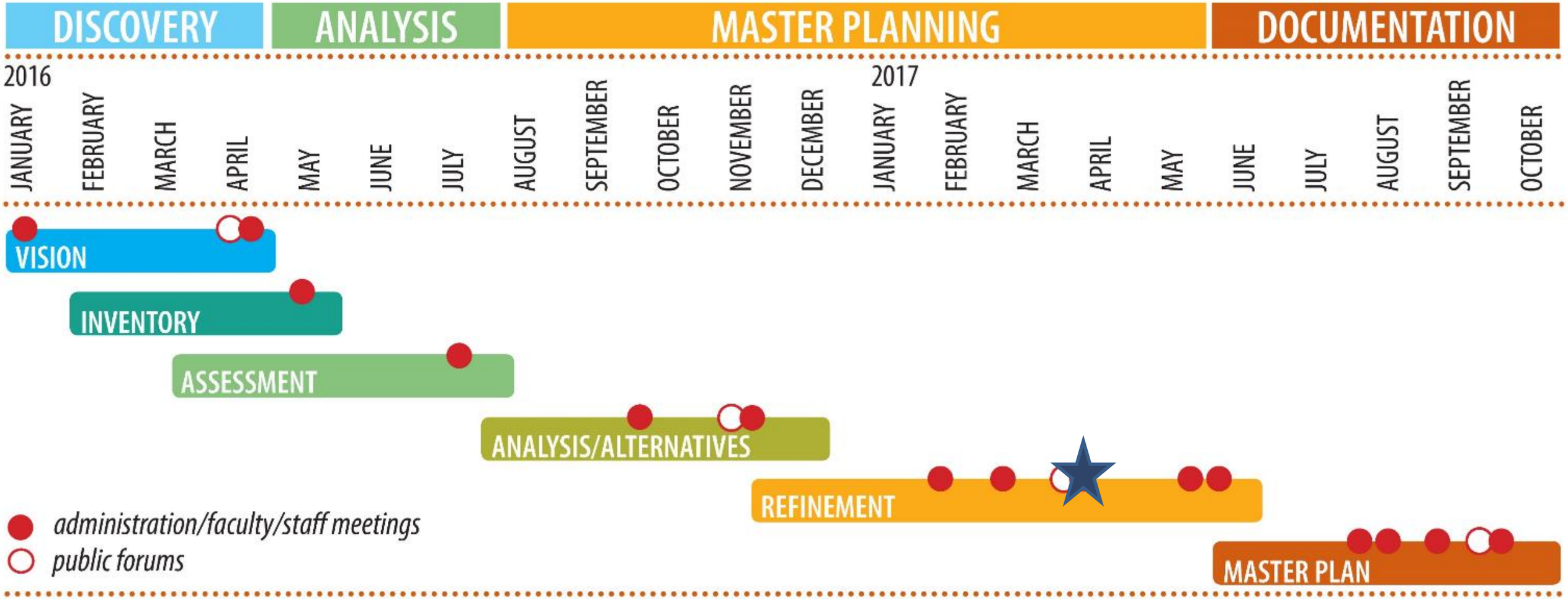
Meeting Objectives:

- Present Preliminary Draft Master Plan
  - Preliminary Master Plan
  - District Level Initiatives
  - Campus Design + Landscape Guidelines
- Obtain Feedback
  - Committee Meetings
  - Community Open Houses
  - Master Plan Website

1

PLANNING PROCESS UPDATE

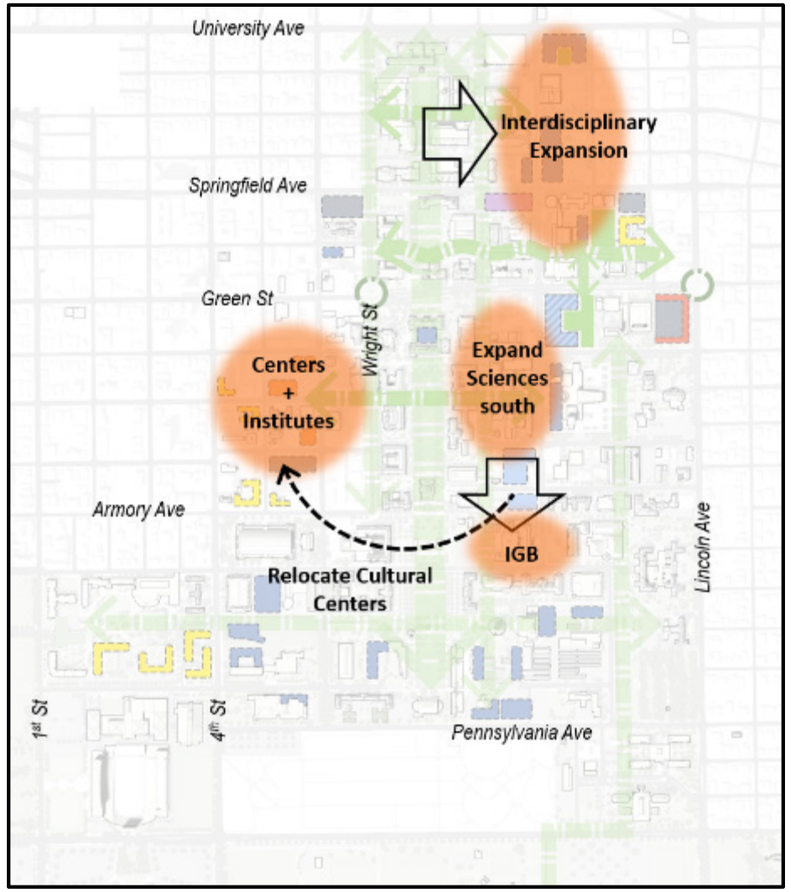
Master Plan Schedule



Previous Campus Visit - Alternatives

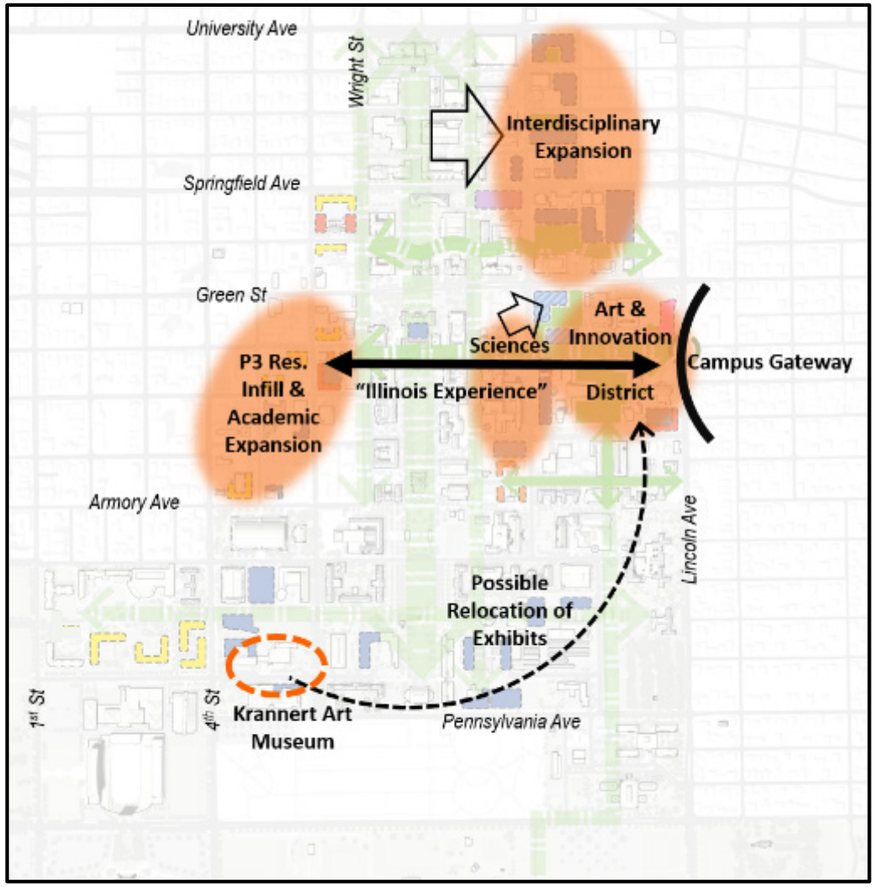
Alternative 1

Science Corridor



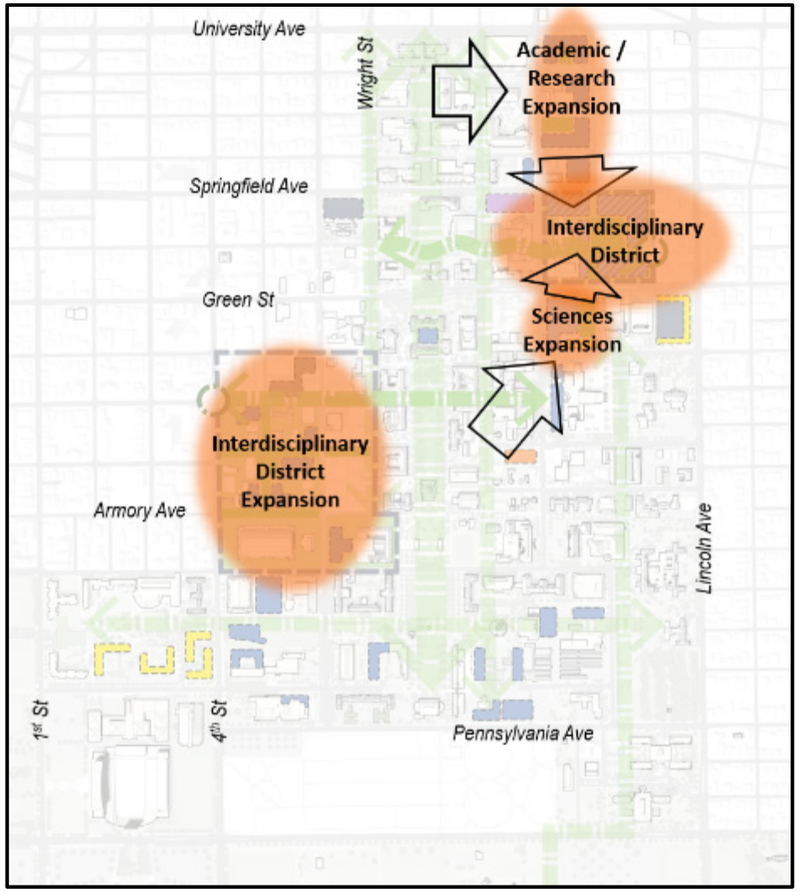
Alternative 2

Arts & Innovation Gateway, P3 Opportunity



Alternative 3

Two New Campus Districts



Synthesis of Ideas:

- Maintain cultural centers in place and expand sciences to the north along Mathews Avenue
- Create a stronger campus identity, more pedestrian focused in the area west of Wright Street
- Enhance open space and east-west non-motorized connections, particularly along the Military Axis
- Identify infill development sites to maintain a compact, dense and walkable central campus
- Reposition ACES facilities to strengthen brand thru development of a “Legacy Corridor” and allow other units to expand in place
- Promote interdisciplinary collaboration thru shared facilities for both academics and research

2

MASTER PLAN GOALS AND STRATEGIES

Master Planning Goals

- Provide an updated **planning framework** to guide anticipated **future enrollment growth** and campus development.
- Promote **excellence** in **academics**, **research**, **student life**, and the campus **environment** thru physical planning initiatives and **strategic reinvestment** efforts.
- Achieve “no new net square footage growth” thru better **space utilization**, increased **interdisciplinary** collaboration, improved **maintenance** of facilities, and **responsible funding**.
- Continue to foster and **enhance** the overall **beautification** of the physical campus environs.
- Maintain a strong image of **accessibility** and **safety** across campus – particularly for pedestrians.
- Recognize and **celebrate** the **cultural diversity** and **international quality** of the campus.
- Strengthen connections and **partnerships** between **campus and community**.

Future Development

Assumes an Average 1% Annual Enrollment Growth for Next Ten Years

Fall 2015

43,402 FTE

Undergraduate, Graduate, and Professional
FTE = Full-time Equivalent student

Existing Facilities:

23 Million Gross Square Feet

Fall 2025

47,943 FTE

Undergraduate, Graduate, and Professional
FTE = Full-time Equivalent student

4,540 additional students

Projected Facility Demand:

Up to 2 Million Additional Gross Square Feet

at Existing SF/Student

Does not include Replacement Space

Balancing Net Zero and Future Development

Preliminary Strategies

1. **Reduce Demand - No Net New Square Feet for Classrooms, Class Labs**
    a. Share Space - Put More Classrooms and Class Labs into Centralized Scheduling
    b. Increase Classroom and Class Lab Utilization
    c. Consolidate Storage, Increase Efficiency, Demo Surplus Facilities
2. **No Net New Square Feet for Office Space**
    a. Consolidate, Renovate, Convert and/or Replace Existing Office Space
    b. Look at New Models of Work Environments
3. **Improve Research Lab/Office Utilization and Efficiency**
    a. Increase Utilization by 6% (Reduce NASF/PI from 2,100 to 1,980 NASF)
    b. Improve, Renovate, and/or Replace Existing Underutilized Lab Space
    c. Share Core Lab and Lab Resources Campus-Wide
4. **Renovate and Reinvest, or Re-purpose Space**
    a. Renovate or Re-purpose Underperforming Academic and Research Space
    b. Invest in Modernizing Teaching Space, IT and Support Systems
5. **Replace or Remove Outdated Facilities**
    a. Replace with Greater Flexibility, Energy Efficiency
    b. Demo and Remove Obsolete Facilities in Poor Condition - Bank the Square Footage in the Space Bank

Reduce Demand

Increase Utilization of Existing Space, Share Resources

Improve Classroom Utilization

- Average utilization is 63% for centrally scheduled space (lower for department-controlled space)
- 45-hour time period, 8 am – 5 pm, M-F
- Utilization ranges from 18% to 117%

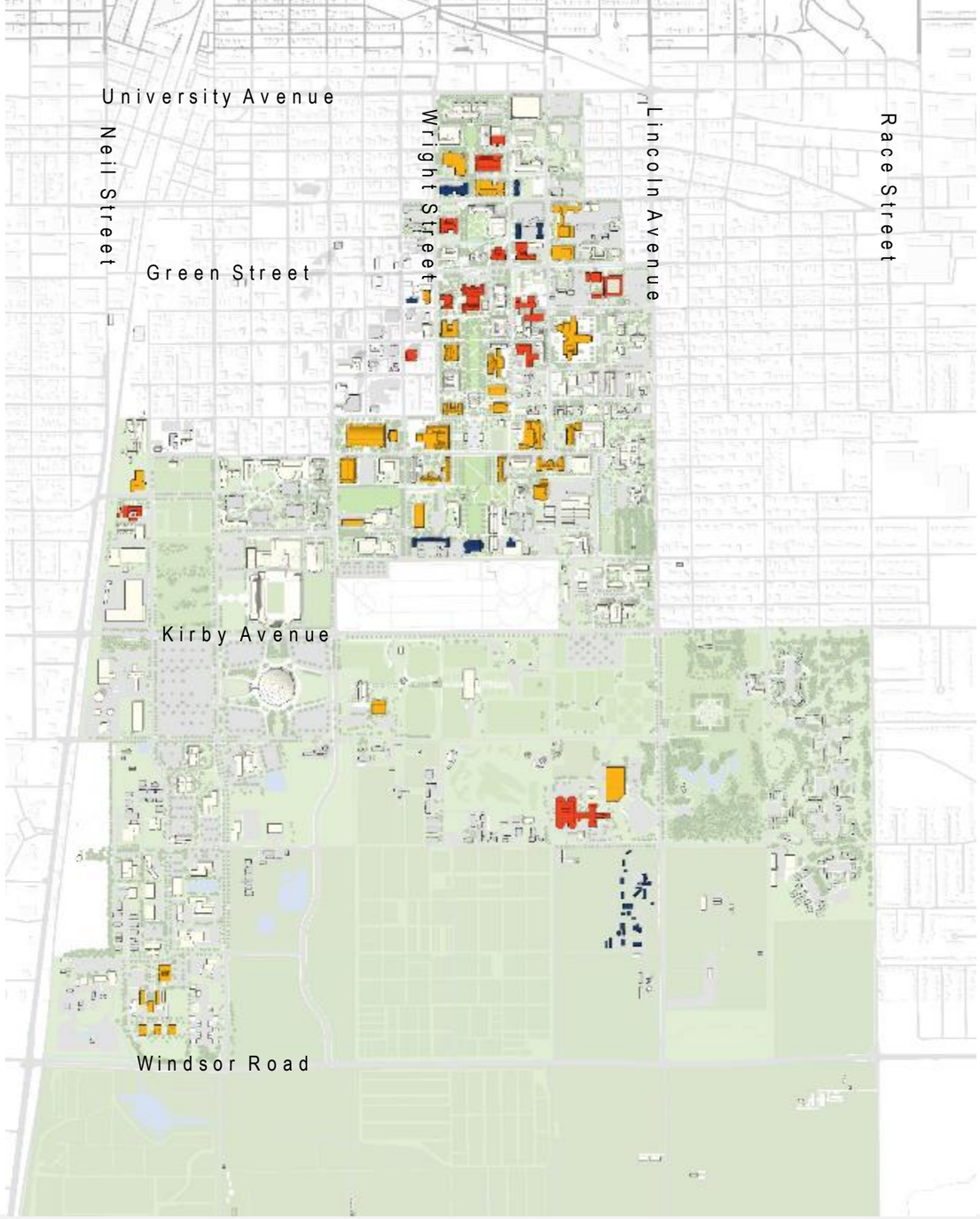
Improve Class Lab Utilization

- Average utilization is 69%
- Utilization ranges from 18% to 107%

Renovate and Reinvest

Evaluation Factors & Criteria

1. Age, Overall Square Footage
2. Replacement Value
3. Facility Condition Index – Poor to Critical Condition
4. Educational Adequacy Evaluation
5. Number of Classrooms / Class Labs in Facility
6. Utilization
7. Energy Use Intensity
8. Energy Performance Index



- Renovation
- Major Renovation & / or Additions
- Potential Renovation / Conversion
- Removal

*Individual facility scope and area of renovations to be determined

Renovate and Reinvest

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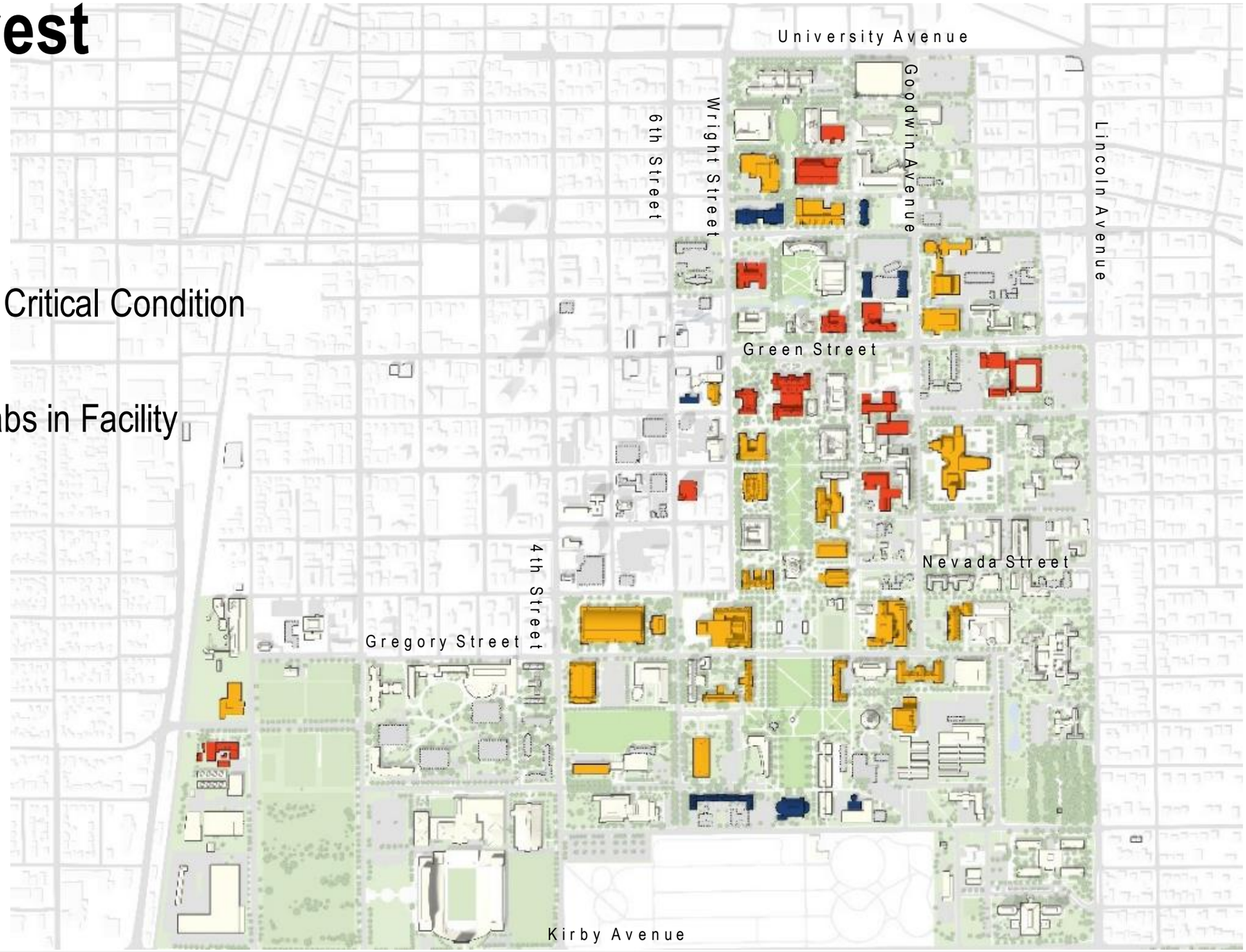

- Renovation
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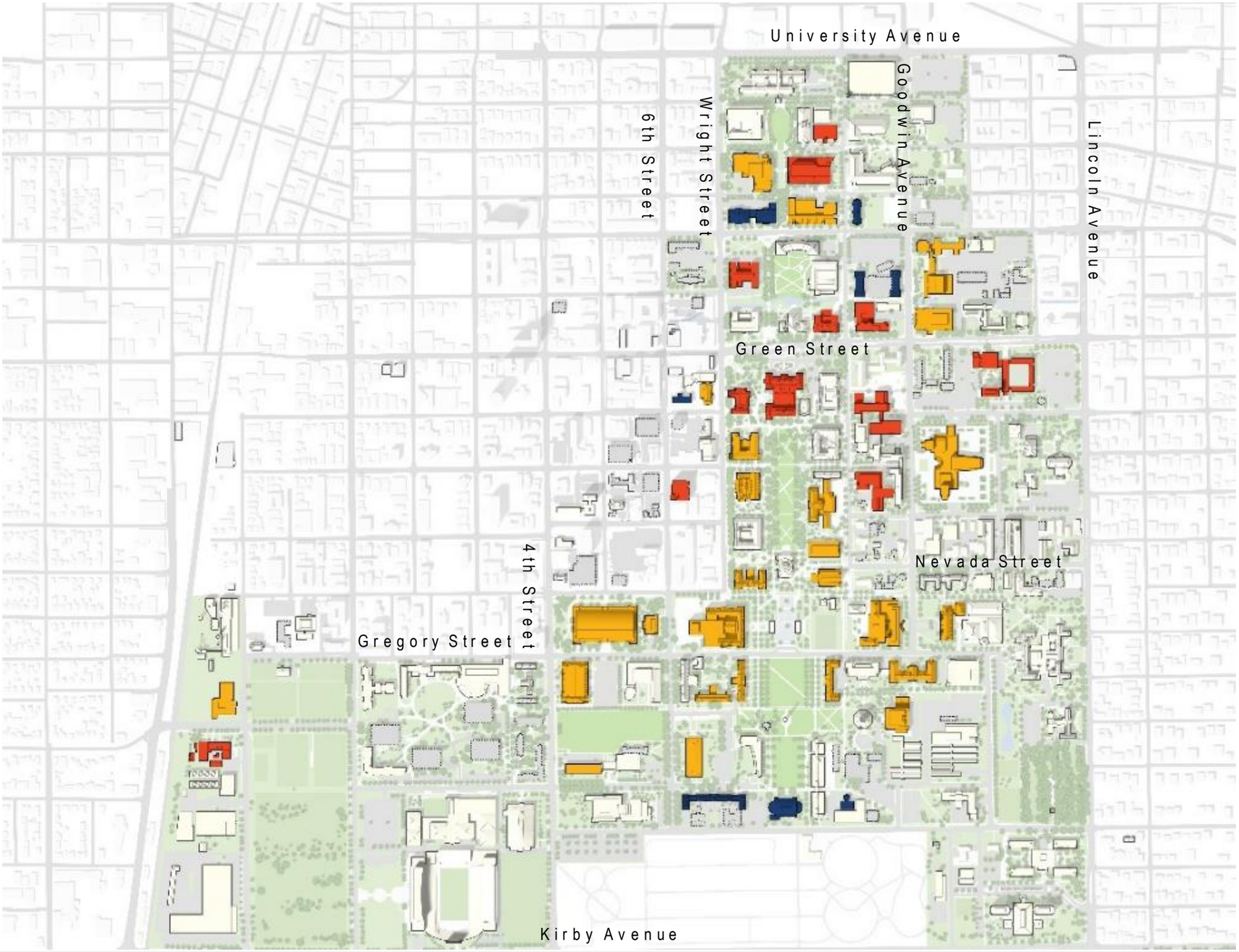
Repurpose

Convert Existing Facilities

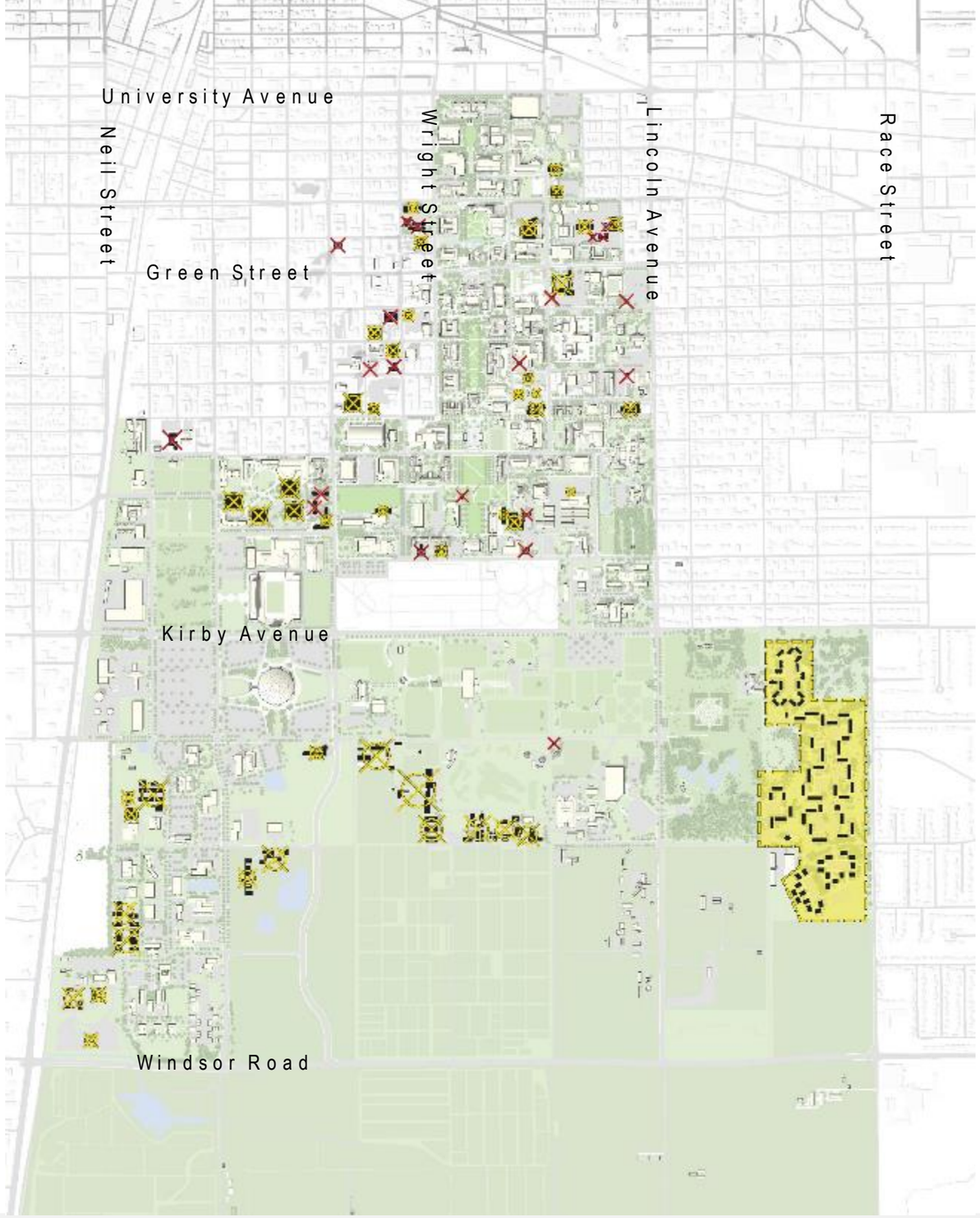
- Convert existing use of facility to a less energy intensive or more appropriate use for the building type
- Example Facilities:
  - Kenney Gym
  - Transportation and Ceramics Buildings
  - Stock Pavilion
  - Natural Resources Building



Renovation
Major Renovation & / or Additions
Potential Renovation / Conversion
Removal

Replace or Remove

- Replace Underutilized and/or Outdated Facilities with New Facilities for Greater Flexibility, Energy Efficiency
- Demo and Remove Obsolete Facilities in Poor Condition - Bank the Square Footage for Future Use



Remove

Remove & Replace

Replace or Remove

- Replace Underutilized and/or Outdated Facilities with New Facilities for Greater Flexibility, Energy Efficiency
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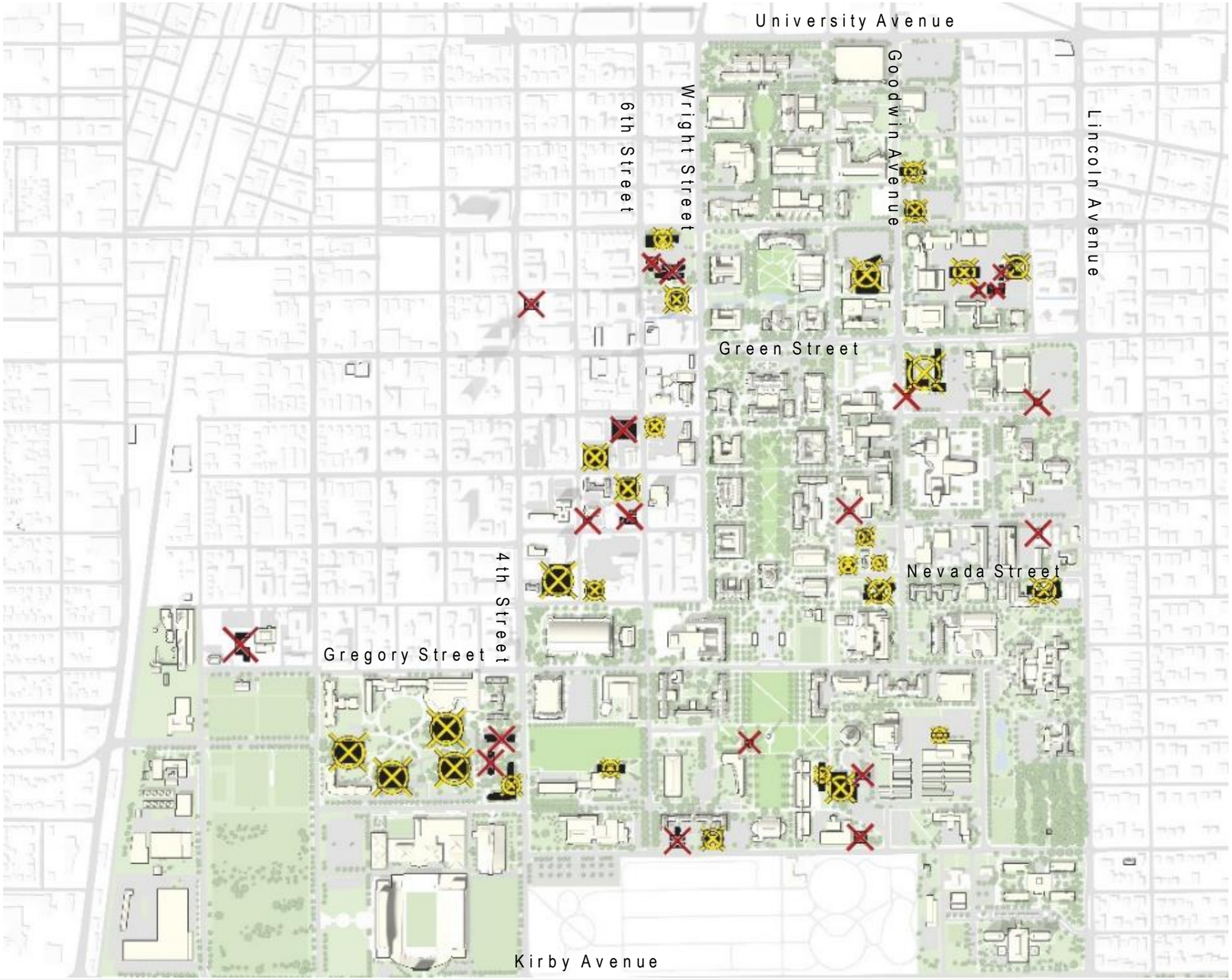
Remove

Remove & Replace



Research Renovation Strategy

Research Facility Assessment - Evaluation Factors & Criteria

1. *Age, Overall Square Footage*
2. *Replacement Value*
3. *Facility Condition Index – Poor to Critical Condition*
4. *Energy Use Intensity*
5. *Energy Performance Index*
6. *System Deficiencies Reports*
7. *Facility Manager Priorities*
8. *Facility Configuration - Flexibility / Adaptability*

   (review of floor plans, some observations)

Research Renovation Strategy – Evaluation Process

Civil Engineering
Bldg. #24-1Circa 1967

Repair Cost
$12,628,000 FY 2011
Replacement Cost
$71,422,800

FCI - .18- Fair
Systems cost update
$16,089,300 FY 2012
Escalate to FY2017

Recommendation
Major Renovation
Phased Implementation

Engineering Project request
$4,000,000

Facility Condition Assessment

VFA

Asset Detail Report
by Asset Name

Region: Current Data
Campus: University of Illinois Urbana-Champaign
Asset Name: Newmark Civil Engineering Building
Asset Number: 0024

STATISTICS

FCI Cost:	12,628,011	FCI:	0.18
Total Requirements Cost:	14,395,863	RI:	0.20

Current Replacement Value	71,422,844	Address 1	Stoughton Street
Size	184,395 SF	Address 2	-
Year Constructed	1967	City	Urbana-Champaign
Year Renovated	0	State/Province/Region	Illinois
Commission Date	-	Zip/Postal Code	61801
Decommission Date	-	Architect	-
Ownership	Client Owned	Historical Category	-
Floors	5	Construction Type	NFPA - Type II (222)
Type	Building	Use	Acad & Research

PHOTO

Newmark Civil Engineering Bldg 24
Nathan M. Newmark Civil Engineering Laboratory

ASSET DESCRIPTION

The Newmark Civil Engineering Building is a four-story non-sprinklered, non-combustible structure which functions as a business and assembly occupancy.

The facility contains administrative offices, research labs, cement sample storage, computer and chemistry labs, atrium and high-bay research labs with overhead cranes.

The fire alarm control panel is a combination of an older Simplex panel and a Cerberus Pyrotronics MXL panel. These panels are located in room 1130. Smoke and heat detection is provided sporadically throughout building in common areas and some updated spaces.

It is recommended that the entire building be protected by an automatic sprinkler system for several reasons. The building's use, complicated egress path, occupant's housekeeping habits, obstructed exit paths by furniture in hallways, non-rated multi-story shafts and atrium enclosure, and manual door props installed on fire doors.

All costs in USD.

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Asset Detail Report
by Asset Name

	Action	Date	Cost
...tally Critical 2-		11/13/2009	10,996
...mended ...ments		-	44,636
...ury - Not Yet ...4 - 5 Years		11/13/2011	202,197
...mended ...ments		-	100,537
...tally Critical 2-		11/13/2009	4,766,927
...tally Critical 2-		11/13/2209	40,006
...tally Critical 2-		11/13/2009	1,391,728
...tly Critical ...t meet Current		11/13/2007	340,338
		-	9,574
...tally Critical 2-		11/14/2009	135,240
...tally Critical 2-		11/13/2009	159,119
...tally Critical 2-		11/13/2009	386,093
...ury - Not Yet ...4 - 5 Years		11/13/2011	377,528
...tally Critical 2-		11/13/2009	24,014
...t meet Current		-	866
...t meet Current		-	26,863
...tally Critical 2- Elevator: Aged and Worn	D10-Conveying	Integrity	3 Years 11/13/2009 268,667

All costs in USD.

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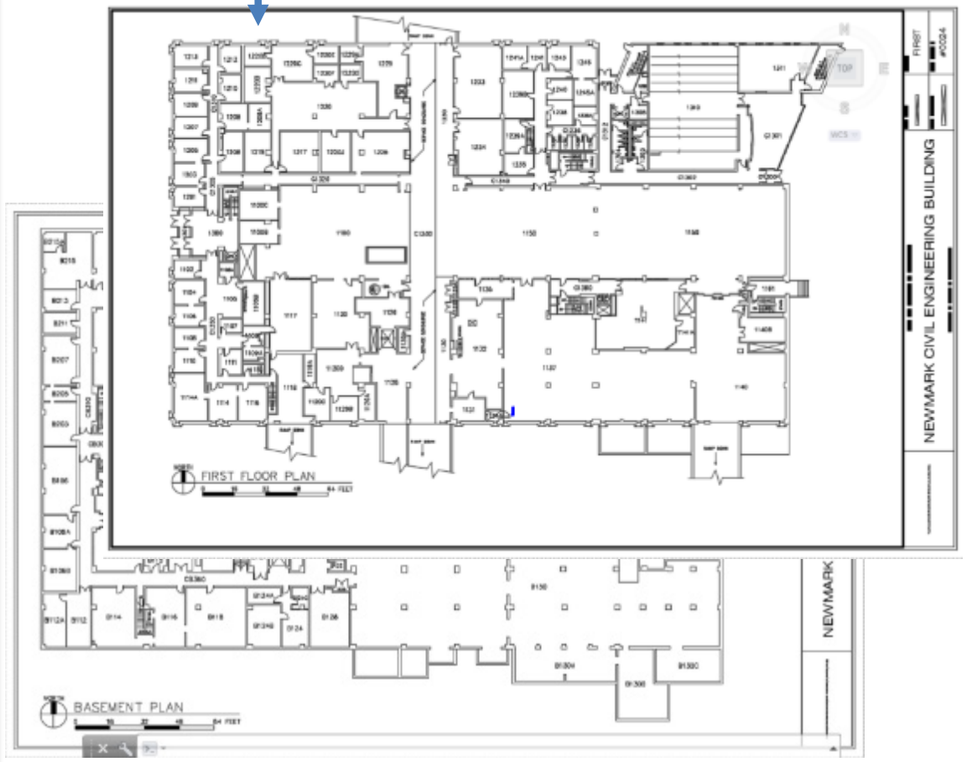
Systems Deficiencies

Facility Configuration
186,322 GSF

Lab , Office, High Bay
Custom Planning
Minimal Versatility



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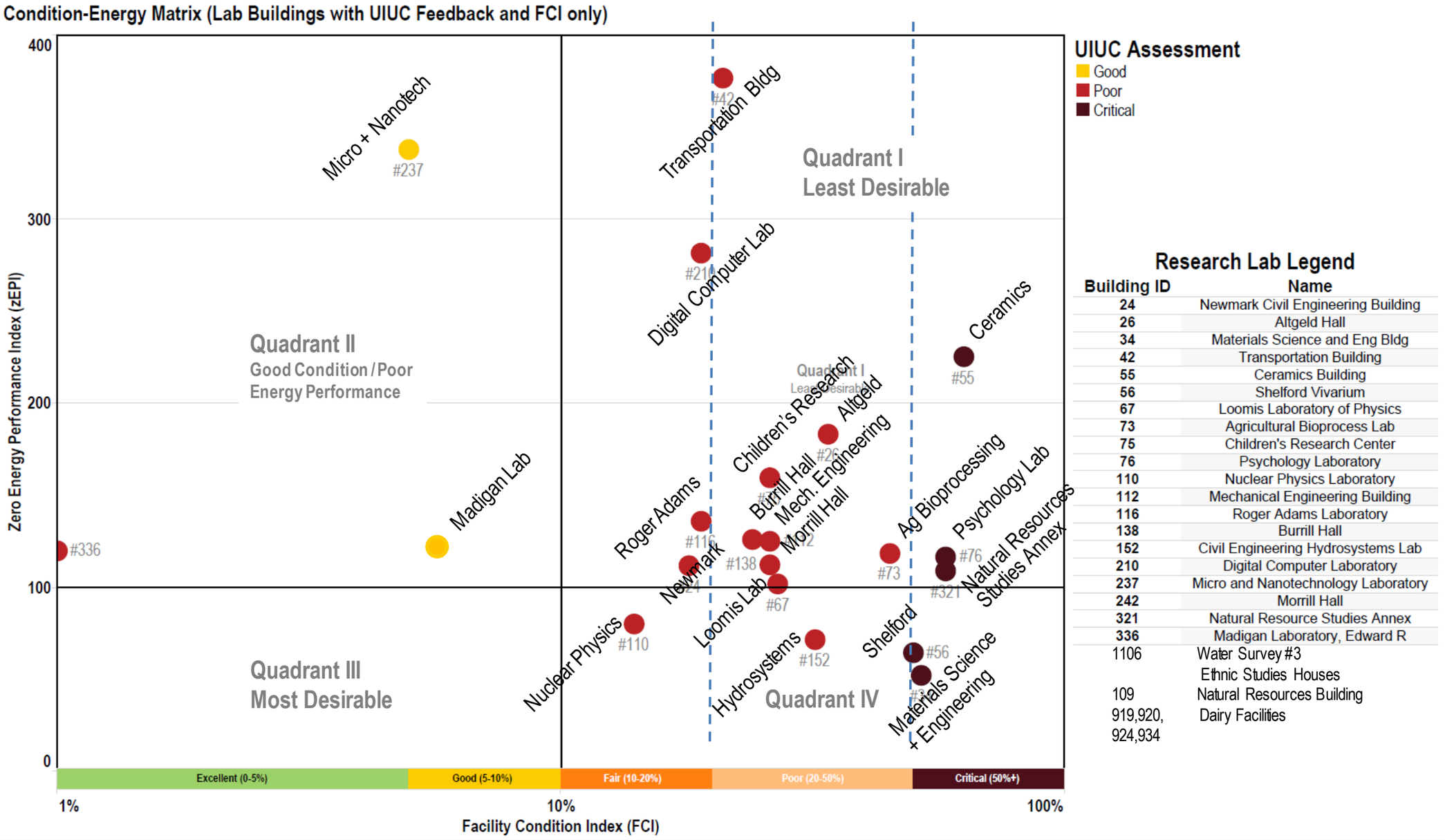
Facility Condition Index / Energy Performance Matrix



Research Lab Legend

Building ID	Name
24	Newmark Civil Engineering Building
26	Altgeld Hall
34	Materials Science and Eng Bldg
42	Transportation Building
55	Ceramics Building
56	Shelford Vivarium
67	Loomis Laboratory of Physics
73	Agricultural Bioprocess Lab
75	Children's Research Center
76	Psychology Laboratory
110	Nuclear Physics Laboratory
112	Mechanical Engineering Building
116	Roger Adams Laboratory
138	Burrill Hall
152	Civil Engineering Hydrosystems Lab
210	Digital Computer Laboratory
237	Micro and Nanotechnology Laboratory
242	Morrill Hall
321	Natural Resource Studies Annex
336	Madigan Laboratory, Edward R
1106	Water Survey #3
	Ethnic Studies Houses
109	Natural Resources Building
919,920, 924,934	Dairy Facilities

Research Renovation Strategy

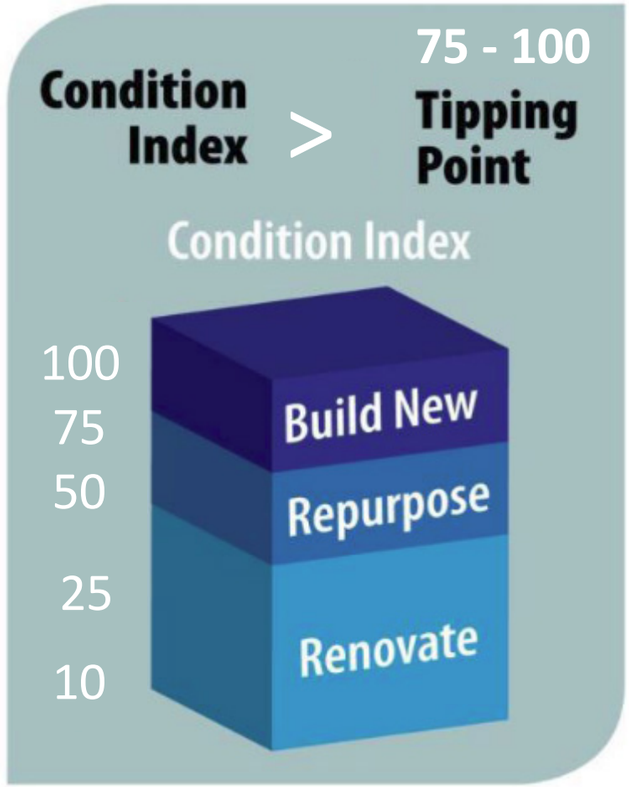
Renovation v. Replacement Scorecard:

Facility Condition Index < 75
= Yes, Renovate

1. Earlier occupancy for programs groups
2. Appreciable initial capital cost savings
3. Proposed program uses less complex than existing uses
4. Structural capacity is appropriate to code and functions
5. ADA, code requirements needing upgrades
6. MEP systems require minor upgrades
7. Energy upgrades possible with minor modifications
8. Existing conditions index greater than 50 points
9. Facility has surge space for program relocation & phasing
10. Facility has adequate systems capacity with minor upgrades

Facility Condition Index > 75
= No, Replace

10. Costs are higher than perceived
9. MEP systems beyond useful life or under capacity
8. Complex logistics phasing required
7. Higher contingencies on constructability and phasing
6. Hidden costs conditions behind walls and under slabs
5. Program requirements more complex that current existing use
4. No appreciable savings to operational and energy costs
3. Significant seismic structural upgrades required to meet code
2. Major disruption to existing occupancy operations
1. Floor to floor heights difficult to redistribute new MEP systems



Facility Condition Index =
Repair Cost / Replacement Cost x 100

Research Renovation Strategy

Renovations

ACES:
- Madigan Laboratory

Engineering:
- Digital Computer Lab
- Loomis Laboratory
- Micro /& Nanotechnology Lab
- Seitz Materials Lab
- Superconductivity Lab

VC of Research:
- Water Survey

Education:
- Children's Research Center

Major Renovation &/or Additions

- NCSA East Wing Expansion

Engineering:
- Hydrosystems Lab/Addition
- Materials Science & Engineering
- Mechanical Engineering Building
- Newmark Civil Engineering

LAS:
- Roger Adams Renovation/Addition
- Burrill Hall Renovation/Addition
- Morrill Hall Renovation
- Psychology Lab

VC of Research:
- Nuclear Physics Lab

Potential Renovation / Conversion

ACES:
- Dairy (Conversion to Equine Use)
- Agricultural Bioprocessing Lab

Engineering:
- Transportation
- Ceramics

VC of Research:
- Natural Resources Building

Demolition/Replacement

ACES:
- Feed Mill Replacement
- Burnsides Research Lab
- Biomedical Animal Swine Research Replacement

Engineering:
- Aeronautics Lab

LAS:
- Ethnic Studies Houses
- Shelford Vivarium

VC of Research:
- Natural Resource Studies Annex
- Natural Survey Greenhouses

Research Facility Recommendations

- Most research laboratories are custom planned around specific technologies. Future renovations should be **more modular**, opening planning where feasible.
- Lab partition systems are primarily block walls, making renovation more costly. Block should be used for corridor walls, with interior lab partitions dry wall for increased **flexibility.**
- **Consider lab zoning** of open labs, enclosed lab support, and specialized core labs.
- Most fume hood systems are 100% exhausted. Hoods should be converted to VAV exhaust with motion sensors, to **improve energy efficiency.**
- Original casework is metal fixed floor mounted. Newer fit-outs for new PIs are **flexible modular systems** providing more flexibility and adaptability to new uses.
- Some older labs (Ag Bioprocessing) should not be fitted-out for **more intense** BSL2-3 level programs requiring major MEP systems upgrades.
- Current **FCI system** not consistently maintained by all colleges, needs to be used as a strategic facilities planning tools vs. just deferred maintenance.

Facilities Assessment
Detailed Analysis

Facility Assessment

ACES

Building Number	Name	Year of Construction	AGE	GSF (SF)	NASF (SF)	REPLACEMENT VALUE	FCI	RI	UIUC Assessment	FY2014 EUI (kBTU/SF)	FY2014 zEPI	Flexibility / Adaptability	Flexability / Adaptability Description	Notes
0073	Agricultural Bioprocess Lab	1925	86	24,281	24,280	$ 6,464,550	0.45	0.49	Poor	427	118		3. Semi open Planning, Modular configuration, fixed block partitions within module Services on wall and below ceilings, fixed Casework & Fume hoods	Metabolic Kitchen needs improved space conditioning to allow it to function year round in a safe manner. First floor BSL-2 lab needs proper HVAC to allow it to safely function.
0336	Madigan Laboratory, Edward R	1991	20	171,007	173,189	$ 47,923,128	0.05	0.04	Poor	431	120		4. Semi-open Planning, Modular Configuration, Fixed Block Partitions @ Corridor only, Services in wall or above ceilings, Fixed & moveable casework	

Bioprocess Laboratory: Structural wall crack

Bioprocess Laboratory: Future Class Lab not accessible

Bioprocess Laboratory: New Research Kitchen

Madigan Laboratory: Biosciences Double lab suite

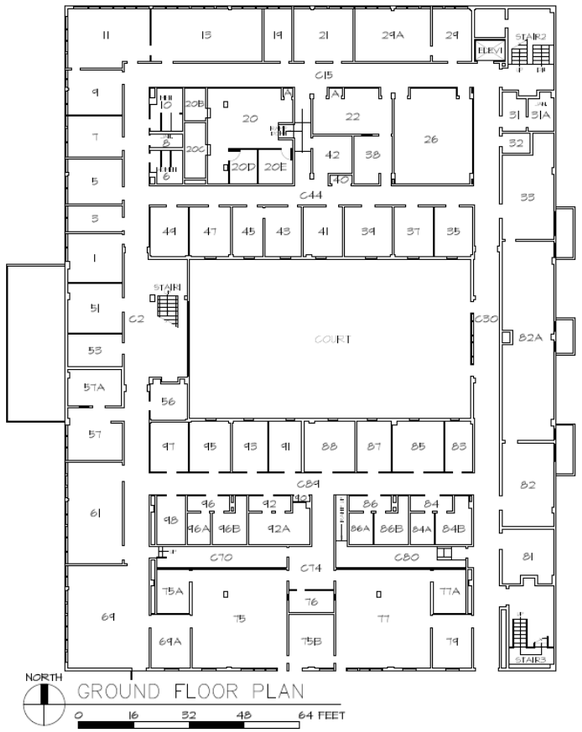
Madigan Laboratory: Deteriorated floor

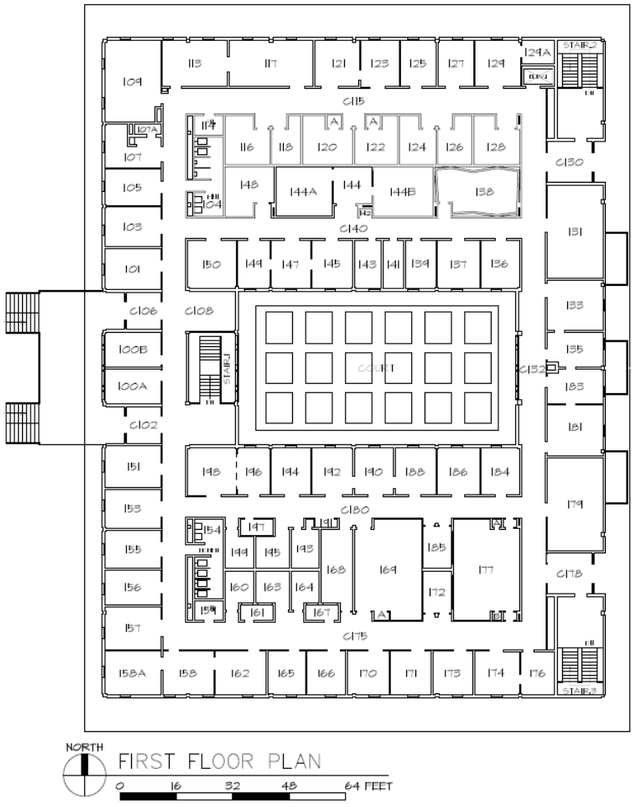
Madigan Laboratory: Structural slab settlement

Existing Conditions

Education

Building Number	Name	Year of Construction	AGE	GSF (SF)	NASF (SF)	REPLACEMENT VALUE	FCI	RI	UIUC Assessment	FY2014 EUI (kBTU/SF)	FY2014 zEPI	Flexibility / Adaptability	Flexibility / Adaptability Description	Notes
0075	Children's Research Center	1967	44	46,806	46,806	$ 10,757,891	0.26	0.34	Poor	107	159		4. Semi-open Planning, Modular Configuration, Fixed Block Partitions @ Corridor only, Services in wall or above ceilings, Fixed & moveable casework	Listed as problematic, old, with flooding issues on the south side of the basement, mold issues on the north side of the first floor, along with pipe and radiator leaks.





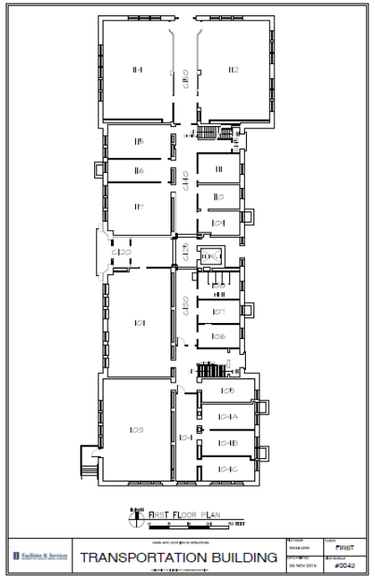
Facility Assessment

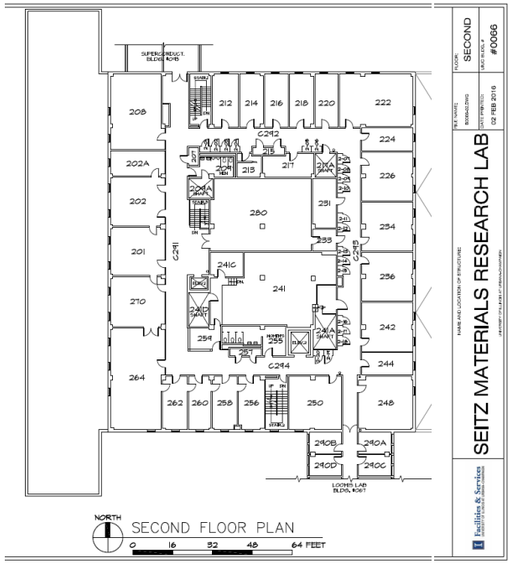
Engineering

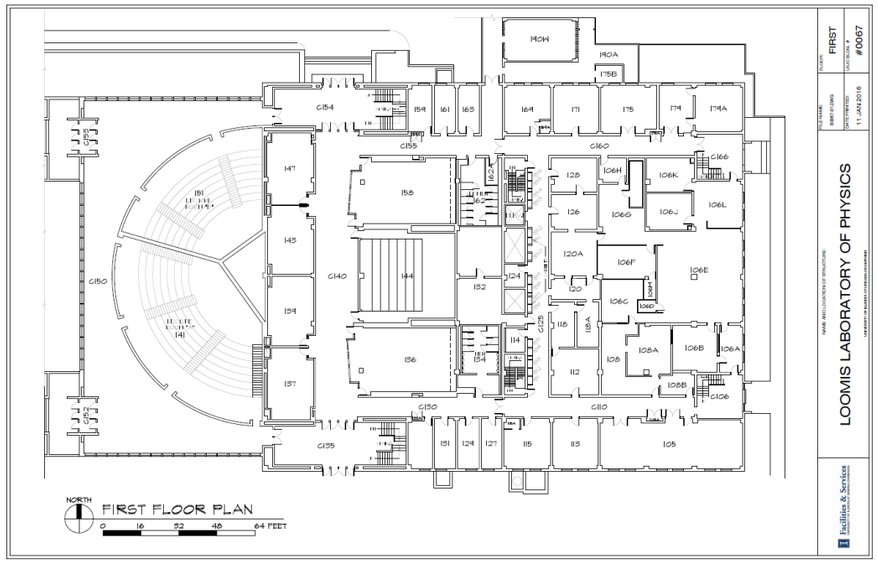
Building Number	Name	Year of Construction	AGE	GSF (SF)	NASF (SF)	REPLACEMENT VALUE	FCI	RI	UIUC Assessment	FY2014 EUI (kBTU/SF)	FY2014 zEPI	Flexibility / Adaptability	Flexibility / Adaptability Description	Notes
0024	Newmark Civil Engineering Building	1967	44	210,926	184,395	$ 71,422,844	0.18	0.20	Poor	251	111		1. Custom Planning, Non-Modular configuration, Fixed block Partitions, Services in wall, fixed casework & Hoods/Equipment	
0034	Materials Science and Eng Bldg	1909	108	100,630	101,803	$ 13,085,758	0.52	0.95	Critical	187	52		1. Custom Planning, Non-Modular configuration, Fixed block Partitions, Services in wall, fixed casework & Hoods/Equipment	(Plan review only) Assessment by College of Engineering
0042	Transportation Building	1912	99	51,445	51,445	$ 10,705,640	0.21	0.33	Poor	253	376		1. Custom Planning, Non-Modular configuration, Fixed block Partitions, Services in wall, fixed casework & Hoods/Equipment	(Plan review only)
0055	Ceramics Building	1915	96	54,017	53,998	$ 6,236,769	0.63	0.80	Critical	151	225		1. Custom Planning, Non-Modular configuration, Fixed block Partitions, Services in wall, fixed casework & Hoods/Equipment	(Plan review only)
0066	Seitz Materials Research Lab	1966	45	124,473	131,322	$ 36,313,159	0.22	0.29		609	270		4. Semi-open Planning, Modular Configuration, Fixed Block Partitions @ Corridor only, Services in wall or above ceilings, Fixed & moveable casework	Exisitng curtainwall is origional from 1963 and leaks. (Plan review only)
0067	Loomis Laboratory of Physics	1959	52	183,191	175,513	$ 33,607,229	0.27	0.36	Poor	229	102		2. Custom Planning, Modular configuration, fixed block partitions within module, Services in wall, fixed Casework & Fume hoods	(Plan review only)
0112	Mechanical Engineering Building	1949	62	101,157	99,940	$ 26,521,078	0.26	0.39	Poor	281	125		1. Custom Planning, Non-Modular configuration, Fixed block Partitions, Services in wall, fixed casework & Hoods/Equipment	(Plan review only)
0152	Civil Engineering Hydrosystems Lab	1970	41	31,847	31,870	$ 9,634,938	0.32	0.40	Poor	161	72		1. Custom Planning, Non-Modular configuration, Fixed block Partitions, Services in wall, fixed casework & Hoods/Equipment	(Plan review only)
0210	Digital Computer Laboratory	1958	53	194,689	195,280	$ 43,559,157	0.19	0.25	Poor	189	281		1. Custom Planning, Non-Modular configuration, Fixed block Partitions, Services in wall, fixed casework & Hoods/Equipment	(Plan review only)
0237	Micro and Nanotechnology Laboratory	1989	22	147,347	88,065	$ 27,225,295	0.05	0.07	Good	760	338		2. Custom Planning, Modular configuration, fixed block partitions within module, Services in wall, fixed Casework & Fume hoods	(Plan review only)

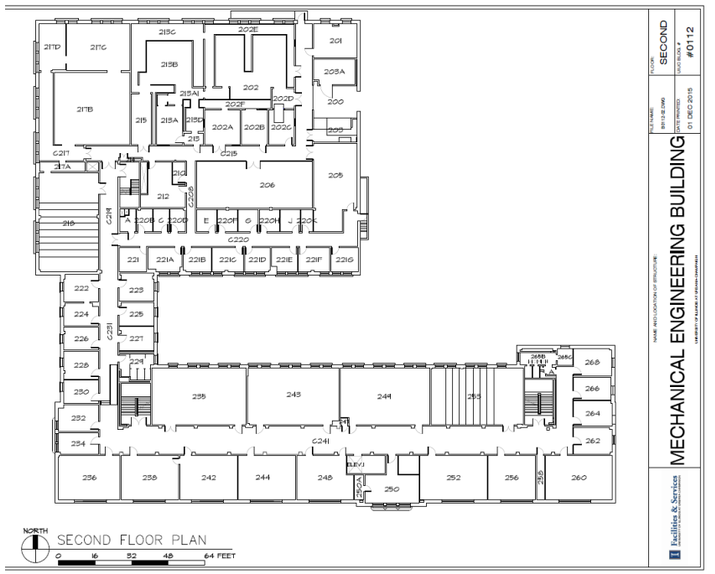
Existing Conditions

Engineering









Facility Assessment

LAS

Building Number	Name	Year of Construction	AGE	GSF (SF)	NASF (SF)	REPLACEMENT VALUE	FCI	RI	UIUC Assessment	FY2014 EUI (kBTU/SF)	FY2014 zEPI	Flexibility / Adaptability	Flexability / Adaptability Description	Notes
0026	Altgeld Hall	1896	115	79,721	79,720	$ 37,619,071	0.34	0.58	Poor	123	183		1. Custom Planning, Non-Modular configuration, Fixed block Partitions, Services (Plan review only) in wall, fixed casework & Hoods/Equipment	
0056	Shelford Vivarium	1916	95	24,278	24,278	$ 3,462,771	0.50	0.73	Critical	232	64		2. Custom Planning, Modular configuration, fixed block partitions within module, Services (Plan review only) in wall, fixed Casework & Fume hoods	
0076	Psychology Laboratory	1969	42	154,523	156,230	$ 34,203,434	0.58	0.63	Critical	262	116		4. Semi-open Planning, Modular Configuration, Fixed Block Partitions @ Corridor only, Services in wall or above ceilings, Fixed & moveable casework	(Plan review only)
0116	Roger Adams Laboratory	1950	61	266,920	280,130	$ 100,669,827	0.19	0.25	Poor	489	136		3. Semi open Planning, Modular configuration, fixed block partitions within module Services on wall and below ceilings, fixed Casework & Fume hoods	
0138	Burrill Hall	1959	52	171,832	178,640	$ 40,088,602	0.26	0.30	Poor	405	112		2. Custom Planning, Modular configuration, fixed block partitions within module, Services in wall, fixed Casework & Fume hoods	
0242	Morrill Hall	1963	48	170,679	170,128	$ 56,991,135	0.24	0.32	Poor	454	126		2. Custom Planning, Modular configuration, fixed block partitions within module, Services in wall, fixed Casework & Fume hoods	

Existing Conditions

LAS

Rodger Adams: Lab

Rodger Adams: Biotech

Morrill / Burrill: Lab

Morrill / Burrill: Lab with Support

Psychology Open Lab

Rodger Adams: Bioplant

Rodger Adams: Lab

Morrill / Burrill: Lab

Facility Assessment

Vice Chancellor of Research- PRI

Building Number	Name	Year of Construction	AGE	GSF (SF)	NASF (SF)	REPLACEMENT VALUE	FCI	RI	UIUC Assessment	FY2014 EUI (kBTU/SF)	FY2014 zEPI	Flexibility / Adaptability	Flexability / Adaptability Description	Notes
0109	Natural Resources Building	1940	71	140,703	140,587	$ 47,376,413	0.19	0.28		111	166		1. Custom Planning, Non-Modular configuration, Fixed block Partitions, Services in wall, fixed casework & Hoods/Equipment (Plan review only)	
0110	Nuclear Physics Laboratory	1947	64	36,605	36,605	$ 21,295,691	0.14	0.19	Poor	180	80		1. Custom Planning, Non-Modular configuration, Fixed block Partitions, Services in wall, fixed casework & Hoods/Equipment	The existing facility is in very poor condition. The facility requires mechanical, HVAC, electrical, and life safety upgrades. (Plan review only)
0321	Natural Resource Studies Annex	1973	38	63,562	64,709	$ 11,160,361	0.58	0.62	Critical	396	109		2. Custom Planning, Modular configuration, fixed block partitions within module, Services in wall, fixed Casework & Fume hoods	
1106, 0289-2	Water Survey Research Center #3	1964	46	8,258	11,259	$ 1,044,723	1.27	1.54					4. Semi-open Planning, Modular Configuration, Fixed Block Partitions @ Corridor only, Services in wall or above ceilings, Fixed & moveable casework	Building is past its service life. The roof leaks, fume hoods need upgraded controls, and lab services need upgrading

Existing Conditions

Vice Chancellor of Research- PRI

Water Survey Laboratory 2:
Entry court

Water Survey Laboratory 2:
Bucket sterilizer

Water Survey Laboratory 3:
Entry

Water Laboratory 3:
100% Exhausted hoods

Water Survey Laboratory 2:
Major Coldrooms

Water Survey Laboratory 3:
Laboratory

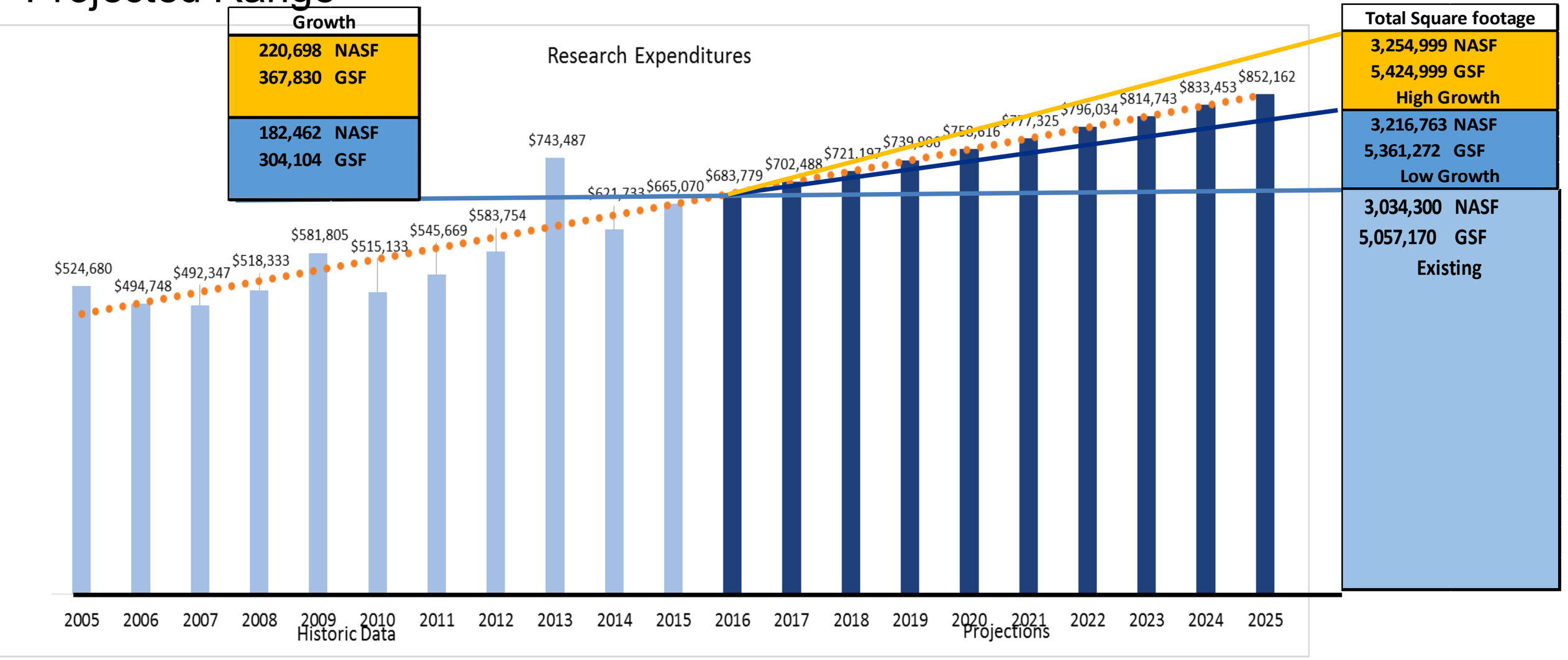
Water Survey Laboratory 3:
Instrument Laboratory

Water Survey Laboratory 3:
Laboratory

Research Facility Trends

Space Demand – Research Needs

Projected Range



Projected Space

Growth Model- PI Faculty growth an additional 80 PI Investigators by 2025

	IU Report	Projected								
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Expenditures	$ 665,070	$ 683,779	$ 702,488	$ 721,197	$ 739,906	$ 758,616	$ 777,325	$ 796,034	$ 814,743	$ 833,453	$ 852,162
Pi's Herd Count	1106	1137	1145	1153	1159	1165	1171	1175	1180	1183	1186
Pi's total Faculty	1452	1483	1491	1499	1505	1511	1517	1521	1526	1529	1532
NASF/PI	2,743	2,745	2,745	2,745	2,745	2,745	2,745	2,745	2,745	2,745	2745
NASF	3,034,301	3,121,376	3,143,903	3,164,347	3,182,781	3,199,275	3,213,898	3,226,718	3,237,800	3,247,206	3,254,999
GSF	5,057,168	5,202,293	5,239,838	5,273,912	5,304,634	5,332,124	5,356,497	5,377,864	5,396,333	5,412,011	5,424,999
Pi's Herd Count	1452	1483	1491	1499	1505	1511	1517	1521	1526	1529	1532
NASF/PI	2,090	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100
NASF	3,034,301	3,114,538	3,131,772	3,147,412	3,161,514	3,174,132	3,185,320	3,195,128	3,203,605	3,210,802	3,216,763
GSF	5,057,168	5,190,896	5,219,620	5,245,687	5,269,190	5,290,221	5,308,866	5,325,213	5,339,342	5,351,336	5,361,272

Net Zero Growth requires reduced allocation of 2,100 to 1,980 NASF/PI or 6% improved utilization

Research Facility Design & Planning – Contemporary Guidelines

Science Trends

- More modularity & flexibility
- More dry labs (computational biology and chemistry)
- Undergraduate research (Maker Space)
- Big data, computing at teraflop level
- More Robotics in repetitive testing
- More Artificial Intelligence – Robot PIs
- Integration of clinical and biomedical research

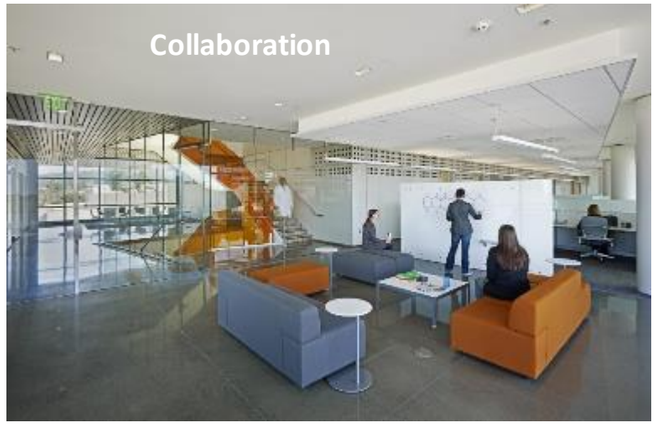
Facility Trends

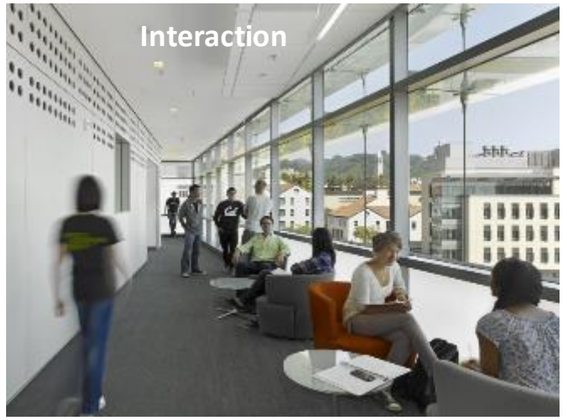
- Just in time lab services vs just in case
- More open collaboration areas
- Higher basement floor heights and weights for imaging technology
- Demand-controlled ventilation systems, zoned sensors
- Metered energy usage
- Sustainable lab facilities - toward net zero energy & water consumption

Lab Planning Trends

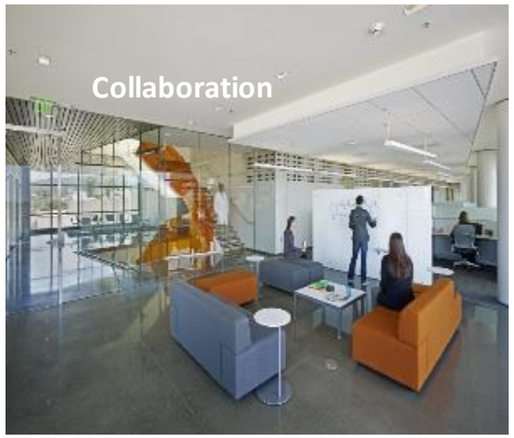
- Open lab planning
- Moveable lab furniture systems
- Maximize daylighting and visibility
- Zoning of open lab space
- Shared specialized lab support space
- Open floor flexibility, no embedded fixed elements
- Agile office and workspace, shared technology
- Totally accessible services, no ceilings if possible

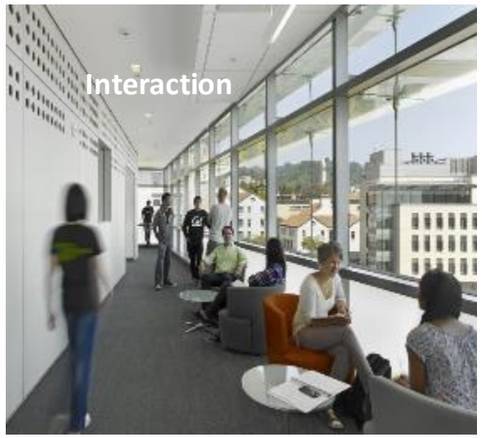
Innovation Places - Bio & Chemical Sciences

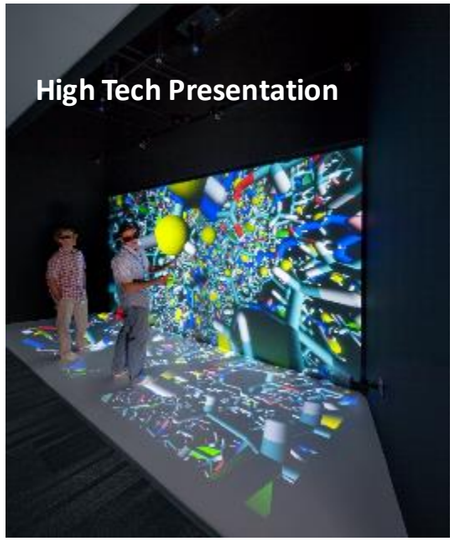


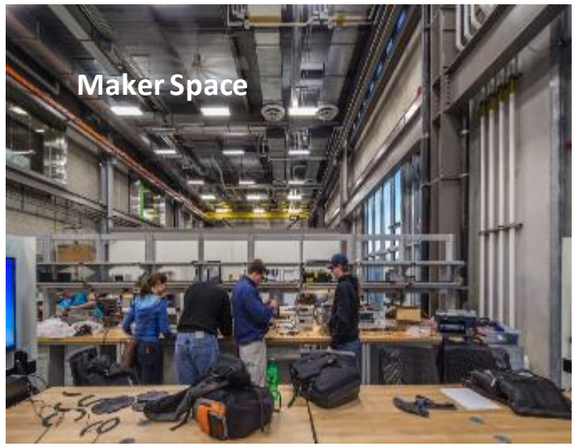


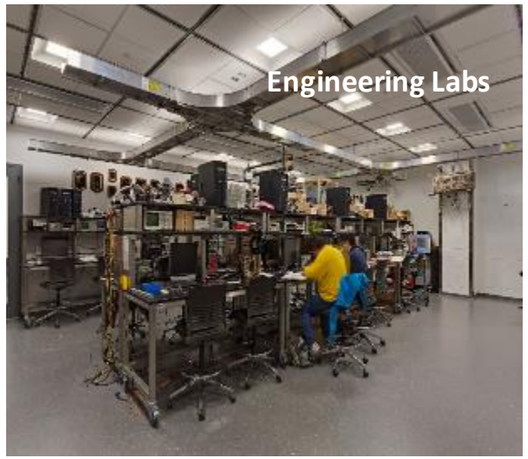
Innovation Places - Engineering Sciences







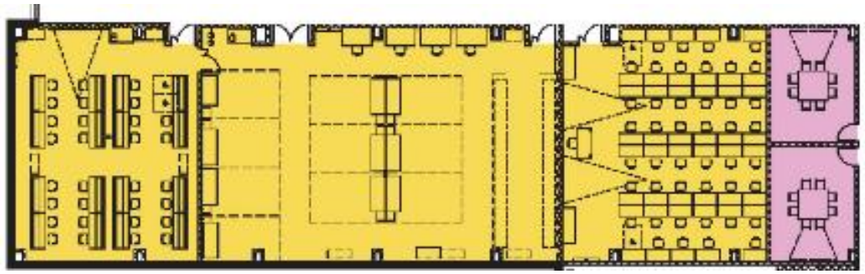


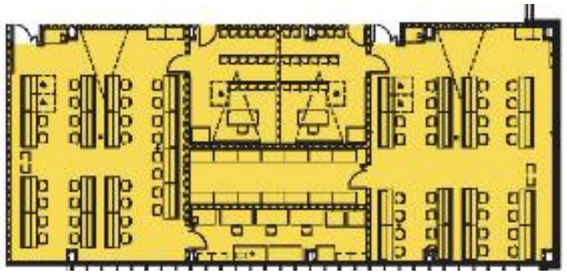


Laboratory Flexibility / Adaptability

Research Cluster 1 – Remote Sensing and Image Signal Processing

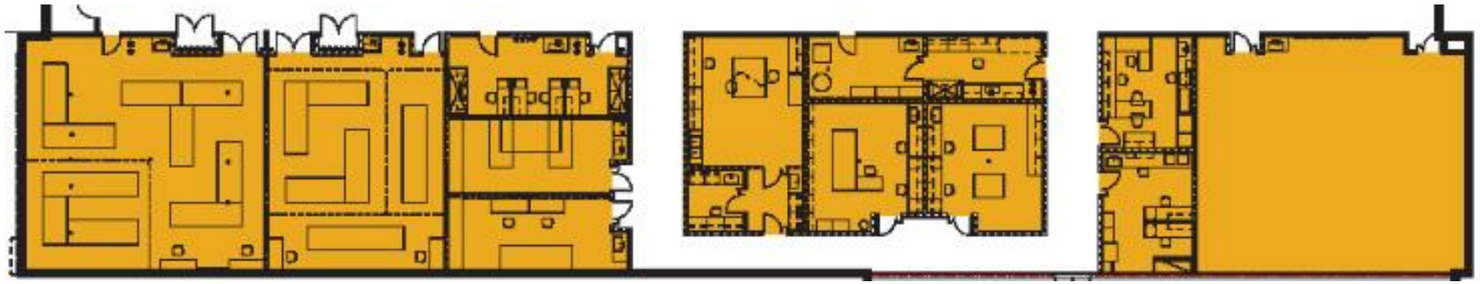
Instructional Cluster – Capstone / Senior Design





Research Cluster 6 – Laser, Optics and Optical Physics

Research Cluster 2 – Bio-imaging



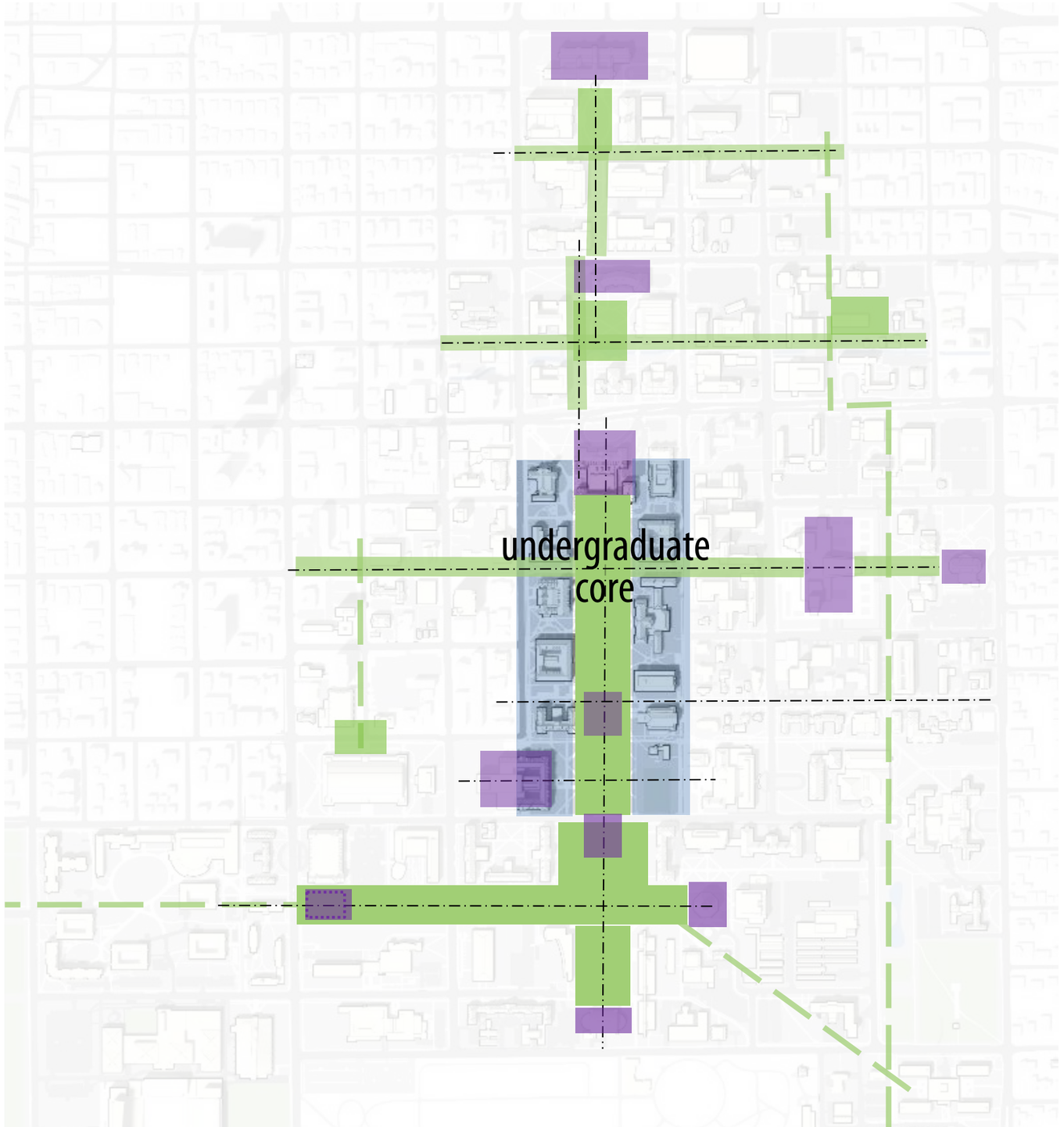
Creating a Flexible and Modular Lab Block – Kit-of-Parts / Plug and Play

3

PRELIMINARY MASTER PLAN

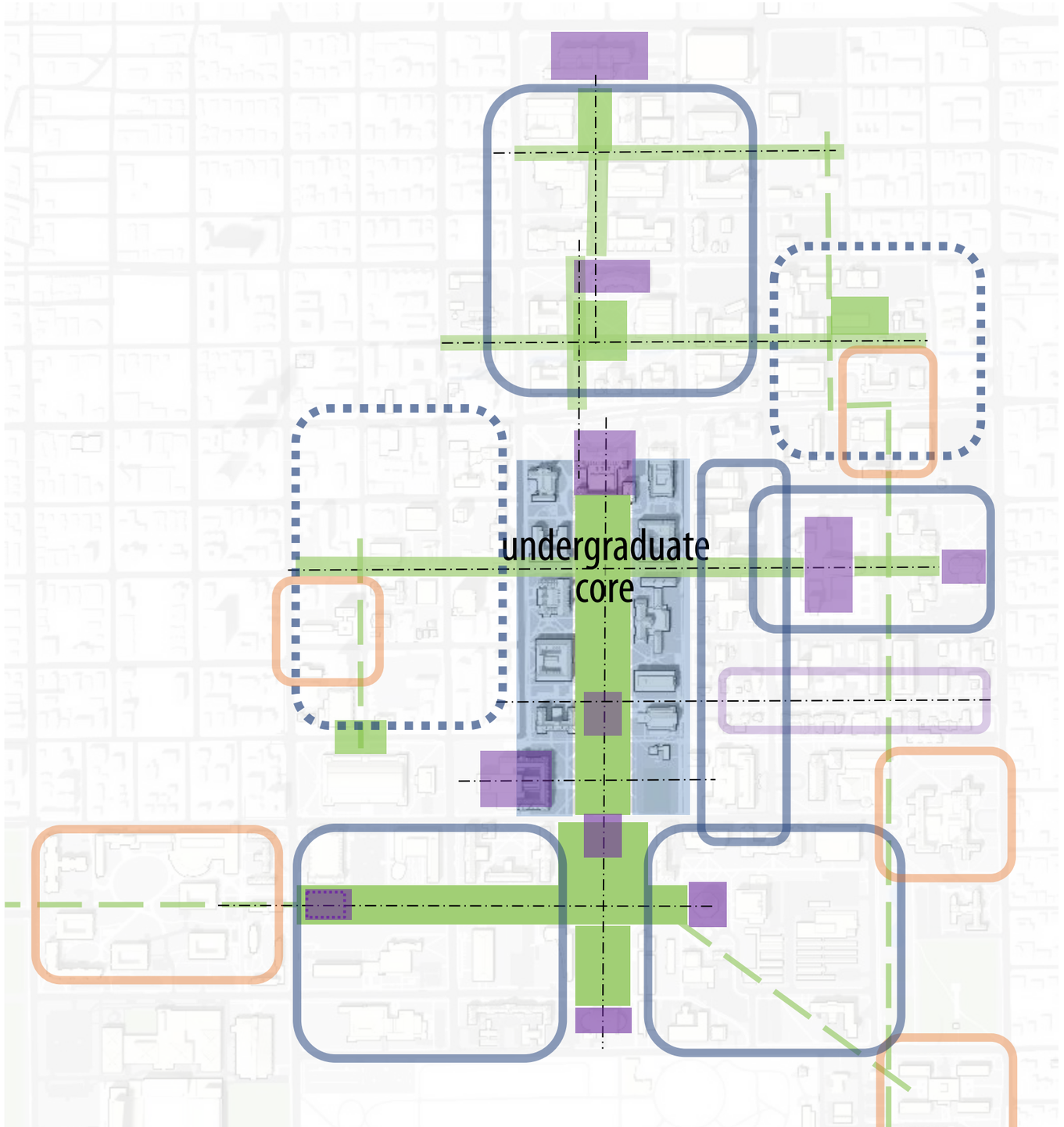
Campus Framework

- Focus the undergraduate experience along the Main Quad
- Locate common and collaborative functions along major campus axes
- Support interdisciplinary collaboration, resources
- Strengthen and define the primary western axis (“Military Axis”)
- Enhance east-west pedestrian walks and connections to the Main Quad



Campus Framework

- Respect the campus structure and character to define and connect existing and emerging districts
- Create new quads and public spaces as district focal points
- Increase density in districts adjacent to the core
- Integrate student and residence life into campus fabric

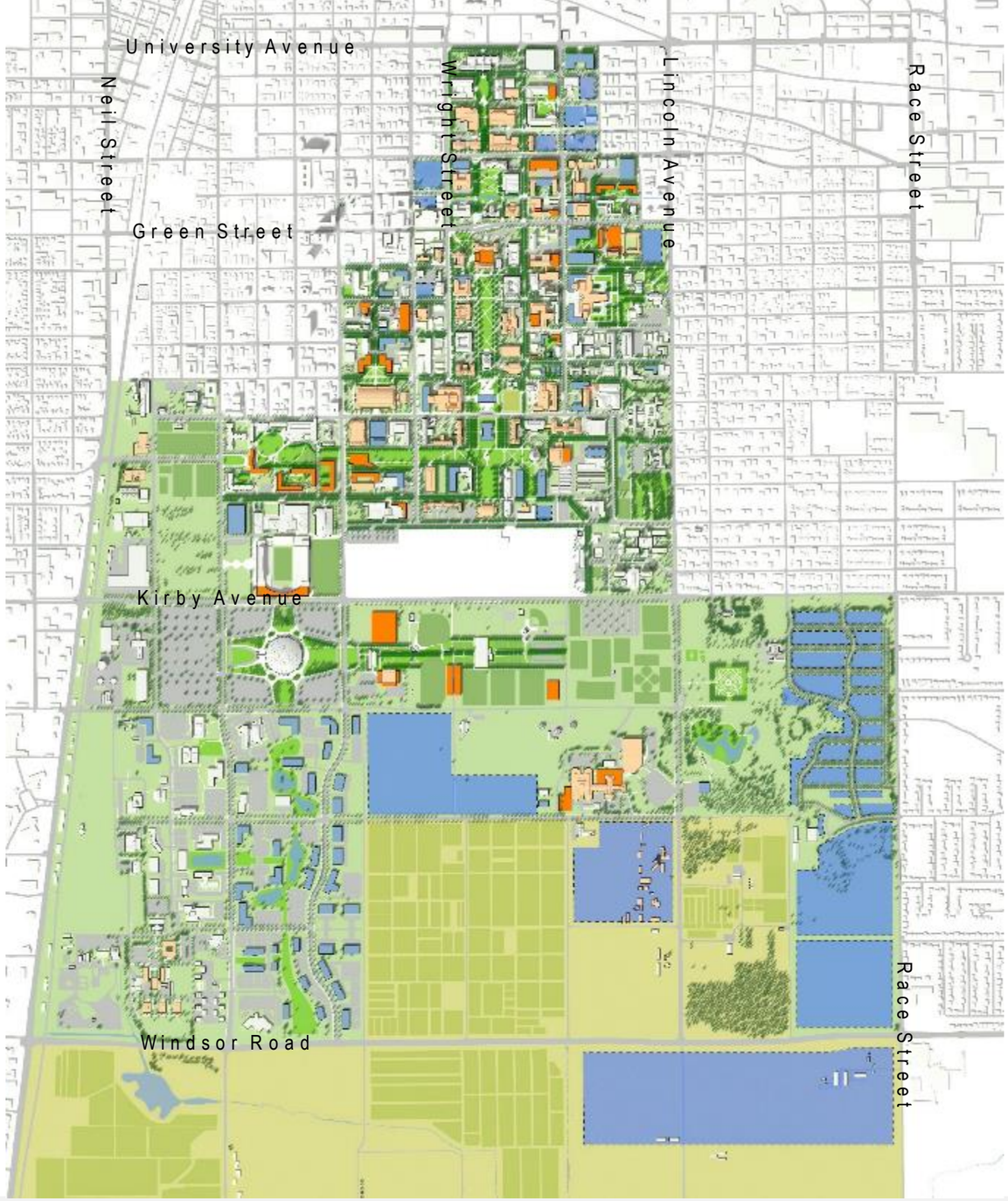


Preliminary Master Plan

- Illinois Existing Building
- Illinois Proposed Building
- Proposed Building Renovation
- Future Development Zone
- Campus Landscape
- Athletic / Recreation Field
- Memorable Open Space

Design Goals:

- Densify the core of campus
- Better define campus perimeter districts
- Strengthen east-west pedestrian corridors
- Provide north-south connections on east side
- Create additional quads and courtyards with future opportunities for development zones
- Reinforce campus gateways



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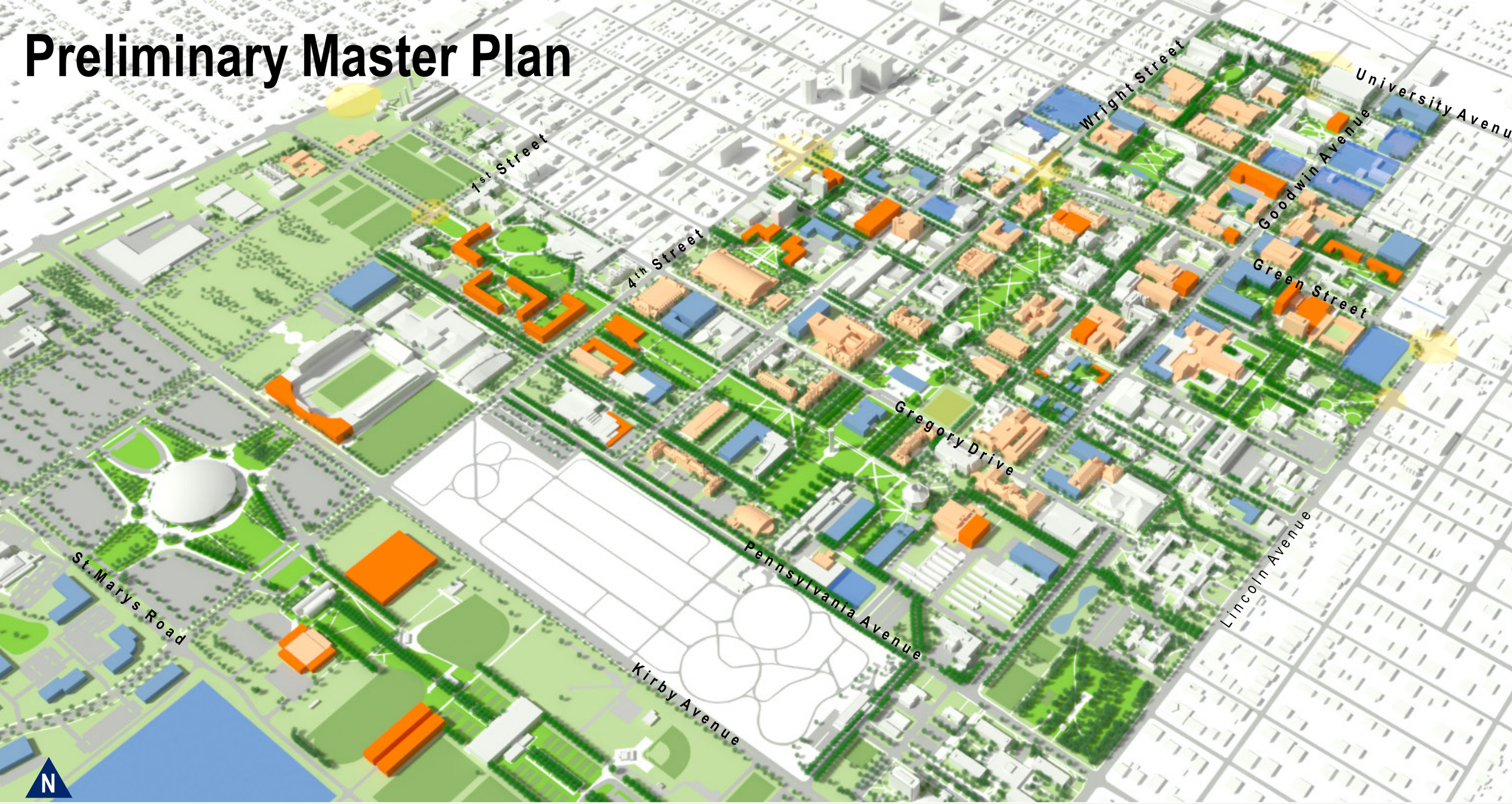

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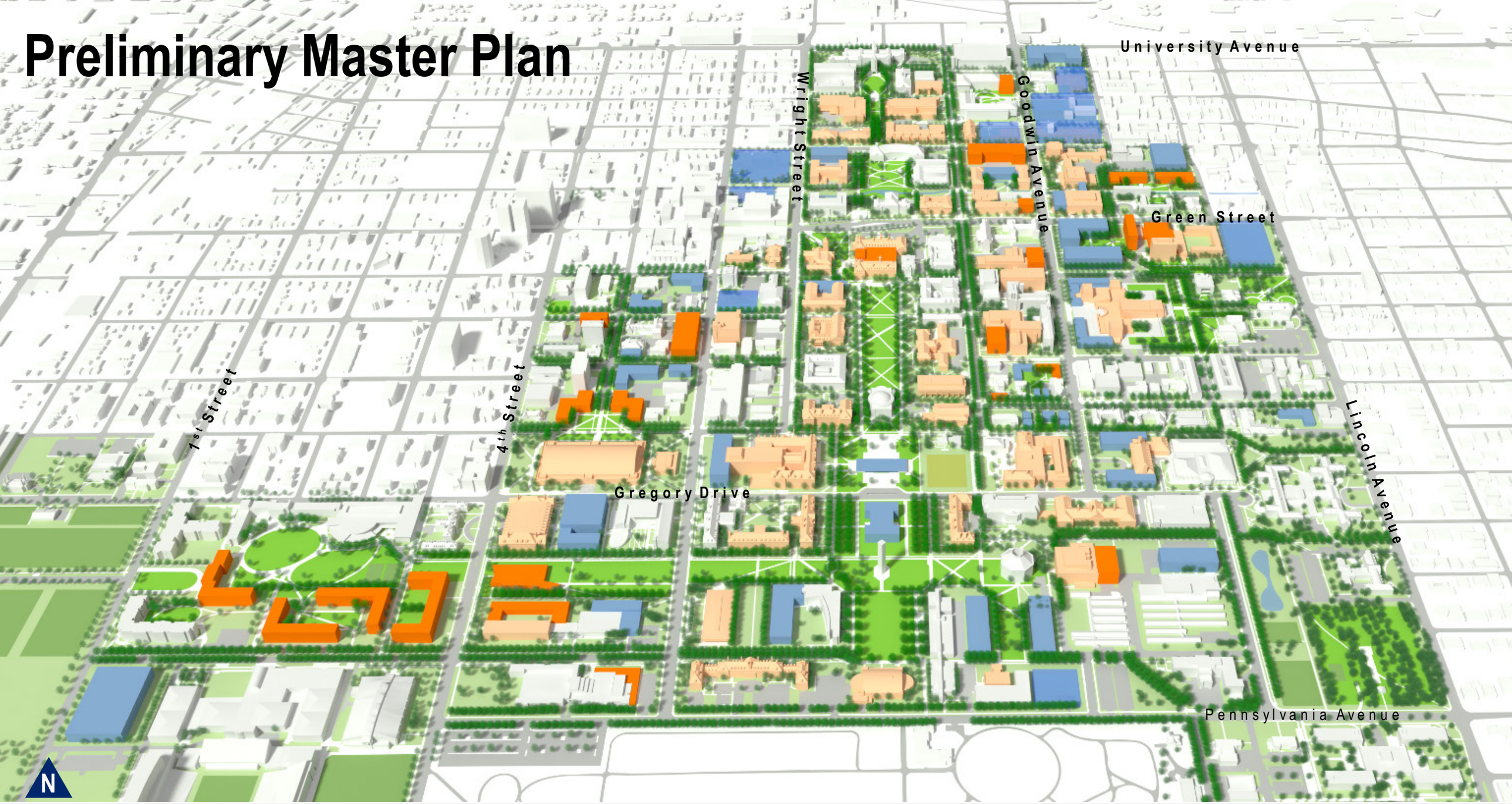

Mathews Avenue

Block K – W Oregon to W Nevada St (Red Herring, Foreign Languages block)

1 lane, 1-way south, on-street parking both sides, separate bike path picks up again west of curb

NAVYA ARMA

Electric, 100% Autonomous Shuttle, Carries up to 15 passengers. French Company. Tested at U of M.

Varden Labs Partners with California Universities

Electric, 100% Autonomous, Carries up to 4 Passengers. Programmable Routing. Canadian Company.

Proposed Mathews Avenue

8’ *Sidewalk*

12’ *Vegetated Buffer*

10’ *Autonomous Bus Lane*

5’ *Bike Lane*

5’ *Bike Lane*

10’ *Autonomous Bus Lane*

12’ *Vegetated Buffer*

8’ *Sidewalk*

30’
(Match Existing Street Width)

4

DISTRICT-LEVEL INITIATIVES

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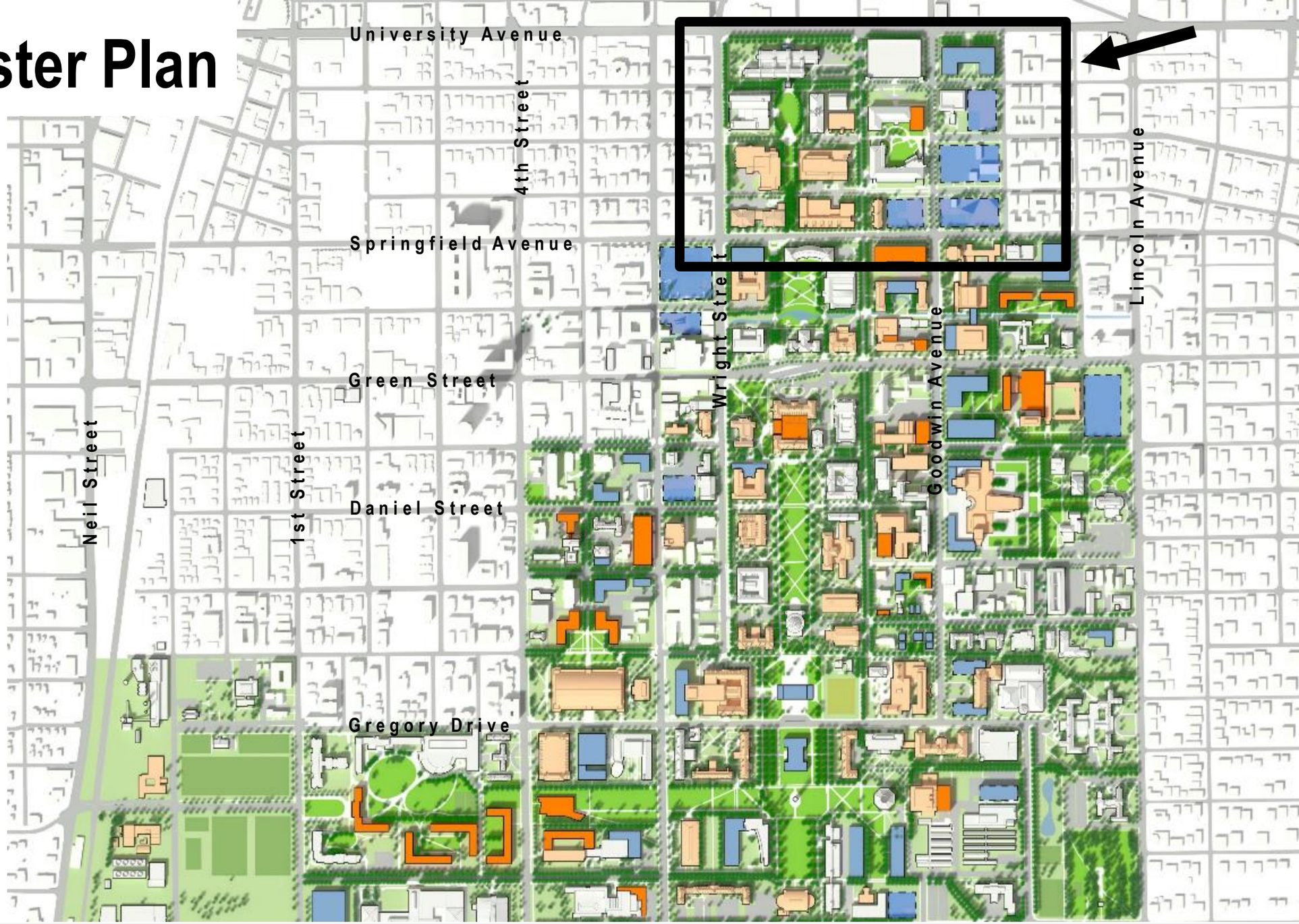

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Carle Illinois College of Medicine

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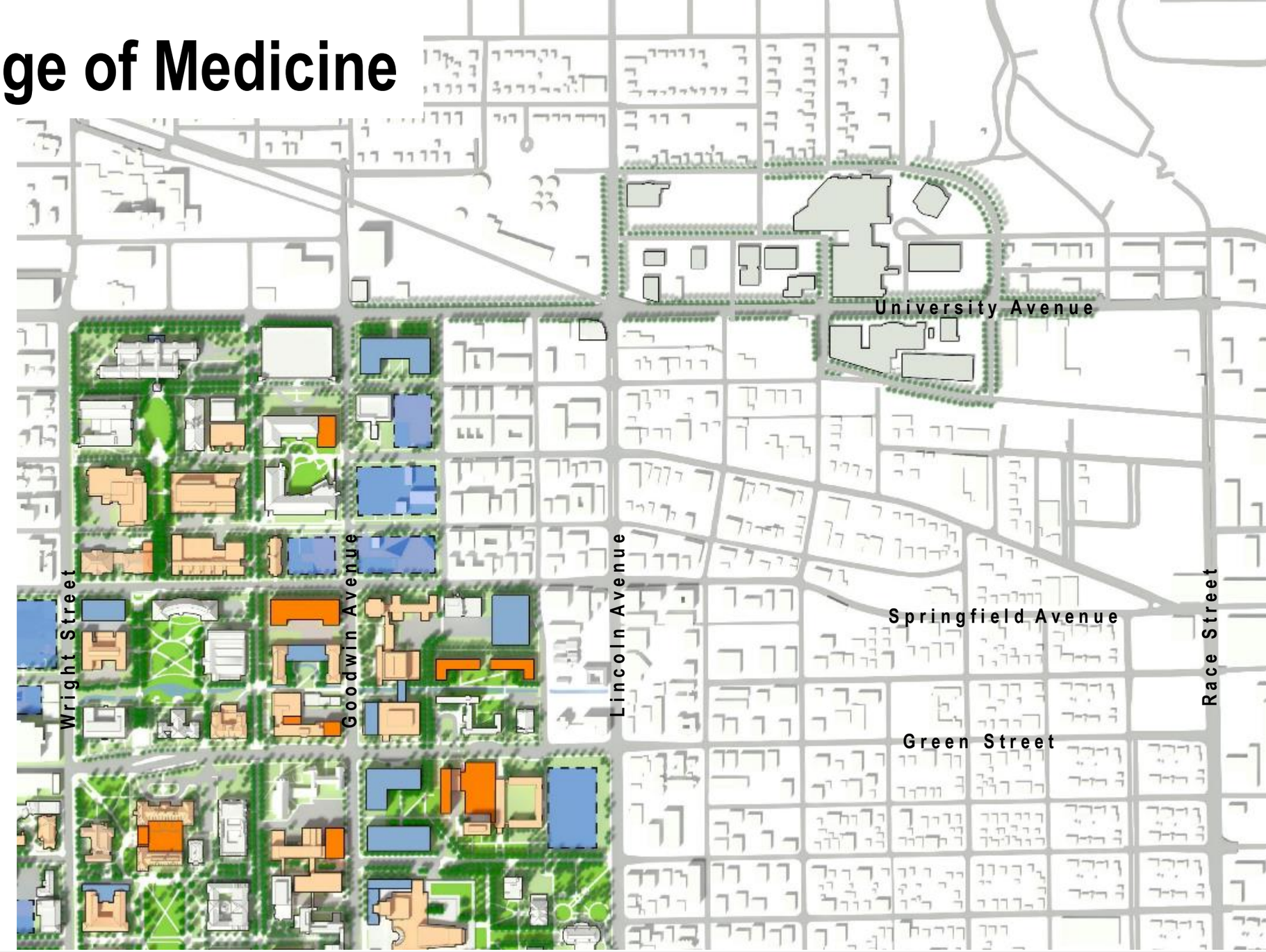

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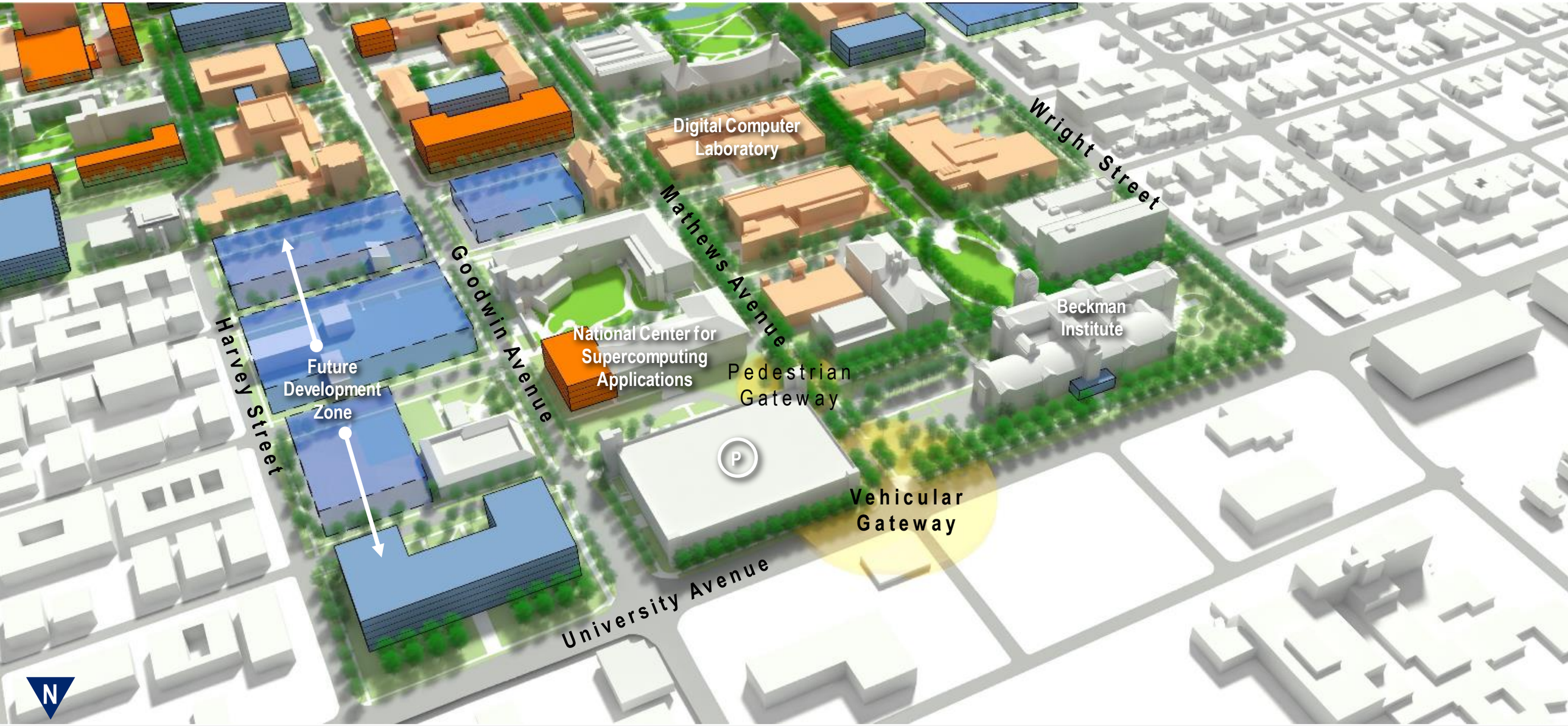
A New University Avenue Campus Gateway



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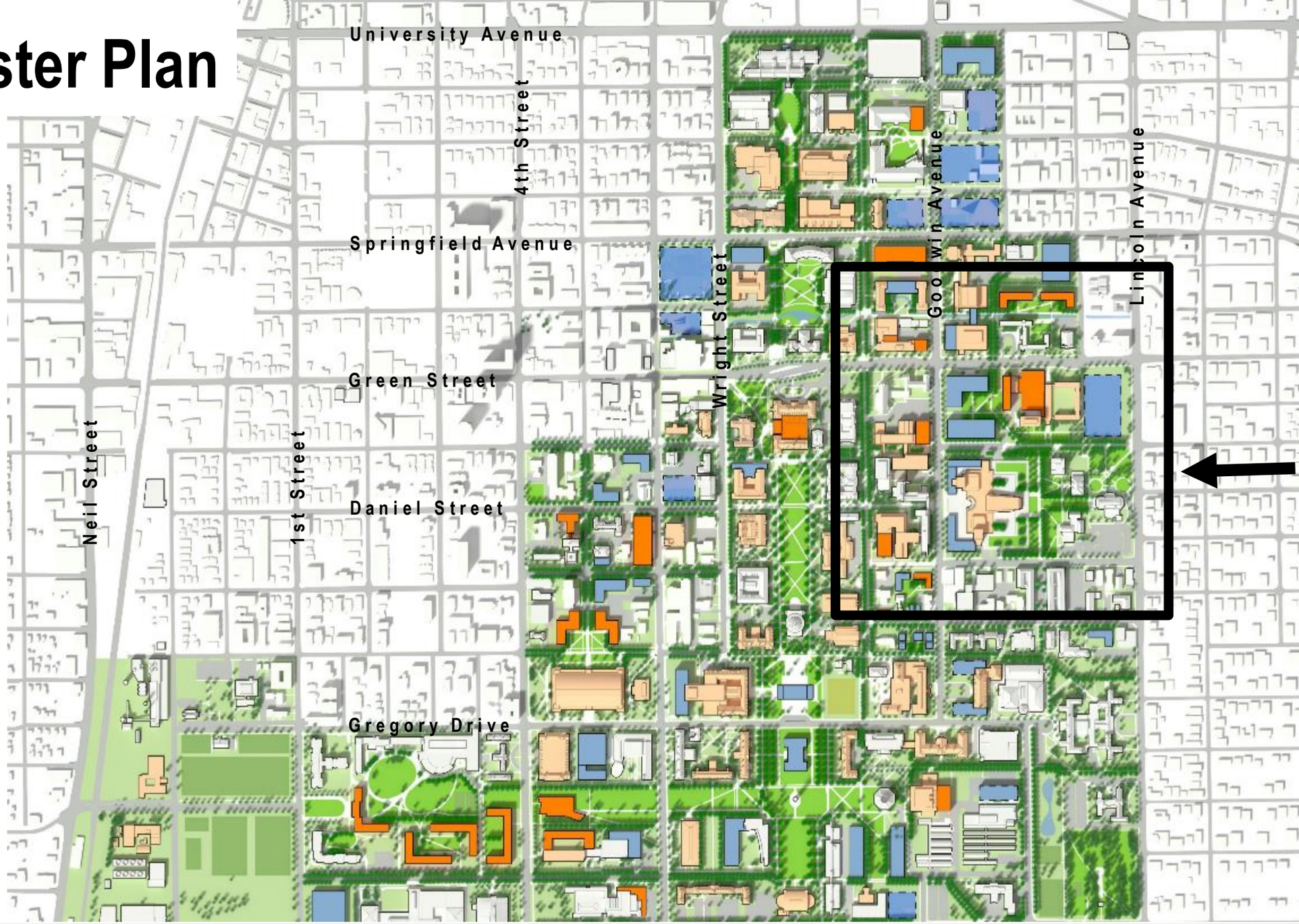

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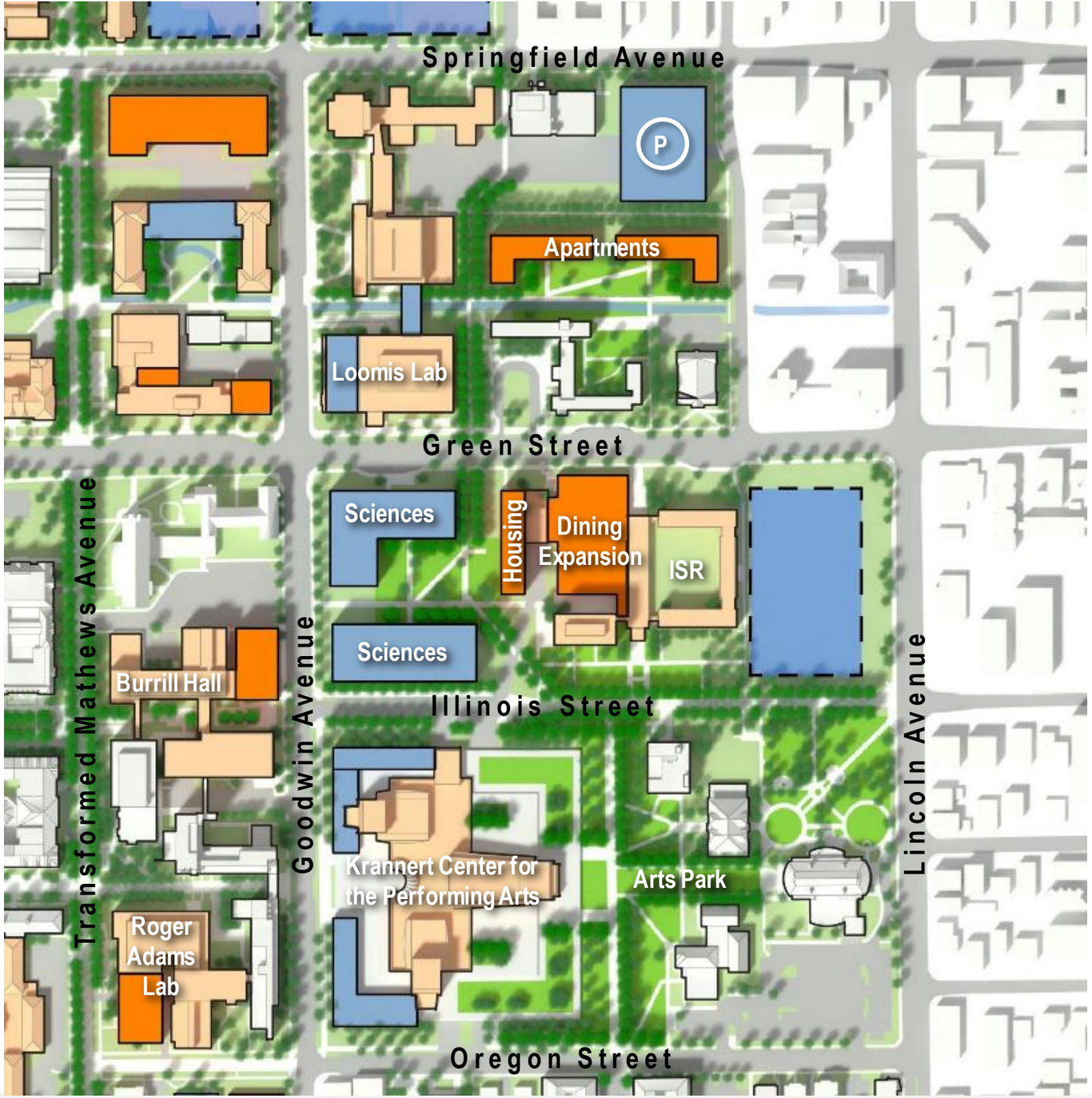

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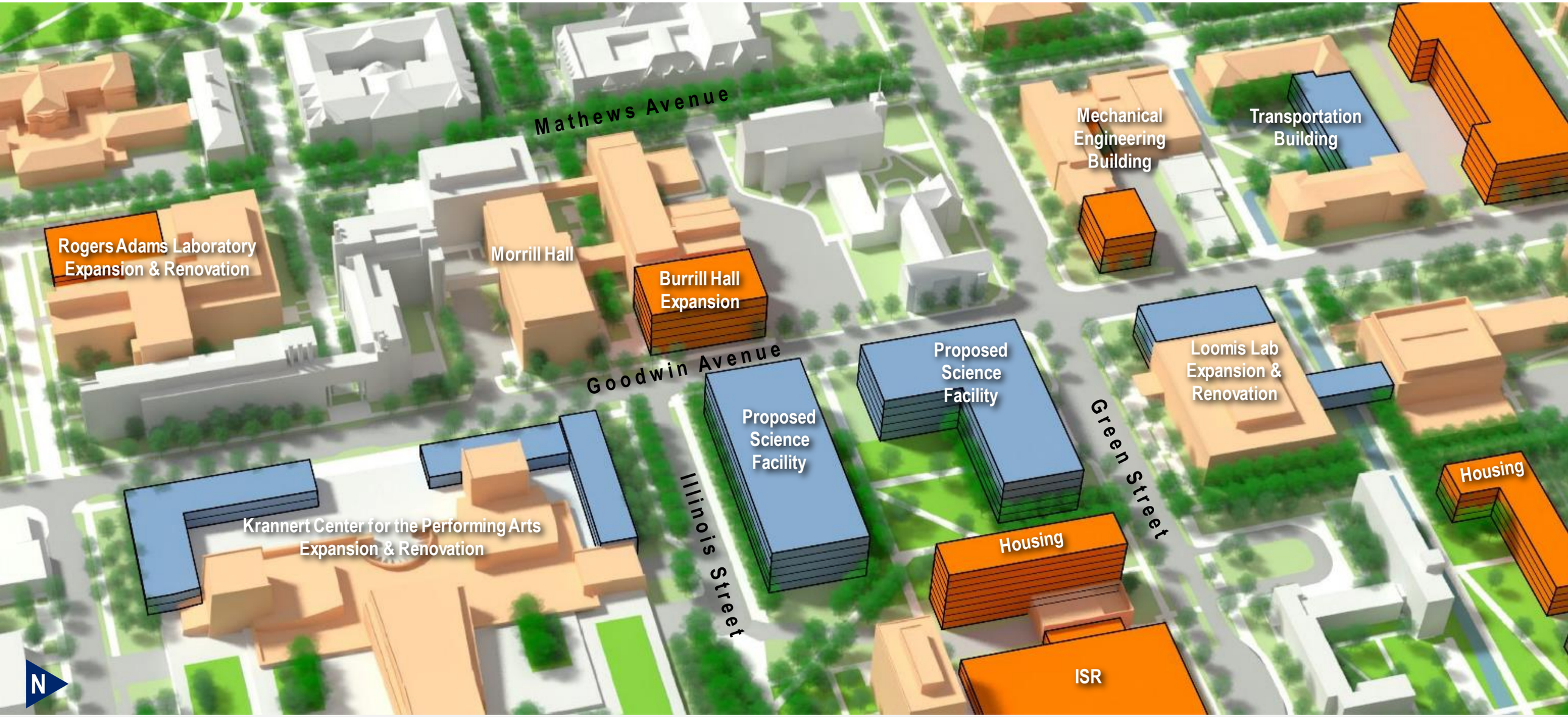
An Expanded Sciences Corridor



“The Illinois Experience”

- Illinois Street serves as a prominent “gateway street” for first-time visitors.
- Celebrate the diversity and excellence of the University along Illinois Street.
- Enhance gateways at Lincoln & Green (vehicular) and Lincoln & Illinois (pedestrian).
- Showcase the arts and sciences thru renovation of existing facilities and new buildings.
- Create an Arts Park to better link KCPA to Spurlock Museum and Alumni Welcome Center.
- Strengthen corridor from Lincoln to Illini Union.

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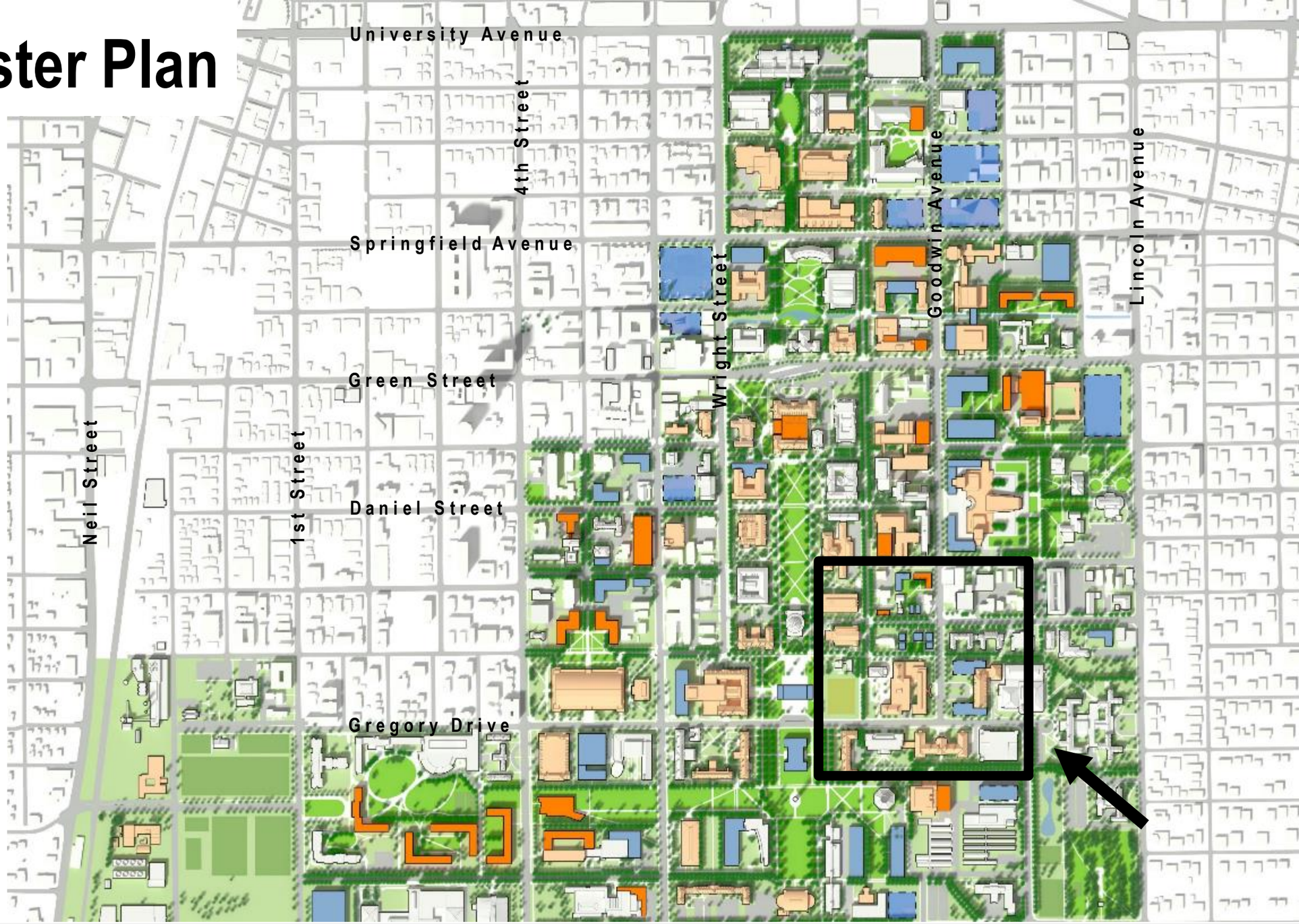

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Strengthening the Cultural Centers

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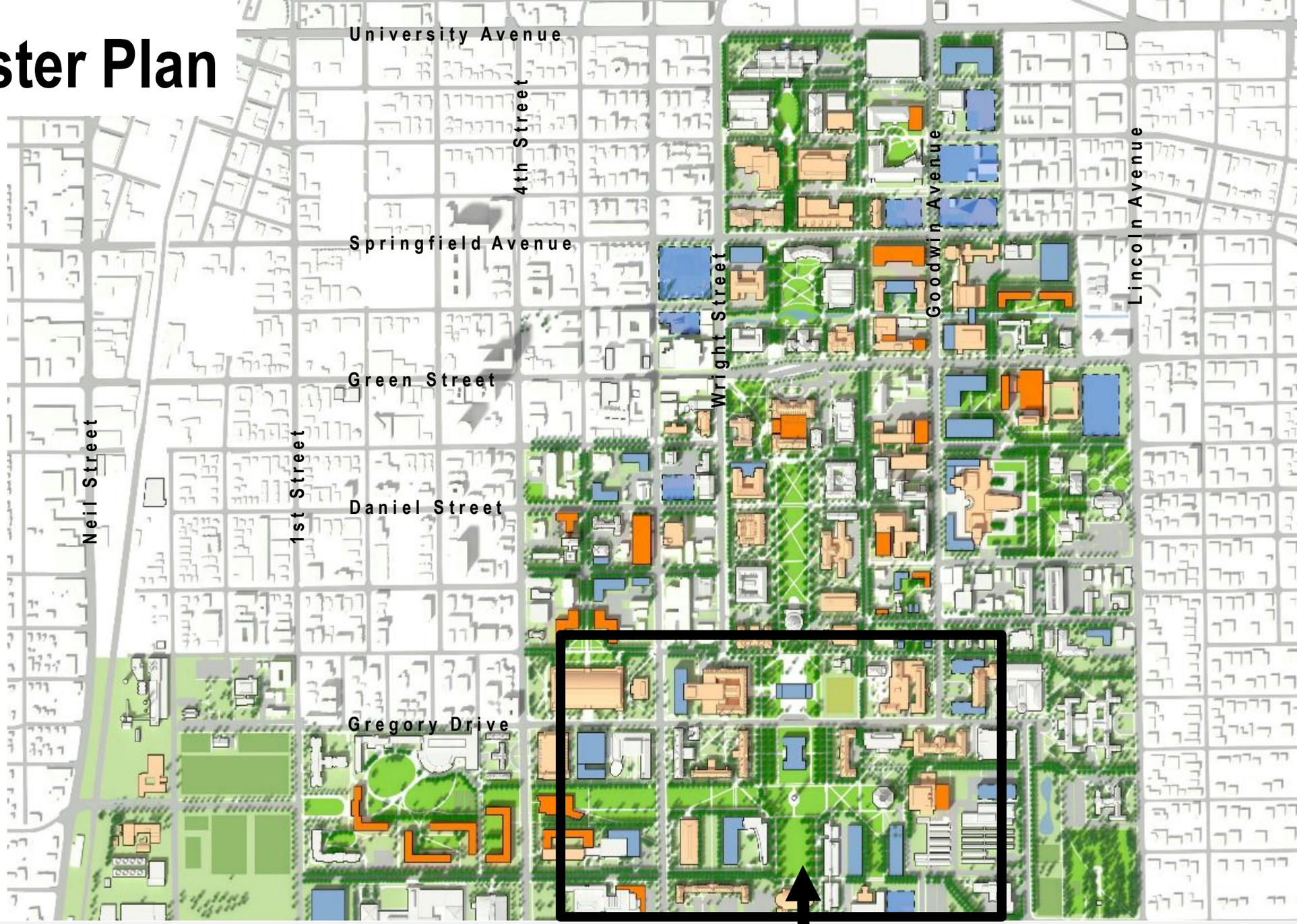

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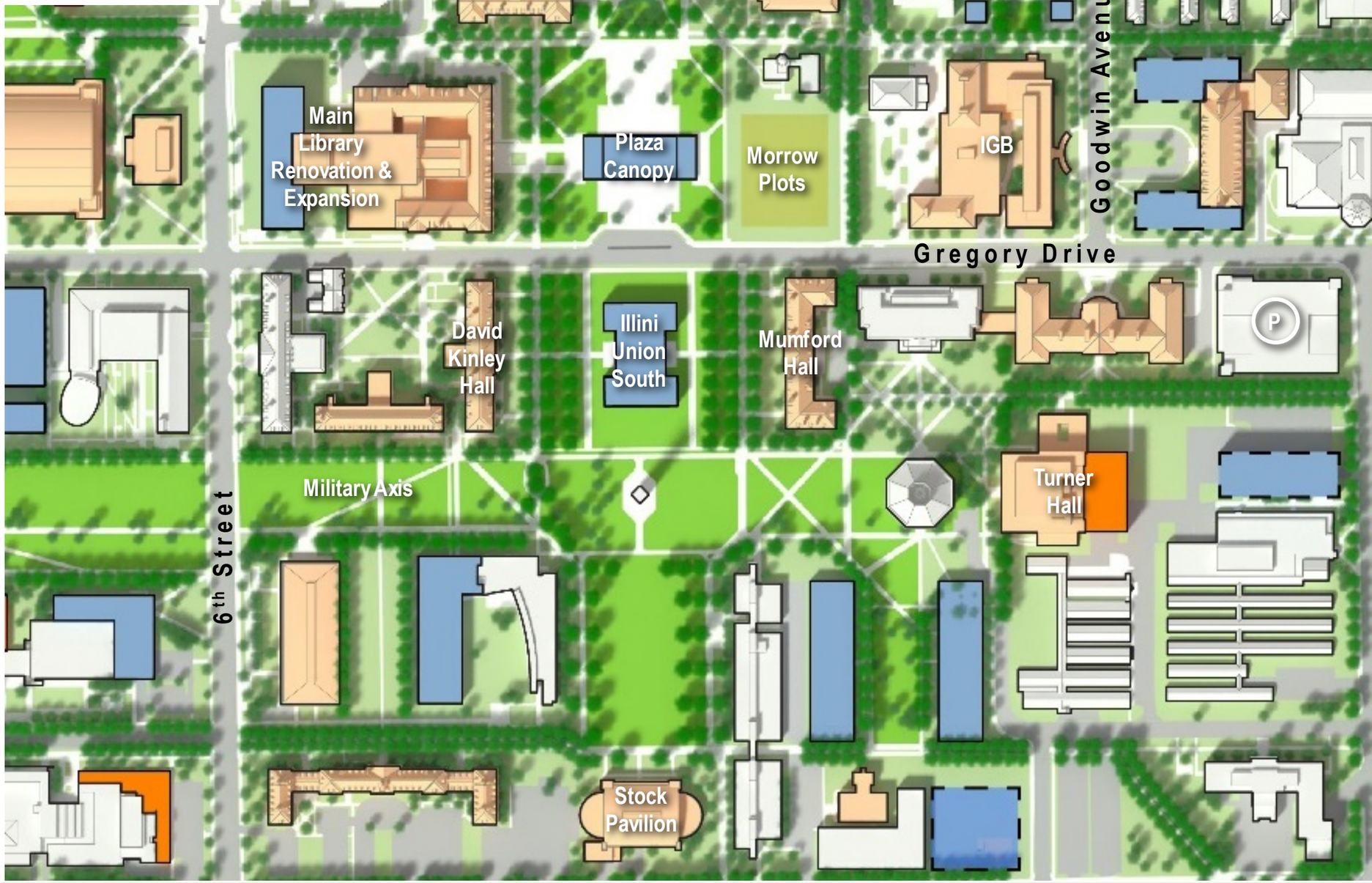

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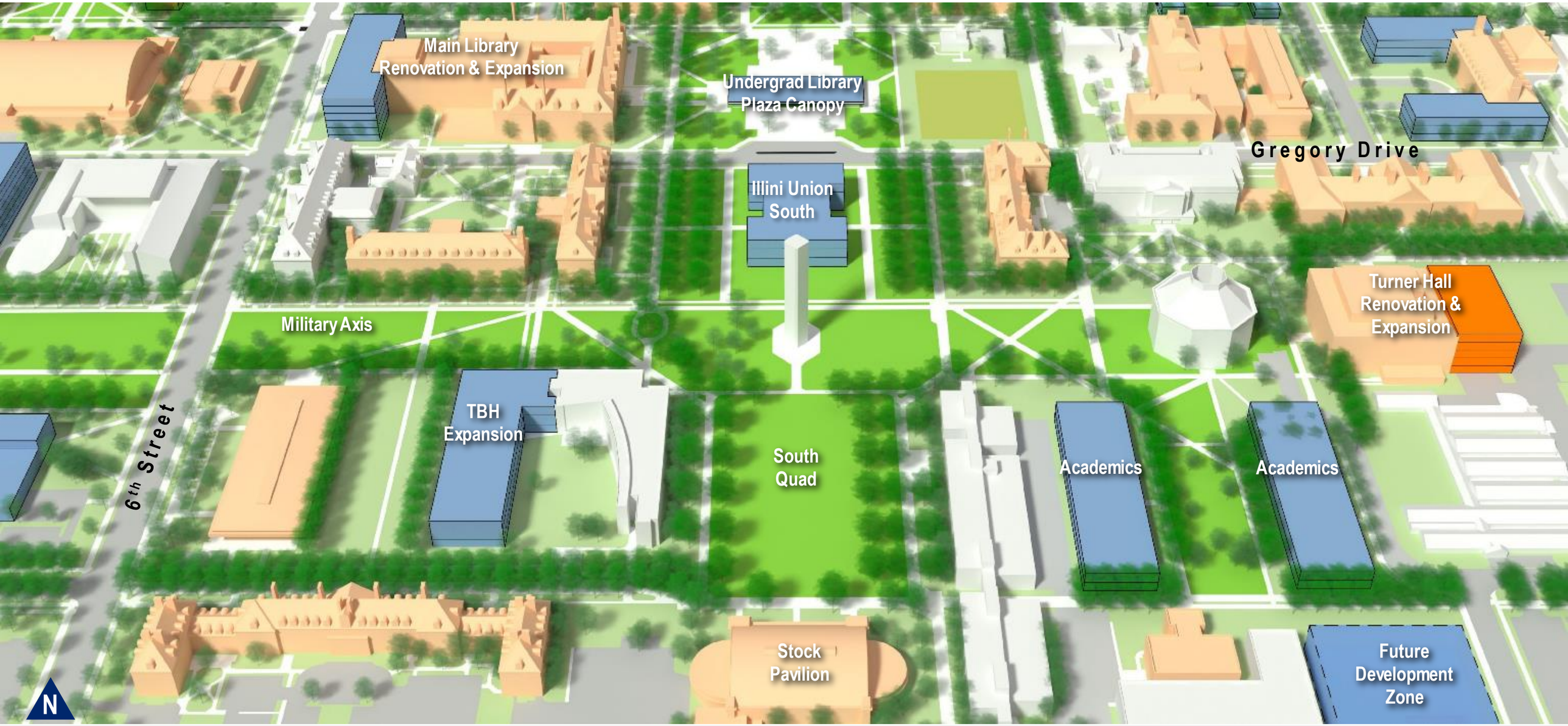
Defining the South Quad



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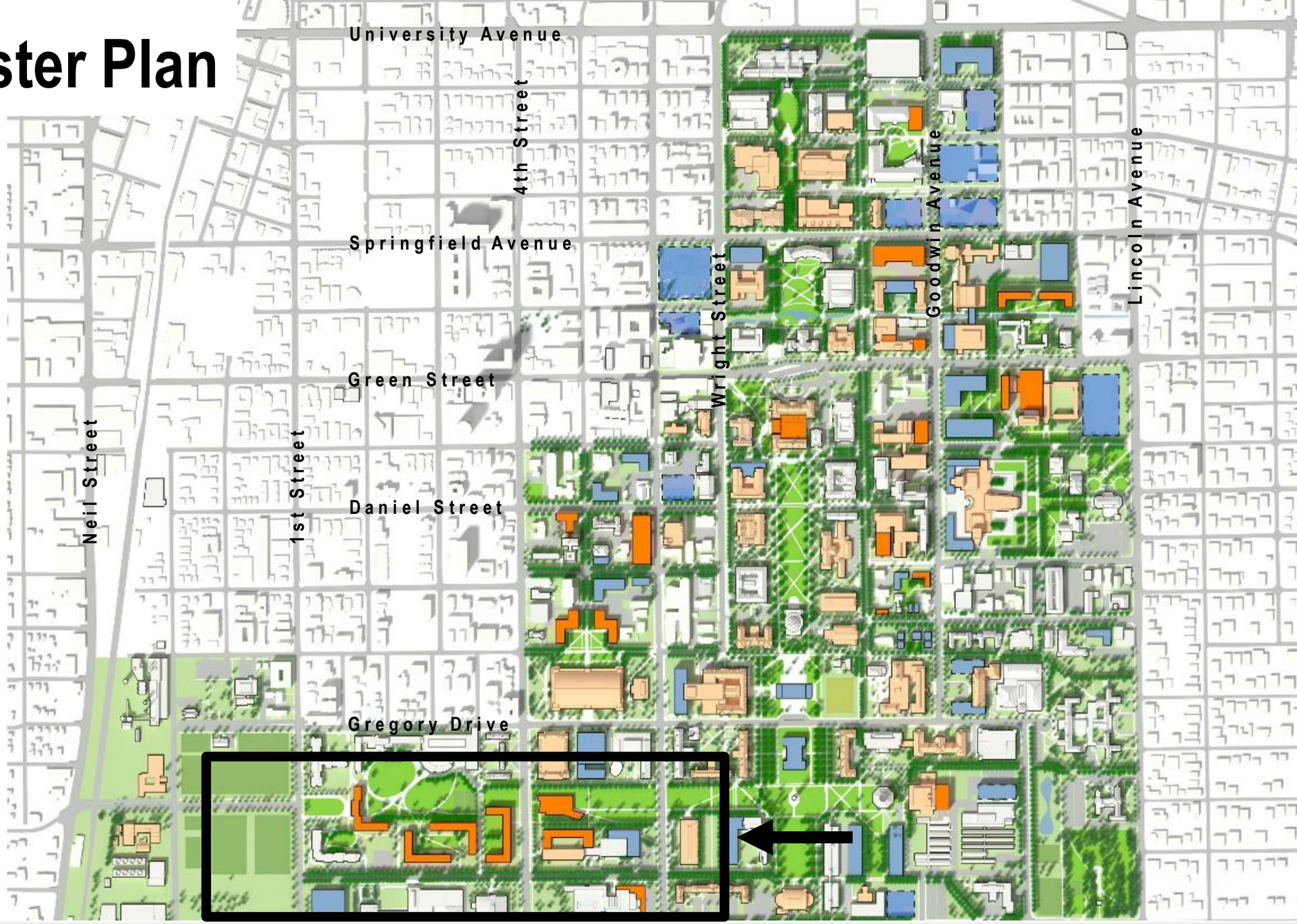

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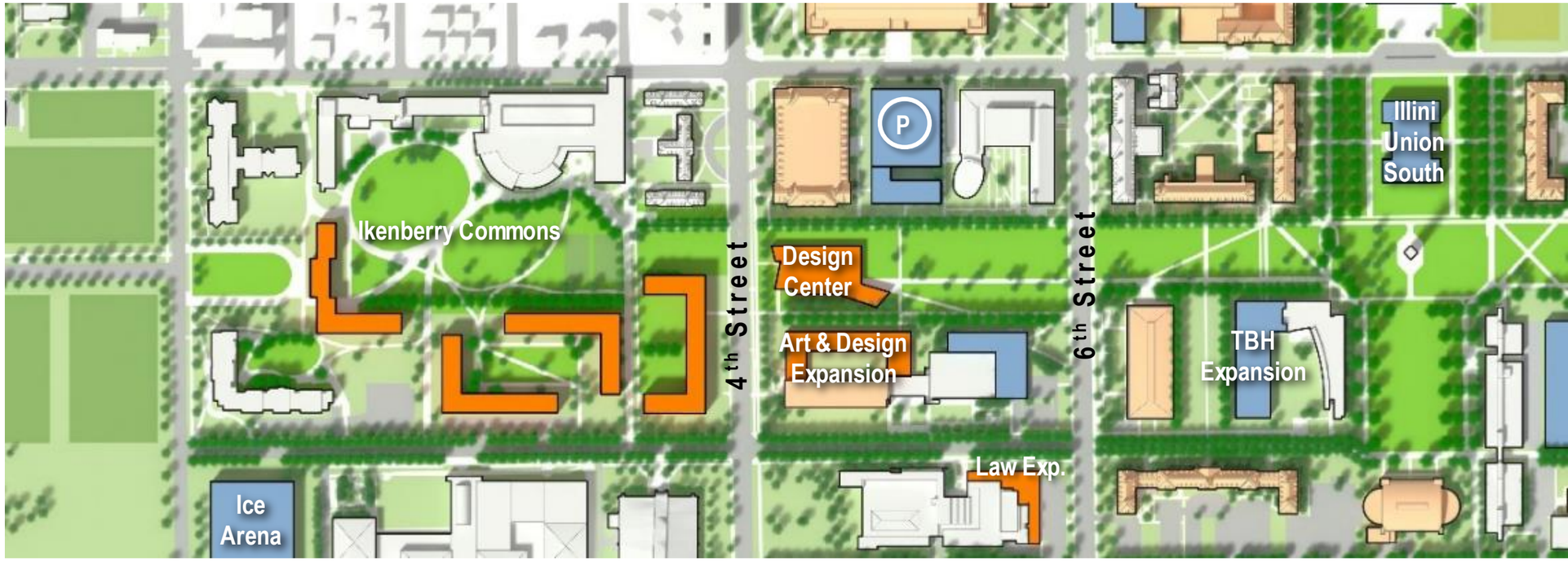
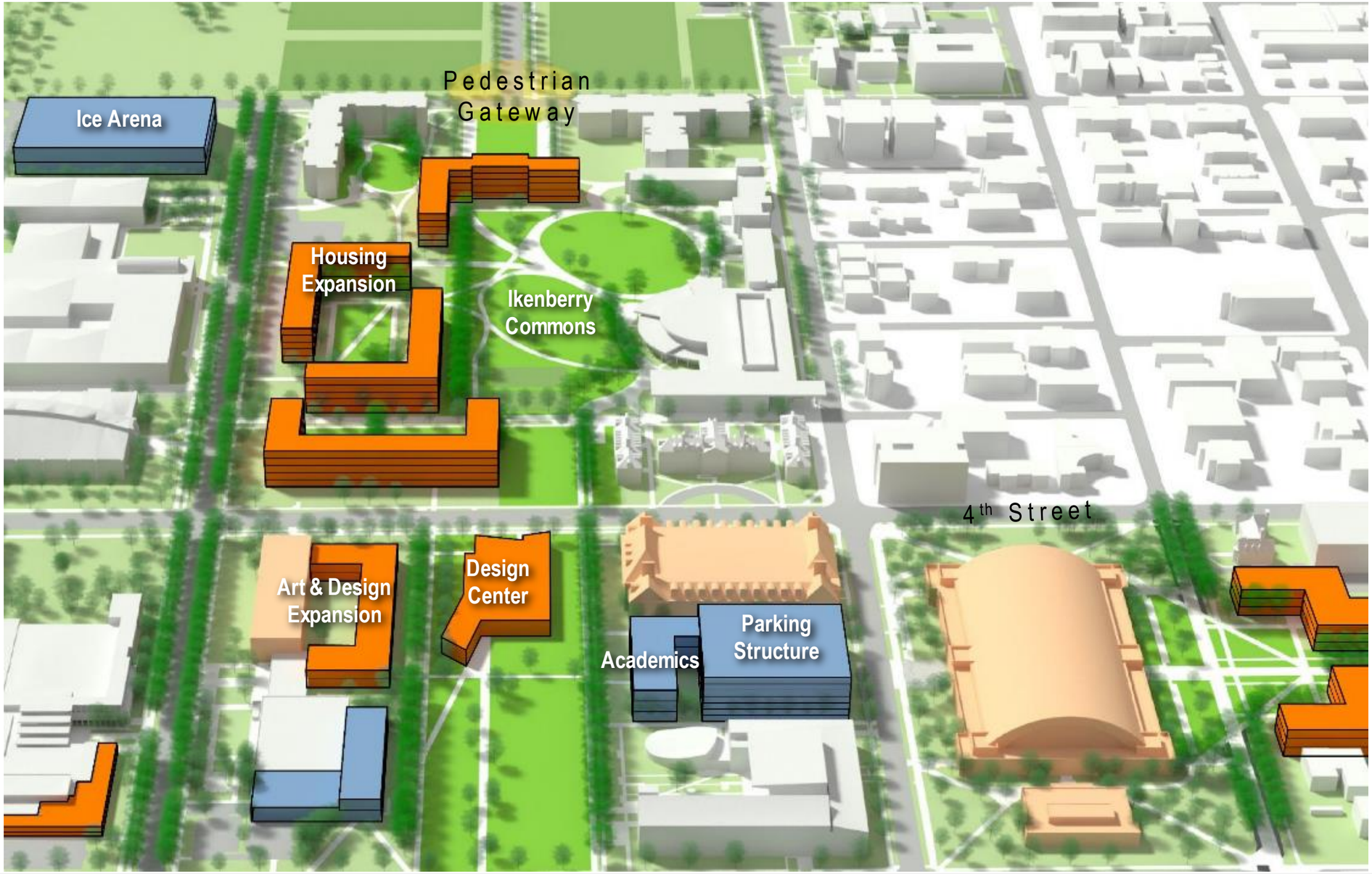


The Military Axis Reborn

Ikenberry Commons



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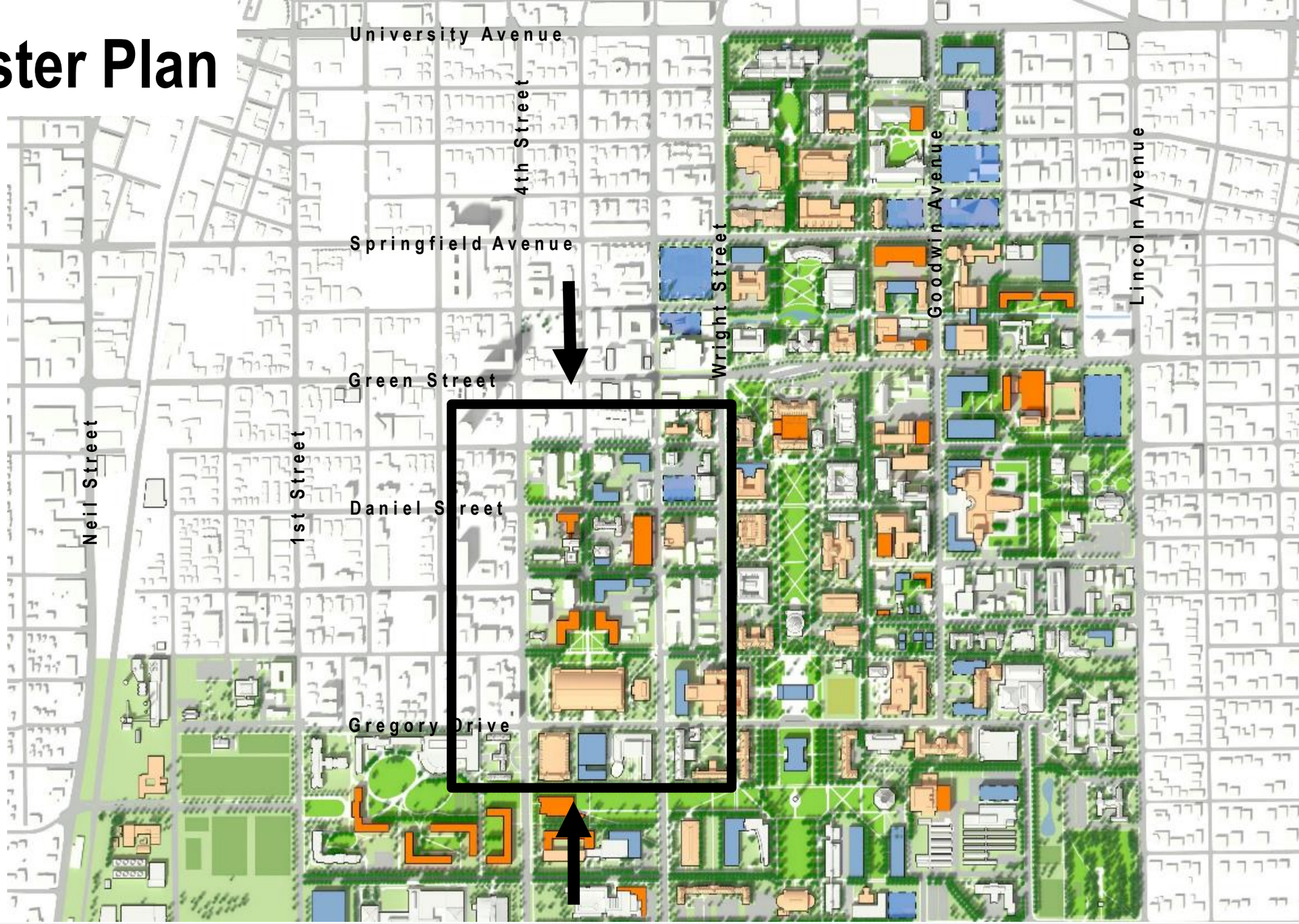

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A New West Campus Identity

A New West Campus Identity

Student Affairs

- Illinois Existing Building
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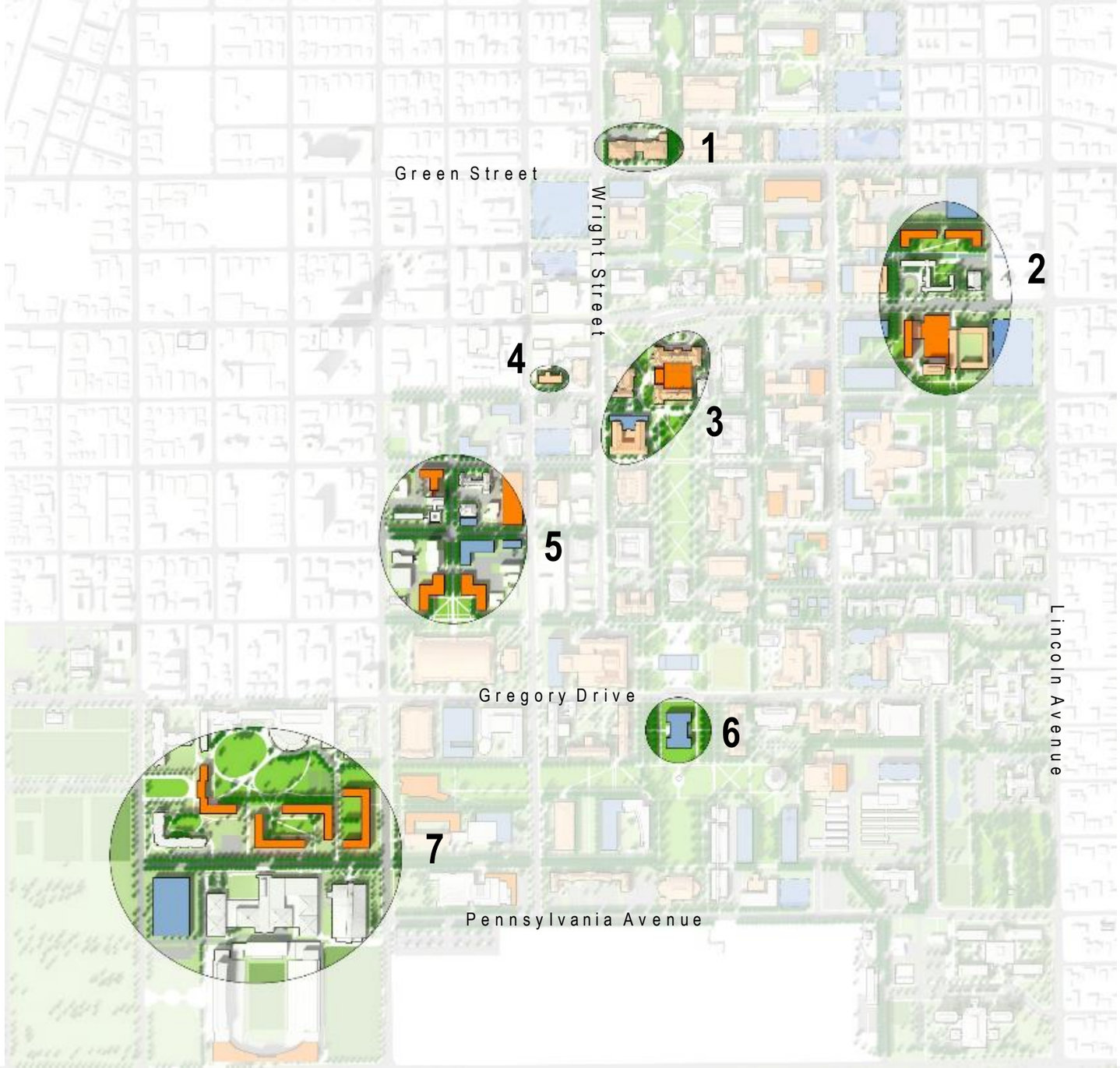
1. Kenney Gym Renovation
2. Goodwin Green Replacement Apartments, ISR Dining Reno/Expansion, ISR Dorm Expansion
3. Illini Union Reno/Expansion, Henry Admin. Building Reno/Expansion
4. Turner Renovation & Partial Relocation
5. Sherman Hall Expansion, Additional Champaign Area Residences
6. Illini Union South
7. Ikenberry Commons Buildout, Ice Arena



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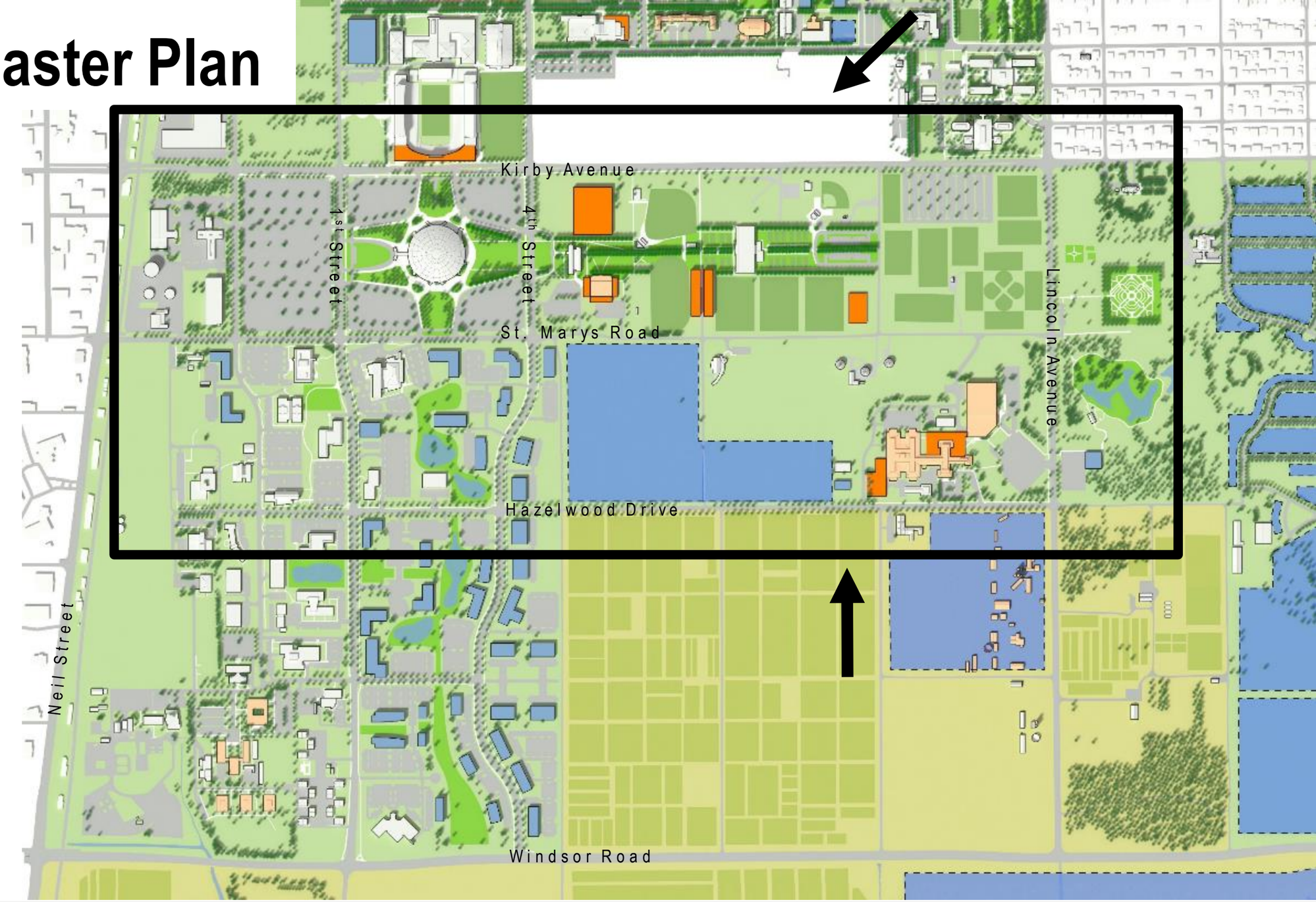

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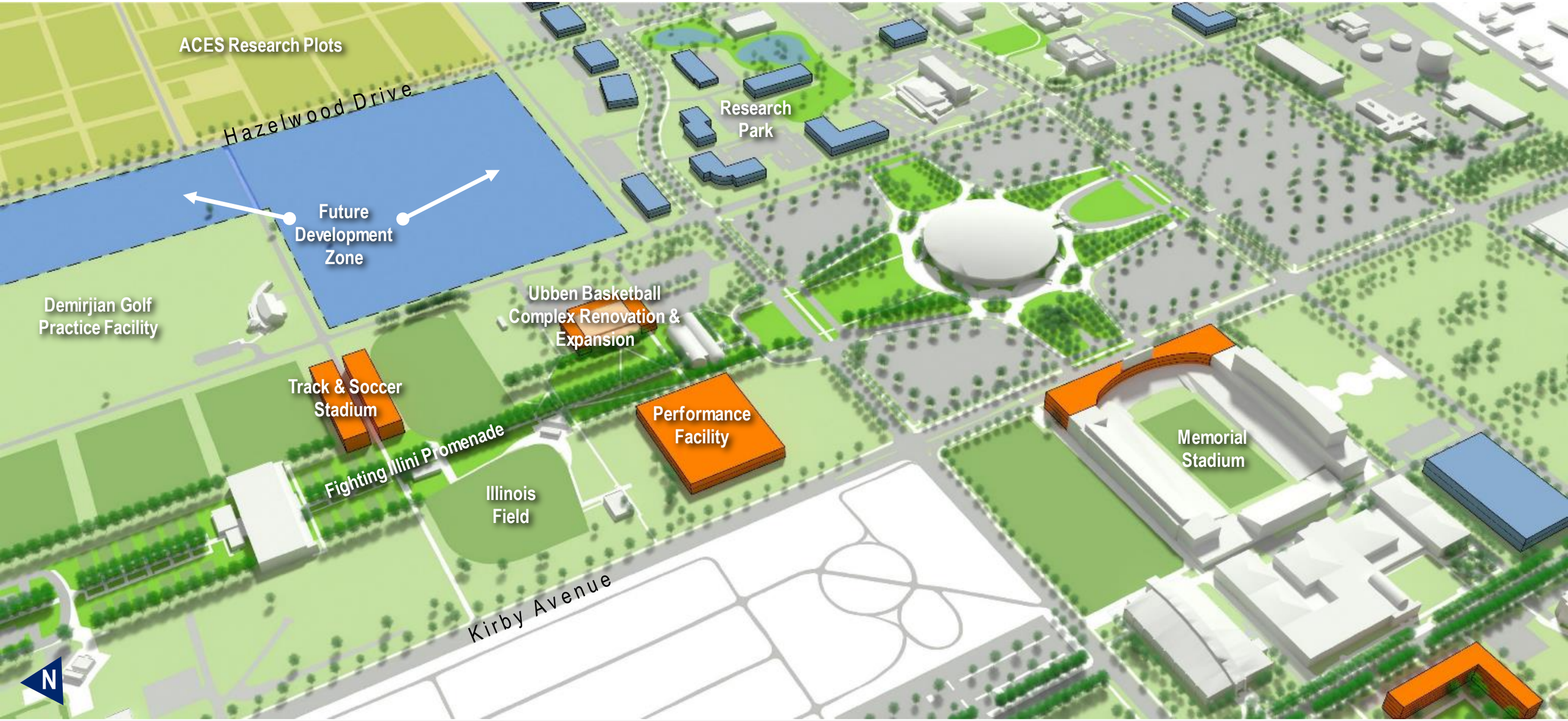
Reimagining the Athletics Campus



“The ACES Legacy Corridor”

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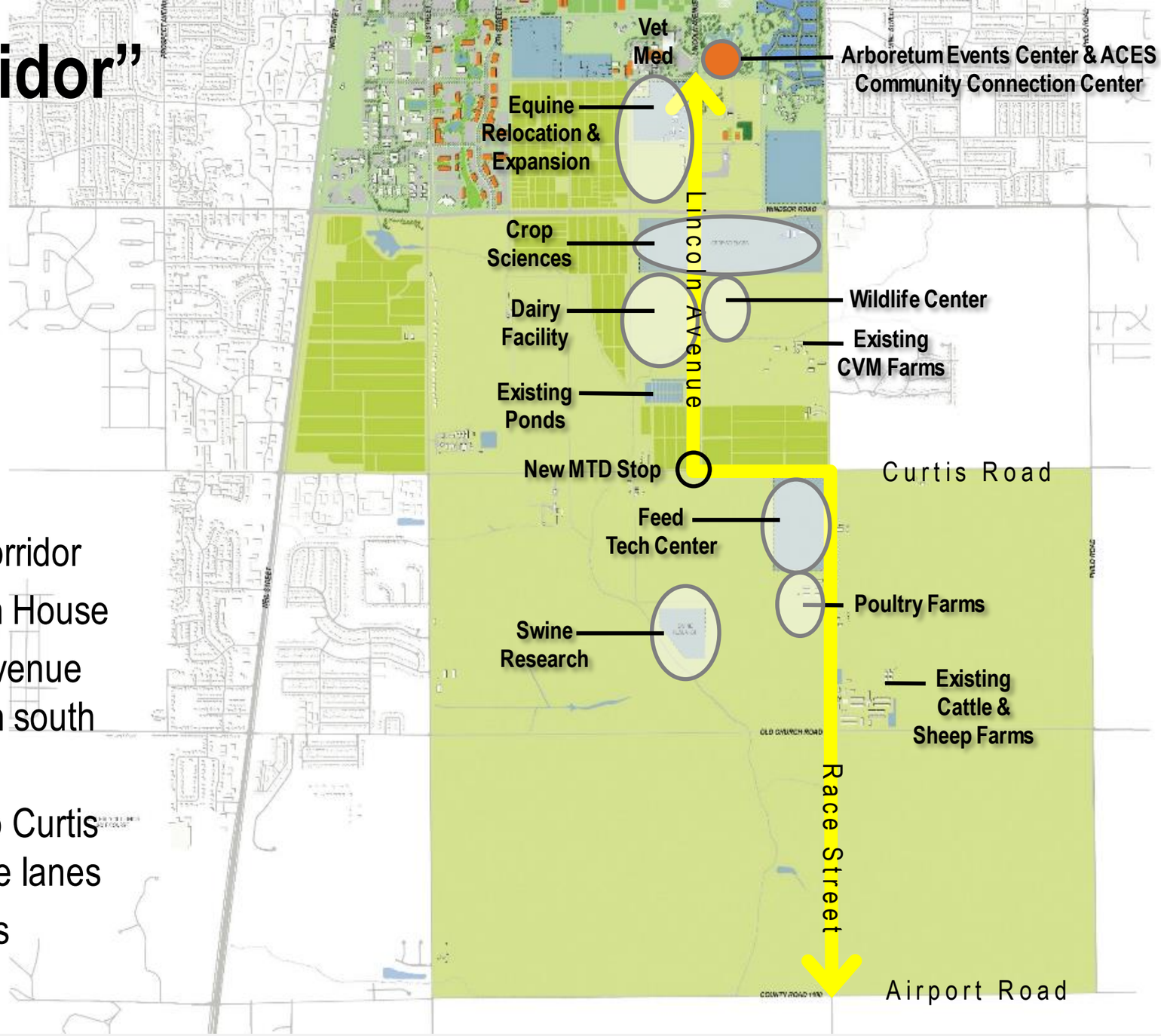
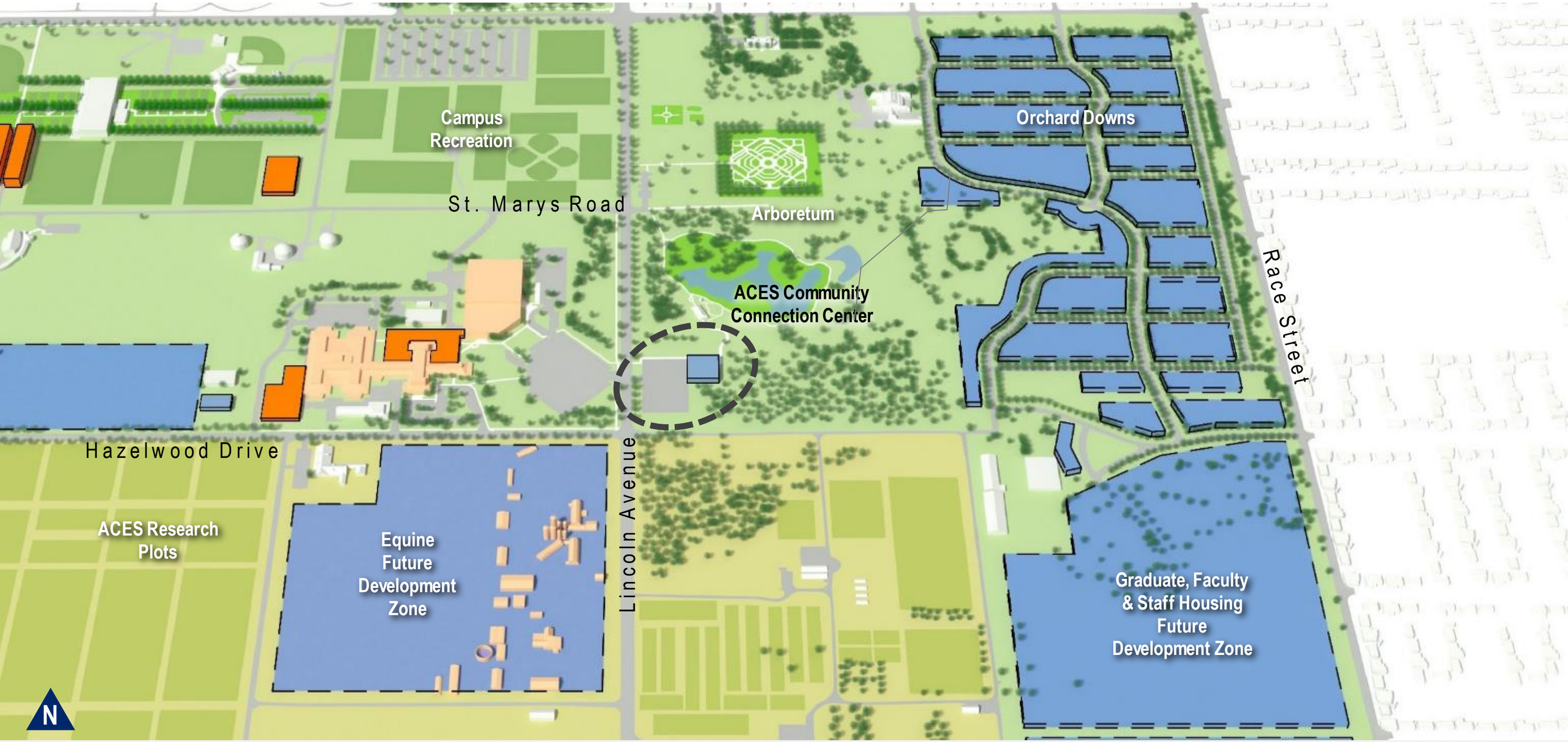


Design Goals:

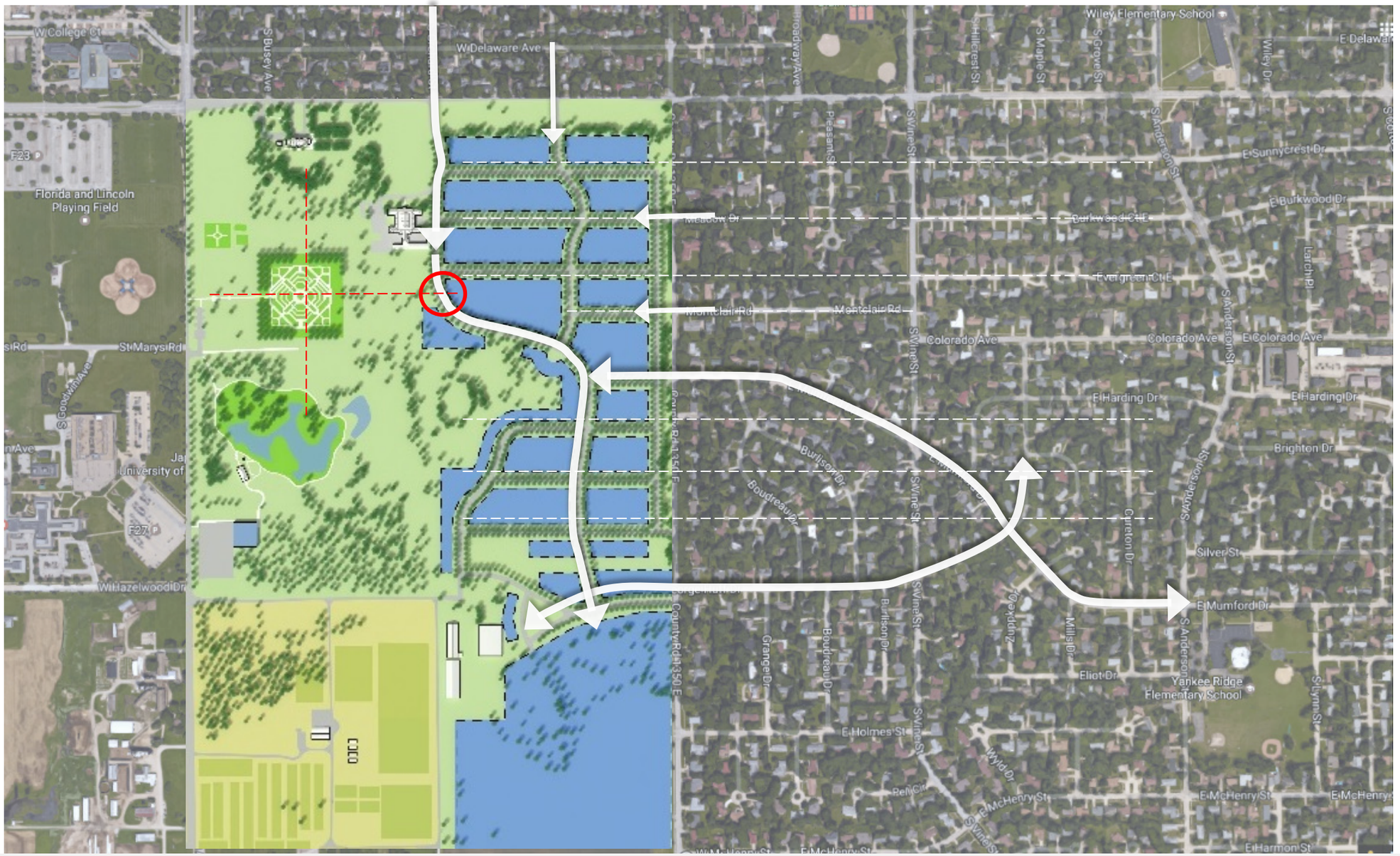
- Celebrate the Land Grant Mission along corridor
- Community Connection Center near Japan House
- “Legacy Corridor” focused along Lincoln Avenue from Hazelwood Drive to Curtis Road, then south along Race Street to Airport Road
- Improve section of Lincoln from Windsor to Curtis Road with paving, 2-lane roadway with bike lanes
- Extend MTD service along Lincoln to Curtis

ACES. Vet Med. DIA. Arboretum. Orchard Downs.

Arboretum and ACES Community Connection Center



Orchard Downs Neighborhood



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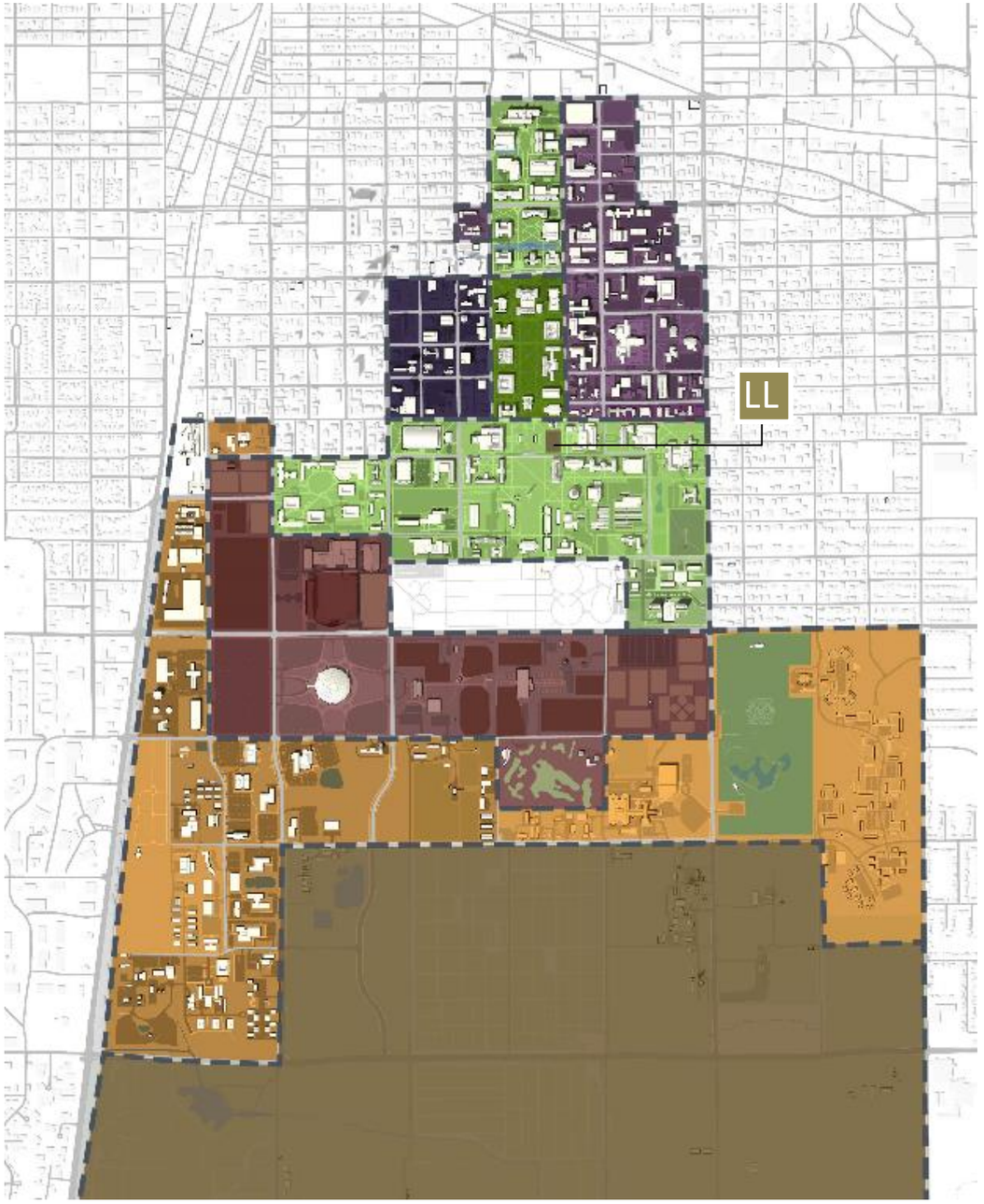
CAMPUS LANDSCAPE GUIDELINES

Campus Typologies

EXISTING LANDSCAPES

Campus typologies represent the performance of the landscape and its interplay between various building types and program. Even though variability in the built environment exists, the campus can be successfully knit together through the various campus typologies, connecting disparent building uses while providing unity and definition thereby creating a more cohesive and unified campus experience that is uniquely defined as the University of Illinois.

- SA Sacred Landscapes
- CQ Campus Quads
- UC Urban Campus
- UT Urban Town/Gown
- AL Active Landscapes
- PL Passive Landscapes
- LL Learning & Research Landscapes
- CL Contemplative Landscapes



Campus Typologies

UT URBAN TOWN/GOWN

The Urban Town/Gown forms the northwestern edge of campus and represents a primarily vehicular oriented typology derived from a typical city grid with a mixture of business, retail, cultural and residential uses.

Though the current streetscapes lack organized definition, reinforcing visual connectivity and unifying existing disjointed uses might be achieved by strengthening and articulating signage and wayfinding elements, lighting, appropriate site furnishings and a cohesive palette of materials. Materials consistent with the existing vernacular present along Green Street, just to the north would reinforce this urban context.

Campus Typologies

SA SACRED LANDSCAPES

Sacred landscapes are pedestrian oriented spaces consisting of open formal lawn areas, trans-versed by pedestrian walkways and punctuated with iconic sweeping views and vistas. Framed by historic campus architecture these landscapes represent the heart of the University and provide for a range of uses from passive recreation to large scale programmed campus events.

A cross section of the Main Quad is formally defined by generous pedestrian walks, taxus border hedges, an ornamental understory at interface with building masses and open lawns flanked by a double allee of large canopy trees.

Sacred Landscapes can be further defined by a simplified materials palette of mowed lawn, cast in place concrete walks and enriched embellishments at key entry points and gateways.

Campus Typologies

CQ CAMPUS QUADS

Campus Quads are composed of a series of formal and informal pedestrian oriented open lawn spaces. Framed with buildings and consisting of walkways and large canopy trees, the Quads recognize the formality seen in the Sacred Landscapes but provide more casual flexibility in respect to the surrounding contemporary tenant anchors. They allow for passive recreational uses in addition to a wide range of programmed events.

The Quads should emphasize a simplified materials palette of mowed lawn, cast in place concrete walks and minor embellishments at key entry points and gateways. Buildings and lawn areas are buffered by a landscape palette that maintains a canopy tree interface with greater diversity and lower stratified landscape zone that embraces a stylized prairie landscape.

Campus Typologies

UC URBAN CAMPUS

The Urban Campus consists primarily of University focused uses set within the campus framework but laid out in a series of disconnected superblocks. The urban campus is the transitional zone between the small scale residential neighborhoods to the east and the Campus Quads to the west, the backbone of the University.

The areas north of Nevada Street and east of Mathews Avenue are predominantly laid out on the city grid in superblocks; they are defined by the urban grid versus traditional open campus green space. Pedestrian circulation is presently maintained on the perimeter of these developed areas rather than integrally woven into the fabric of uses with open space.

Generally, this typology is less dense, the material palette is inconsistent and the urban assets are limited due to disjointed circulation patterns. A strengthened material palette would reinforce connectivity and unify existing disjointed uses.

Campus Typologies

AL ACTIVE LANDSCAPES

Comprised of indoor and outdoor recreational facilities and set within large scale auto-oriented blocks, Active Landscapes prioritize vehicular circulation and their associated parking accommodations, in contrast to the more pedestrian oriented typologies to the north.

Connecting various uses with an enhanced wayfinding and directional signage system would reinforce connectivity while serving to clearly direct heavy vehicular traffic flow. Likewise, accommodations should be made for pedestrians with an improved sidewalk network and clearly identified crosswalks at roadway intersections and driveway entries. Special accommodations should be made for pedestrian circulation at key threshold locations such as mid-block crossings and iconic entry points surrounding the Stadiums.

Furthermore, the campus character might be emphasized on both a vehicular and pedestrian level by enhancing key gateways, implementing roadway design standards, an enhanced palette of materials, consistent lighting, banner treatments and planting techniques.

Campus Typologies

PL PASSIVE LANDSCAPES

Situated between the Active Landscape to the north and the more rural Learning and Research Landscape to the south, Passive Landscapes are made up of various campus uses, situated in a suburban context. As a primarily vehicular oriented typology, these uses are linked by their roadway networks and associated parking arrangements, with a secondary focus on pedestrian level circulation. Significant building setbacks result in a high amount of open space from building face to roadway.

Maintaining connectivity between the Passive Landscape and the more urban campus core to the north would be achieved with roadway design standards, lighting strategies, signage and wayfinding and planting techniques.

Campus Typologies

CL CONTEMPLATIVE LANDSCAPES

Comprised of both designed and naturalized spaces, Contemplative Landscapes provide opportunities for passive recreation, retreat and respite within a green, park like setting. From ornately designed gardens to the more informal Illini Grove, these landscapes allow for connection with nature and with others.

The streetscapes surrounding these destinations should be welcoming and accessible to both pedestrians and vehicles. Special accommodations should be made for pedestrian circulation and safe passage at key threshold locations such as mid-block crossings and landscape entry points.

Clearly communicating the uses within these landscapes and their associated entry points might be improved with consistent signage and wayfinding elements. Likewise, a strengthened palette of materials and lighting strategies would reinforce the campus character on the periphery and throughout these landscapes.

Campus Typologies

LL LEARNING & RESEARCH LANDSCAPES

Learning & Research Landscapes are primarily experienced via vehicular means and set within a distinct rural, agricultural context. The immense scale of these spaces is typically experienced by passing through at a fast pace rather than on foot at a close range.

Roadway character varies from a suburban quality to rural and informal in nature as the surrounding, vast open landscapes comprise 360 degree sprawling views of the surrounding agricultural landscape.

To further define and characterize these landscapes, establishing a unique rural palette of materials that successfully correlates back to the campus core would include fencing, signage, sidewalk treatments and roadway plantings, serving to unify this outlying typology to the rest of the campus to the north.

Transitional Zones

UC CQ

URBAN CAMPUS TO CAMPUS QUADS

The transitional zone between the Campus Quads and the Urban Campus is currently defined from north to south by the Mathews Avenue vehicular corridor. Utilizing a palette of streetscape materials and reinforcing pedestrian connections across Mathews leading into the Campus Quad would strengthen this transitional experience between typologies. Additionally, extending the open spaces of the Campus Quad eastward would support these relationships by creating a common thread between them.

UC SA

URBAN CAMPUS TO SACRED LANDSCAPES

As Mathews Avenue extends southward, linking the Sacred Landscapes and the Urban Campus would become realized with an alternate roadway configuration focusing primarily on public transit, bicycle and pedestrian circulation.

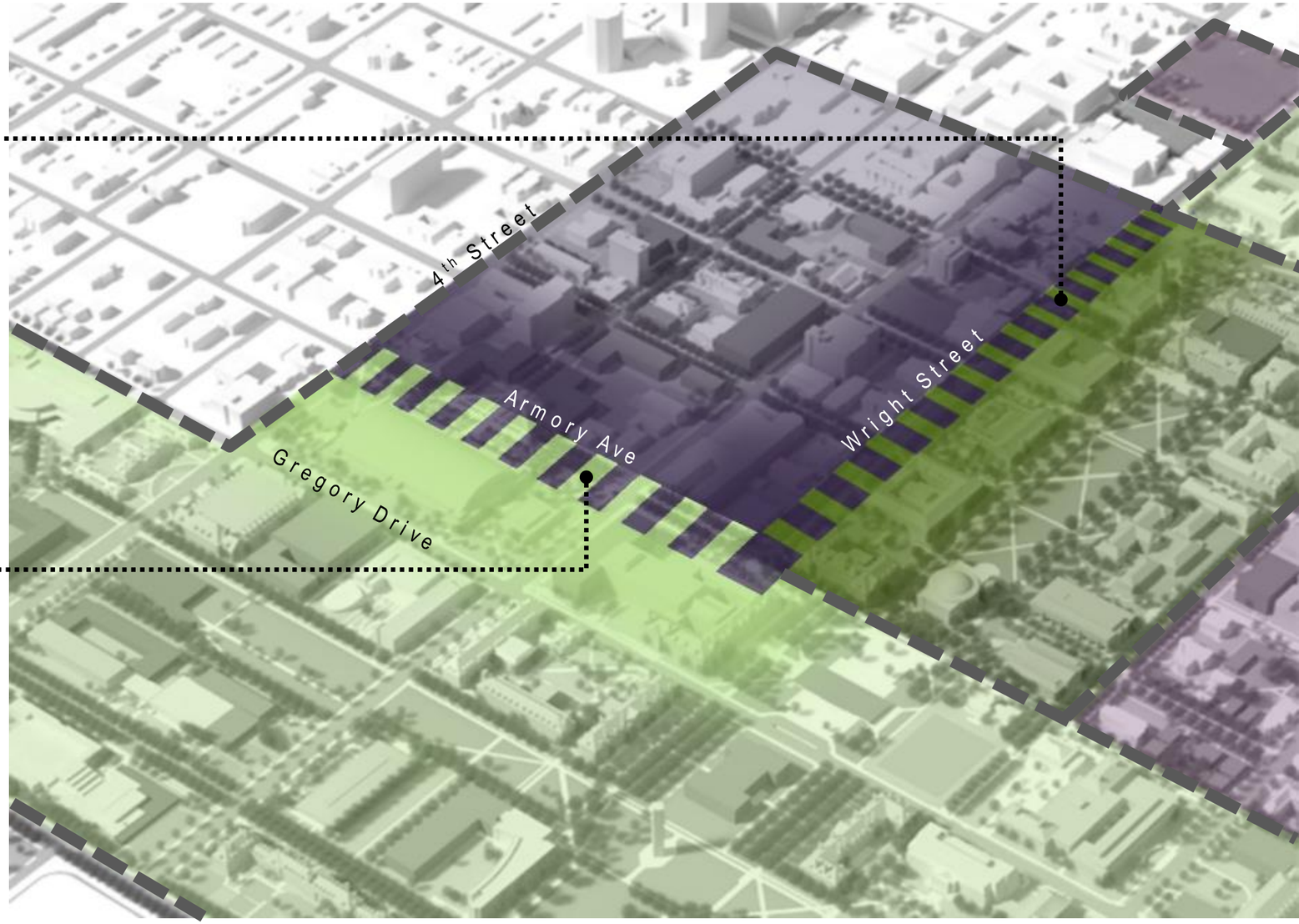
Transitional Zones

UT SA URBAN TOWN/GOWN TO SACRED LANDSCAPES

The materiality that exists within the transition between these landscapes should be reflective of the Sacred Landscape yet complementary to the Urban Town/Gown. Driven by an existing line of rigid architectural edges, the corridor should be softened by carrying through the open spaces of the Sacred Landscape. Given the mix of uses residing along this corridor, a public/private partnership vision becomes essential to knitting these two typologies together.

UT CQ URBAN TOWN/GOWN TO CAMPUS QUADS

A similar relationship exists in the transition between the Urban Town/Gown and the Campus Quad, however the architectural qualities are more relaxed and less formal. By strengthening the public/private partnership between uses and carrying material elements of the Campus Quad through to soften the corridor edge, the transition will knit these two typologies together successfully.

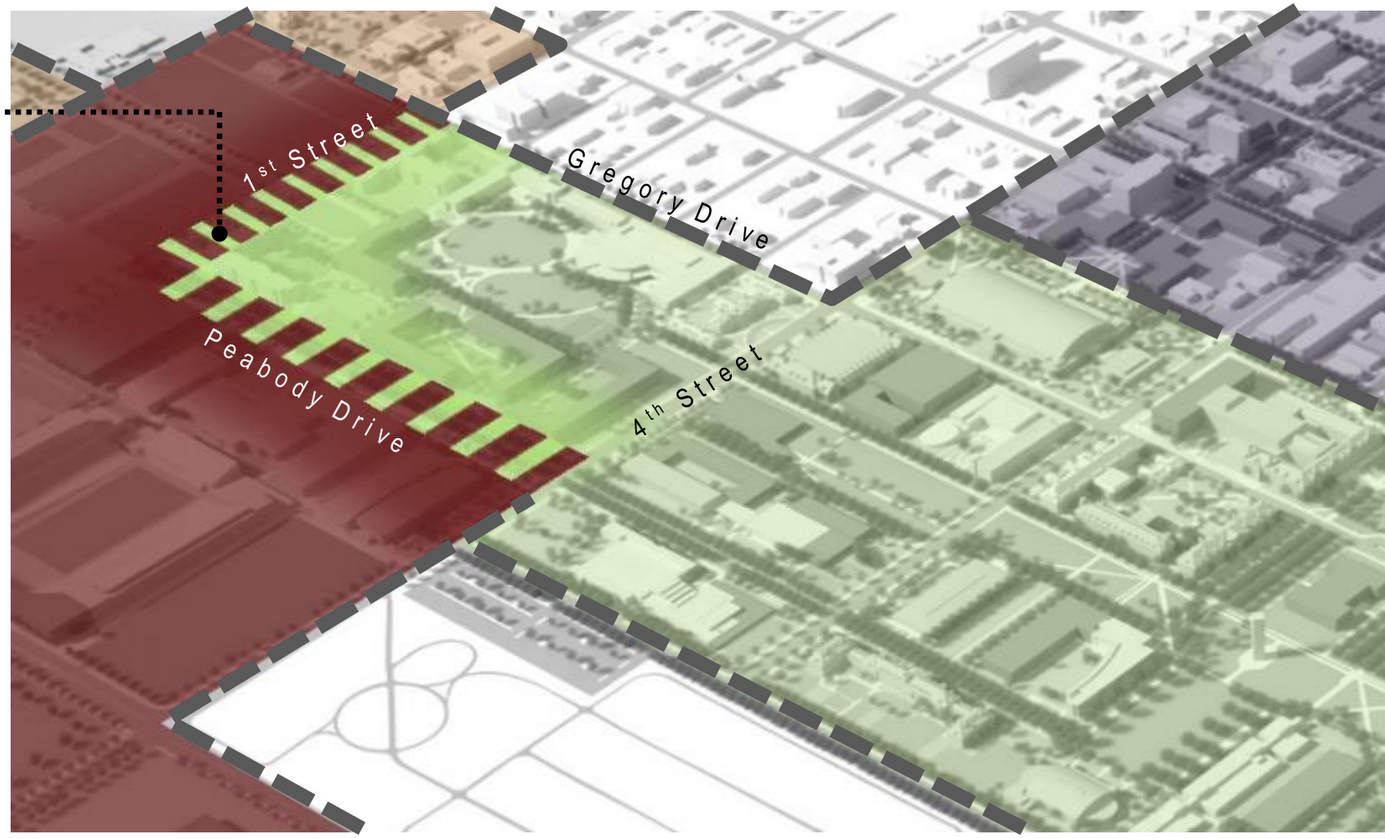


Transitional Zones

CQ AL CAMPUS QUAD TO ACTIVE LANDSCAPES

A dramatic shift occurs in the transitional zone between these two typologies. This is largely due to the change in scale between the landscapes, a variation of uses and a shift from pedestrian oriented to a more vehicular focused environment.

Access between these typologies should be strengthened with improved gateways, streetscape elements, safe crosswalks and by interweaving Campus Quad elements along the periphery of the Active Landscape. Intertwining these distinctively different typologies together will only serve to positively reinforce and unify the campus as a whole.



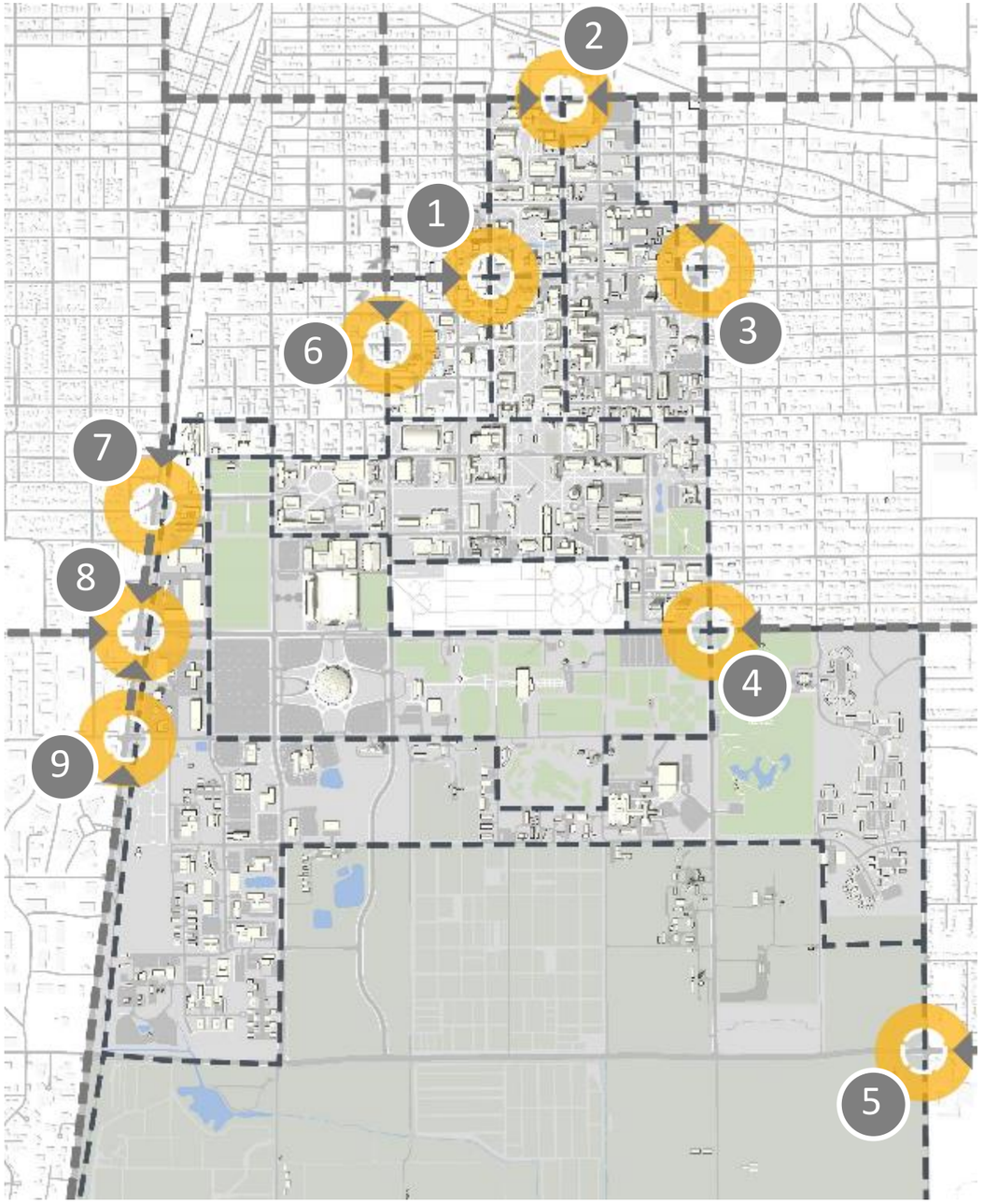
Campus Gateways

OPPORTUNITIES

The primary gateways shown represent opportunities to strengthen and enrich the arrival experience into campus. Currently, the gateways lack University branding, pedestrian/bicycle accessibility and an essential sense of placemaking and campus arrival.

At all gateways, a wayfinding and signage family should be implemented to introduce and direct both vehicles and pedestrians through the campus. Focus should be placed on improving the pedestrian scale of these thresholds by utilizing a consistent campus palette of materials, lighting strategies and planting techniques that would serve to evoke a strong sense of place and the University of Illinois character.

1. Green St & Wright St
2. University Ave & Mathews Ave
3. Green St & Lincoln Ave
4. Kirby Ave & Lincoln Ave
5. Race St & Windsor Rd
6. 4th St & Daniel St
7. Stadium Dr & Neil St
8. Kirby Ave & Neil St
9. St Mary's Rd & Neil St



Campus Gateways

SIGNAGE, WAYFINDING & FENCING

Gateway Signage - Vehicular

Gateway Signage - Pedestrian


Gateway - Pedestrian

Signage - Wayfinding

Signage - Building


Fencing & Monuments - Urban


Fencing - Rural

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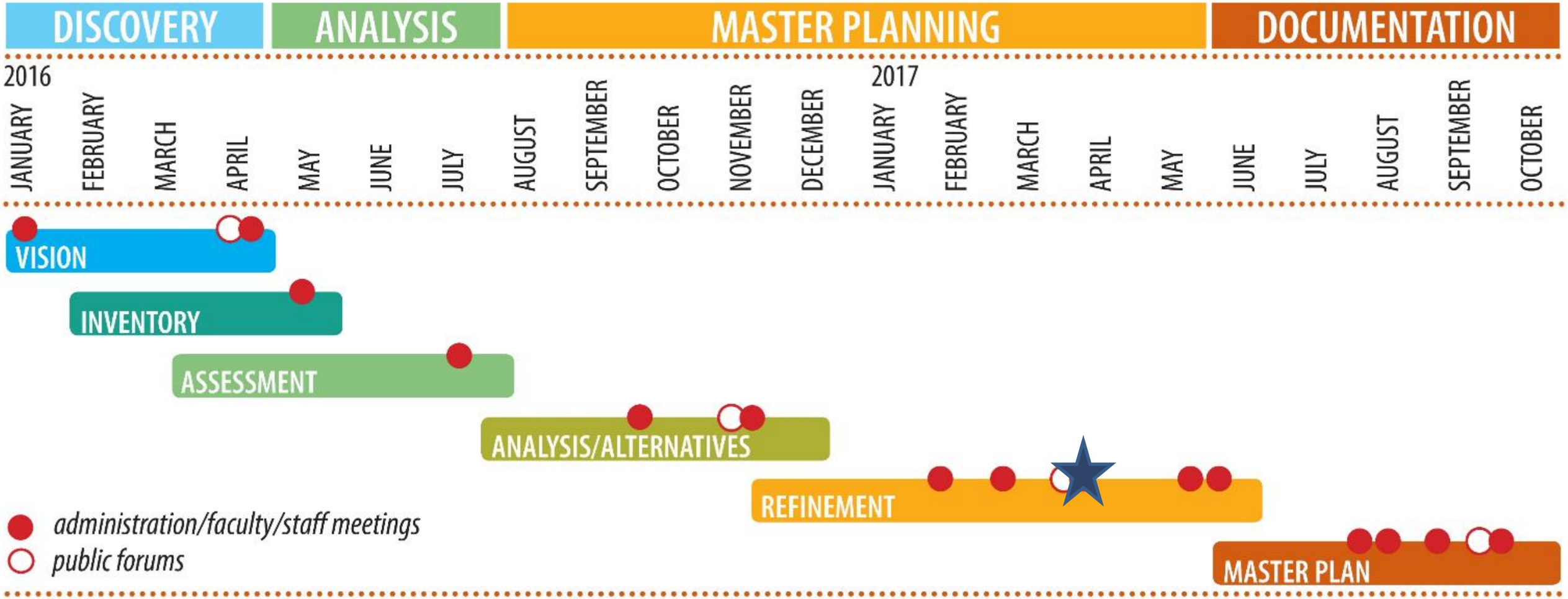
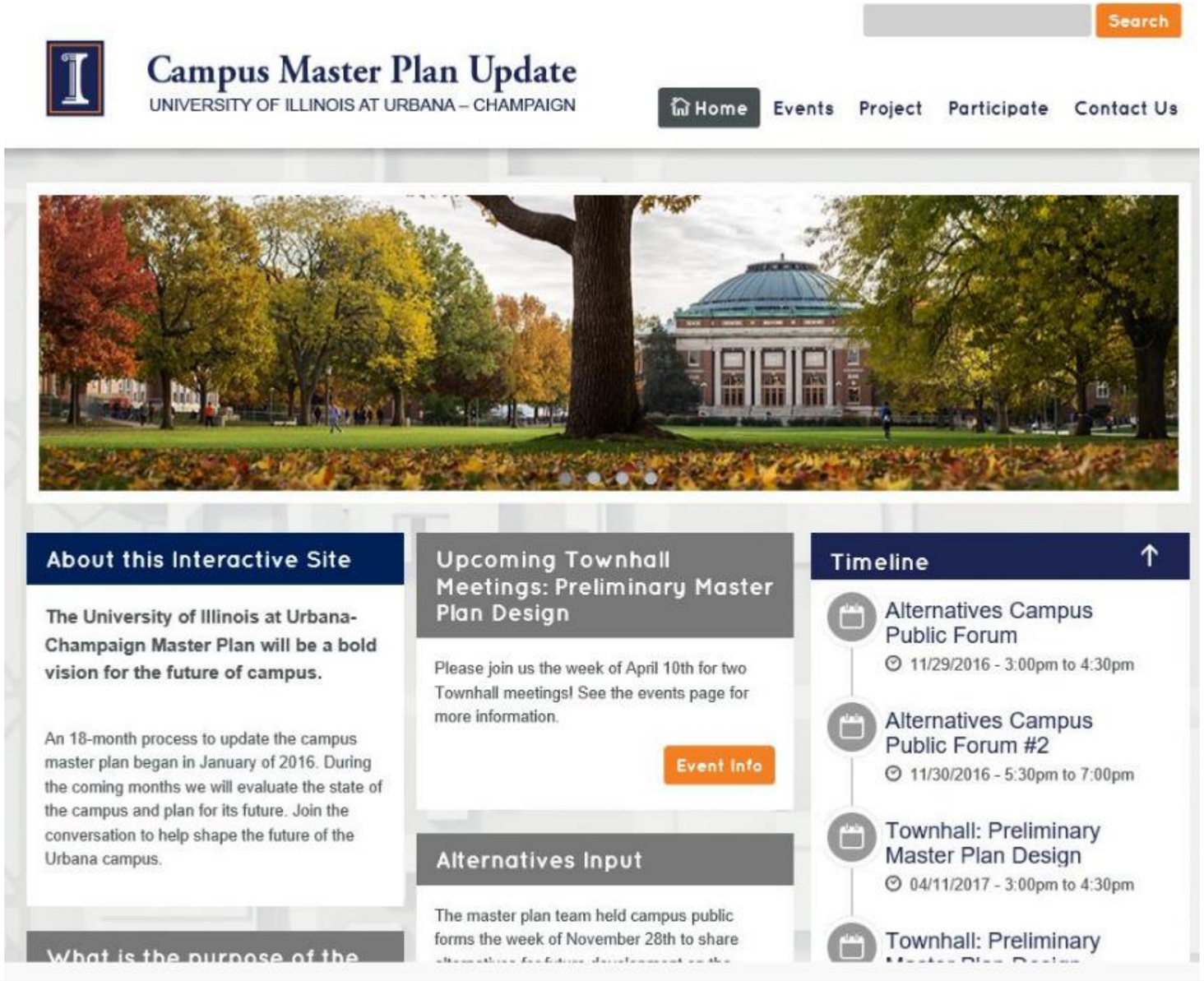
NEXT STEPS

Master Plan Schedule

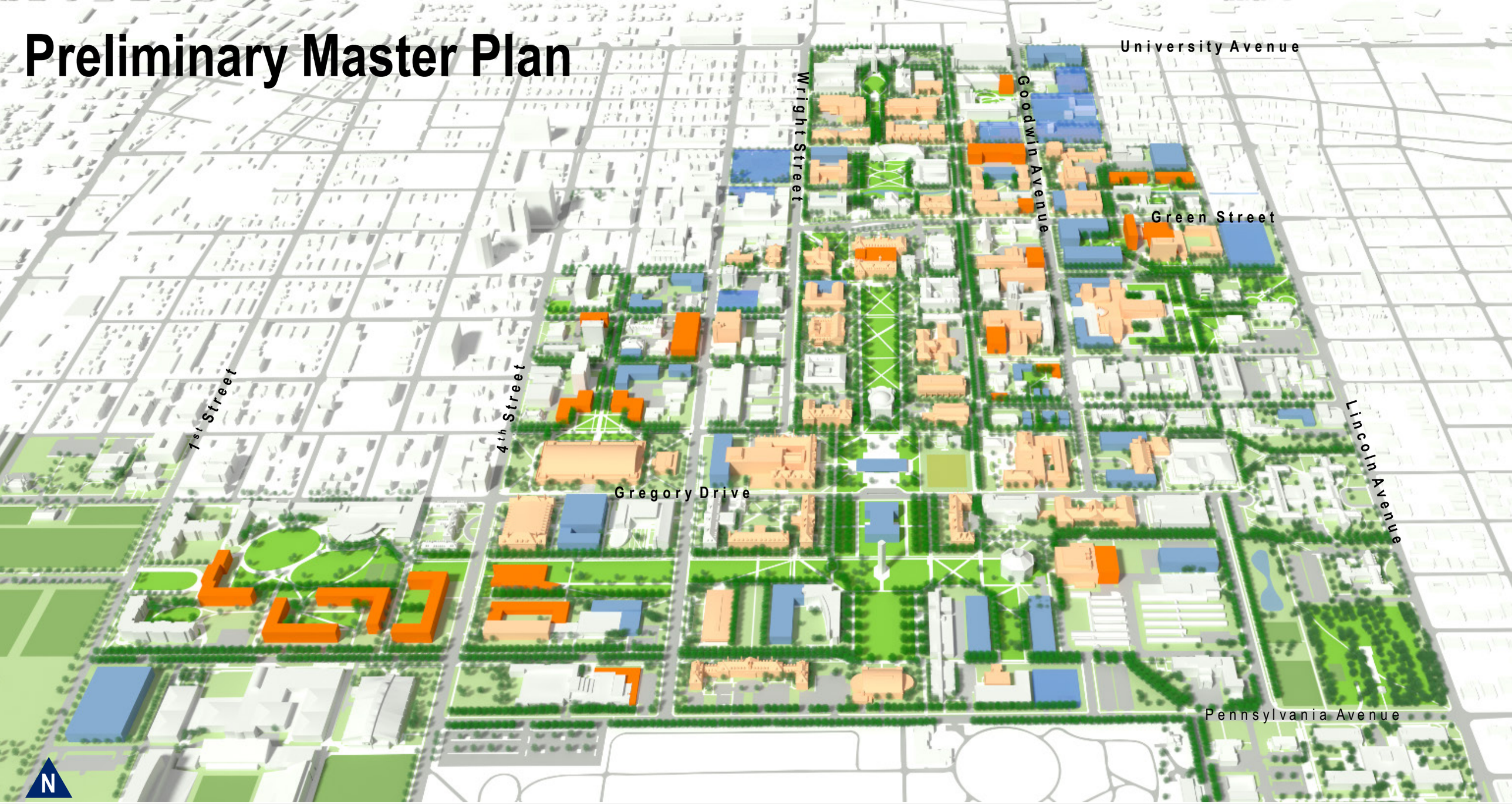


Share your Thoughts.

http://go.fs.illinois.edu/CampusMasterPlanning



Preliminary Master Plan



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THANK YOU

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