




campus master plan

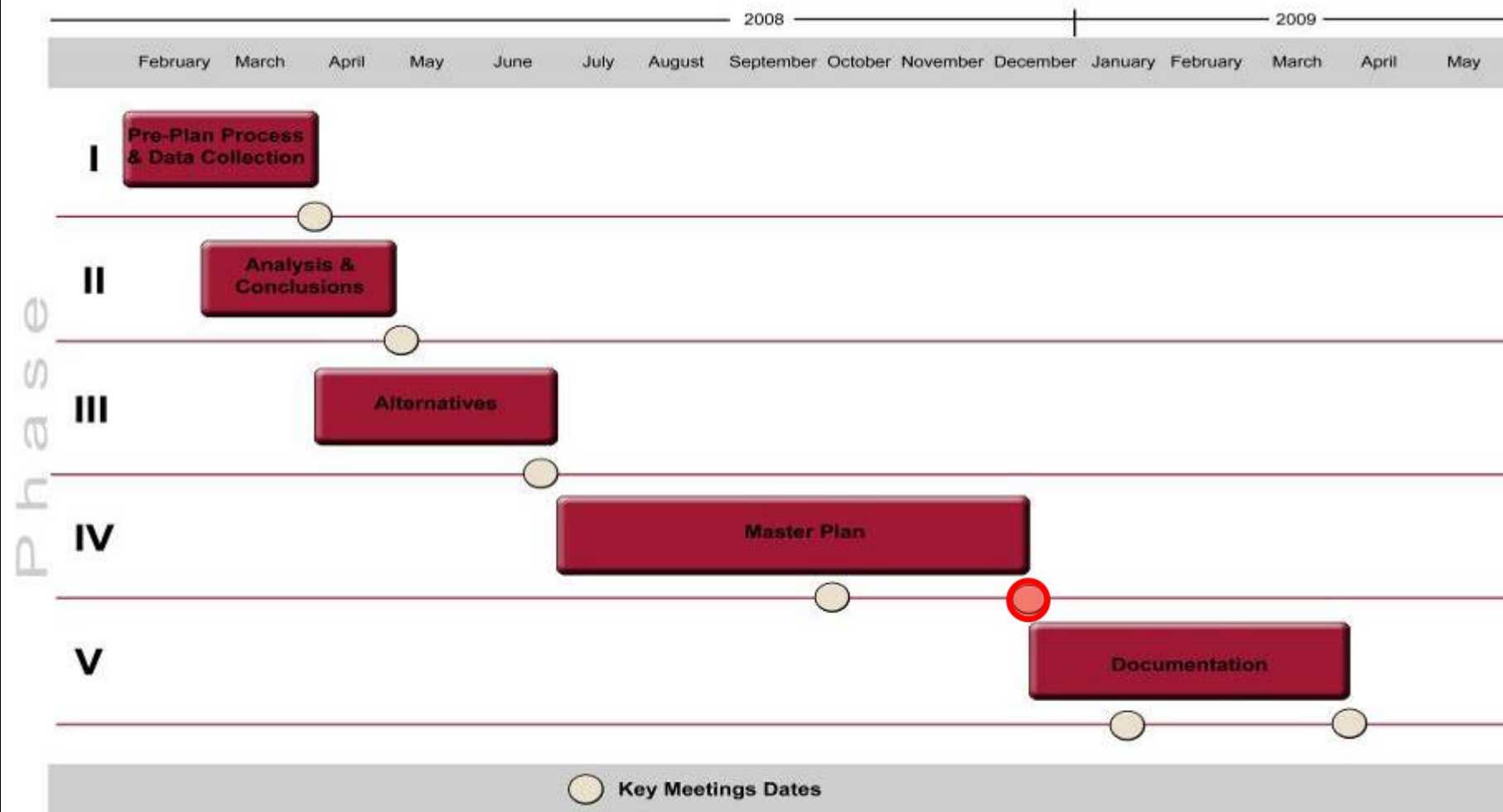


goals and vision
analytical process
master plan concepts
design guidelines

create a vision for the future of the IUPUI campus that reinforces this unique environment and supports the mission of the university community.

process

master plan schedule





architecture and planning
SmithGroup and JJR

academic programming
Paulien & Associates

engineering
Applied Engineering Services

transportation planning
Gorove Slade & Associates

market analysis
Live Work Learn Play



your team



Chancellor

IUPUI Advisory Committee

IUPUI Executive Committee

Indianapolis Mayor

Indianapolis Deputy Mayor

Health Care Precinct

University Hospital

School of Medicine

Clarian Health Partners

Facilities Department Staff

Walker Theater Board

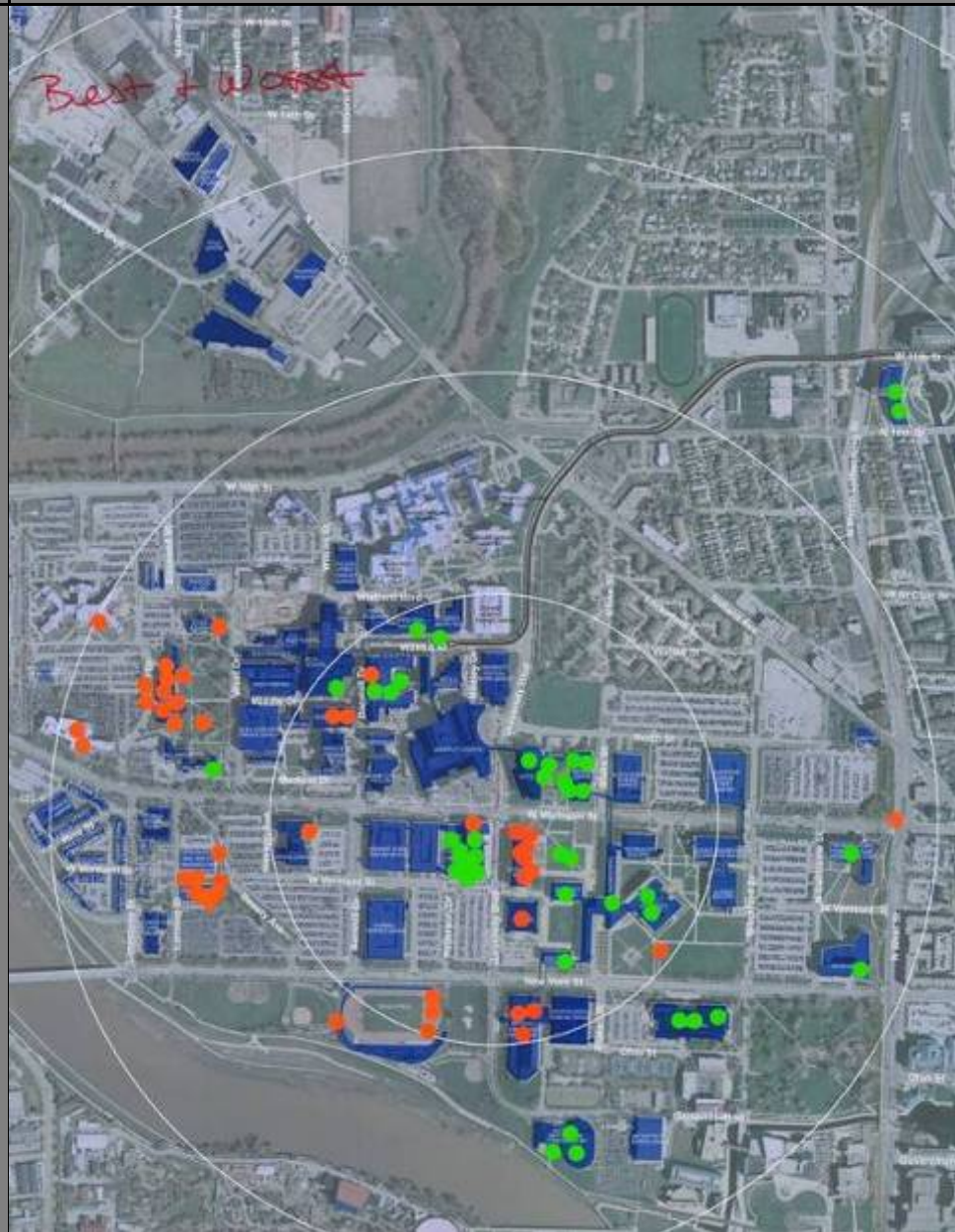
A2S04

NCAA

HOK

Ratio Architects

inclusive approach and process



vision

a vision of academic excellence and opportunity



a vision...reinvent the modern campus



enhance the urban experience

take the city seriously
realize the value of urban land
introduce vertically integrated space
expand the pedestrian realm



academic excellence in a competitive world

**maintain the highest quality of campus life
enhance interdisciplinary collaboration
provide a stimulating community setting**





learning paradigm*:

- research space needs
- classroom and teaching lab needs
- new designs for learning spaces
- learning outside the classroom
- classroom inventory, by size and purpose
- spatial distribution of learning spaces
- technology is a tool, not a panacea
- embodied values
- one size does not fit all

*classroom / teaching labs subcommittee, March 2008

- enrollment increase - 5,000 additional students
- medical campus growth

spatial challenge

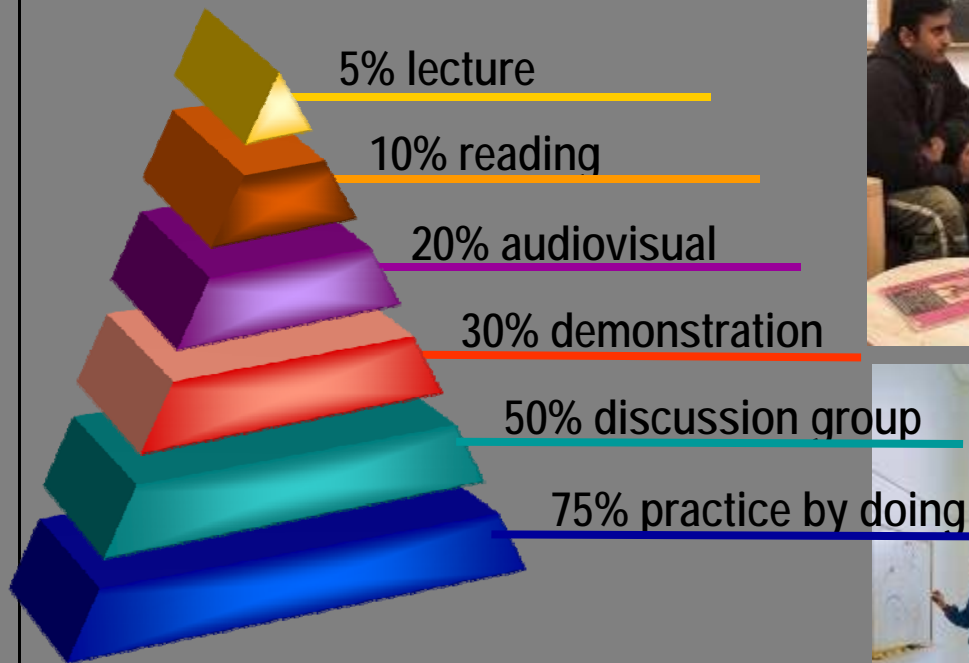
categorized & separated
departmental turfs
rigid structure
historic divisions
fixed growth plan
mixing discouraged



shared spaces
flexible spaces
cross-pollination
interdisciplinary curriculum
live and study environments
institutional unity



learning today



average retention rates of learning activities
source: National Training Laboratory, Bethel, ME

social



connected



informal



collaborative



internal crossroads







**beyond the books:
creating a sustainable mixed-use campus**



history

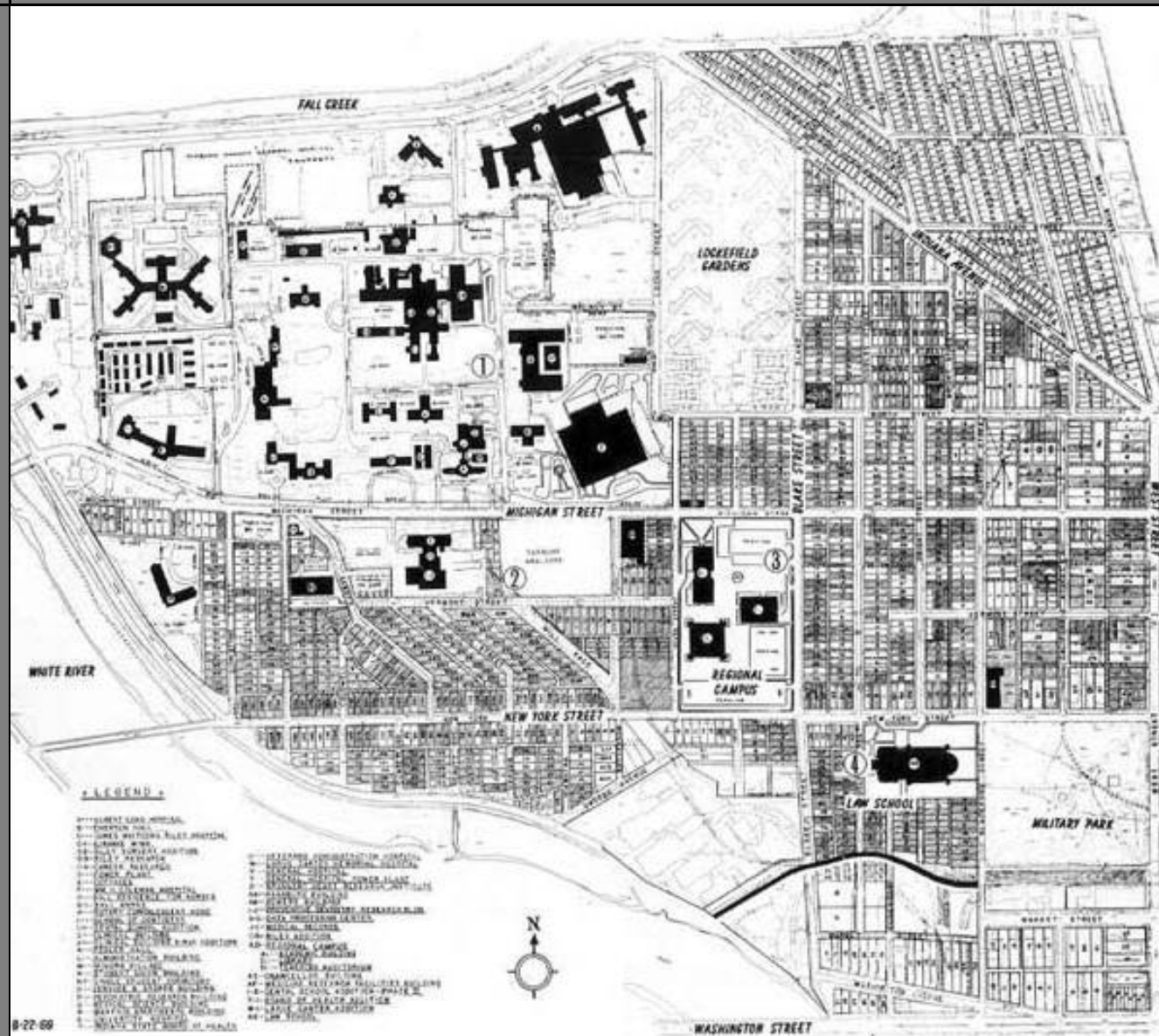
history and campus development: 1870's



history and campus development: pre-war years 1900-1941



history and campus development: through the 1960's



IUPUI University Library, Archives and Special Collections

history and campus development: 1970's – 1980's



Indianapolis architectural evolution: 1920's – 1960's



Ball Residence 1928



Ball Residence 1928



Long Hospital 1912



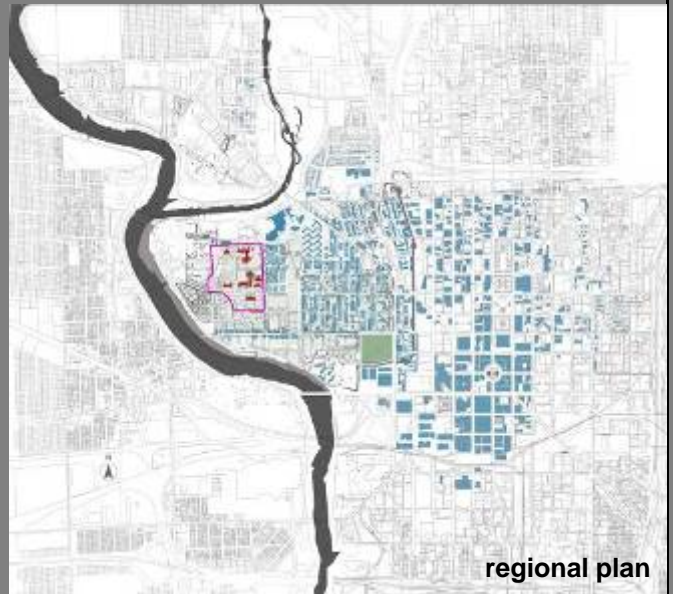
Dentistry School 1934



campus plan

campus foundations

- 1891 first classes offered in Indianapolis
- early campus grouping primarily Medical School completed 1919
- buildings demonstrate a mix of brick and limestone
- future IUPUI Campus is primarily small scale row housing



regional plan

Indianapolis architectural evolution: 1960's – 1980's



Lecture Hall 1971



Business/SPEA 1981



Business/SPEA 1981



Cavanaugh Hall



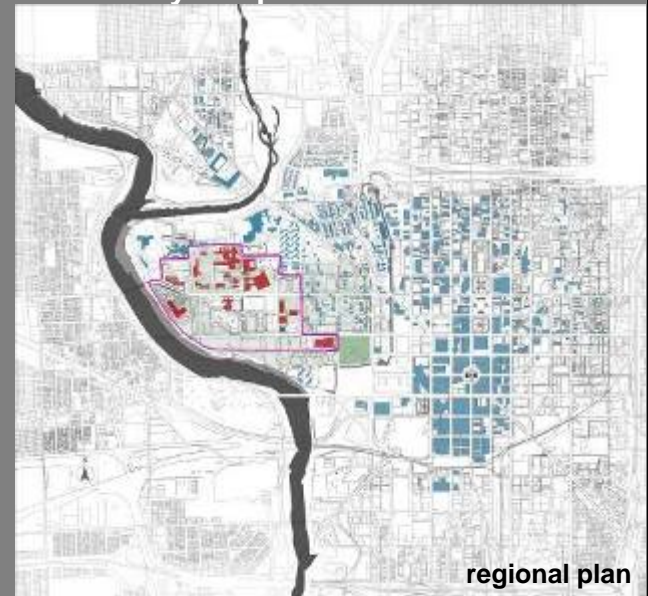
University College 1971



campus plan

campus established

- 1969 IUPUI established
- early Edward Larrabee Barnes projects establish campus center
- shift in building proportions to more monumental scale
- building materials remain mixed. brick, limestone, and concrete used in a variety of structures
- University Hospital built 1970



regional plan

Indianapolis architectural evolution: 1980's – 2000's



University Hotel 1987



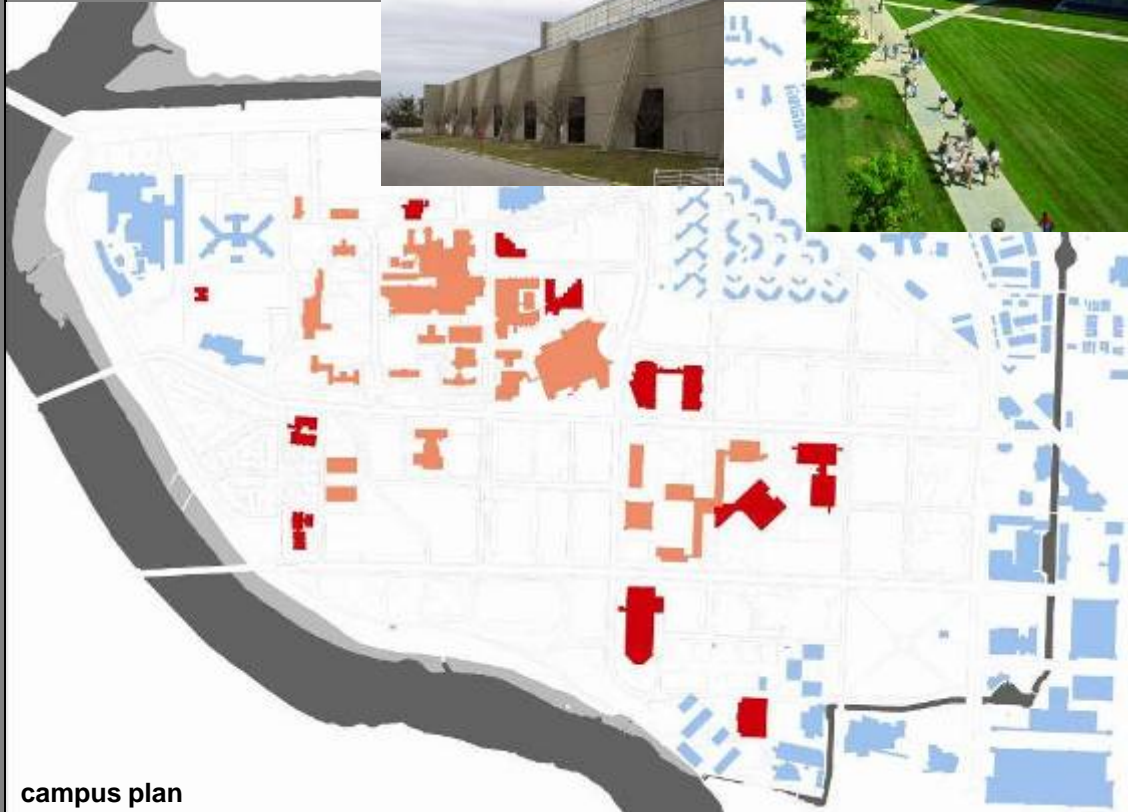
University Library 1993



Natatorium 1982



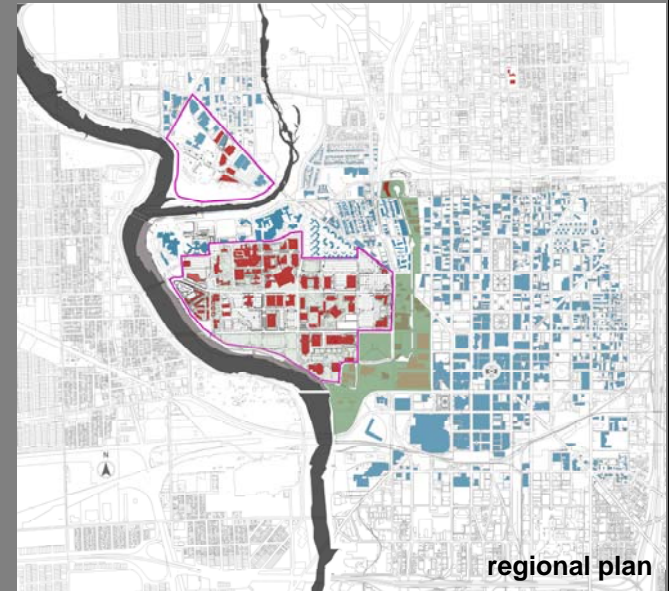
Science Complex 1988 + 1992



campus plan

core infill

- later Barnes work expands on core
- building materials continue to be mixed with limestone brick and concrete on new structures
- NCAA headquarters, White River Park, and Eiteljorg American Indian Museum establish new cultural district along canal



regional plan

Indianapolis architectural evolution: 2000's – present



Campus Center 2008



Eskenazi Hall 2003



Informatics Complex 2004



Student Housing 2003



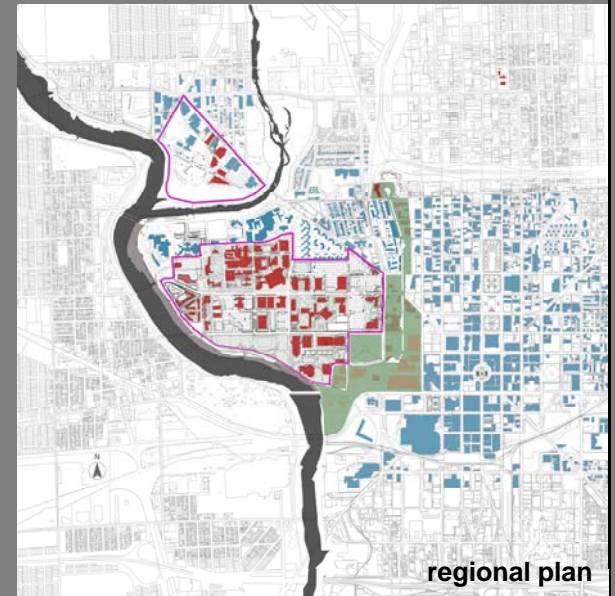
Inlow Hall 2001



campus plan

campus

- definition of eastern campus edge and establishes connection to downtown
- further reinforcement of center/core
- building materials continue to be mixed with limestone, brick and concrete on new structures
- revitalized canal district begins to emerge



regional plan

Indianapolis architectural evolution: 2000's – present



Clarian Laboratory & Fairbanks Hall 2006-8

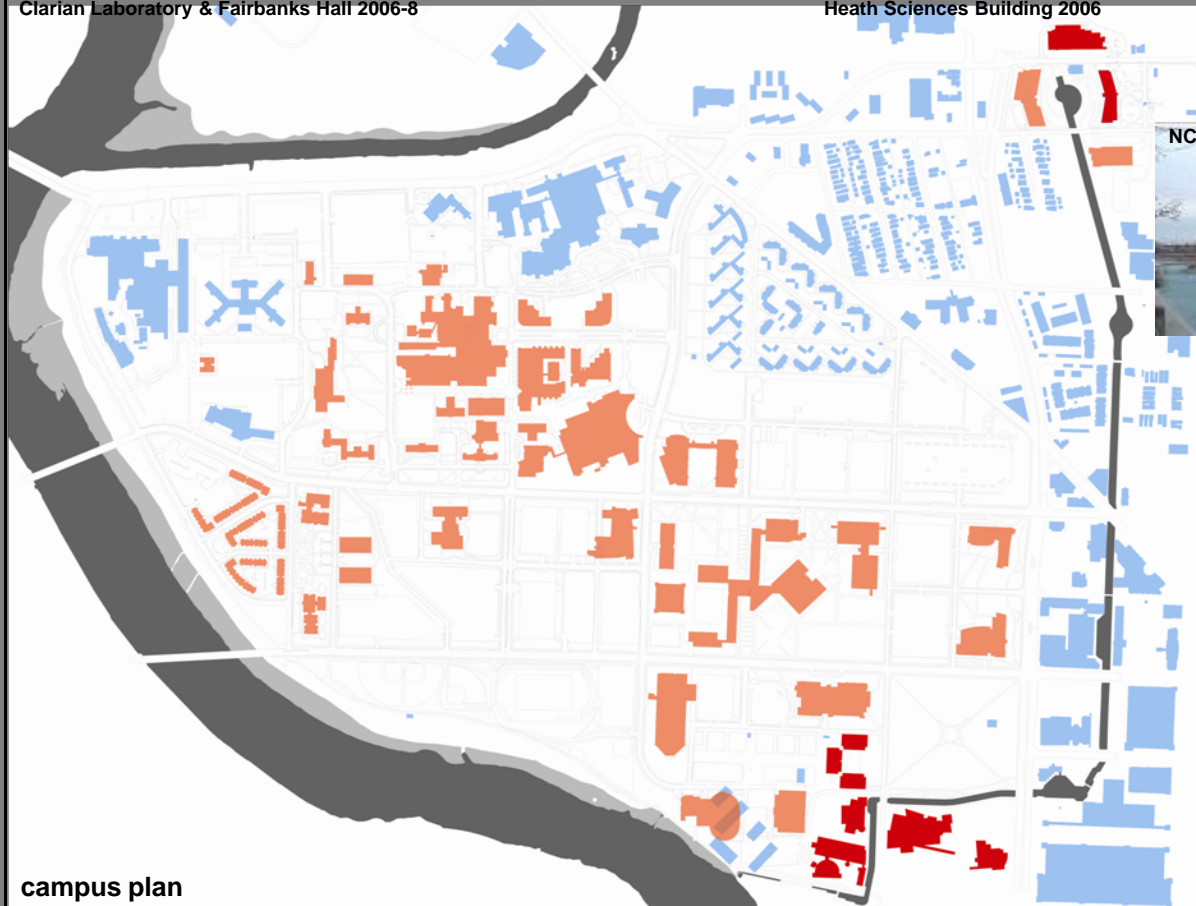


Heath Sciences Building 2006

canal development neighbors

- cultural institutions are established along canal

- materials of new buildings vary widely, from stone, brick and concrete to metal panels and extensive glazing



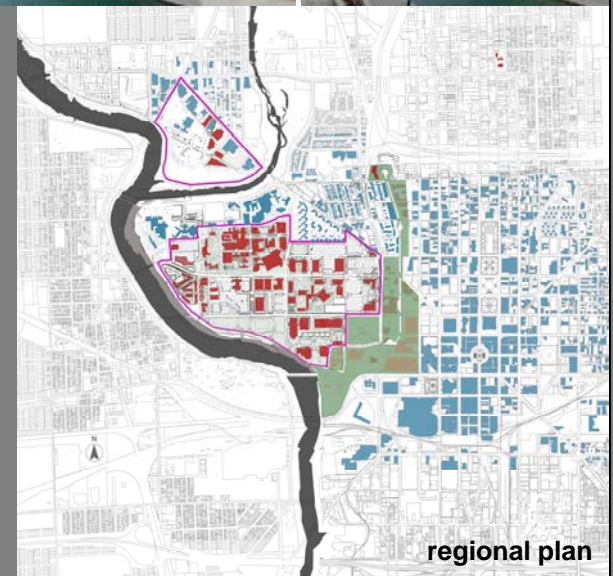
campus plan



NCAA 2000



State Museum 2004



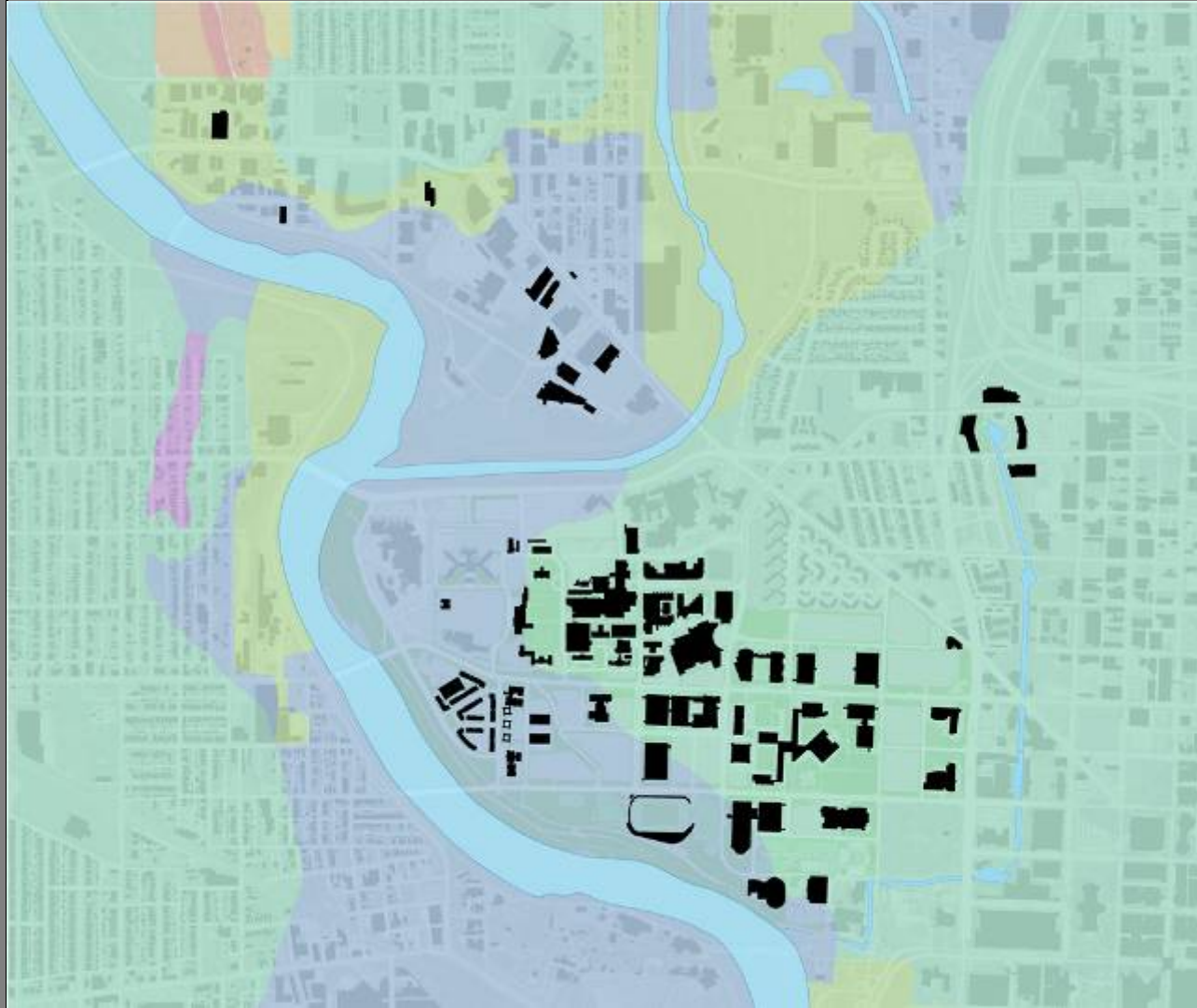
regional plan

analysis

SmithGroup + JJR



natural features analysis: soil types

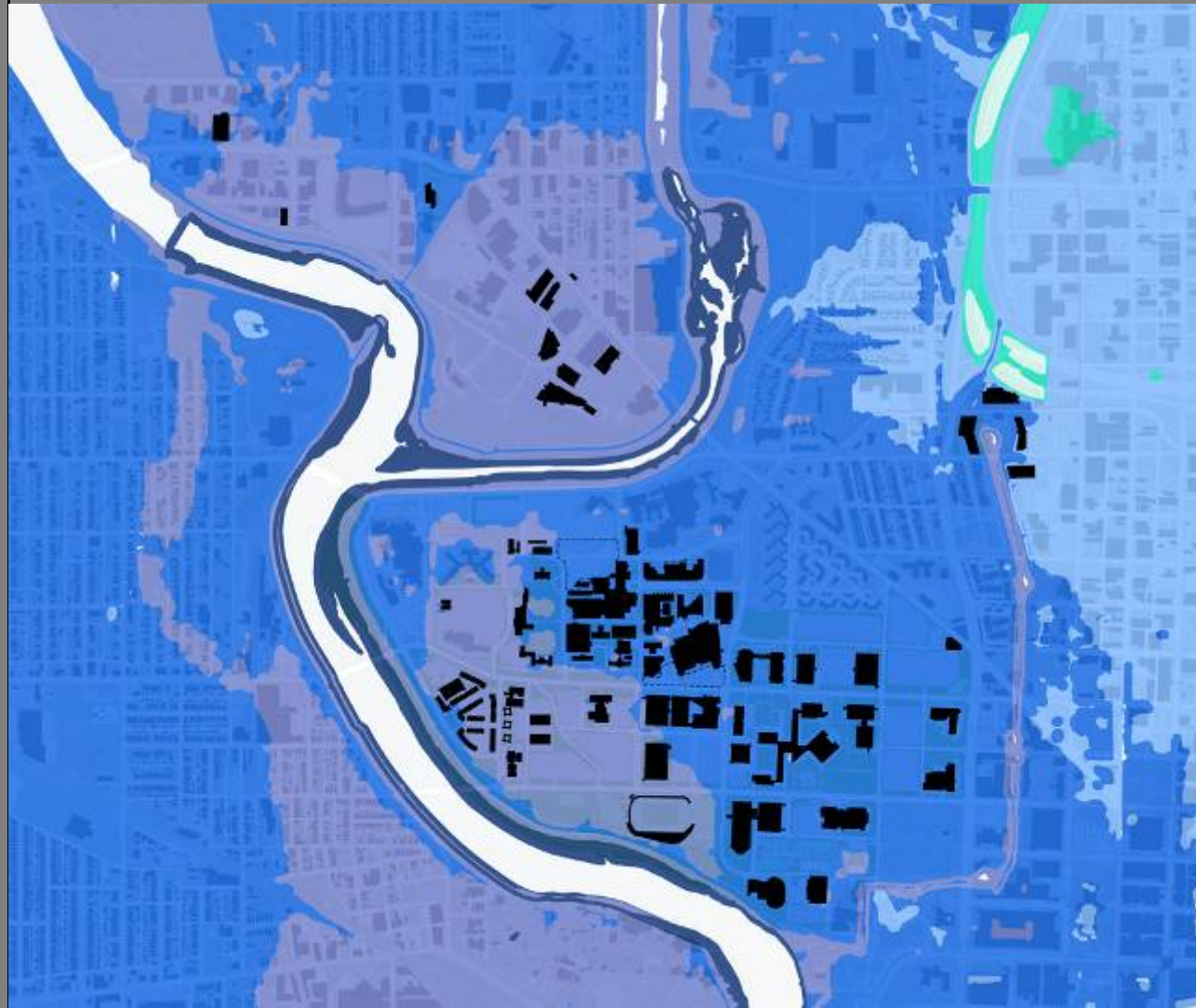


EXISTING SOILS

- Fox Complex
- Fox Loam
- Genesee Silt Loam
- Ockley Silt Loam
- Udorthents, Cut and Filled
- Urban Land – Fox Complex
- Urban Land – Genesee Complex
- Urban Land – Westland Complex
- Water

* Entire site includes West Fork Outwash Plain

- two primary soil types
- soil division follows topography and old canal
- soils susceptible to flooding
- established a pattern of development
- development constraints



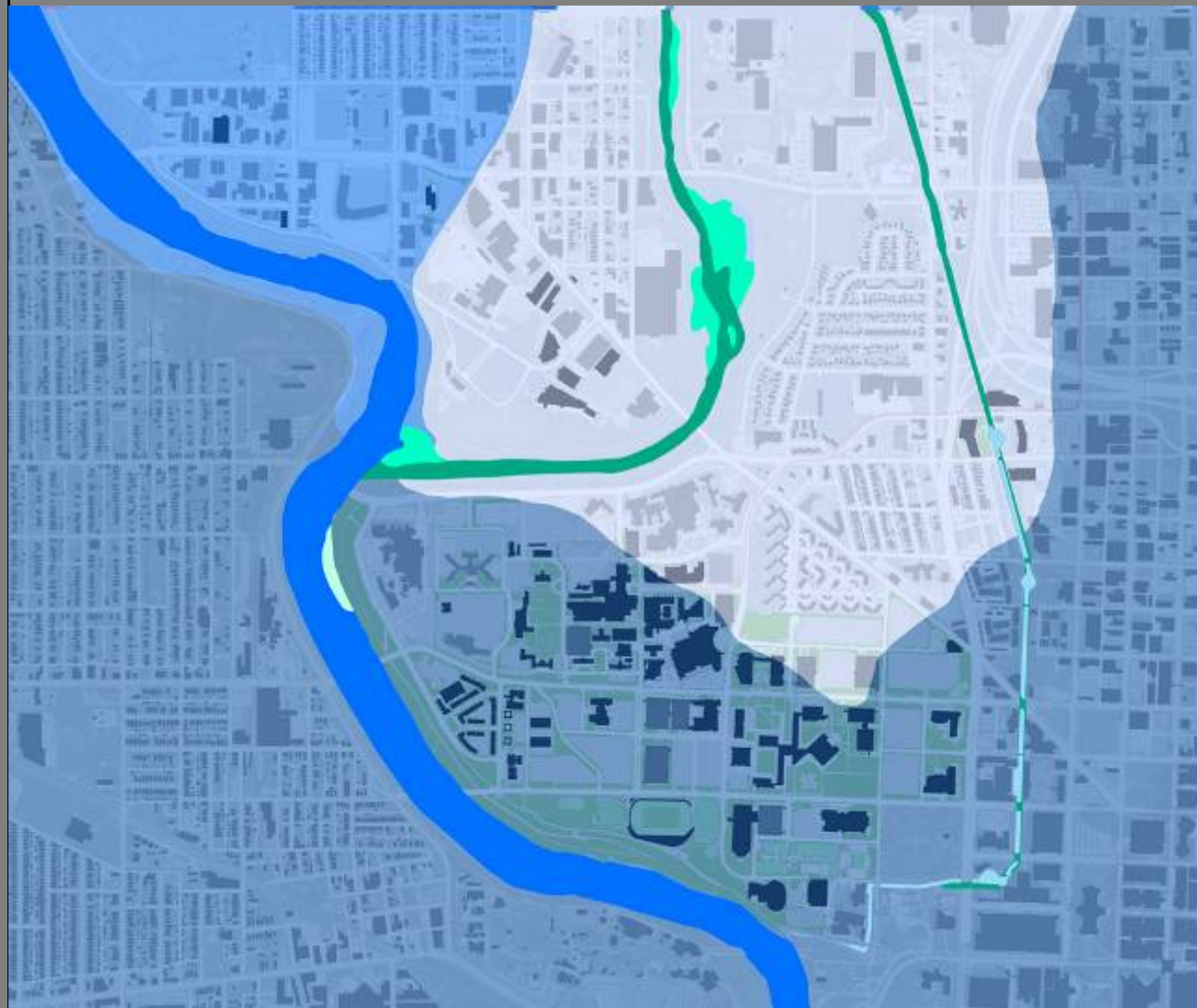
TOPOGRAPHIC CONTOURS

668' - 682'
684' - 698'
700' - 712'
714' - 726'
728' - 740'
742' - 756'

* Contour line intervals are every two feet

- 28' elevation change
- lowest areas are enclosed
- site drainage pattern
- engineered levee

natural features analysis: watersheds



WATERSHEDS

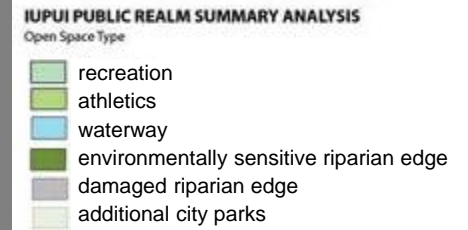
- light blue square: Fall Creek – Minnie Creek
- dark blue square: White River – Broad Ripple
- medium blue square: White River – Indianapolis

WETLANDS

- light green square: freshwater emergent wetland
- medium green square: freshwater forested/shrub wetland
- dark green square: riverine

- two watersheds
- ridgeline defines campus highpoint
- floodplain boundary in levee

natural features analysis: riparian condition



- degraded urban wetland
- sunlight / shade
- vegetative filtering
- vegetative stabilization
- quality and rate of runoff

natural features analysis: landscape form

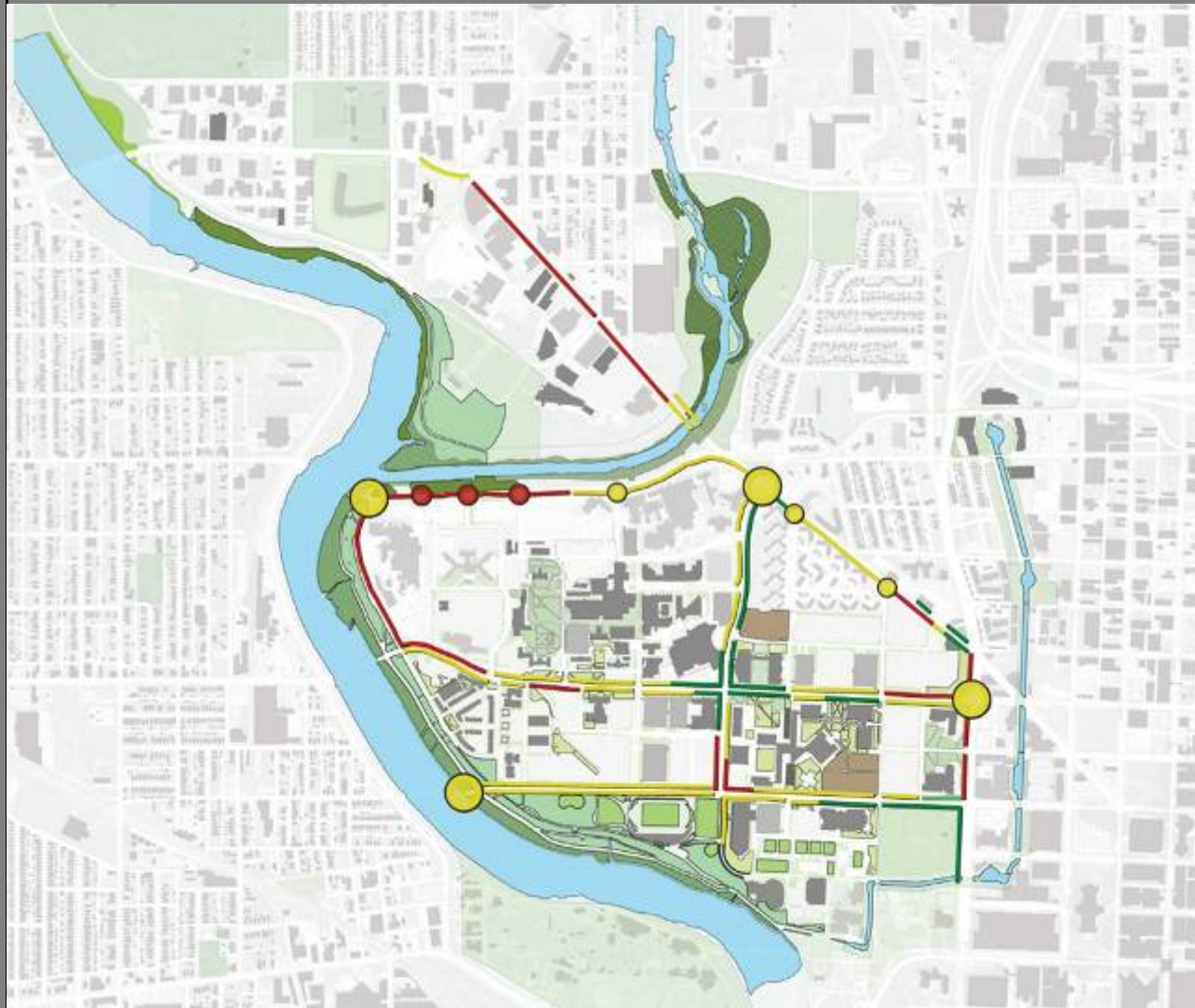


LANDSCAPE AND OPEN SPACE

recreational areas	349,455 SF
riverbanks	1,827,153 SF
grass	4,490,991 SF
paths	1,618,831 SF
trees	

- “the 100 acre lawn”
- land banking
- ball gardens and tree bosques
- riverfront recreation
- form generated by urban grid

campus structure analysis: public realm



IUPUI PUBLIC REALM SUMMARY ANALYSIS

Open Space Type

- high quality open spaces
- lesser quality open spaces
- unprogrammed/undefined open space
- poor quality plaza
- recreation
- athletics
- waterway
- environmentally sensitive riparian edge
- damaged riparian edge
- additional city parks

Campus Edges

- high quality edges
- medium quality edges
- poor quality edges

Campus Entries

- high quality gateways
- medium quality gateways
- poor quality gateways

- edges
- gateways and portals
- define urban character
- borrowed views
- linked assets

campus structure analysis: existing land use

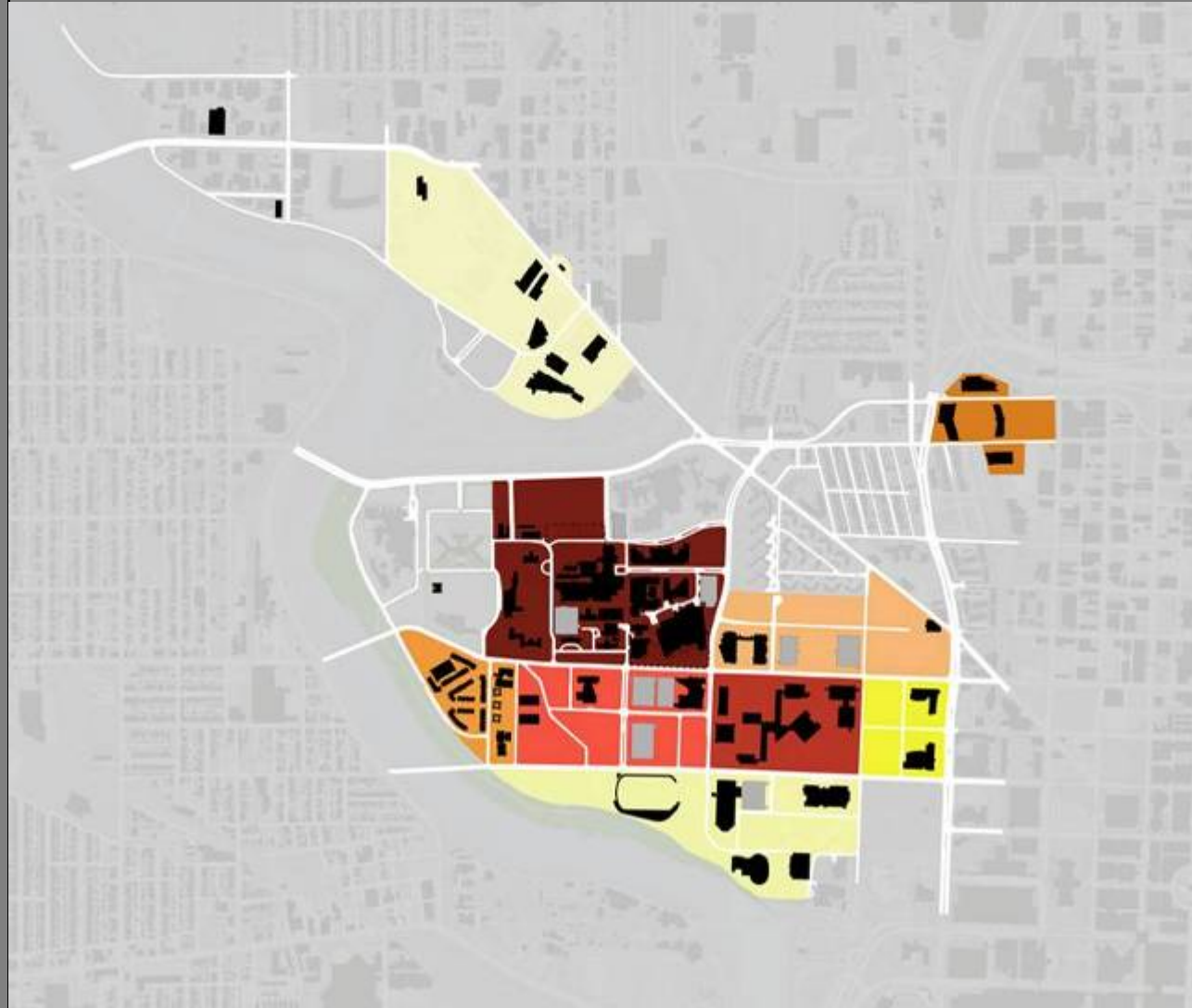


LAND USE

Light Blue	Academic Use
Dark Blue	Academic/Administration Building
Pink	Mixed Use
Red	Special Use (Library/Union)
Green	Recreation Athletics
Yellow	Residence Hall
Orange	Apartment
Dark Orange	Townhouse
Dark Blue	Medical Academic/Administration
Purple	Hospital
Teal	Research
Light Grey	Surface Parking
Dark Grey	Parking Deck
Light Brown	Campus Service
Dark Brown	Auxiliaries

- Three and a Half Districts
Academic
Medical
Athletics / Recreation
Residential Edge
- Simplicity Masks Complexity
- Parking as a Land Use?
- Campus Center as District

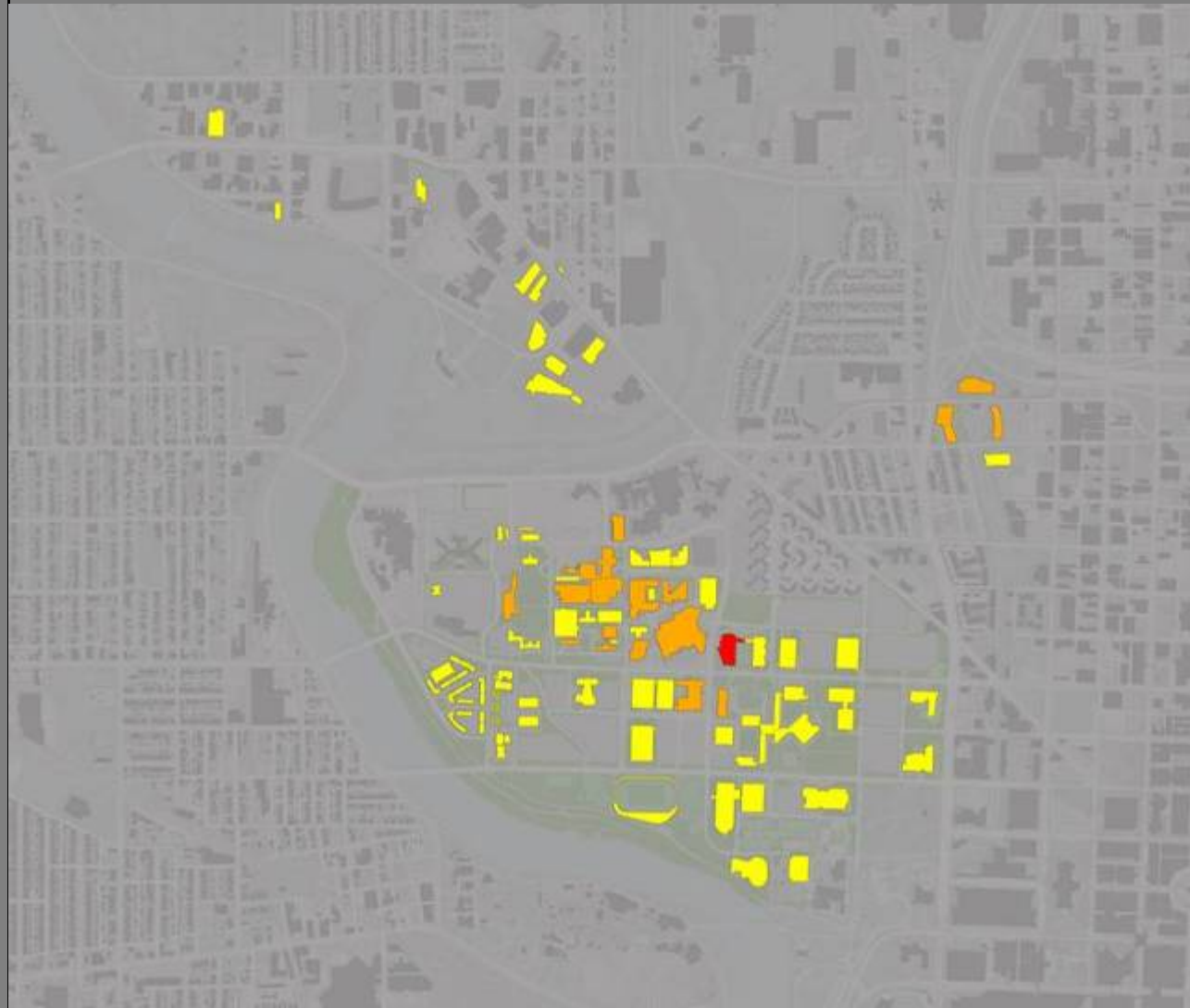
campus structure analysis: existing floor area ratios



- FAR range: 0.11 to 1.4
- academic core FAR 1.1
- medical core FAR 1.4
- density patterning
- 509 total acres

	medical/academic district FAR 1.41
	central academic core FAR 1.084
	west academic core FAR .79
	canal head district FAR .77
	white river residential FAR .64
	northeast district FAR .52
	east academic core FAR .34
	athletics district FAR .29
	research district FAR .11

campus structure analysis: building heights

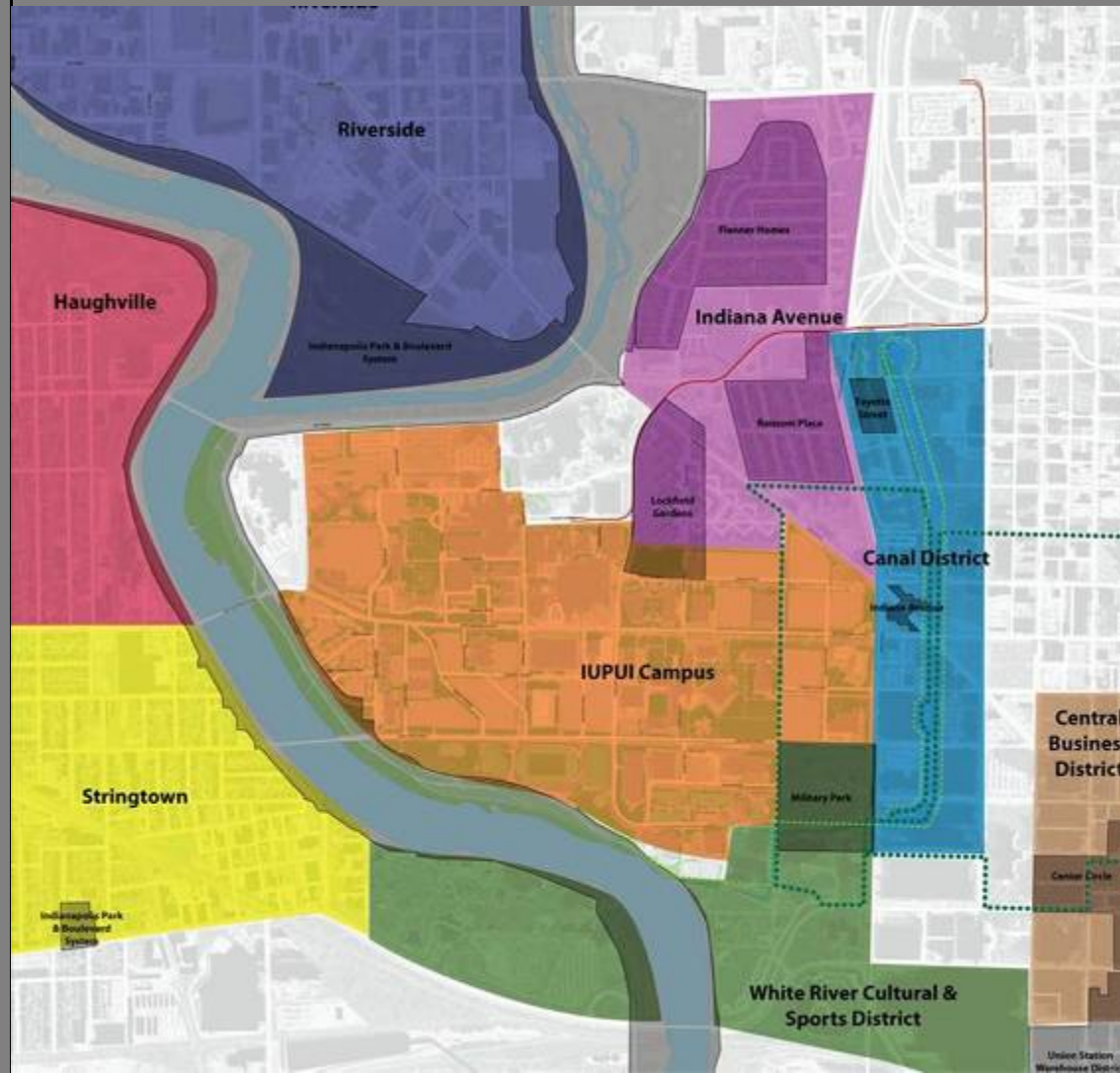


TOTAL FLOORS

- 1 – 4 floors
- 5 – 8 floors
- 9 – 12 floors

- low rise development
- medical campus mid-rise development
- inadequate FAR

campus structure analysis: neighborhoods



- historic neighborhoods
- cultural resources
- emerging neighborhoods
- downtown
- spirit of cooperation

University of Cincinnati : UC Main Street



Project Description:
Create a central place to congregate on campus.
Foster a sense of place / community.

Building Uses/Program:
Retail, Student Center, Recreation, Housing,
Restaurants

Area (GSF):
644,700 total for three buildings
Student Services = 114,700
Student Life = 114,700
Recreation = 350,000
811 Beds

Cost information:
\$234m

Floors/Height:
4 to 5

Ownership:
UC Auxiliary Services

Architect(s):
Gwathmey Siegel & Associates
Moore Ruble Yudell
Morphosis

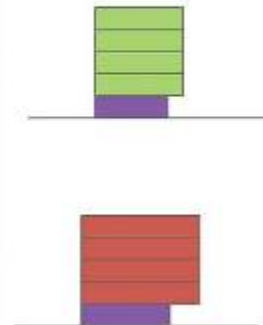
Developer:
Varies



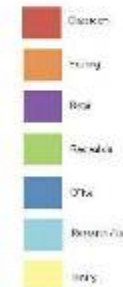
Campus



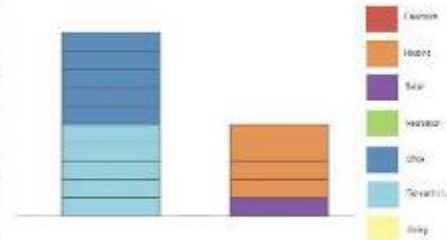
Site



Sections



Massachusetts Institute of Technology : University Park



Project Description:
Revitalize Cambridgeport & Central Square.
Provide for new jobs.
Create a new live – work environment

Building Uses/Program:
Laboratory, Retail, Office, Housing, Hotel

Area (GSF):
2,300,000 total
On 27 acres
Laboratory = 1,500,000
Retail, Hotel, Restaurant = 250,000
Office = 200,000
Residential = 300,000
674 unit housing
210 room hotel
3 acre park

Cost information:
N/A

Floors/Height:
5 to 10

Ownership:
Forest City Enterprises

Architect:
Koetler Kim & Associates
Tsai/Kobus & Associates, Inc.
Elkus / Manfredi Architects, Ltd.

Developer:
Forest City Enterprises

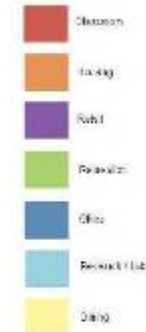
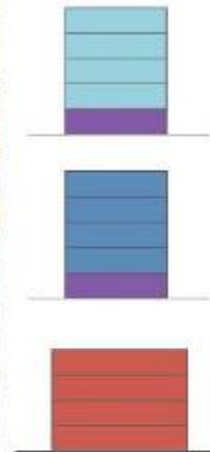


Campus



Site Plan

Georgia Tech : Technology Square



Project Description:
Connect to city over highway
Expand classrooms
Revenue potential

Building Uses/Program:
Retail, Research, Office, Classrooms, Hotel

Area (GSF):
1,100,000 total
Classroom = 302,000
Office = 486,993
Research = 210,000
Retail = 60,000
252 bed hotel



Campus



Site

Cost information:
122m

Floors/Height:
4 to 5

Ownership:
Georgia Tech

Architect:
Thompson Verulek Stainbeck

Developer:
Jones Lang Lasalle

Ohio State University : South Campus Gateway



Project Description:
Create Southern entrance to campus
Revitalize district

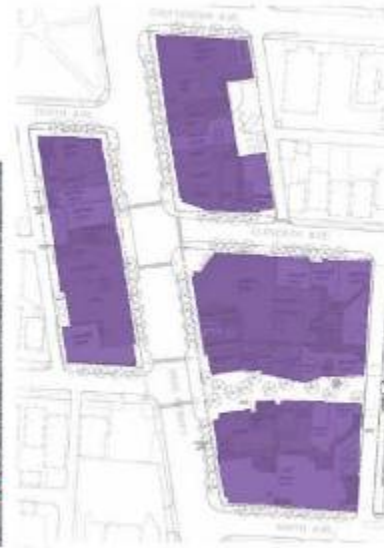
Building Uses/Program:
Retail, Office, Housing



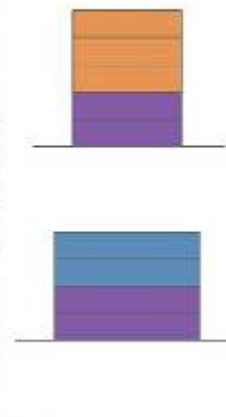
Area (GSP):
700,000 total
Office = 98,000
Retail = 249,000
Residential = 300,000
184 apartments
7.5 acres



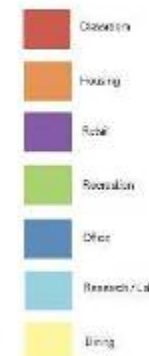
Campus



Site Plan



Section



Cost information:
153m

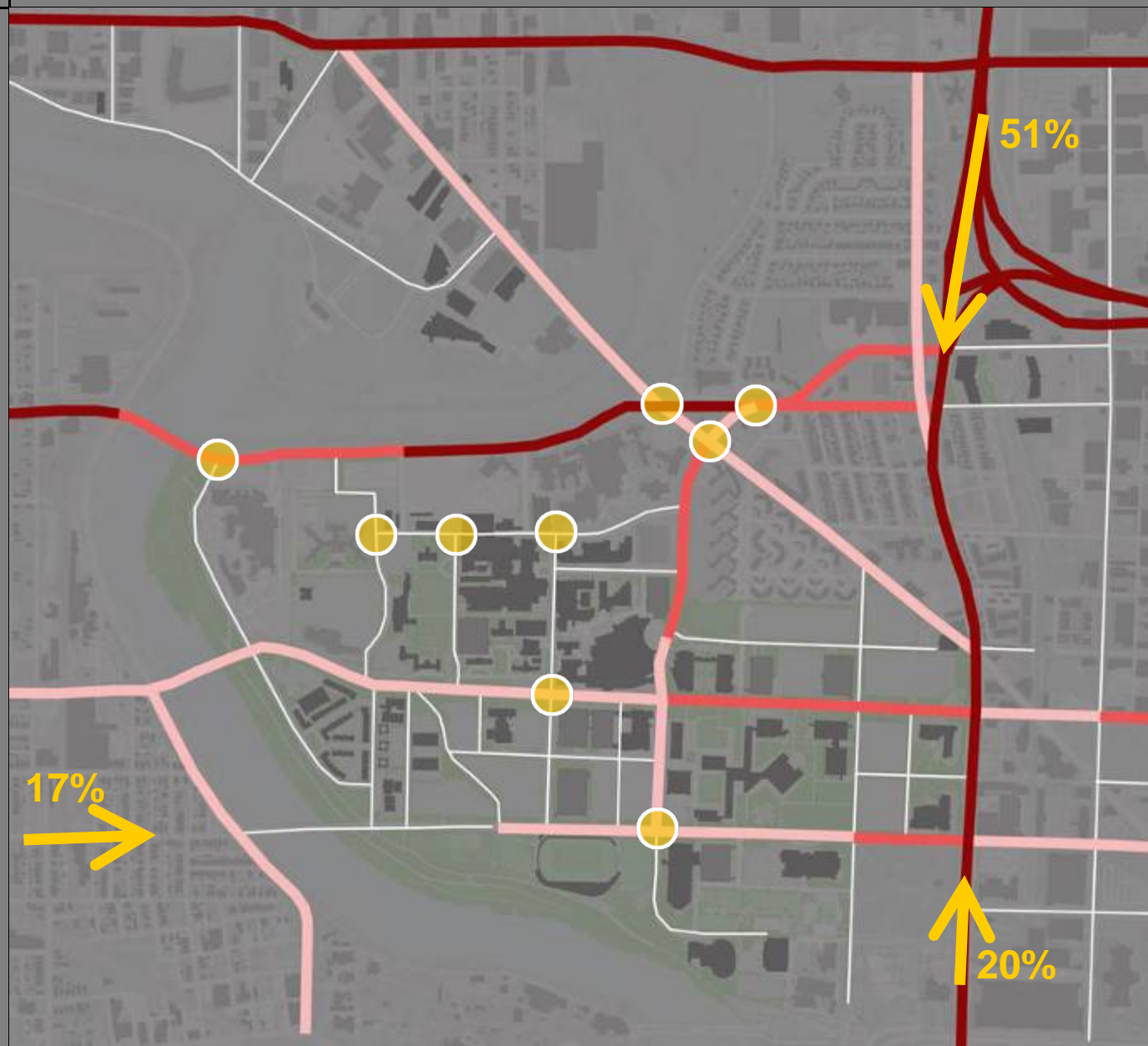
Floors/Height:
4 to 5

Ownership:
CB Richard Ellis

Architect:
Elkus Manfredi

Developer:
CB Richard Ellis

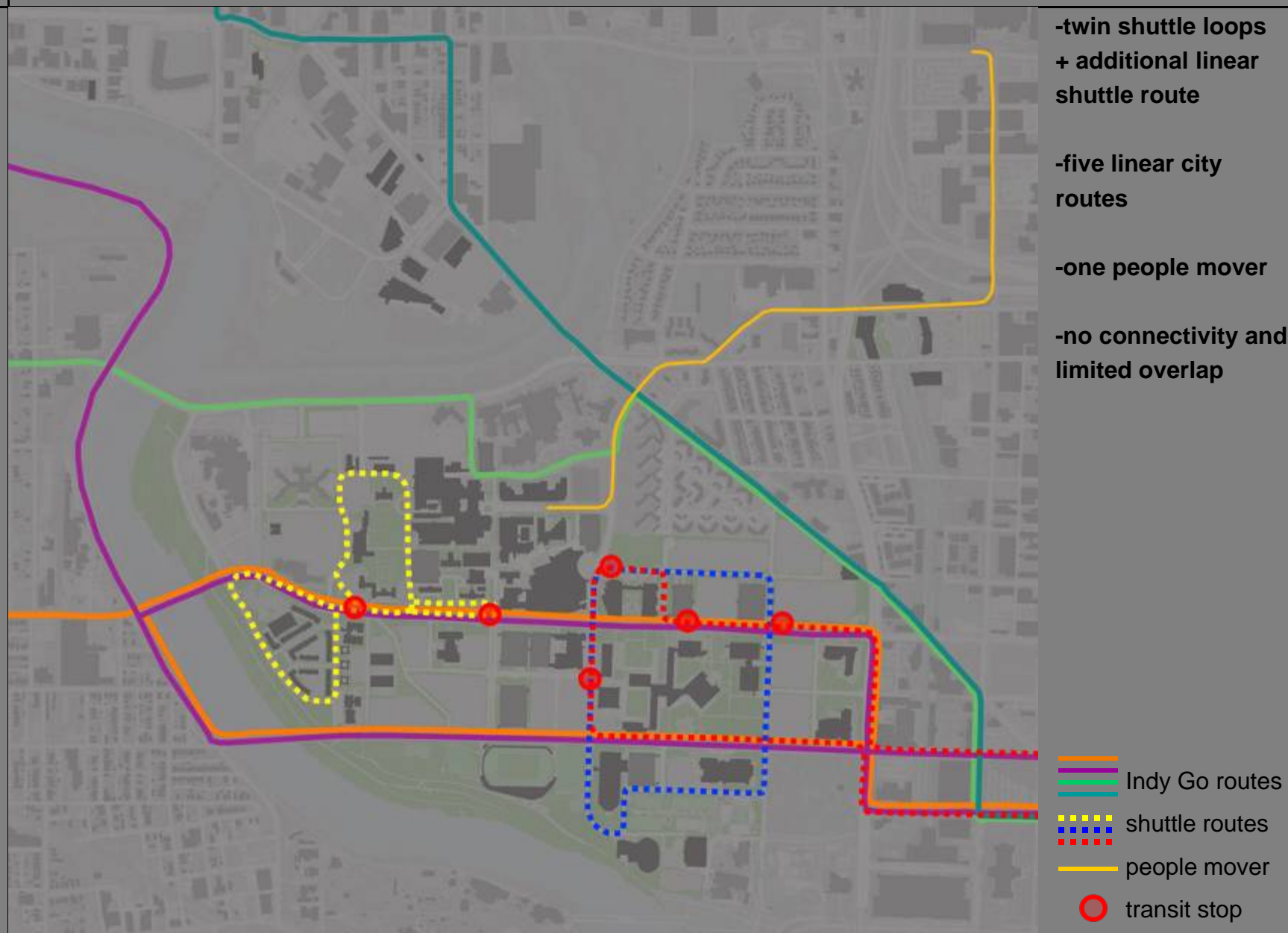
roadways



- 20,500 - 25,000 vehicles/day
- 15,500 - 20,000 vehicles/day
- 10,500 - 15,000 vehicles/day
- other roads
- problem intersections



- daily traffic on 10th Street is equivalent to Michigan and New York combined
- traffic data indicates that a significant amount of traffic starts and ends on campus (Michigan & New York are not primarily through-streets)
- most drivers approach from the northeast

existing transit

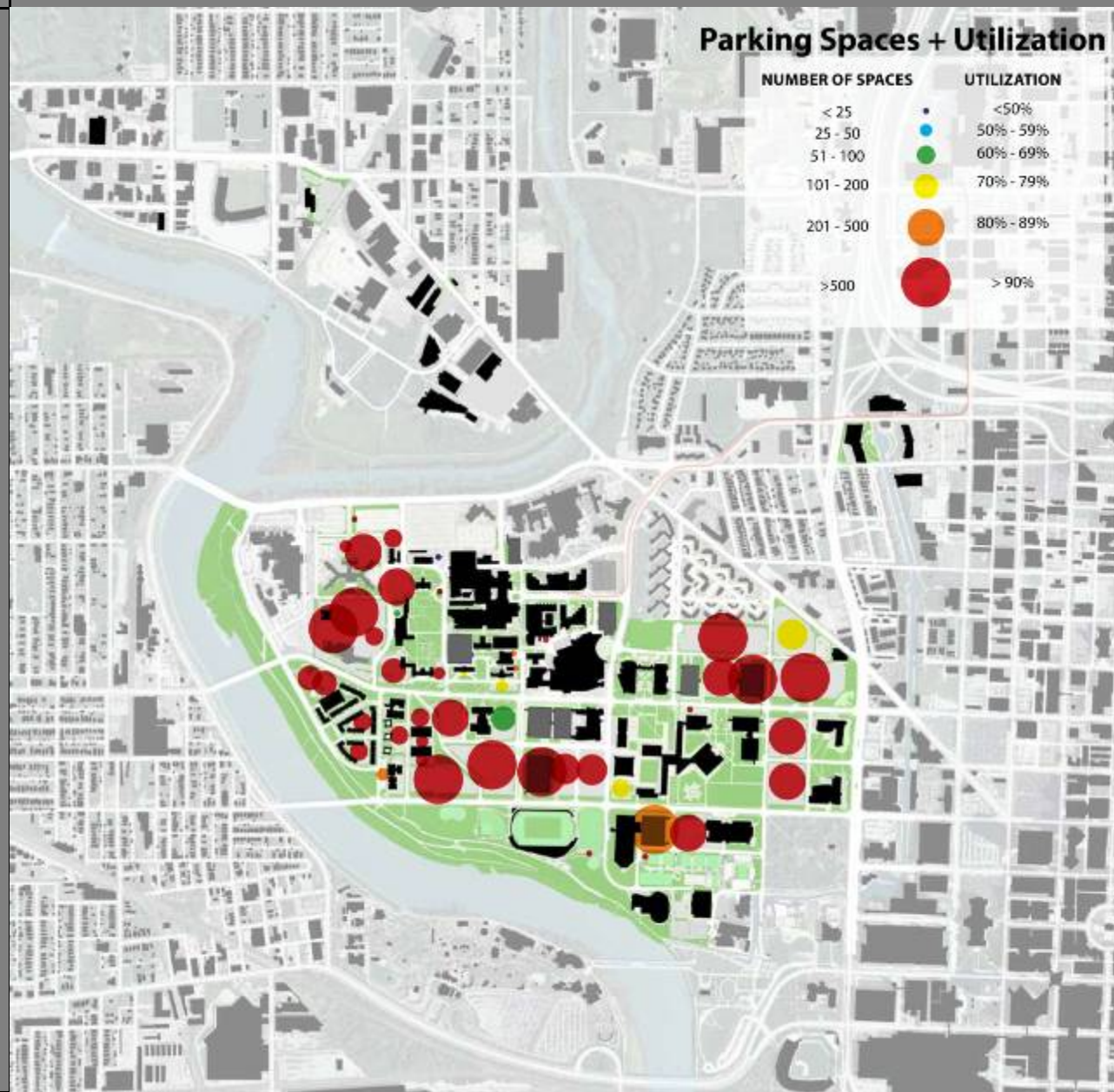


existing parking



-  surface parking lots
-  parking decks

parking utilization map



existing parking supply:

18,450 total supply

A permit = 94% full

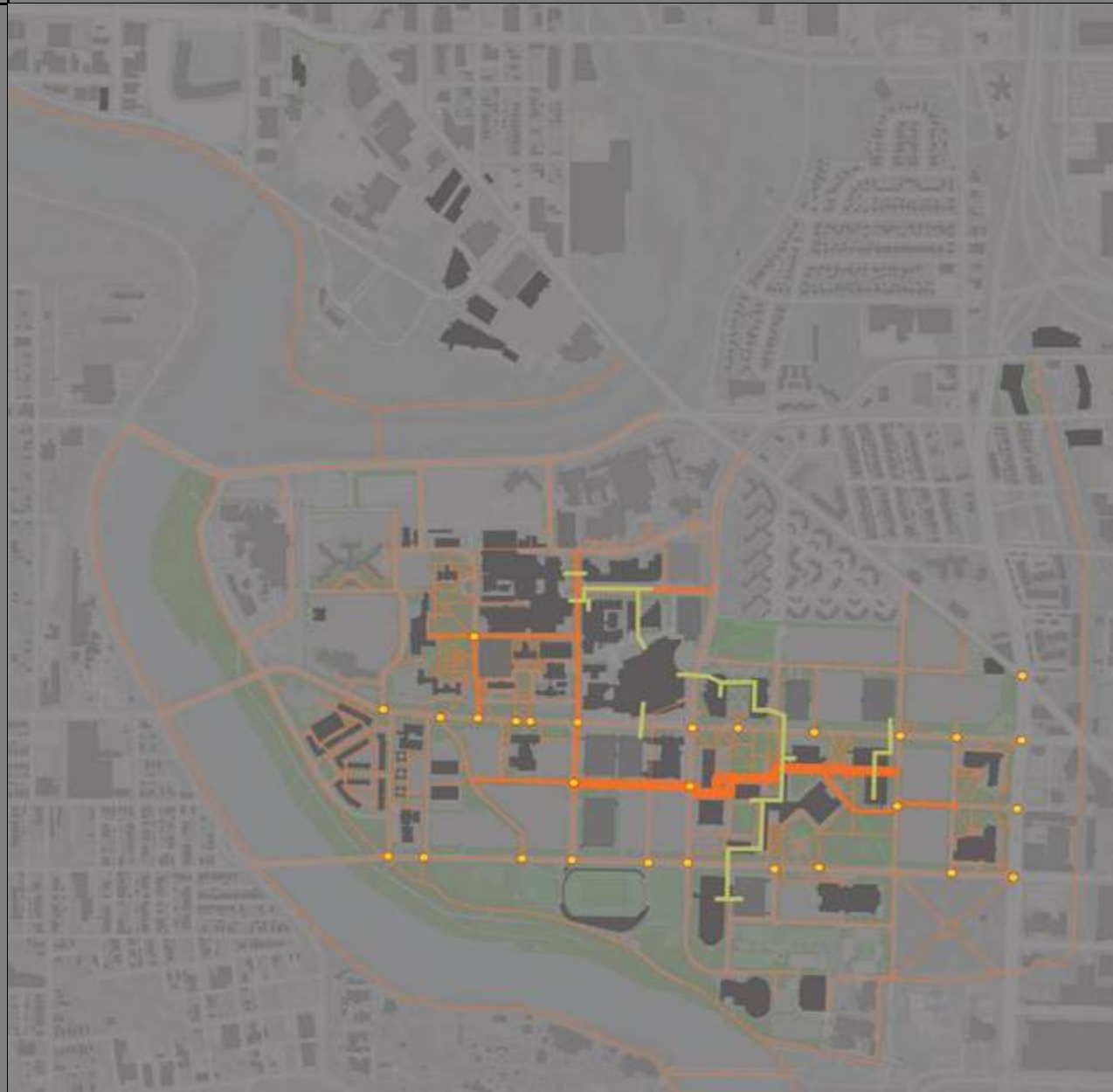
B permit = 96% full

E permit = 93% full

housing = 100% full

other = 83% full

existing pedestrian circulation



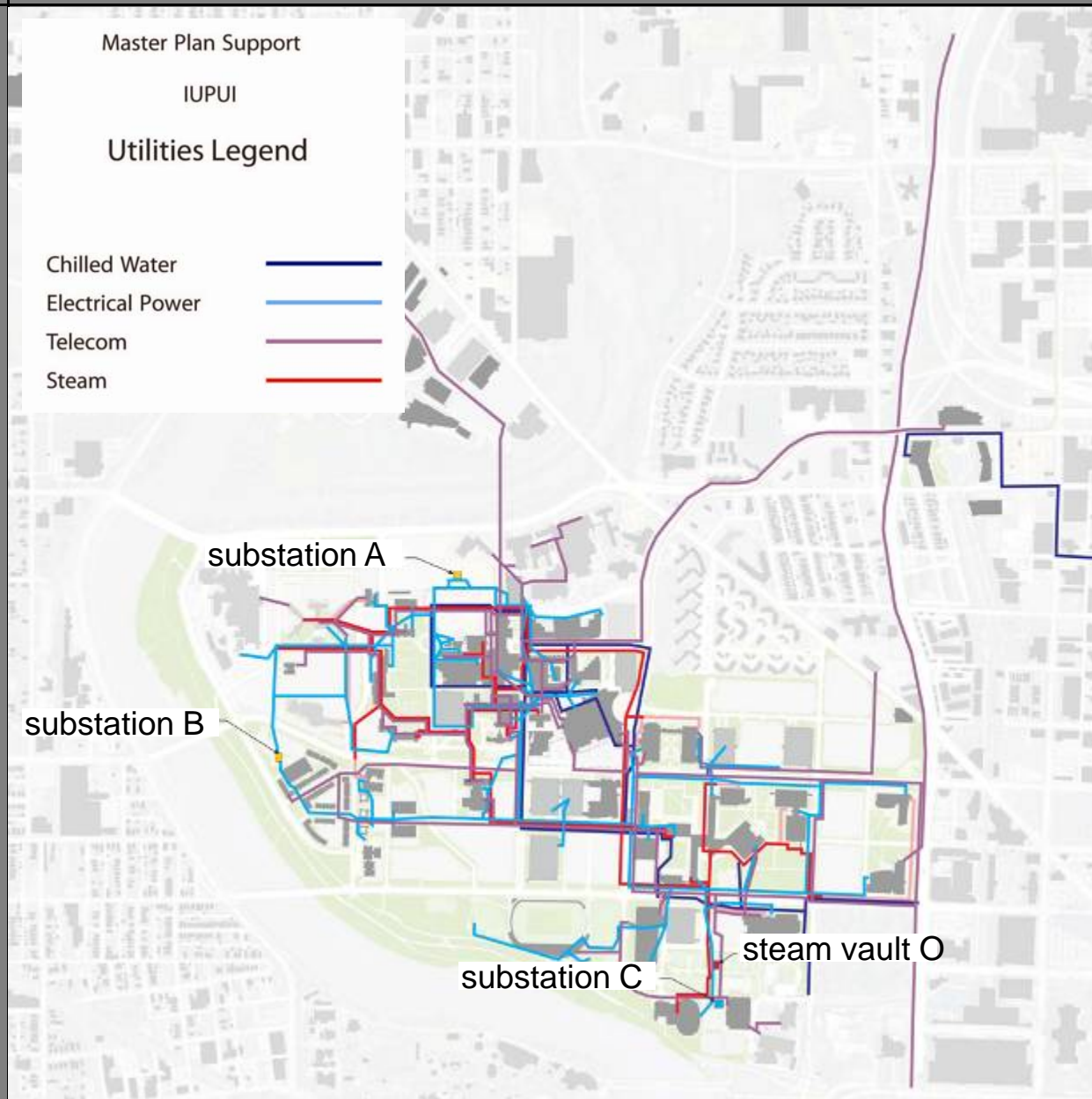
- parking / medical / academic magnets
- city grid pattern vs. desire lines
- ground plane and overhead linkages
- hospital overhead system more linked
- academic overhead system incomplete
- conflicts and “ownership” (frogger)
- 100% corridors (Barnhill and campus internal)

- pedestrian circulation
- desire lines
- above grade circulation
- potential pedestrian or vehicular conflicts

Existing Bicycle Circulation



— existing bike trails



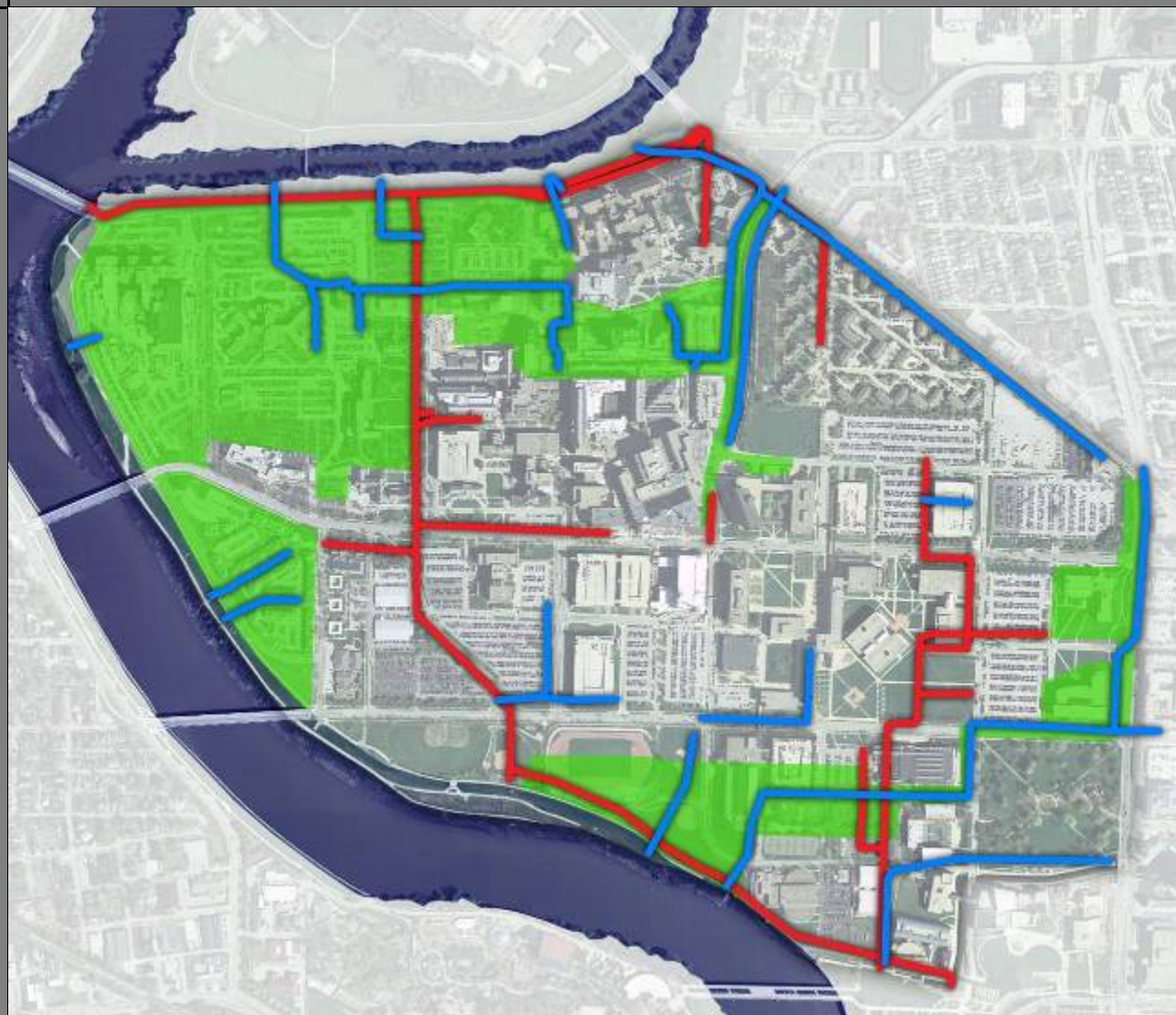
primary issues

- chilled water: a redundant source is needed for capacity.
- steam: a redundant source is desired for reliability.
- electric power: relocation of west street overhead pole line to underground is desired.

secondary issues

- steam: none of the condensate is recycled.
- electric power: second IPL circuit to substation B is desired.
- telecom: additional duct bank capacity required to support redundancy requirements.

existing sanitary



- existing CSO lines
- existing storm lines
- existing separated zones

program

university data summary—baseline fall 2007

total enrollment:	29,854
undergraduate:	21,202 (70%)
graduate:	8,652 (30%)
faculty:	3,161
staff :	4,765
total campus population:	35,426
total acres:	509
facilities (buildings):	129
gross square feet:	9,859,179*
resident population:	1,066 (3.5%)

*excludes hospitals



our team applied normative guidelines to determine unique needs for IUPUI based on interviews with deans, campus leadership, and data from 400 campuses across the country

benchmarking analysis

- peer analysis
- ASF per student
- ASF per faculty



understand spatial gaps

- increase ASF per student
- increase faculty space

educational adequacy study

- 26 facilities assessed
- functionality, suitability, and flexibility
- 4 categories of learning suitability



improve the learning environment

- increase campus wide quality
- resource management
- coordinate building condition assessment

space needs analysis

- existing ASF compared to national guideline ASF



develop new spatial trajectory

- academic space needs
- academic support needs
- auxiliary space needs



benchmarking analysis

- University of Alabama at Birmingham
- University of Buffalo
- University of Cincinnati
- University of Illinois at Chicago
- University of Louisville
- University of New Mexico
- University of South Florida
- University of Utah
- Virginia Commonwealth University

Significantly less ASF per student and faculty than peer averages (43% deficit)

7th out of 9 institutions in overall ASF per student



base year
(non-residential)

existing GSF:

GSF
9,900,000

future year 20% growth, increase of approximately 5,000 students, and growth in school by school research

future year
(non-residential)

academic needs: (classroom, teaching, labs, office, service)	1,525,000
academic space demolition candidates:	(745,000)
academic support : (library, admin, athletics/rec, assembly, plant)	515,000
support demolition candidates:	(265,000)
auxiliary needs: (student center, health care)	160,000
auxiliary demolition candidates	(85,000)
space demand subtotal:	2,200,000
demolition replacement:	(1,095,000)
total need:	3,295,000



existing

existing beds (3.7% of 30,000): 1,066 beds

housing demolition candidates: 60 beds

residential base year total: 1,006 beds

proposed

proposed phase 1 residential : 2,494 beds

total residential after phase 1 (10% of 35,000) 3,500 beds



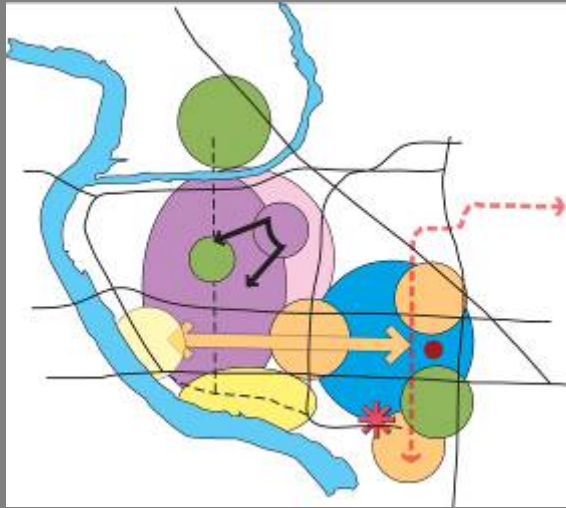
preliminary concept



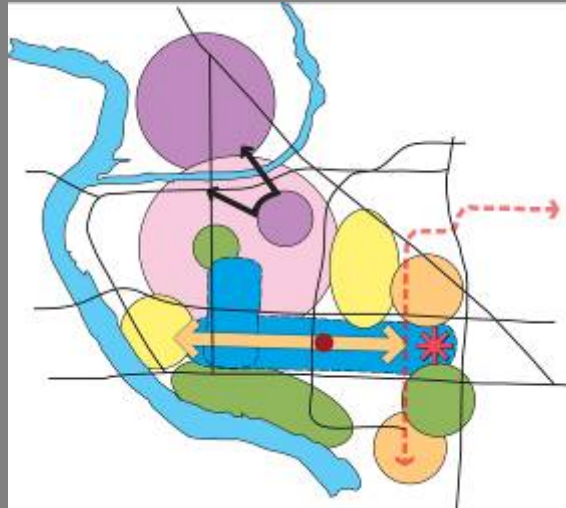
- make an urban campus...don't waste land
- celebrate pedestrian places and environments
- develop Indiana Avenue frontage as distinct mixed-use precinct
- integrate campus with the cultural trail
- transform parking strategy away from surface lots
- connect to the river

conceptual development: early alternatives

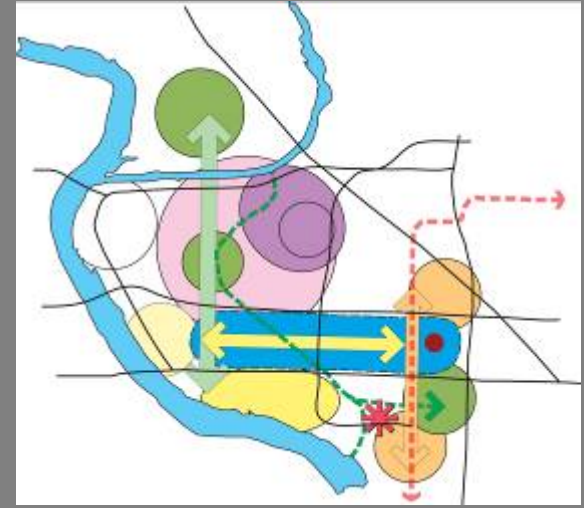
riverfront

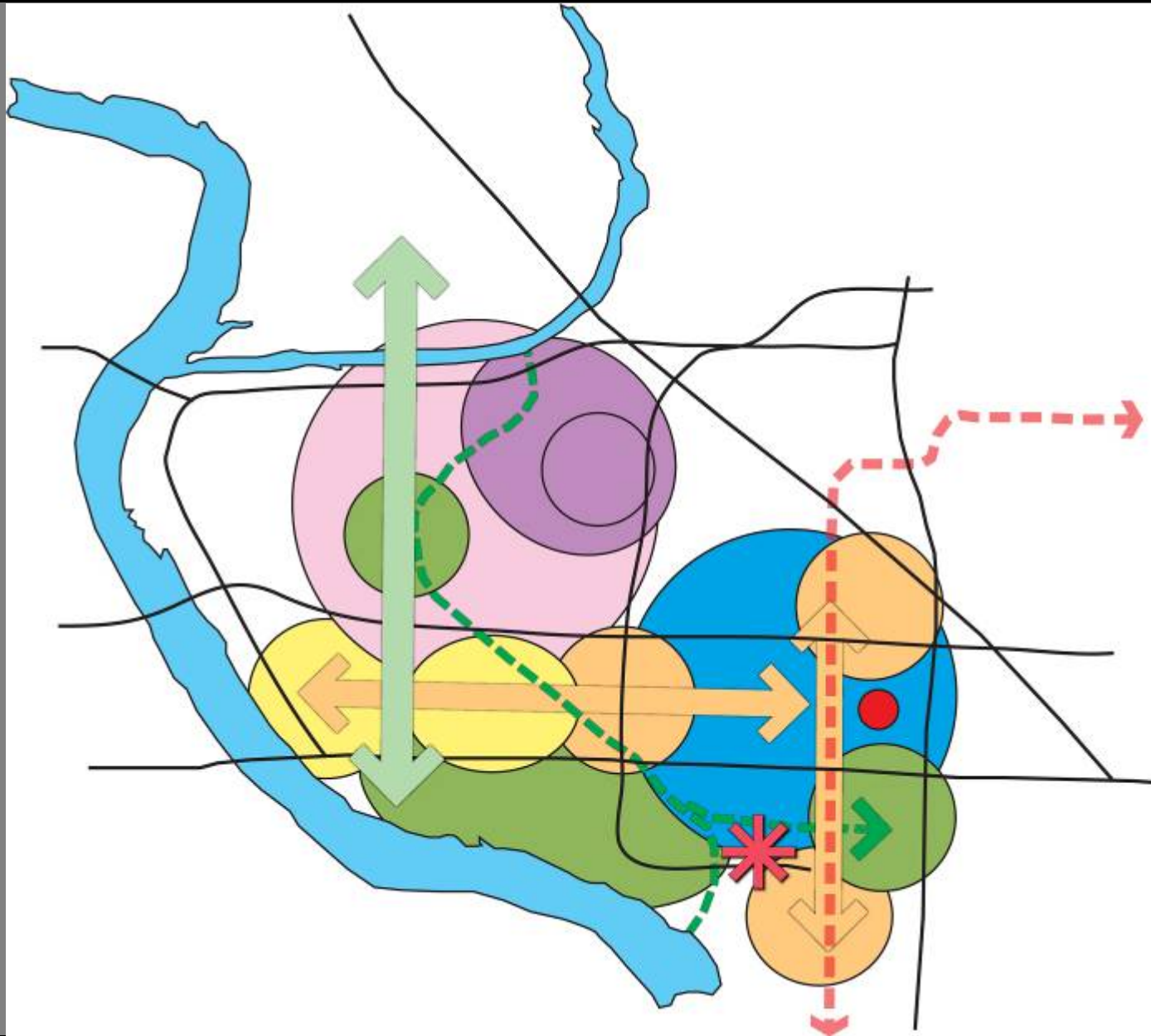


main street

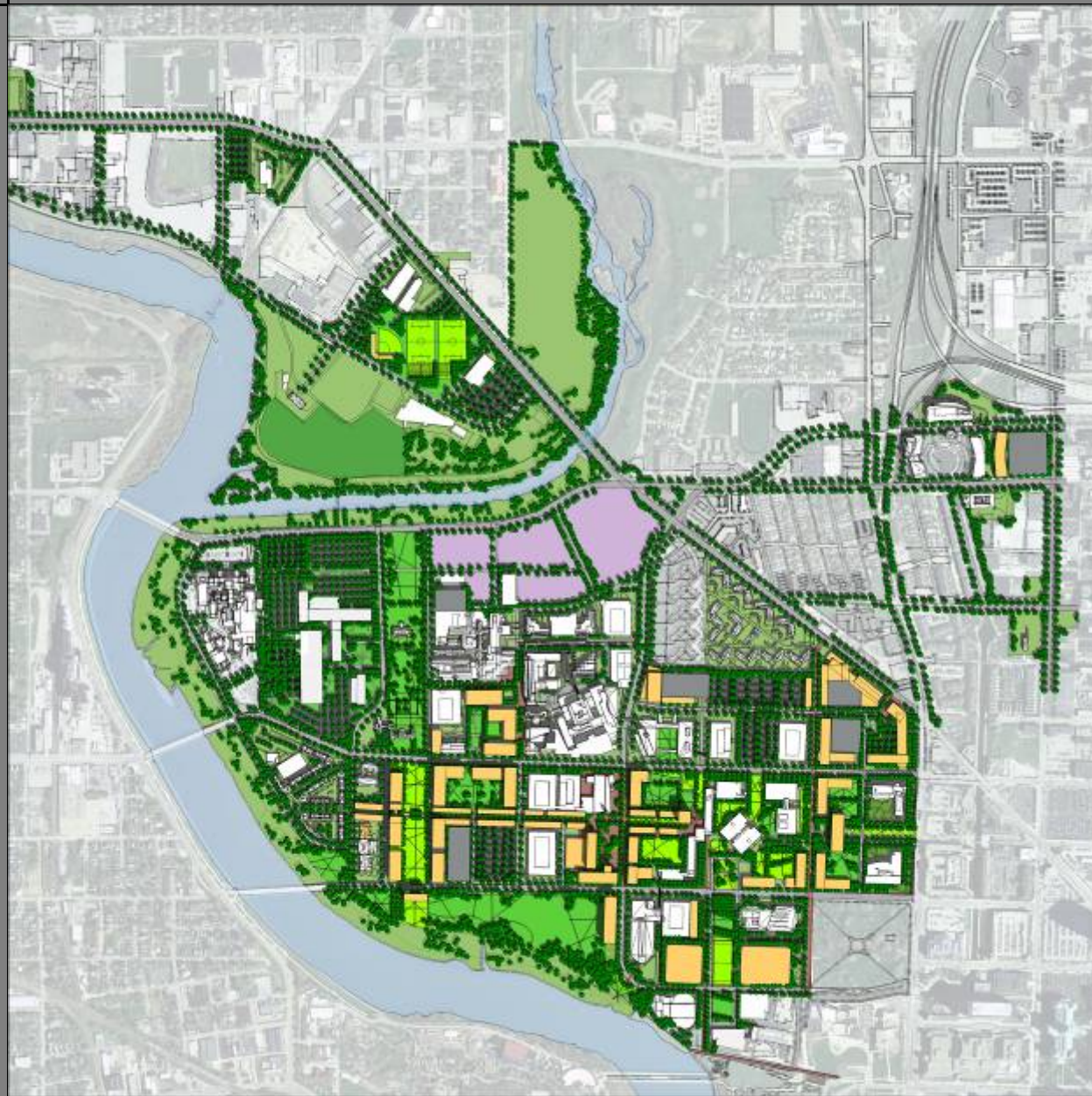


old canal





plan concepts





central academic core and University Ave.

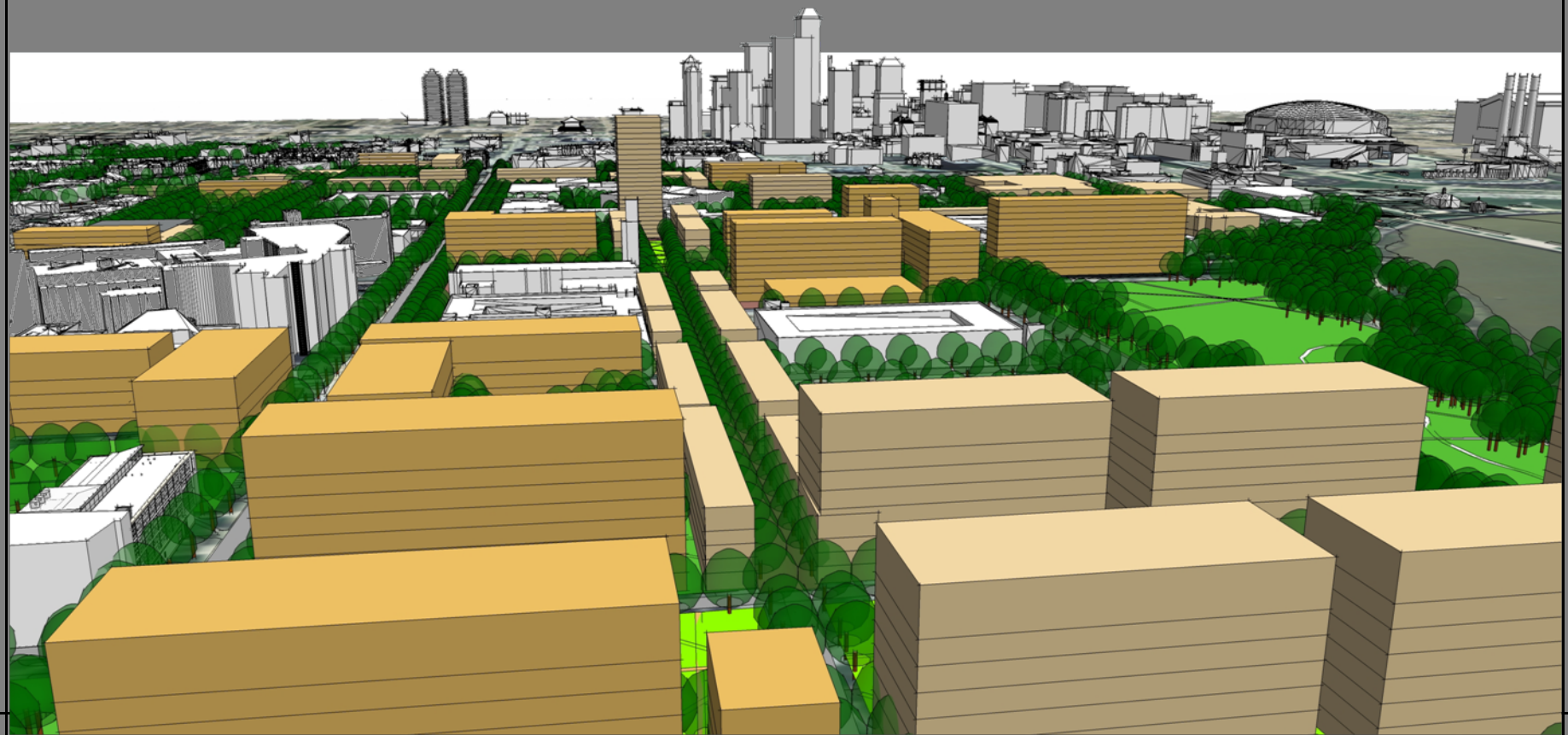


Ball Gardens extension





Vermont Street



proposed roadways



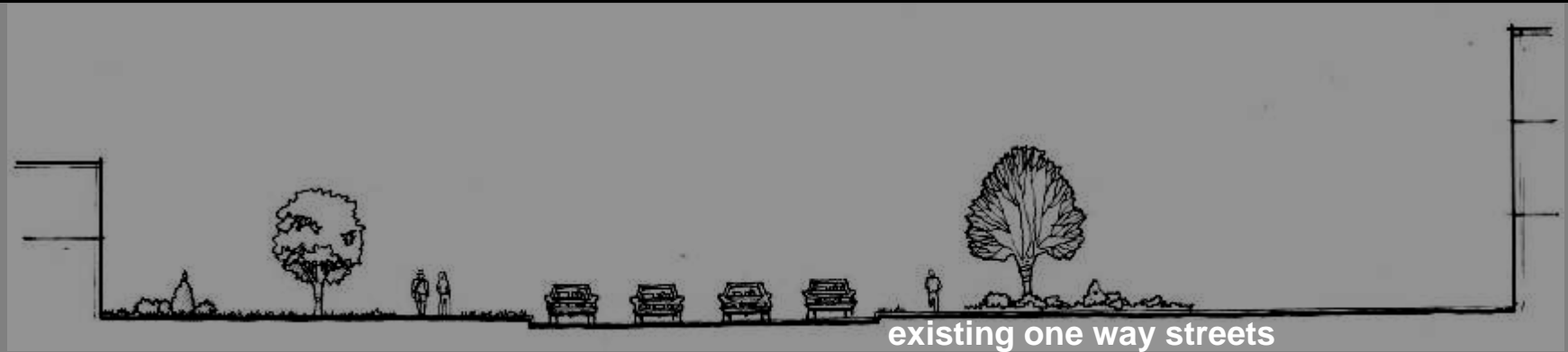
- eliminate one-way streets
 - Michigan
 - New York
 - Blackford
- new north-south roadways
- Vermont street becomes friendly for all modes

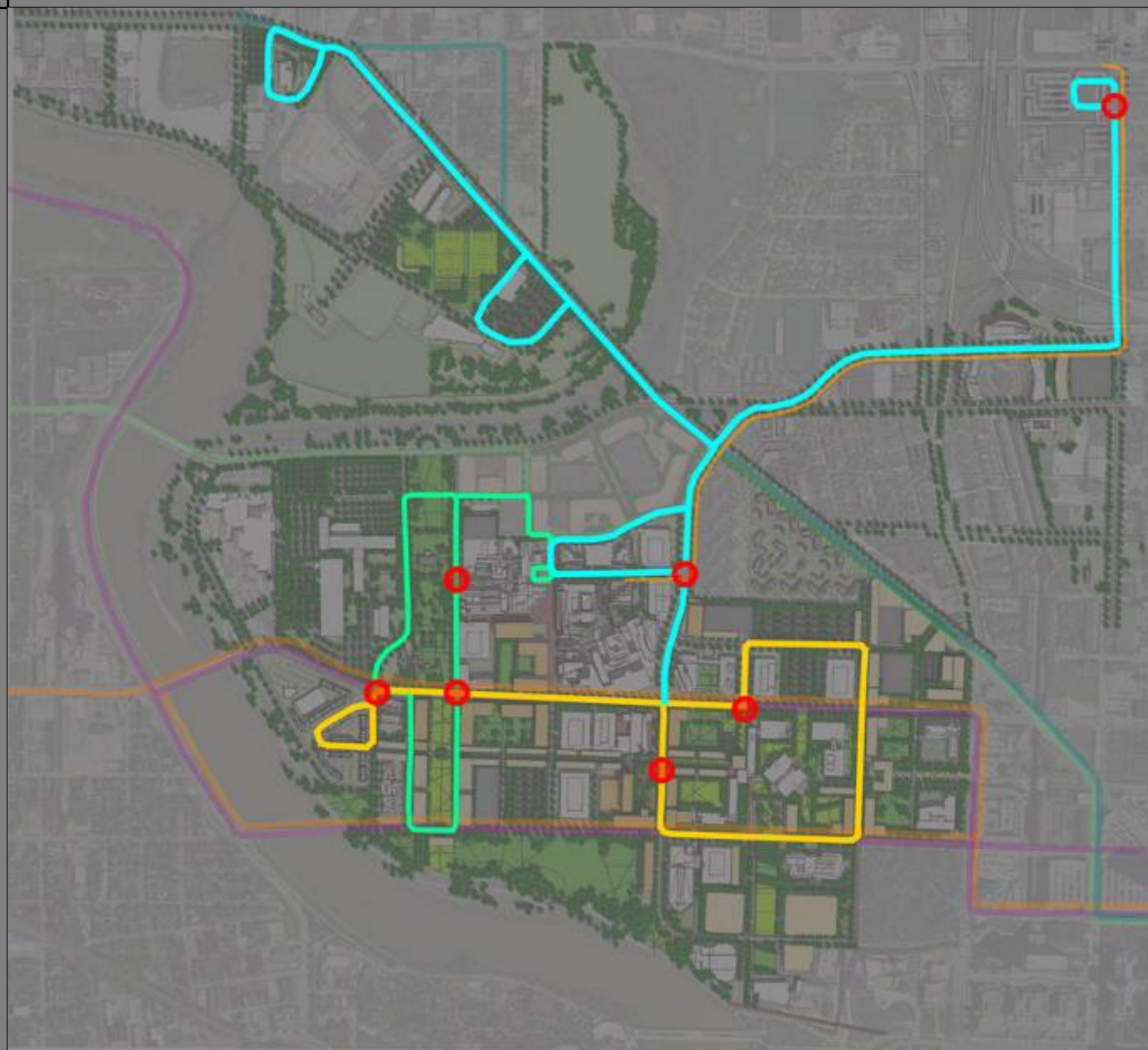
— existing roads
— proposed roads

one way streets vs. two way streets



one way vs. two way streets



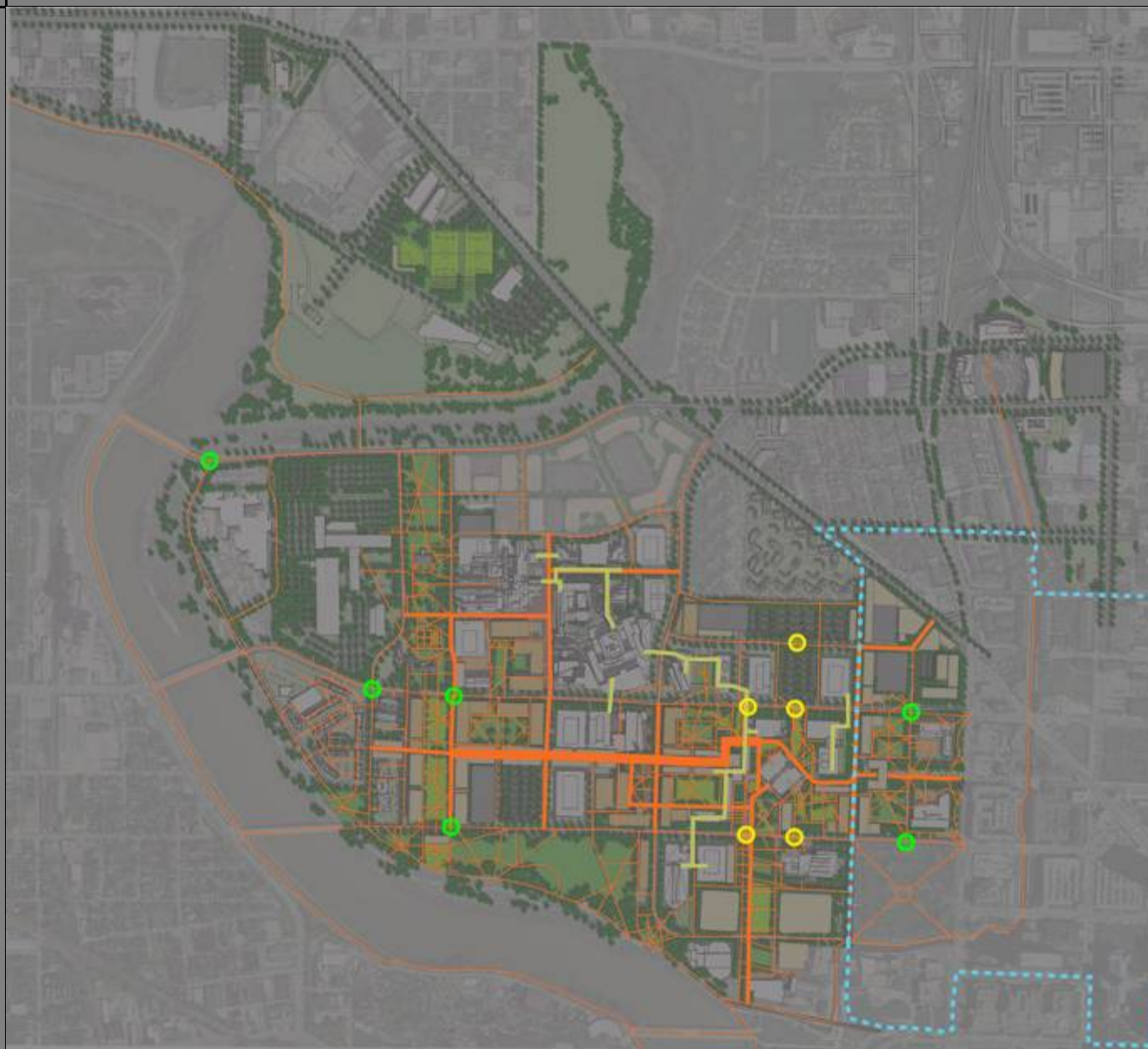


transportation demand management (TDM)

- car-sharing
- subsidized transit
- pricing policies
- carpooling incentives
- preferred parking
- live on/near campus
- park once, bike/transit use

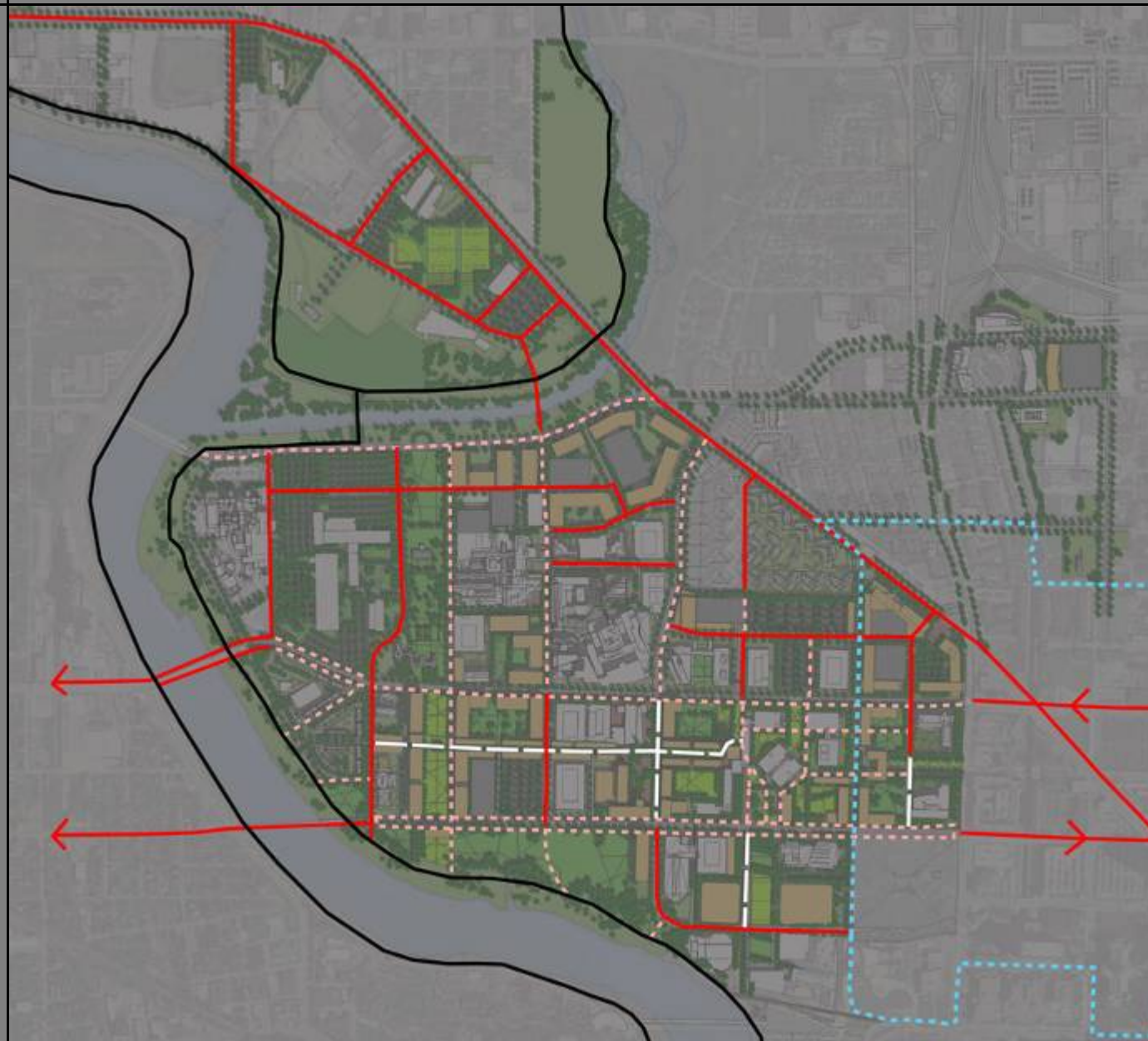
- Indy Go routes
- people mover
- proposed routes
- transit stop

proposed pedestrian circulation

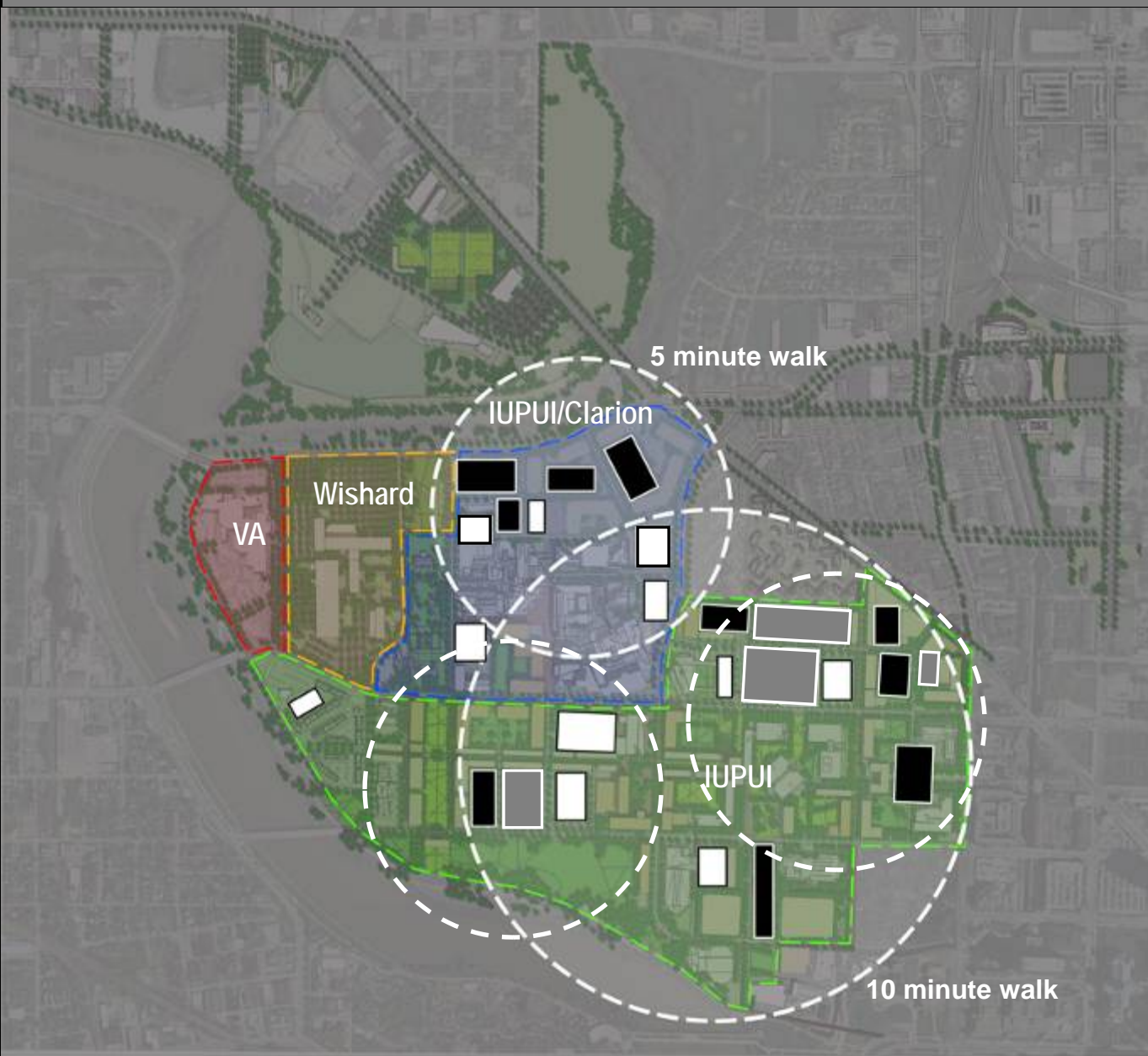


- pedestrian circulation
- desire lines
- above grade circulation
- cultural trail
- proposed signals
- proposed mid-block crossing

proposed bicycle circulation

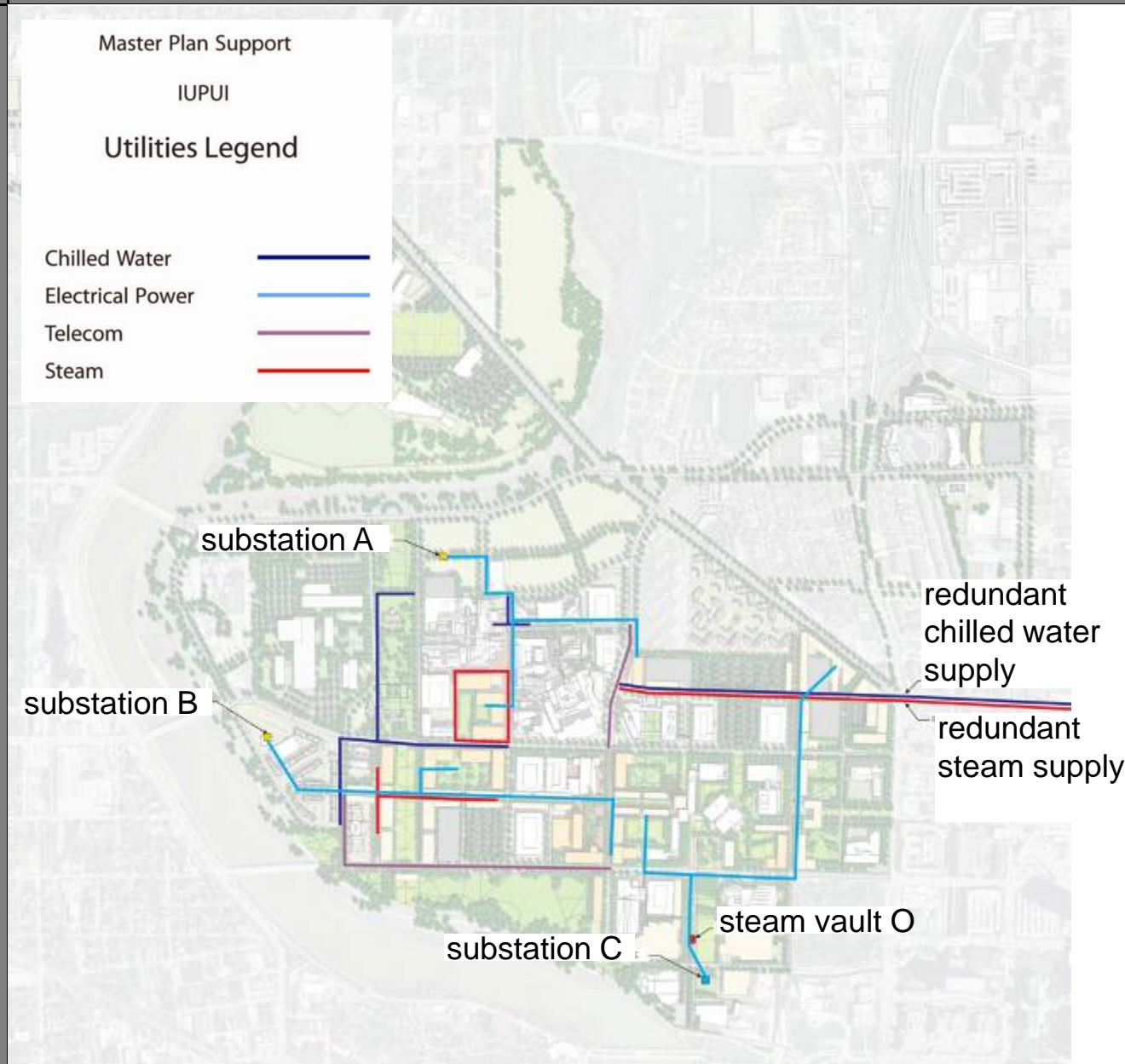


- existing bike trails
- cultural trail
- on-street bike lane
- - - bike-friendly street
- off-street bike path



- Future demand: 4,000 additional spaces
- Overall parking demand reduced up to 10% with transportation demand management tools

- proposed surface lots
- existing parking decks
- proposed parking decks (above and underground)



key considerations

--opportunities for
cogeneration or
trigeneration

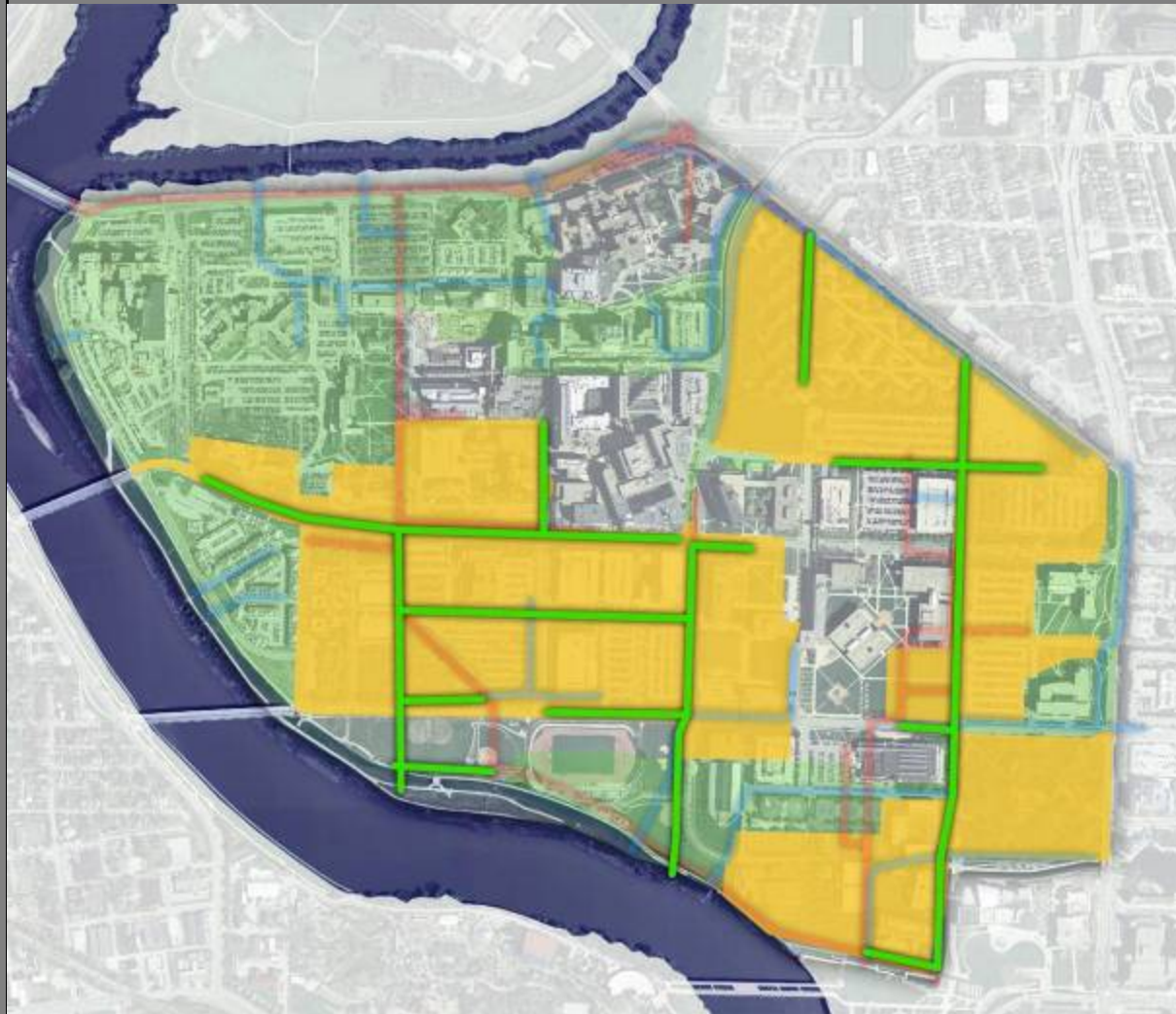
--incentives, economy, and
technology

--fuel types





- coal
- natural gas
- wood pelletization
- biomass
- wind

proposed infrastructure and utilities

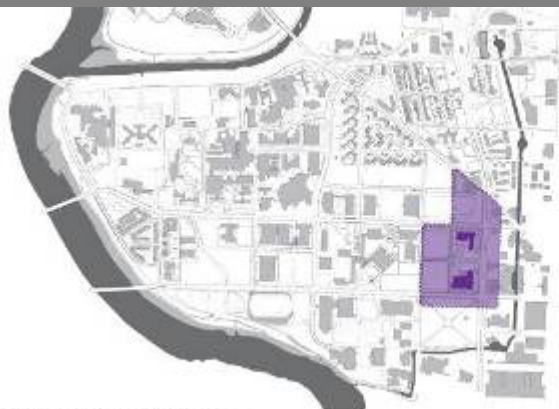




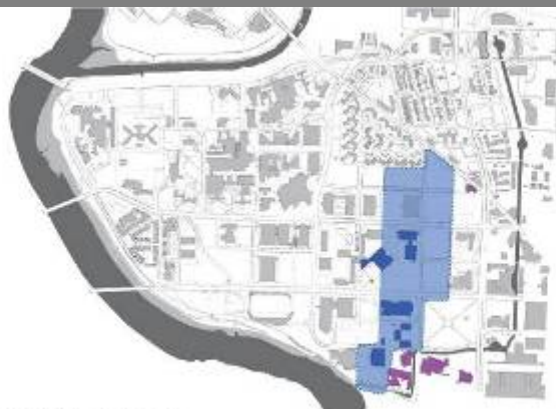
sanitary legend

-  existing CSO lines
-  existing storm lines
-  existing separated zones
-  proposed lines to achieve additional separation
-  proposed new separation zones

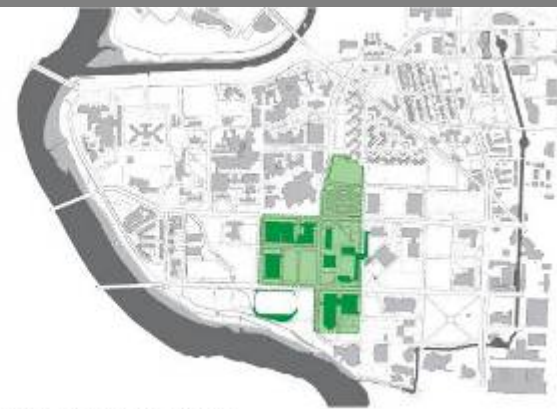
design guidelines



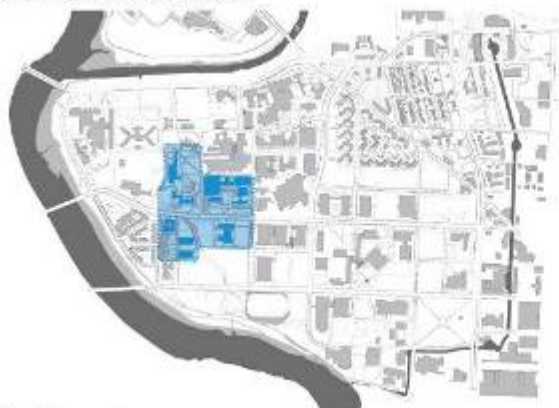
Precinct 1: West Street / Front Door



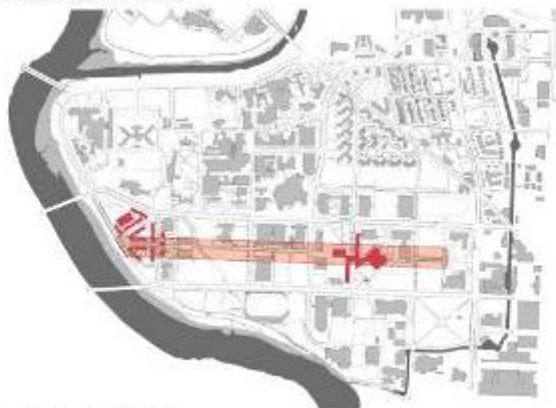
Precinct 2: Cultural Corridor



Precinct 3: Undergraduate Core



Precinct 4: Research



Precinct 5: Residential Alley



Precinct 6: Michigan and New York



Law School
SmithGroup



Informatics and Communications Technology Building
Robert A.M Stern



- this portion of campus is currently characterized by vast expanses of parking lots to the west and north, and Military Park to the south

- the two university buildings (CIB and the Law School) form a gateway to the campus

- the eastern edge of the university is the urban interface with downtown Indianapolis



State Capitol in Indianapolis

a master plan...

- **creates a vision for the future of the campus**
- **identifies systems necessary to support the vision**

beyond the master plan comes...

- **sector planning including detailed landscape plans**
- **detailed academic programming**
- **traffic and parking implementation planning**
- **detailed existing building assessments**

questions