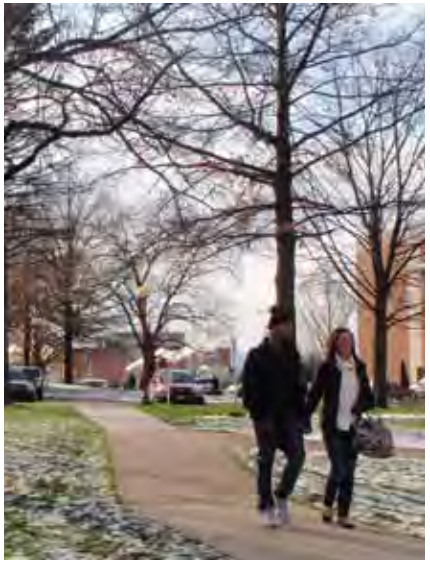


INDIANA UNIVERSITY OF PENNSYLVANIA
LONG-RANGE FACILITIES MASTER PLAN

MASTER PLAN REPORT

INDIANA, PENNSYLVANIA
AUGUST 2011

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LETTER FROM THE PRESIDENT

IUP is on the move! Over the past five years, the campus landscape has changed dramatically, and it will continue to change in the years ahead. That change must be orderly and consistent with University needs and financial resources. Over the last twenty months the University has been working to develop this Long-Range Campus Facilities Master Plan. The Plan emerged through the collaboration of faculty, staff, and local community and government leaders. The services of JJR, LLC, a renowned leader in campus planning, were crucial in the planning process.

I extend my appreciation to the University and Indiana communities for their diligent work and looking into the future needs of IUP. While the Plan charts the course for the years to come, it is also dynamic, and it will be modified from time to time as the University's needs evolve.

We welcome any comments you may have about the Plan.

Dr. David Werner
Interim President, Indiana University of Pennsylvania

Dr. David Werner

one|master plan summary

INSTITUTIONAL VISION + MISSION

The *Long-Range Facilities Master Plan* (Master Plan) for Indiana University of Pennsylvania (IUP) balances the need for facility growth with the fiscal realities of the time. From its modest beginnings in 1875 with one building on 12 acres, IUP has evolved as an innovative institution that meets the practical needs of its students. Crafted at a critical moment in the history of the university, the Master Plan is built upon IUP's Institutional Vision and Mission.

Institutional Vision

IUP shall be among the nation's leading universities, recognized for student success and educational attainment, research, cultural enrichment, and economic development.

Mission

- IUP is a leading public, doctoral/research university, strongly committed to undergraduate and graduate instruction, scholarship, and public service.
- IUP engages students as learners and leaders in an intellectually challenging, culturally enriched, and contemporarily diverse environment.
- Inspired by a dedicated faculty and staff, students become productive national and world citizens who exceed expectations personally and professionally.

PURPOSE OF THE MASTER PLAN

The Master Plan is a collection of powerful ideas. These ideas establish a flexible framework for coordinating physical change at the Indiana campus. Just as the Oak Grove and the Residential Revival projects have shaped the quality of the physical environment and image of IUP, the Master Plan provides a vision for shaping the future of IUP's campus fabric in support of the Institutional Vision and Mission. The Master Plan maintains a constant balance of vision and reality in order to:

- Provide a composite document of principles, goals, objectives, ideas, and recommendations, and the graphics that support them.
- Provide a long-range tool that can adapt and flexibly respond to future changes. Many of the concepts illustrated in the plan are multi-decade ideas that may require numerous projects to achieve. Some planning ideas may never come to fruition.
- Address the required routine maintenance updates with progress reviews every year and a comprehensive review every 5 years.
- Outline parameters to strategically manage and phase development opportunities and implement initiatives within short- (0-5 year), mid- (6-10 year), and long-term (11+ year) time horizons.

PLANNING PHILOSOPHY

The Master Plan represents a "point in time" view of the existing campus and a vision for the future. It can be summarized by the following:

- The Master Plan is IUP's plan. Although the JJR team contributed their technical expertise, IUP's participants passionately guided its thoughtful and methodical development.
- The illustrations in the Master Plan represent an organized collection of ideas. These illustrations graphically translate ideas that communicate concepts and opportunities, and illustrate physical patterns and idealized relationships.
- The Master Plan establishes a framework that defines how the main campus can be improved and/or expanded. It establishes general parameters, and allows minor adjustments to be made without adversely affecting its core principles.
- The campus is a moving target. The Master Plan responds to this by remaining flexible. Political, administrative, financial, and academic needs are constantly shifting. The overarching framework is solid enough to provide direction, but not so detailed that minor changes cannot be incorporated. It is important to monitor key issues and carefully adjust the plan to changing conditions.
- The Master Plan does not mandate growth. Rather, it defines opportunities for accommodating the growth that institutional leadership believes is desirable and necessary.
- The Master Plan emphasizes an integrated approach to coordinate facility improvements, utility enhancements, parking and transportation initiatives, and pedestrian amenities.

- The Master Plan identifies campus-wide space needs. It defines building locations, capacities, design considerations, and general use descriptions. It is important to emphasize that the Master Plan does not identify specific department, school, or college-level programmatic needs. Nor does the plan define building by building uses.
- This is not an implementation plan; it is an opportunity plan. The Master Plan identifies areas the institution may choose to pursue as future needs become more clearly defined.

PROCESS

The Master Plan was completed within a 12-month planning process divided into six major phases: discovery, analysis, alternatives, refinement, documentation, and financial planning.

- **Discovery.** This phase consisted of listening and learning. As part of the "plan before the plan," this important first step included committee structuring, data collection, interviews and meetings, and the development of overarching principles.

- **Analysis.** During the analysis phase, the campus and surrounding context were evaluated. This analysis included a physical evaluation (facilities, utilities, transportation, and site elements) and a spatial evaluation. Conclusions from this phase of work established the design baseline and development parameters for the future campus framework.

- **Alternatives.** The alternatives phase involved the testing of ideas and principles. This phase explored several divergent scenarios for organizing the programmatic elements of the campus. These alternatives were thoroughly scrutinized against common objectives, and political and logistical realities. The result was a composite framework plan that formed the basis for further refinement.

- **Refinement.** During this phase, the framework plan was developed into preliminary and final plans. These campus-wide plans quantified and verified the programmatic elements, including academic, total gross square feet, density, parking distribution and quantities, and land uses.

- **Documentation.** The last phase of the process was the preparation of the final documentation. The documentation phase included the creation of the final illustrative graphics and the packaging of this document.

- **Financial Planning.** The final documentation of the Master Plan included emphasis on phasing for specific 0-5 year, 6-10 year, and 11+ year time horizons and a financial plan for guiding implementation.

BUILDING CONSENSUS

The Master Plan is rooted in IUP's Institutional Vision and Mission and was augmented by a process that included workshops, open houses, focus group meetings, and committee meetings. Input was solicited at major decision points, and consensus was achieved by involving a wide range of dedicated individuals, including regular and active campus involvement and community participation.

President's Cabinet

- Dr. David Werner, Interim President
- Dr. Gerald Intemann, Provost & Vice President for Academic Affairs
- Dr. Rhonda Luckey, Vice President for Student Affairs
- Dr. Cornelius Wooten, Vice President for Administration & Finance
- Robin Gorman, Executive Assistant and Administrative Chief of Staff to the President
- Barbara Moore, Director of Institutional Research, Planning, and Assessment
- Timothy Mack, Dean of School of Graduate Studies and Research

Council of Trustees

- Dr. John Cavanaugh
- Susan Delaney, Vice Chair
- Raymond Edwards
- Mark Holman
- Colleen Kopp
- Jonathan Mack, Secretary
- James Miller, Treasurer
- David Osikowicz, Chair
- Representative Samuel Smith
- Carolyn Snyder
- Mary Esther V. Van Shura
- Gealy Wallwork

Core Team

- Tom Borellis
- Patti Andritz
- Dr. Cornelius Wooten
- Dr. David Werner, Interim President
- Dr. Rhonda Luckey
- Dr. Gerald Intemann
- Robin Gorman
- Mark Geletka
- Terry Carter

Campus Advisory Committee

- Dr. John Kilmarx
- Bob Marx
- Ray Wygonik
- Dennis Hulings
- Bill Montgomery
- Mike Lemasters
- Lenny Kasubick
- Gealy Wallwork
- Tim Rupert
- Dr. Peter Broad
- Dr. John Benhart
- Mary Jo Lyttle
- John Veilleux
- Barbara Moore
- Raymond Edwards
- Frank Condino
- Tracey Missien
- Sam Phillips

Community Advisory Committee

- Byron Stauffer, Jr., Indiana County
- Ken Gabler, Indiana Borough
- Dave Kirk, Indiana Borough
- Rich Gallo, Indiana Borough
- Jeff Raykes, Indiana Borough/County Planning
- Chris Anderson, White Township
- Larry Garner, White Township
- Milton Lady, White Township
- Dr. Bob Begg, White Township
- Betsy Lauber, Downtown Indiana
- Frank Moore, Welcome to Indiana
- Nancy Bierwerth, Welcome to Indiana
- Dana Henry, Indiana Chamber of Commerce
- John Kanyan, Indiana County Transit Authority
- Penny Perman, Indiana County Tourist Bureau
- Deborah Clawson, Indiana Area School District
- Dorcas Clark, M.D., Welcome to Indiana
- Ronald Lundardini, Indiana Borough Planning
- Larry Sedlemeyer, Indiana Regional Medical Center
- Timothy R. Pieples, PennDOT

Focus Groups

- University Deans
- Athletics
- Facility Management
- Greek Organizations
- Student Co-op
- Student Affairs
- Academic Affairs and Academic Strategic Plan
- Enrollment Management
- Open Houses
- The PENN
- Information Technology
- Alumni
- African American Culture Center
- Honors College
- Parking Services
- Safety Committee
- Indiana County Tourist Bureau

A VISION FOR THE FUTURE

In constantly changing times, the Master Plan provides a solid framework from which IUP can continue to attract and retain top students, faculty, and staff. The Master Plan is a composite document which utilizes several previous planning studies, including:

- *2007-2012 University Strategic Plan*
- *2010 Academic Strategic Plan*
- *Student Housing Master Plan and Update(s)*
- *Parking Master Plan*
- *Athletic Master Plan*
- *Long-Range Campus Development Plan* (1996)
- *Space Needs Assessment* (2008)
- *Integrated Facilities Plan (2008)*
- *Campus Signage Master Plan (2011-2012)*
- *Integrated Facilities Assessment* (2009)
- *White Township Comprehensive Plan*
- *Indiana University of Pennsylvania Preservation Plan*
- *2008-2012 Student Co-op Strategic Plan*
- *Housing Market Analysis* (2008)
- *Pedestrian and Bicyclist Transportation Plan of Indiana, Pennsylvania*
- *Indiana Region Greenway Study*

Strategic goals for the campus were established early in the planning process with consensus from various master plan committees. These goals provide a planning framework that is both visionary and realistic. The result is an actionable plan for implementation that:

- Focuses on core academic strengths.
- Matches strategic plan values to physical vision.
- Develops one institutional identity.
- Improves campus image.
- Links the northern and southern parts of campus.
- Fosters innovative and collaborative partnerships.
- Links campus to town.
- Enriches the physical environment for learning.
- Considers a financial program for planning and phasing.

Recommendations

The strategic goals for the Master Plan manifest themselves in several overarching planning recommendations, which include:

- Extend the scale and character of the Oak Grove.
- Strengthen IUP's image through the addition of signature buildings and open spaces that respond to the local vernacular.
- Construct sustainable and energy-efficient buildings.
- Enhance the physical connection between the Oak Grove and Philadelphia Street.
- Develop stronger campus edges that provide mixed-use, win-win opportunities for IUP, Indiana County, Indiana Borough, and White Township.
- Develop areas for improved interaction among students, faculty, and staff, both inside and outside of the classroom.
- Renovate existing facilities and build new facilities that meet the needs of 21st century faculty, students, and staff.
- Redistribute parking locations to the edges of campus to reduce pedestrian and vehicular conflicts on and adjacent to campus.
- Implement an efficient, user-friendly transportation system that increases transit efficiency on campus.
- Apply stormwater-related Best Management Practices to increase pervious pavement, improve water quality, and reduce water quantity outflows to pre-development levels.
- Develop and enhance the campus as an arboretum.
- Employ additional innovative and forward-thinking energy use strategies for the campus.


School Street
Oakland Avenue
7th Street
Rose Street
Wayne Avenue

0-5 YEAR PHASING

IUP's strategic goals and planning principles have been scrutinized and embedded into prudent physical planning recommendations at each implementation phase. Succinct priorities for the 0-5 year plan horizon are rooted in the Pennsylvania State System of Higher Education (PASSHE) 5-year capital improvement and priority spending plan for IUP. Those priorities include:

- Design and construction of a new facility for the College of Humanities and Social Sciences.
- Design and construction of a hospitality facility adjacent to the Kovalchick Complex.
- Design and construction of a new facility for the College of Natural Sciences and Mathematics on the existing Keith/Leonard Halls footprint and Weyandt Hall renovation.
- Development of a food service master plan.
- Design and construction of the Sprowls Fine Arts Courtyard.
- Preparation of a signage master plan for the Indiana campus.
- Demolition of McCarthy Hall and construction of a parking lot on the footprint.
- Traffic studies for Grant and 11th Streets.
- Arboretum Phase I program.
- Phase I programming for the Crimson Line.
- Planning for non-traditional student housing.
- Closing Grant Street to through traffic.
- Extension of the Hoodlebug Trail at the Robertshaw Building.
- Property acquisition along Wayne Avenue.
- Complete infrastructure and utility work in conjunction with construction projects.
- Increasing chilled water plant capacity to 4,000 tons.

0-5 YEAR PHASING STRATEGY

Planning

- **A** Food Service Master Plan
- **B** Signage Master Plan
- **C** Traffic Studies at Grant and 11th Streets
- **D** Arboretum Phase 1
- **E** Crimson Line Phase I
- **F** Non-Traditional Student Housing
- **G** Property Acquisition along Wayne Avenue

Building

- **H** New Facility for College of Humanities and Social Sciences
- **I** Hospitality Facility at Kovalchick Complex
- **J** New Facility for College of Natural Sciences and Mathematics + Renovation of Weyandt Hall

Site

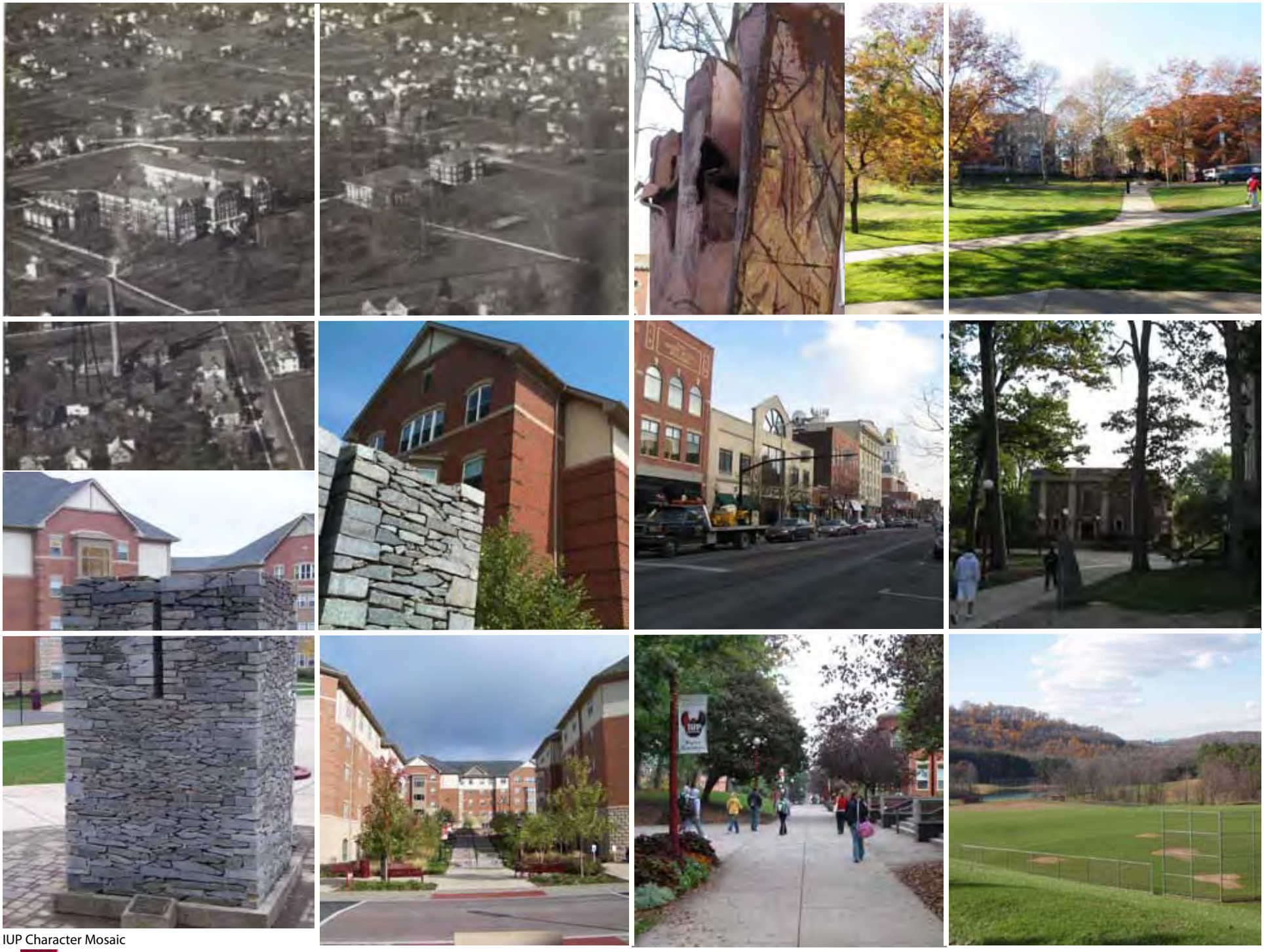
- **K** Sprowls Fine Arts Courtyard
- **L** Demo McCarthy Hall + Construct New Parking
- **M** Close Grant Street between Pratt Drive + 11th Street
- **N** Hoodlebug Trail Extension
- **O** Increase Chilled Water Capacity

A 10-YEAR VISION

The adjacent image reflects the future vision for IUP; an active, pedestrian-oriented campus designed to fulfill the vision, goals, and needs of the university for years to come. This image focuses on a renewed academic core surrounding the Oak Grove, with future development that complements the existing fabric of campus while creating an energized solid foundation for the future.


Science
Mall
Oak Grove
College of Natural Sciences and Math
Signature
Open Space
University
Cultural Center
Stapleton
Library
Sutton
Crimson
Line

two | the campus today



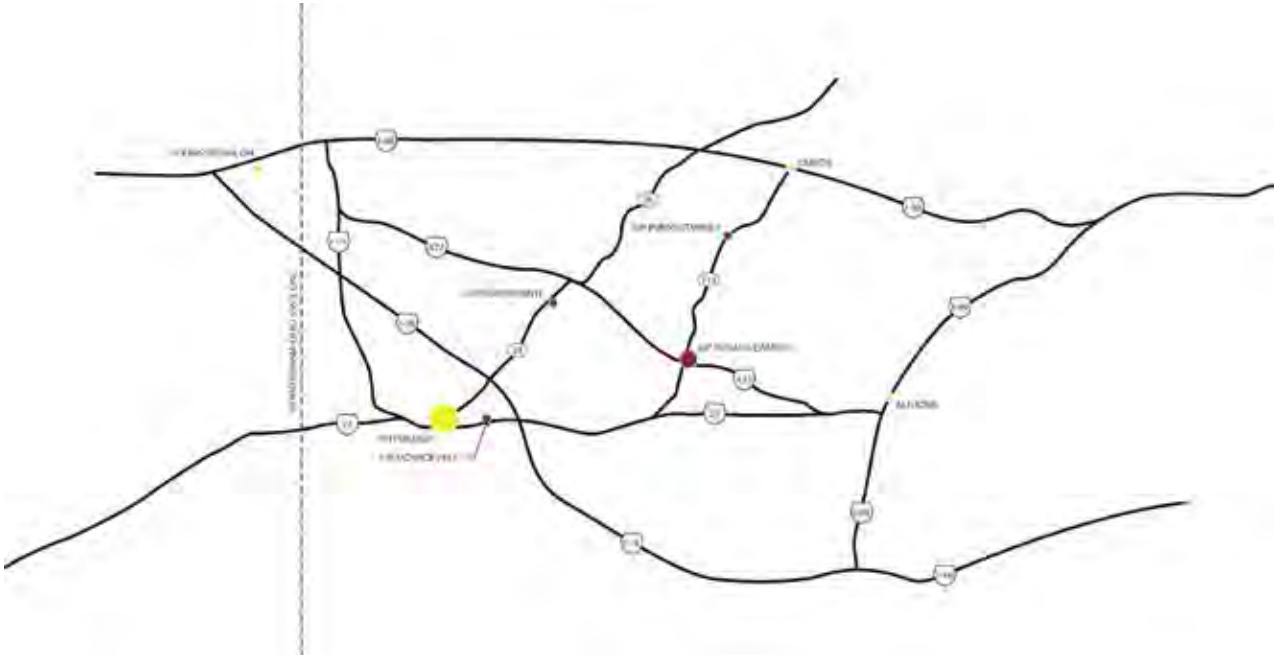
IUP Character Mosaic

at a glance | indiana university of pennsylvania

INDIANA CAMPUS

Indiana University of Pennsylvania (IUP) is the largest member institution of the Pennsylvania State System of Higher Education (PASSHE). The university's main campus is located in Indiana, Pennsylvania, and it has branch campuses in Monroeville, Punxsutawney, and Freeport/Slate Lick (IUP at Northpointe). In 2010, the Indiana campus included over 14,000 students from both the United States and abroad. The campus is spread over 370+ acres of rolling terrain, with over 4 million gross square feet of facility space.

2010 Campus Baseline (Indiana Campus Only)	
Enrollment	14,426
Undergraduate	12,404
Graduate	2,002
Faculty	736
Staff	778
Campus Acreage	374
# of Campus Buildings	72
Gross Square Feet	4,003,708
Live on Campus	29%



CAMPUS LAND USE

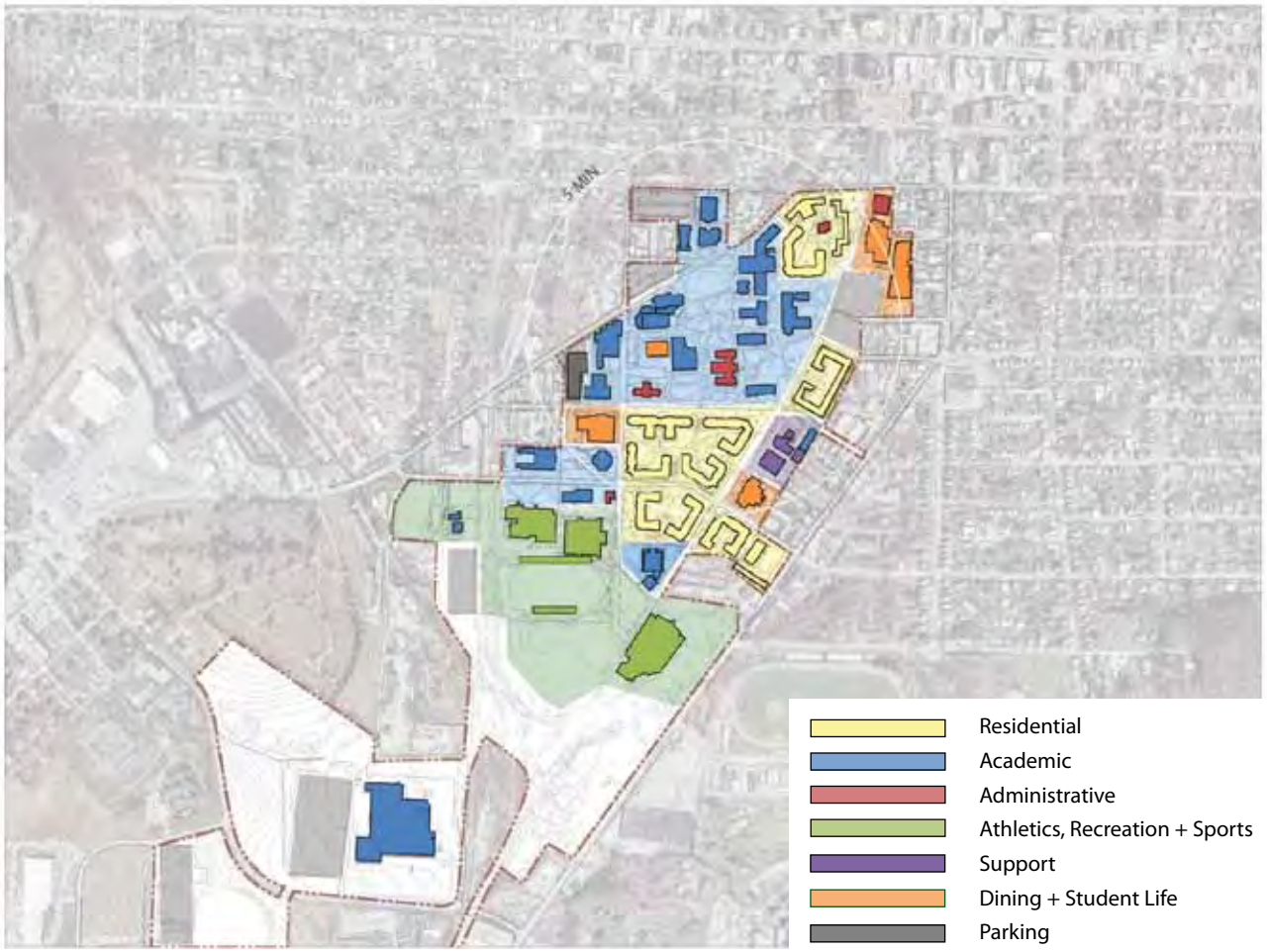
The Indiana campus consists of several distinct land use zones. The core academic uses of the campus are centered around the Oak Grove—the figurative "heart" of IUP—and successfully integrate with administrative, dining, and library functions. Academic uses also extend north of Oakland Avenue and south of Maple Street, and are physically separated from the central academic core by the recently constructed on-campus housing projects.

Residential, dining, student life, and the physical plant support uses surround the central academic core, serving as a potential barrier for future academic growth. The majority of the on-campus residential uses lie south of Grant Street, as part of the Residential Revival projects. The two primary dining facilities on campus, Foster and Folger Halls, are also found within this zone. An additional cluster of housing, including Whitmyre Hall, Elkin Hall, and the Northern Suites, is located along the northern edge of the campus at School Street. The Hadley Union Building (HUB), a facility consisting of dining, recreation, and meeting space, is owned and operated by the Student Cooperative Association, and is located at the northeastern corner of campus.

Athletic and recreation uses are located south and west of the central academic core. Zink Hall, Memorial Field House, Miller Stadium, the Kovalchick Convention and Athletic Complex (Kovalchick Complex), and several tennis courts and practice fields are located just south of the central academic core. More remote athletic fields, including the intercollegiate baseball, softball, and soccer fields, are located south of Rose Street.

Campus Land Use Summary

- Existing mix of academic, residential, administrative, and student life uses within a 5-minute walk surrounding the Oak Grove should be enhanced and replicated.
- Residential Revival projects provide challenges for future academic growth adjacent to the central academic core.
- Athletic and recreation uses are isolated from the central academic core.



Campus Land Use

BUILDING USE

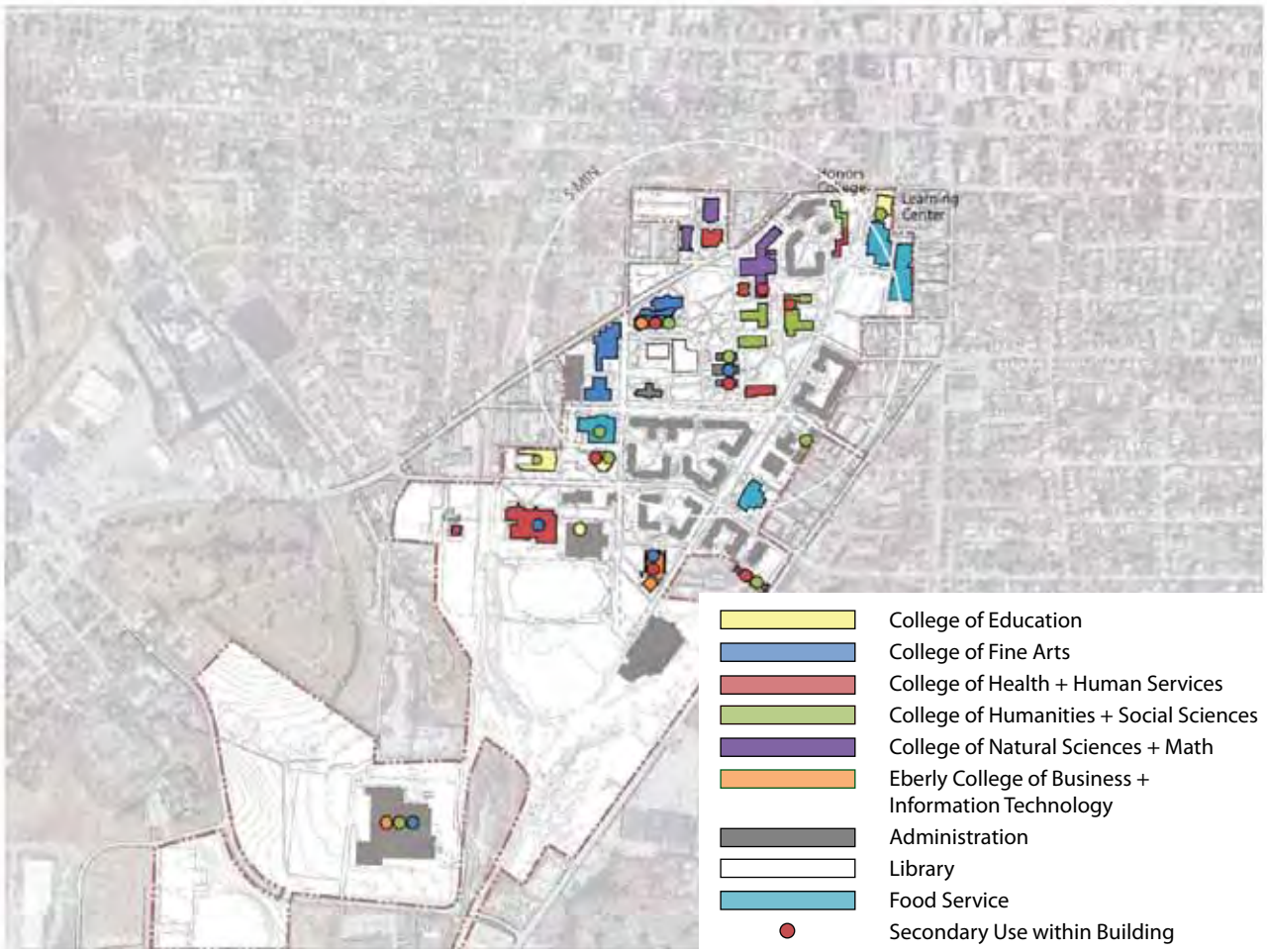
The Colleges of Humanities and Social Sciences, Fine Arts, Natural Sciences and Mathematics all have a presence within the central academic core surrounding the Oak Grove. College adjacencies by district are apparent. For example, the relationship between Waller, Cogswell, and Sprowls Halls, and Fisher Auditorium create a College of Fine Arts subdistrict. Additional subdistricts are created by the College of Natural Sciences and Mathematics along Oakland Avenue, and by the College of Humanities and Social Sciences in Keith, Leonard, and McElhaney Halls.

Food services are available in dining facilities at the perimeter of a 5-minute walking radius centered on the Oak Grove.

The Eberly College of Business and Information Technology; the College of Education and Educational Technology; and the College of Health and Human Services are also located on the perimeter of the core academic uses.

Building Use by College Summary

- IUP is organized around the Oak Grove by college subdistricts.
- Expansion of the existing subdistricts by college will require strategic phasing and increased core density.
- Dining opportunities, currently located on the perimeter, may need to be considered as candidates for future infill in the central academic core.



Primary Building Use by College

CAMPUS CIRCULATION

Vehicular Circulation

The Indiana campus is integrated into the surrounding street patterns of Indiana Borough. Downtown Indiana's commercial district is concentrated along Philadelphia Street; the northern edge of the IUP campus lies 2 blocks south of this corridor along School Street. Oakland and Wayne Avenues run on the west and east sides of campus, respectively, and serve as higher volume arterial roadways bringing the majority of traffic into campus and town.

The northern portion of campus is bisected by two east-west roads, Grant and Maple Streets, which connect Oakland Avenue to Wayne Avenue. Paralleling Grant Street to the north is South Drive, which provides vehicular access to Sutton Hall and Stapleton Library. The orientation of these roads relative to the primary pedestrian flows create conflict points between pedestrians and vehicles.

Maple and Rose Streets are important east-west vehicular connector corridors, providing essential cross-campus vehicular connection between Oakland and Wayne Avenues.

Pratt Drive and Garman Avenue both provide north-south vehicular connection routes that may not be essential to long-term campus circulation.

Pedestrian Circulation

The primary pedestrian routes on campus run north-south and connect housing to the Oak Grove, where the pedestrian traffic is diffused through the series of walkways leading to the various academic buildings. Movement along this spine is interrupted at two locations: Grant Street and South Drive. In addition to challenging topography, pedestrians must also navigate around parked cars and through traffic, including buses and personal automobiles.

Pratt Drive serves as a pedestrian and vehicular corridor anchored by the HUB and the Kovalchick Complex. Pedestrians utilize the sidewalks along the campus streets, where present; however, the absence of sidewalks along key vehicular corridors, including portions of Maple Street, causes additional pedestrian-vehicular conflicts. Significant pedestrian movement also exists along 11th Street.

There is little connection between the campus and downtown Indiana, despite the relatively short distance between the two. The adjacent land uses north of campus contain a mix of residential housing and commercial development, and the sidewalks are disrupted by several driveways and parking lots.

IUP has taken steps to address pedestrian-vehicular conflicts, including closing a segment of 11th Street to non-delivery vehicles from the Clark Hall parking lot north to Oakland Avenue. Similar actions throughout campus could further enhance IUP's pedestrian environment.

A paved trail connects the student parking lot west of the Robertshaw Building north to Maple Street; however, the trail is underutilized due to undesirable adjacent land uses. The trail also misses a potential connection to the Hoodlebug Trail, which begins just south of the Robertshaw Building at Rose Street.

Bicycle Circulation

Bicycles are a prominent method of transportation at IUP. There are no designated bike lanes or paths on campus; bicyclists instead must contend with both vehicles and pedestrians on the campus roadways and walks. The draft *Pedestrian and Bicyclist Transportation Plan of Indiana, Pennsylvania* is under development and review by Indiana County and should be utilized to coordinate the efforts between the university, Indiana Borough, and surrounding townships to implement a pedestrian and bicyclist vision for the region.

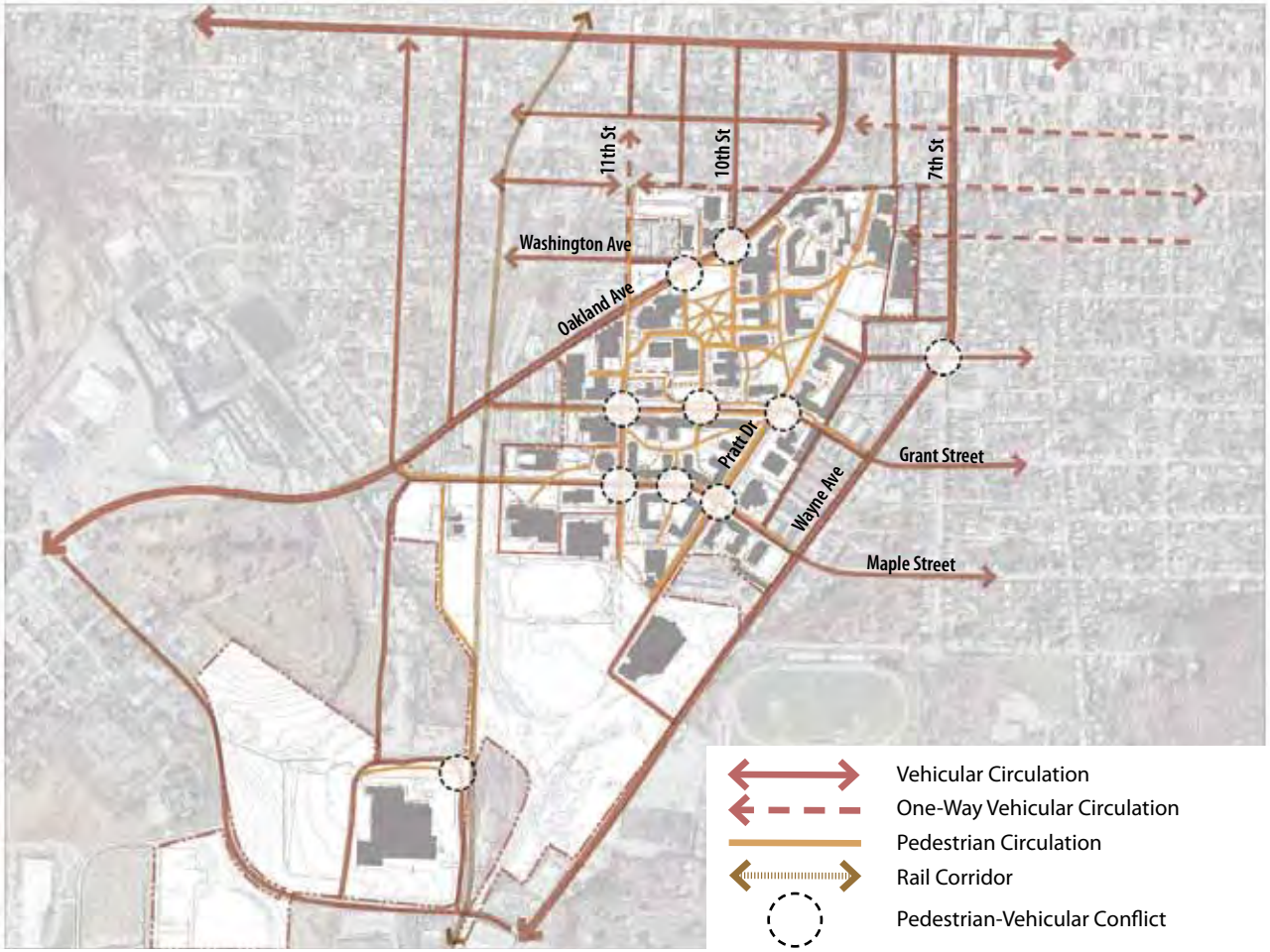
Maple Street looking east from Oakland Avenue

Pedestrian crossing at Grant Street

Pedestrian corridor connecting housing to the Oak Grove

Campus Circulation Summary

- Major pedestrian-vehicular conflict areas where pedestrians should have the right-of-way occur on Maple and Grant Streets at 11th Street, the mid-block between 11th Street and Pratt Drive, and at Pratt Drive.
- Additional pedestrian-vehicular conflict areas exist on Oakland Avenue at 10th Street and at Washington Avenue, and at the intersection of Wayne Avenue, 7th Street, and Locust Street.
- There are no dedicated bicycle lanes or paths on campus. Bicyclists must share the roadways with motor vehicles and the campus paths with pedestrians.



Campus Circulation Summary

PARKING

IUP has given considerable scrutiny to the use of parking resources and the approach the university will take to meet the existing and future parking demand. IUP Parking Services has implemented several strategies to reduce parking demand on the Indiana campus, which include:

- Not issuing parking permits for students living off campus within the Indiana Borough boundaries.
- Not issuing parking permits for commuter students living on campus in permanent residences greater that 75 miles from Indiana.
- Replacing parking meters with pay by space machines.

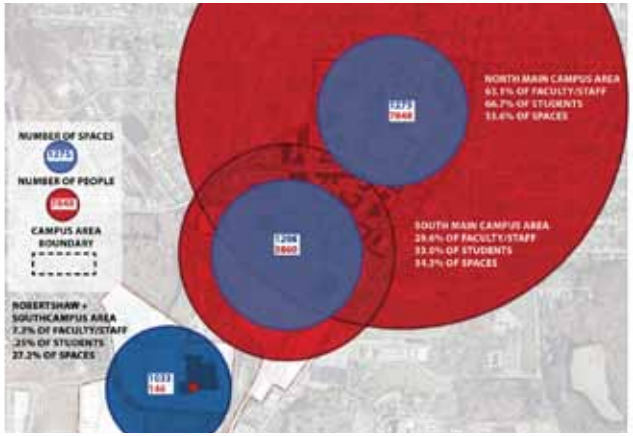
Parking data provided by IUP revealed an existing 3,773 parking spaces. Given the current campus population of 16,729, including students, faculty, and staff, the campus parking ratio is 4.4 persons per parking space.

A parking demand analysis was performed for IUP's *Student Housing Master Plan* in 2007, which determined the amount of parking needed in future years based on parking ratios for residential students, commuter students, employees, and visitors. This analysis responded to both national trends and IUP's parking culture.

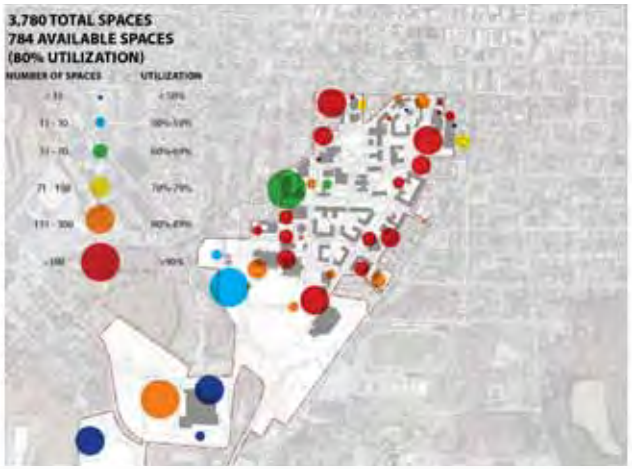
To further understand parking use, available spaces were counted hourly for an entire week by IUP Parking Services, revealing an average parking use rate of 80%. However, an in-depth analysis of these figures identified an abnormal peak in the number of commuters on Tuesdays at 11:00 a.m. and Thursdays at 12:00 p.m. Nearly 500 more automobiles were counted during these times than during the peak commuter times recorded for every other day and time. Parking management strategies could involve techniques to provide parking for average use rather than peak use.

Parking Summary

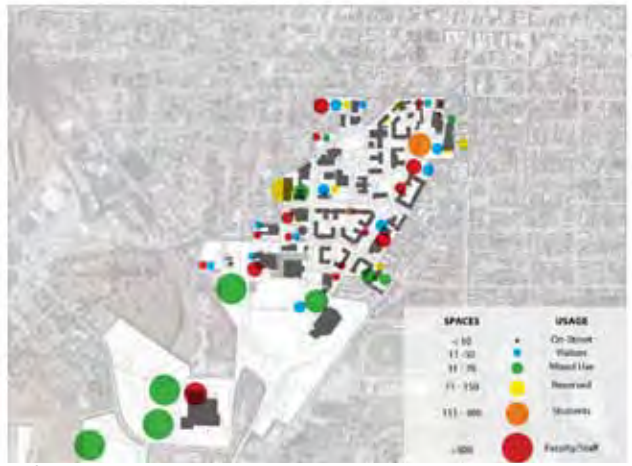
- IUP has a policy that provides free parking for faculty and staff.
- There is a discrepancy between the location of people on campus and the location of parking at the peak parking times without adequate transit options.
- IUP has a parking ratio of 4.4 persons per parking space.
- There is one existing parking structure on campus containing 427 spaces.
- The recently completed Kovalchick Complex will warrant additional parking near the site for events.



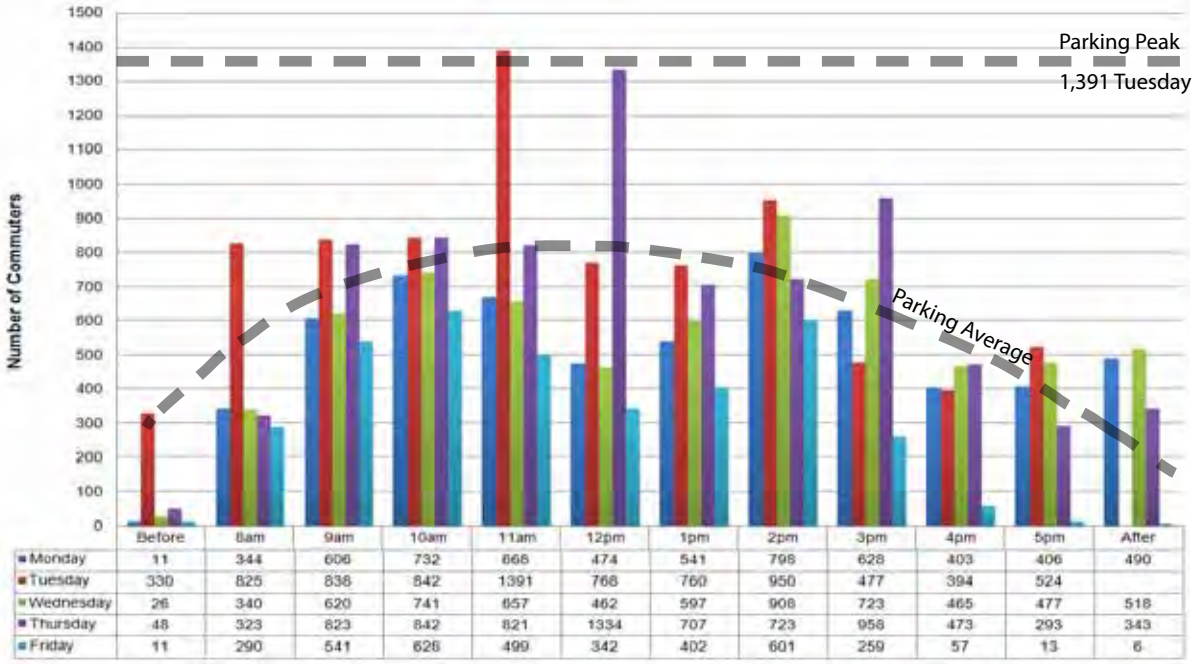
Parking Distribution



Parking Utilization



Parking Use



	Before	8am	9am	10am	11am	12pm	1pm	2pm	3pm	4pm	5pm	After
Monday	11	344	606	732	668	474	541	798	628	403	406	490
Tuesday	330	825	838	842	1391	768	760	950	477	394	524	
Wednesday	26	340	620	741	657	462	597	908	723	465	477	518
Thursday	48	323	823	842	821	1334	707	723	958	473	293	343
Friday	11	290	541	628	499	342	402	601	259	57	13	6

Weekday Campus Parking Demand

Existing Parking Inventory

1"=1200'
NORTH

0' 600' 1200' 2400'

EXISTING PARKING INVENTORY

Name	Type	# of Floors	# of Spaces
P1	Surface Lot		178
P2	Surface Lot		24
P3	Surface Lot		4
P4	Surface Lot		21
P5	Surface Lot		3
P6	Surface Lot		48
P7	Surface Lot		15
P8	Surface Lot		74
P9	Surface Lot		397
P10	Structure	3	427
P11	On-Street		26
P12	Surface Lot		42
P13	On-Street		35
P14	On-Street		37
P15	Surface Lot		9
P16	Surface Lot		5
P17	Surface Lot		26
P18	Surface Lot		54
P19	Surface Lot		31
P20	Surface Lot		68
P21	Surface Lot		106
P22	Surface Lot		45
P23	Surface Lot		43
P24	Surface Lot		317
P25	Surface Lot		90
P26	Surface Lot		10
P27	Surface Lot		95
P28	Surface Lot		250
P29	On-street		47
P30	Surface Lot		11
P31	Surface Lot		8
P32	Surface Lot		192
P33	Surface Lot		178
P34	Surface Lot		671
P35	Surface Lot		186
Total			3,773

TRANSIT

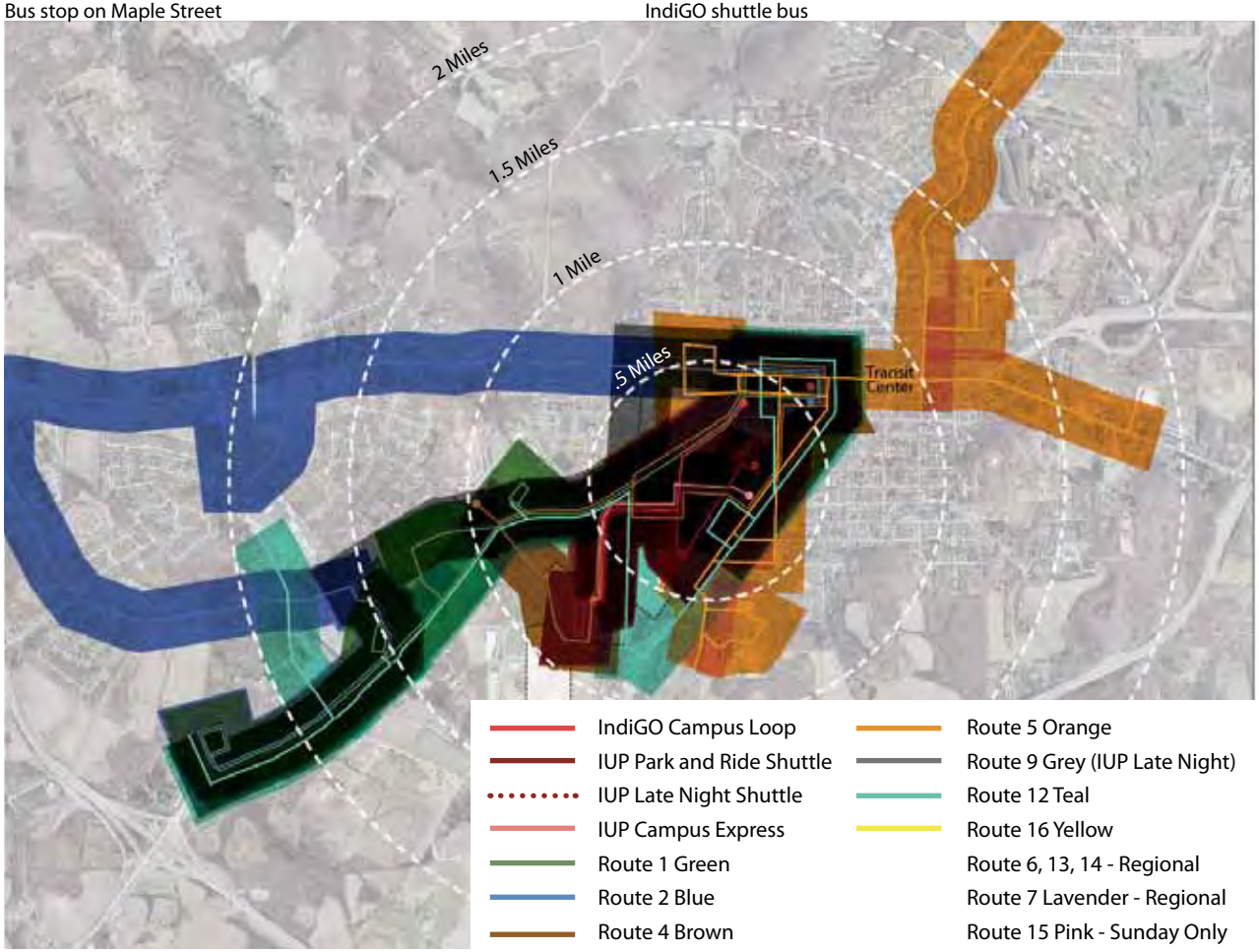
The Indiana region is served by the Indiana County Transit Authority (IndiGO). IndiGO provides 20 separate bus routes that serve the community, including 5 routes specifically dedicated to IUP. IndiGO operates a downtown transit center on Philadelphia Street, conveniently located for the northern part of campus; however, there are no routes that extend to the southern part of campus.

The figure on the right locates IndiGO transit routes with shading representing a 3-minute walking radius to each bus line, a reasonable distance to access a public transit source. There are several noticeable gaps within the existing transit network, limiting the convenience for people to use mass transit as an alternative to the personal vehicle.

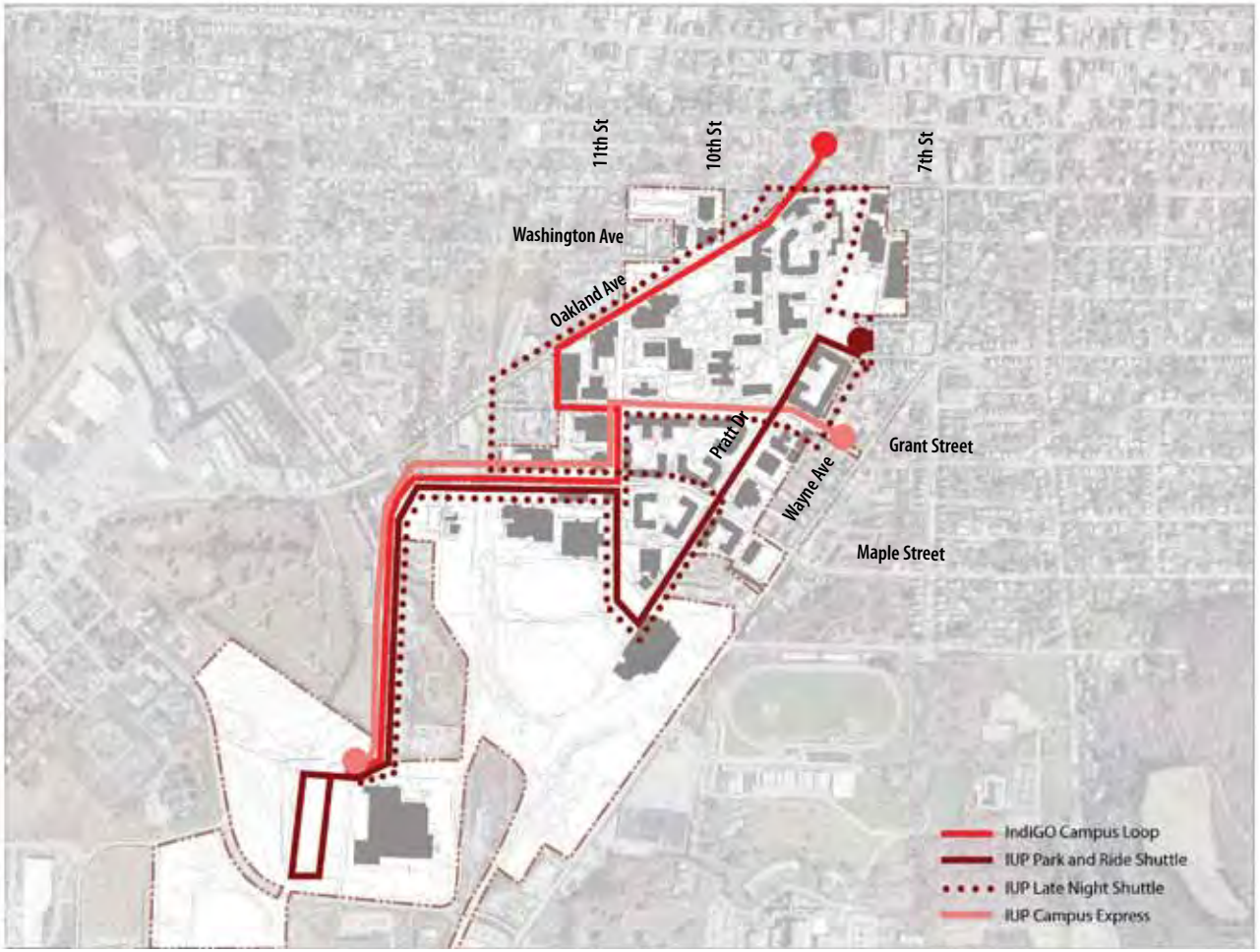
Transit is directly related to parking locations and pedestrian movement on the Indiana campus. As indicated on the map on the facing page, several of IUP's transit routes are dedicated to providing a connection to remote parking at the Robertshaw Building via 13th Street. Successful integration of transit with parking and pedestrian systems at IUP will be essential as gas prices continue to rise. In addition, providing convenient, accessible, and reliable mass transit systems will encourage potential riders to view mass transit as a viable alternative to driving, consequently reducing the parking demands of the university.

Bus stop on Maple Street

IndiGO shuttle bus



IndiGO Transit Routes



Existing Campus Bus Routes

Transit Summary

- Campus transit connects academic and residential uses to remote parking west of the Robertshaw Building via Maple Street and 13th Street.
- Improvements to the campus transit system could encourage increased ridership, thus reducing congestion on campus.
- Improved utilization of campus transit as an alternative to driving could reduce university parking demand.
- Better organization of campus transit routes and utilization of more appropriate vehicles could decrease headway, increase cohesiveness, and improve convenience for students and faculty.
- Location and efficiency of regional transit routes affects off-campus living and commuting patterns.

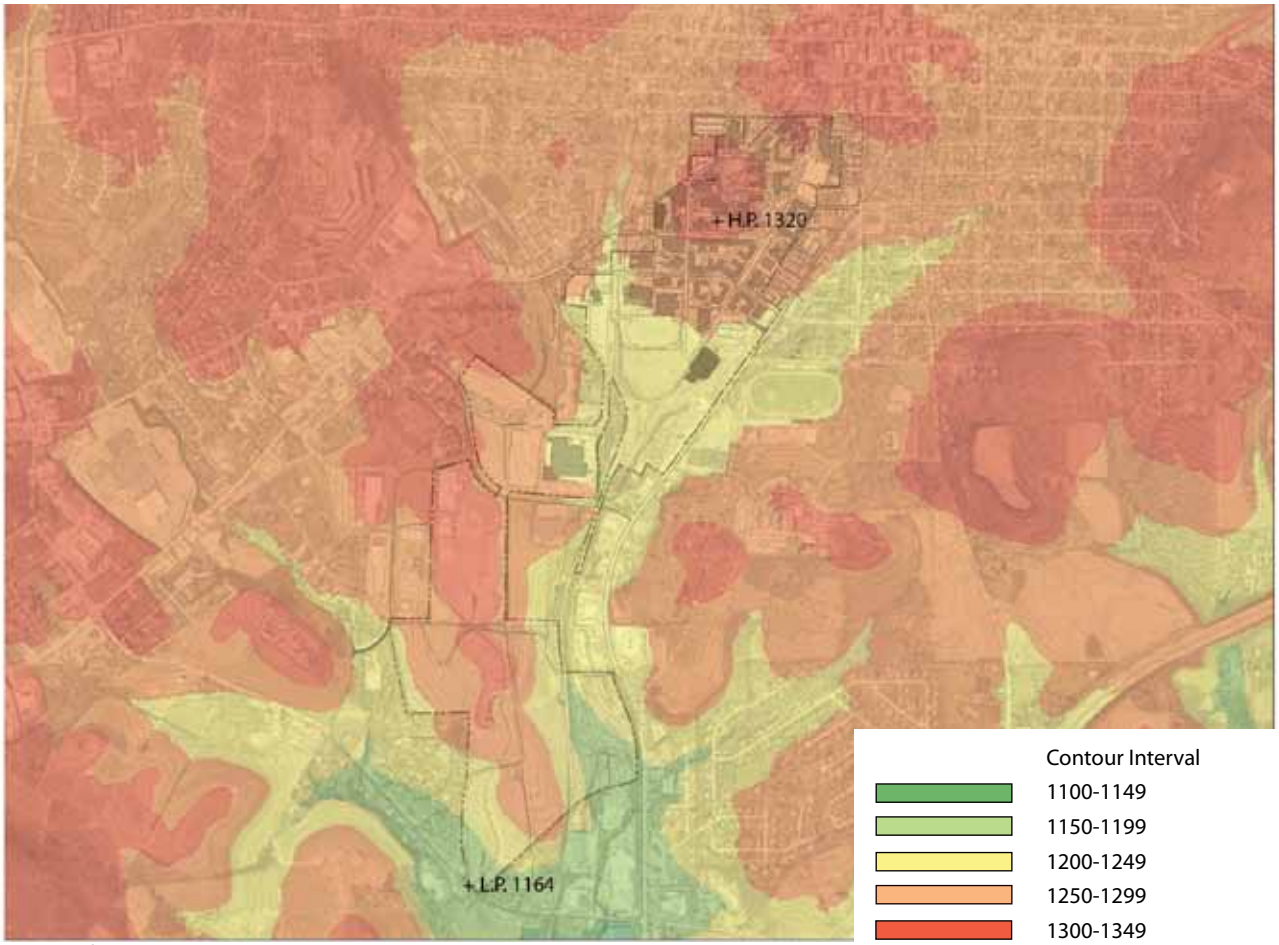
CAMPUS TOPOGRAPHY

Located within the geomorphological region known as the Allegheny Plateau, Indiana, Pennsylvania, is characterized by a dynamic mix of hills, ridges, ravines, and valleys common to Western Pennsylvania. The Indiana campus has grown out of this terrain and takes advantage of vistas and high points. New development is also sensitive to minimizing the impact on steep slopes, low points, stream corridors, and the associated floodplains.

There is an elevation change of over 156 feet between the campus high points at the Oak Grove and Sutton Hall, and the low point of campus along the southern edge at Indian Springs Road. The topography of the landscape is not only evident from a distant vista, but also at the site level, and will continue to influence design decisions as the campus continues to evolve.

Contextual Topography of Indiana County

Topography has a Significant Impact on the Physical Form of Campus



Topography

Campus Topography Summary

- Contextual design solutions specific to Indiana, Pennsylvania, are required in response to the rolling hills and "classic" Western Pennsylvania topography on the Indiana campus.
- The campus is defined by a dynamic mix of hills, ridges, ravines, and valleys that will require context and site-specific design solutions.
- Siting of future buildings adjacent to the high point at the Oak Grove should continue to capitalize on surrounding vistas
- Topography is a site constraint along 11th Street and at Grant Street requiring well designed and accessible implementation projects.

CAMPUS HYDROLOGY

IUP' Indiana campus falls within four distinct watersheds. The majority of the established campus is divided between the Marsh Run and Whites Run watersheds. These watersheds and their associated waterways converge south of the Kovalchick Complex. The remainder of the campus is divided by the McCarthy Run and Stoney Run watersheds.

The conditions of these stream corridors on campus vary greatly; however, they are generally characterized by steep, eroded stream banks and channels. Portions of Whites and Marsh Runs have been channeled underground in culverts.

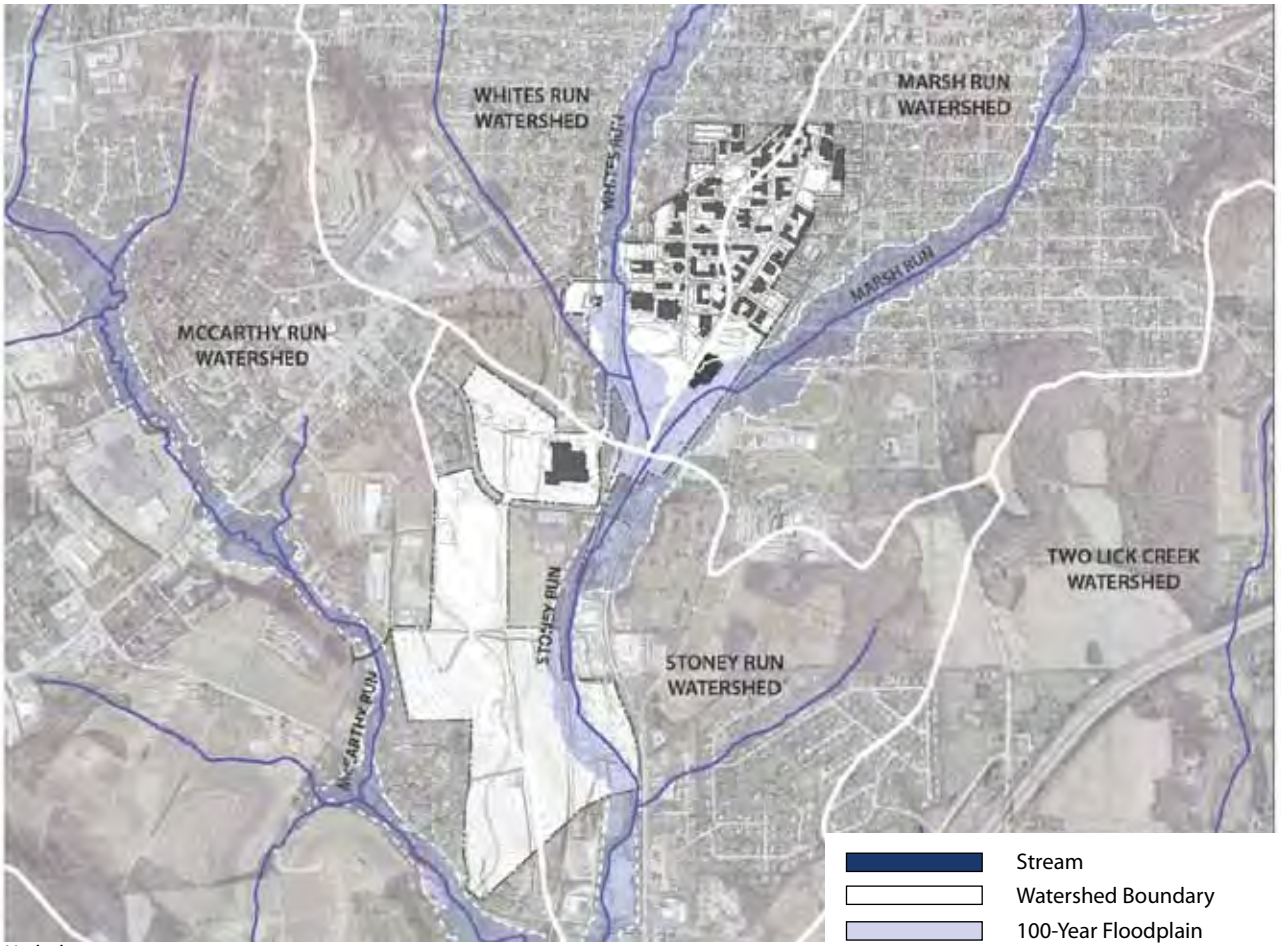
Several of the stream corridors contain an associated 100-year floodplain as defined by the Federal Emergency Management Agency (FEMA) that influence potential campus development zones. These areas of the campus are prone to flooding, particularly the low-lying areas near the confluence of Whites and Marsh Runs. Areas within the 100-year floodplain should be preserved from development wherever possible. At a minimum, a 50-foot buffer on all streams should be maintained to ensure enhanced water quality.

Campus Hydrology Summary

- The Indiana campus falls within multiple watersheds, and development should work in concert with the natural hydrologic functions of the region.
- Stream corridors and their correlating floodplains are important areas that should be preserved/enhanced.

Existing Condition of Whites Run Adjacent to Development

Highly Eroded Side Slopes along Whites Run



Hydrology

ENVIRONMENTAL FRAMEWORK

As part of the master planning process, an environmental framework was established to identify parameters for the extent of future development. Data layers pertaining to riparian corridors, floodplains, steep slopes, and vegetation were overlaid to create a comprehensive environmental analysis. The environmental framework provides a guide for future development and land use decisions for IUP through the identification of areas that present physical and environmental challenges to development.

Environmental Framework Summary

- Segments of Marsh Run, Stoney Run, and Whites Run that pass through campus (including their floodplains) should be protected from development utilizing Best Management Practices for water quality and water quantity management.
- Steep slopes of over 15% should be protected from development due to challenging site and access issues.
- Existing zones of high quality vegetation should be protected, including the Oak Grove and areas on the southern part of campus.

The Oak Grove

50-Foot Riparian Corridor Buffer

Floodplain Delineation

Existing Vegetation

Steep Slopes (Over 15%)

Environmental Framework

UTILITIES

Electrical, steam, and chilled water utilities at the Indiana campus were thoroughly studied as part of the master planning process to ensure that the infrastructure system meets the needs of the existing campus and addresses the impact that future development will have on these systems.

Electrical

The Indiana campus consists of five major 15kV circuits, 1201 through 1205, as shown on the diagram on the facing page. Circuits 1201 through 1205 have a maximum load of 8.3 MW. All circuits are less than 50% loaded.

Aluminum cable on campus is 25 years old and has 200-250 maximum capacity. There was one cable fault in 2007. Duct banks on campus have spare capacity. The 15kV switchgear, manufactured by Federal Pacific, is over 50 years old and is in need of replacement.

Future campus growth should consider keeping the electrical load near the center of campus. Existing circuits can be utilized for additional capacity, but it is recommend that IUP pursue one or two additional 15kV circuits so that future loads can be better distributed. Future campus growth to the south would require two to four additional 15kV circuits, in addition to new duct banks, and facilitated by new 15kV switchgear.

Steam

The Indiana campus operates a 24 MW central cogeneration boiler plant at the corner of Pratt Drive and Grant Street. Though the plant's cogeneration capacity is not currently used to serve steam and chilled water systems, its existence will allow the University to choose the operating mode that best responds to fuel market prices as campus loads increase in the future. Steam is routed and distributed at 70 psig in buried tunnels, totalling 250 million pounds/year. Prior distribution at 125 psig gave pipe mains more capacity, but was more expensive to operate. There is a program in place to replace corroded pipe throughout campus. Existing steam lines have adequate capacity to serve the existing campus. The plant has three 30,000 MBH boilers that adequately serve the campus.

Chilled Water

The master planning team studied pipe capacities, area coverage, and plant capacity to determine if the chilled water infrastructure is large enough for existing and future development, if it extends far enough to serve new buildings, and if existing chillers are adequate to cool the existing and expanded campus needs.

Chilled water is distributed through campus via steel piping in tunnels.

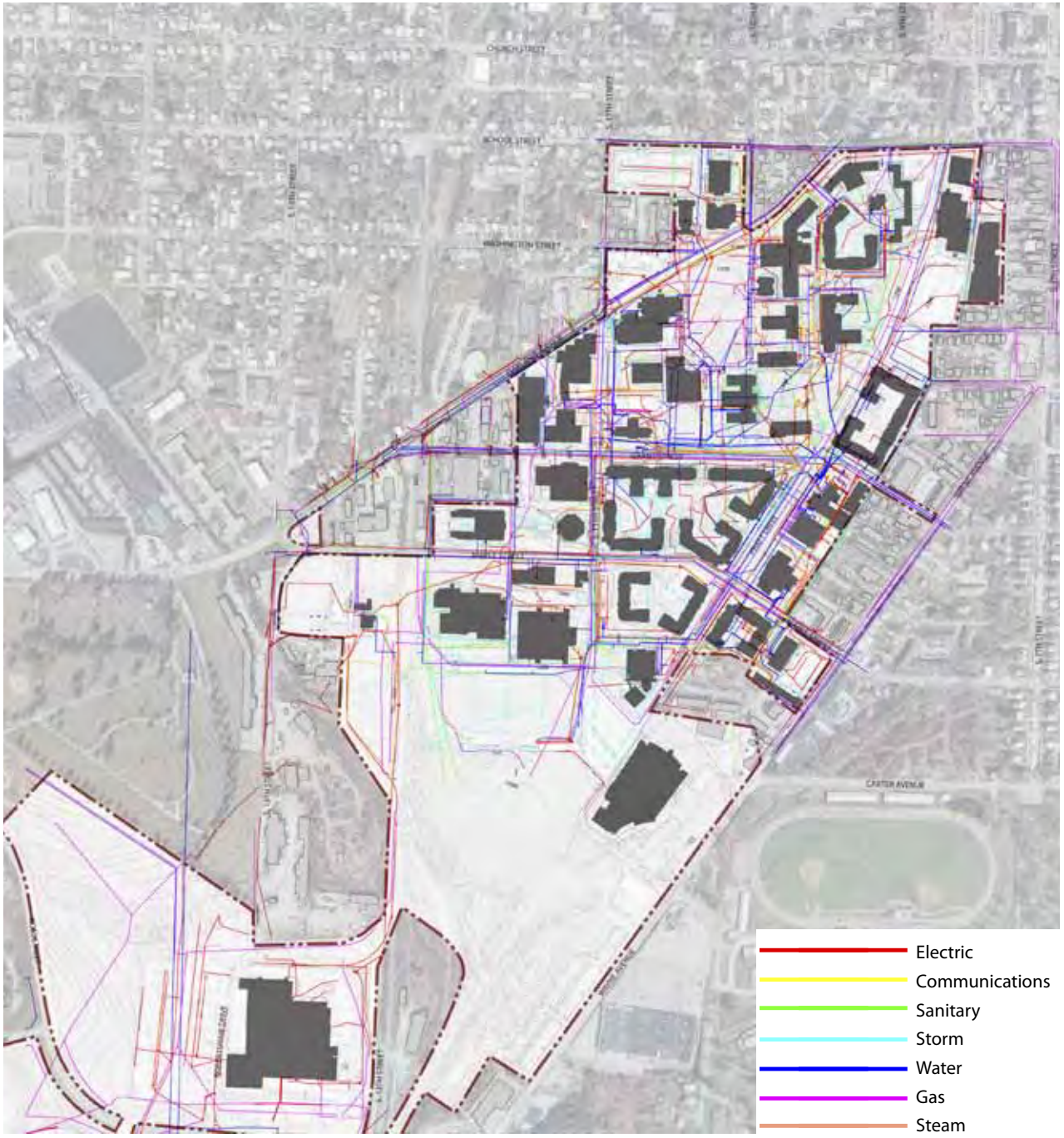
There are three existing chilled water mains:

- The 16-inch north main immediately splits to a 14-inch with a load of 1,560 tons. The main has a capacity of 1,900 tons at the 14-inch pipe.
- The 16-inch northwest main load is 2,350 tons with a 2,500-ton capacity.
- The 16-inch southwest main load is 1,430 tons with a 2,500-ton capacity.

Substantial future development to the south may require the addition of a new chiller plant with winter free cooling and the consideration of HDPE piping distribution.

Utilities Summary

- There are no major issues with the electrical, steam, and chilled water systems on the Indiana campus.
- Future upgrades should be considered for electrical 15kV switchgear that is over 50 years old.
- The central cogeneration boiler plant will serve the campus well in an era of uncertain fuel costs by allowing IUP to respond to spot energy market prices.
- Future campus development will require additional central plant capacity.
- Utility expansion for future campus growth should consider keeping loads towards the center of campus.
- Campus growth to the south will require significant infrastructure investments.



Existing Utilities

three | the master plan

ONE COORDINATED PLAN

The *Long-Range Facilities Master Plan* (Master Plan) is a dynamic, comprehensive planning document intended to establish a flexible framework for development and growth at the Indiana campus within the adjacent region. The Master Plan is not a stand-alone document; rather, it is a culmination of ideas and recommendations from previous planning studies. Several of the studies include:

- *Space Needs Assessment* (2008)
- *Integrated Facilities Assessment* (2009)
- *Student Housing Master Plan and Update(s)* (2005-2008)
- *Athletic Master Plan* (2007)
- *Parking Master Plan*
- *White Township Comprehensive Plan*
- *Indiana University of Pennsylvania Preservation Plan* (2009)
- *2008-2012 Student Co-op Strategic Plan*
- *Housing Market Analysis (2008)*
- *Pedestrian and Bicyclist Transportation Plan of Indiana, Pennsylvania*
- *Indiana Region Greenway Study*
- *2010 Academic Strategic Plan*
- *2007-2012 University Strategic Plan*
- *Long Range Campus Development Plan* (1996)

The following summaries of selected studies were utilized as references during the Master Plan process.

Space Needs Assessment

The 2008 *Space Needs Assessment* identified academic, auxiliary, and support space requirements, deficiencies, and surpluses on the Indiana campus. The study was an important first step in establishing capital planning priorities. Primarily focused on academic and student service space, the study did not include data for space types including residence halls, athletic seating facilities, and the cogeneration plant. Based on comparisons to six of IUP's peer institutions, the 2008 S*pace Needs Assessment* identified a base year shortfall of 141,000 assignable square feet (ASF) of space. Ninety-one percent of the space shortfall was identified in library, athletic, and assembly space.

An analysis of classroom supply and utilization revealed a potential excess of classroom supply on the Indiana campus. The study targeted 5% growth in undergraduate enrollment and 10% growth in graduate enrollment, projecting a future shortfall of 225,000 ASF.

(Study completed by Comprehensive Facilities Planning, Inc.)

Parking Master Plan

The 2007 *Parking Master Plan* was completed in conjunction with the *Student Housing Master Plan*. Findings include the following:

- The campus contains 3,904 on- and off-campus parking spaces.
- Peak parking utilization occurs at 11:00 a.m. on Tuesdays and 12:00 p.m. on Thursdays. At these times, there is a surplus of 784 spaces on campus.
- The Residential Revival projects will reduce on-campus parking supply by 289 spaces.

Several solutions to improve the existing disconnect between parking location and classroom location were considered, including:

- Implementing a transportation management plan.
- Constructing a new 500 space garage.
- Upgrading the Robertshaw parking lot with 150 additional spaces.
- Vertically expanding the existing parking garage with 200 additional spaces.
- Providing additional parking spaces during development of housing on campus.

(Study by WTW Architects and Trans Associates)

Integrated Facilities Assessment

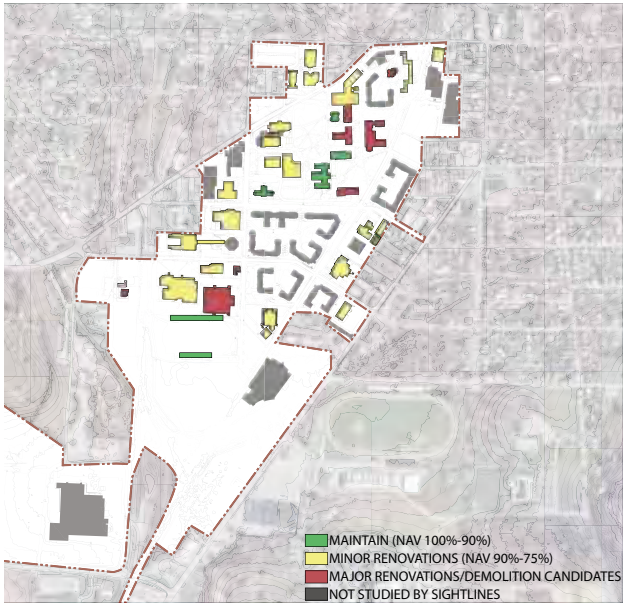
The 2009 *Integrated Facilities Assessment* by Sightlines identified IUP's academic facility needs based on Net Asset Value (NAV). NAV score is defined as:

$$NAV = \frac{\text{(Replacement Value) - (Building Needs)}}{\text{(Replacement Value)}}$$

Campus facilities were assigned to a portfolio grouping based on the NAV score, with funding strategies identified for each group. Facilities scoring below 72% were considered candidates for major renovation and/or demolition, which include:

- Breezedale 71%
- Memorial Field House 70%
- R & P Office Building 69%
- Reschini House 67%
- Ackerman Hall 65%
- Keith Hall 61%
- Leonard Hall 59%
- Walsh Hall 53%

The *Integrated Facilities Plan* also included a project by project list of improvements for 40 of IUP's facilities.



Student Housing Master Plan and Updates

IUP recognized the need for a competitive edge in recruiting the declining number of Pennsylvania high school graduates. In 2005, a *Student Housing Master Plan* was completed, which provided recommendations to improve the first year experience at IUP and help guide implementation of new and renovated housing. The report analyzed the existing housing on campus and supplied both a market and financial analysis. *Student Housing Master Plan* recommendations include:

- Maintaining a 3,800-3,900 bed capacity on campus.
- Unit types that allow IUP to compete for students.
- Targeting traditional, first- and second-year students.
- Attractive options for upper-class students.
- Designing housing with quadrangles and green space.

(Study by WTW Architects, Brailsford & Dunlavey, LaQuatra Bonci Associates, H.F. Lenz Company)

Athletic Master Plan

The 2007 *Athletic Master Plan* provided a wish list for a focused committee representing Facilities Management, Student Affairs, and the Athletics Department. Primary recommendations of the *Athletic Master Plan* include:

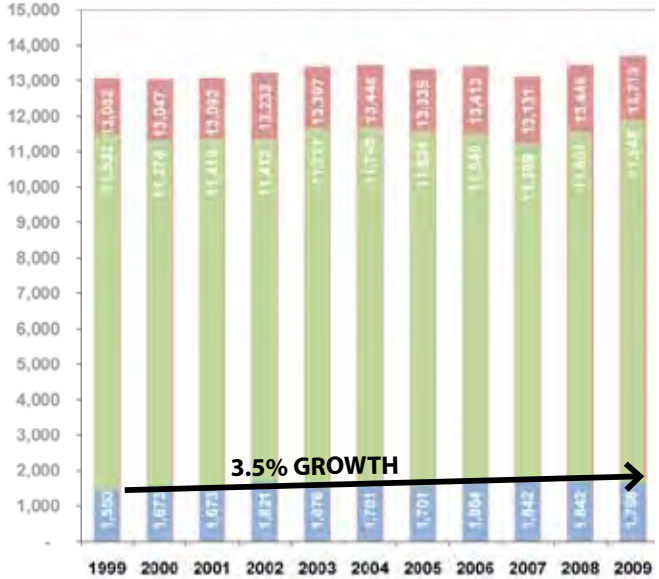
- Construction of an indoor multi-sport complex with 300 meter track.
- Construction of a natatorium adjacent to the indoor track.
- Renovating the outdoor track.
- Renovating Miller Stadium for multi-sport use.
- Constructing 4½ athletic practice fields.
- Constructing an outdoor tennis facility with nine courts.
- Constructing a 150,000-sf convention, convocation, and athletic facility.
- Constructing a new 10,000-seat Division I football stadium (long-range).

(Study by L. Robert Kimball & Associates)

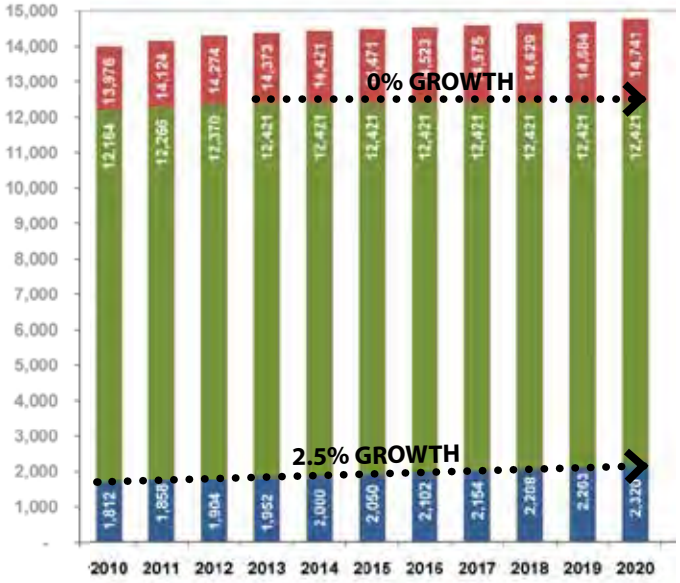
ENROLLMENT PROJECTIONS (INDIANA CAMPUS)

Working closely with the Core Team and Campus Advisory Committee, the master planning team incorporated updates to the enrollment projections at the Indiana campus made as part of the 2008 *Space Needs Assessment*. The Master Plan is based on historic enrollment trends and the assumption that future enrollment growth will be more conservative than suggested in the 2008 plan. The Master Plan assumes following enrollment trends specific to the Indiana campus:

- Through 2020, 0% undergraduate and 2.5% graduate growth.
- Enrollment at IUP is directly linked to the *Academic Strategic Plan*, and driven by IUP's Mission and Institutional Vision.
- In addition to growth in graduate population, stable student enrollment also requires growth in transfer students, and growth in out of state undergraduate enrollment.
- Growth in graduate enrollment will require additional research infrastructure, blended delivery methods (traditional and online), and ancillary support needs including graduate housing, a library, and a center for graduate studies.



Indiana Campus Historic Enrollment Growth (FTE)



Indiana Campus Projected Enrollment Growth (FTE)

Historic/Projected Total Enrollment

Historic/Projected Undergraduate Enrollment (0% Growth Beyond 2012)

Historic/Projected Graduate Enrollment (2.5% Growth 2010-2020)

2010 SPACE NEEDS ASSESSMENT
(INDIANA CAMPUS)

Driven by revised enrollment assumptions, an update to the 2008 *Space Needs Assessment* is included in the Master Plan. Based on an existing campus-wide square footage of 4,003,708 gross square feet (GSF) (includes the Kovalchick Complex and the residential facilities including the Crimson Suites. HUB 2 space is not included), the Master Plan identifies and provides opportunities for a projected deficit of 222,514 ASF (356,000 GSF @ 62.5% efficiency). *Postsecondary Education Facilities Inventory and Classification Manual* (FICM) categories with the greatest projected shortfall of space include the following:

- Research Laboratories
- Library Space
- Athletic/PE/Recreation Space
- Assembly Facilities

Space requirements not included in the 2008 *Space Needs Assessment*, and in need of further definition as part of the Master Plan process, include:

- **Housing.** One thousand of the thirty-five hundred beds slated for an off campus market strategy could be constructed by IUP. Including a variety of traditional, suite, and apartment types, this could increase the space needs by 337,500 GSF.
- **Athletics.** The 2008 *Space Needs Assessment* does not account for the aspirational space needs identified in the 2007 *Athletic Master Plan*. Incorporating a subset of reasonable ideas identified in that planning effort could increase the space needs by 150,000 GSF.
- **Demolition.** The Master Plan is based on the premise that square footage of demolished facilities must be replaced. Square footage of the facilities recommended for major renovation and/or demolition in the 2009 *Integrated Facilities Plan* totals 490,000 GSF.

2008 SPACE NEEDS ASSESSMENT (UPDATED 2010)

Category	Space Type	Current ASF Surplus (Deficit)	Projected ASF Surplus (Deficit)
100	Classrooms	8,499	1,963
210	Instructional Labs	(3,291)	(9,700)
250	Research Labs	2,640	(27,960)
300	Offices	38,471	27,976
400	Library	(68,277)	(72,307)
500	Special Use	8,020	7,932
520	Athletic	(86,141)	(94,416)
600	Other	0	0
610	Assembly	(38,559)	(42,007)
620	Exhibition	(6,250)	(6,939)
630	Food	(1,220)	(4,398)
650	Lounge	452	(237)
680	Meeting Rooms	(4,993)	(5,732)
700	Support	(3,775)	(9,674)
800	Health Care	0	0
-	Renovations	12,985	12,985
Total*		(141,439)	(222,514)

*Includes the Kovalchick Complex and the residential facilities including the Crimson Suites. HUB 2 space is not included

Uhler Hall

Northern Suites

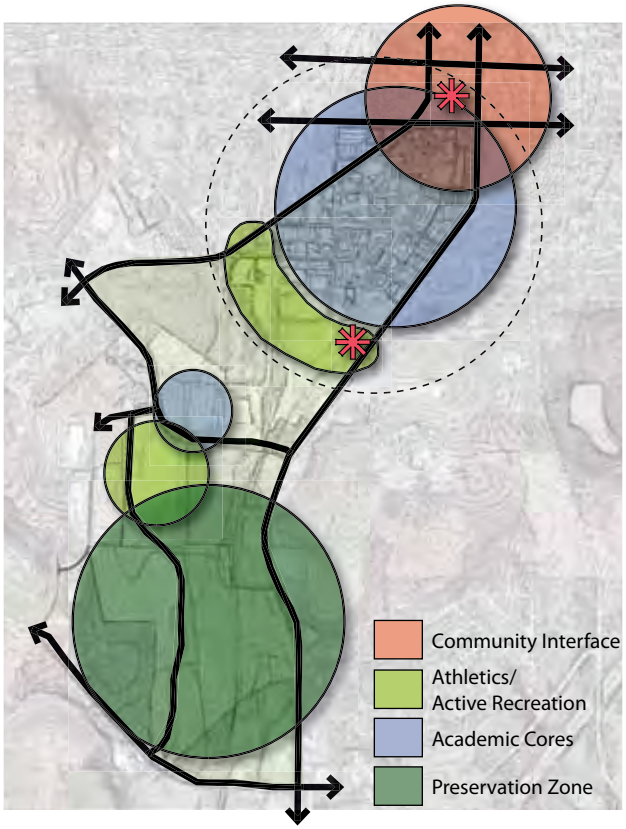
ORGANIZATIONAL CONCEPT

The master planning process included the development of alternative ideas that explore distinct visions for future organization and development. The different ideas are characterized by an overarching theme, and each addresses issues such as circulation, transportation, community connectivity, open space, and overall character. Variations ranging from more urban to more suburban and rural solutions include:

- A single core campus that focuses on infill within the existing central academic core and campus development directed north towards Philadelphia Street.
- A strengthened central academic core including infill campus development focused adjacent to the Kovalchick Complex and the Robertshaw Building.
- A campus with two distinct academic cores, including significant development of the southern part of campus.

These unique ideas were presented and discussed by the Master Plan committees through a series of facilitated workshops. Each concept was evaluated, and the preferred elements of each were identified. The synthesis of these ideas led to the development of a refined alternative.

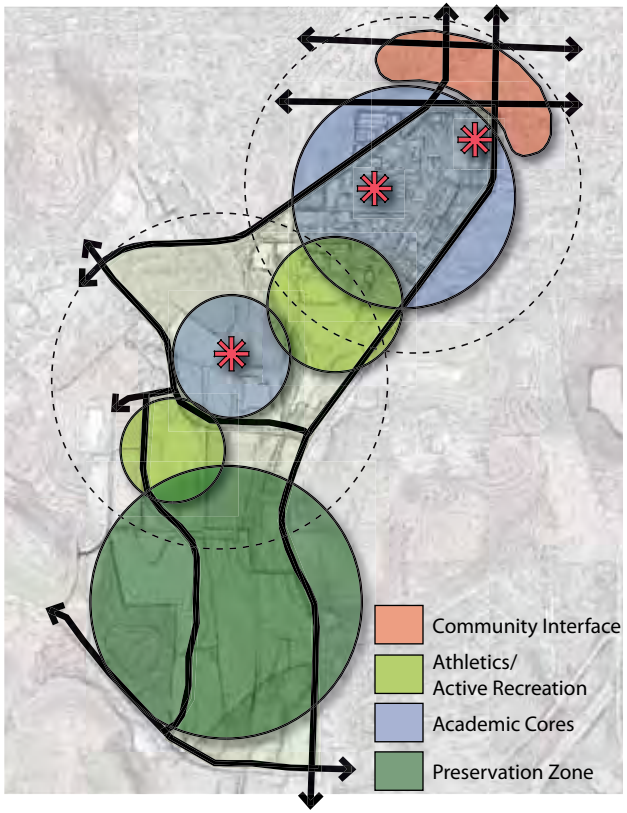
Single Core / Town-Gown



Single Core/Town-Gown Summary

- Provide academic frontage on Philadelphia Street.
- Develop higher density within the central academic core.
- Improve connections with Indiana Borough to the north.
- Locate all academic functions within a 5-minute walking radius from the central academic core.
- Add additional parking decks.
- Improve the street grid.
- Promote on-street parking.
- Implement mixed-use buildings throughout campus.
- Preserve the southern part of campus as a natural area.

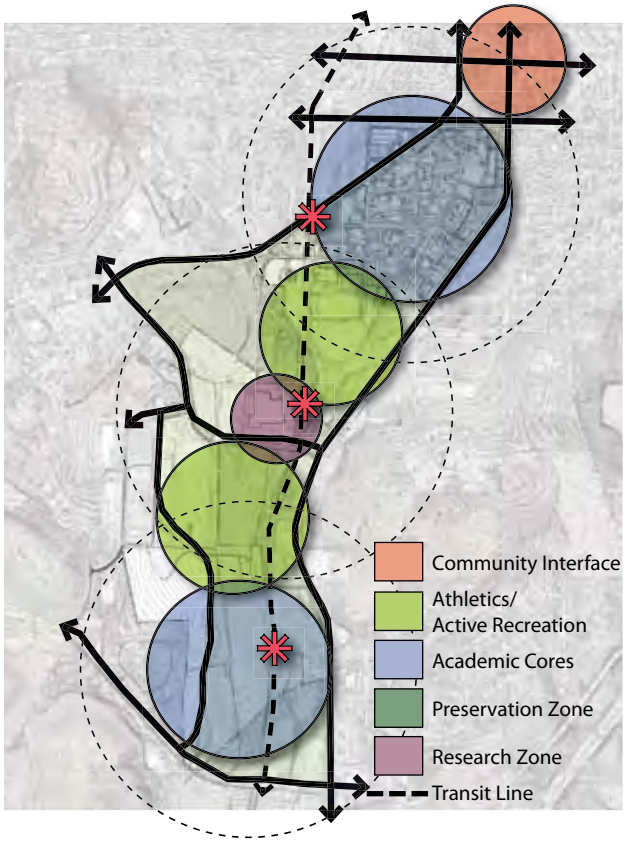
Strengthen the Middle



Strengthen the Middle Summary

- Locate academic functions within two adjacent 5-minute walking radii.
- Improve gateways and campus edges that identify expanded campus boundaries.
- Maintain IUP as a predominately pedestrian campus.
- Keep cars and parking primarily on the perimeter of campus.
- Utilize the Robertshaw Building and adjacent property for research/academic expansion.
- Redesign Maple Street as a campus boulevard.
- Preserve the southern part of campus as a natural area.

Dual Core / Southern Part of Campus



Dual Core/Southern Part of Campus Summary

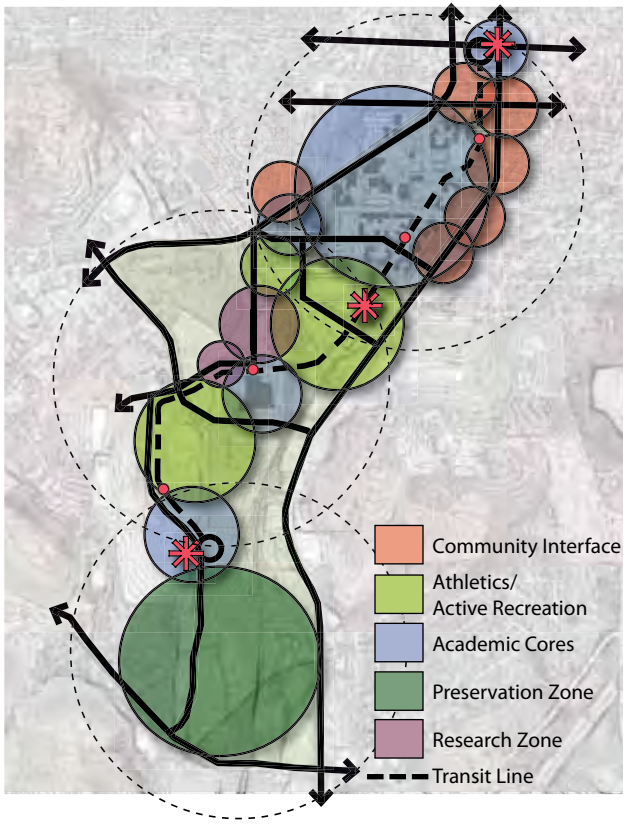
- Two academic campuses.
  - Utilize the northern part of campus as the hub for undergraduate studies.
  - Develop the southern part of campus for selected professional schools/graduate studies.
- Lower campus density.
- Develop multiple cores connected by efficient transportation and trail.
- Utilize the Robertshaw Building as a hub between the northern and southern parts of campus.
- Locate recreation between the academic campuses.

REFINED ALTERNATIVE

The refined alternative establishes the framework for development of the Master Plan which is heavily influenced by the single core and strengthened middle concepts.

Refined Alternative Summary

- Selectively infill the northern part of campus.
- Enhance the central academic core around the Robertshaw Building.
- Engage the downtown.
- Preserve the environmental integrity of the southern part of campus and develop that part of campus only as a long-term opportunity for selective professional programs.
- Create a north-south transit linkage.
- Address and strengthen the campus edges.
- Develop overlapping academic neighborhoods.
- Develop corporate and municipal partnerships.
- Create meaningful interior open space.
- Enhance social gathering locations.
- Expand competitive and recreational athletics.



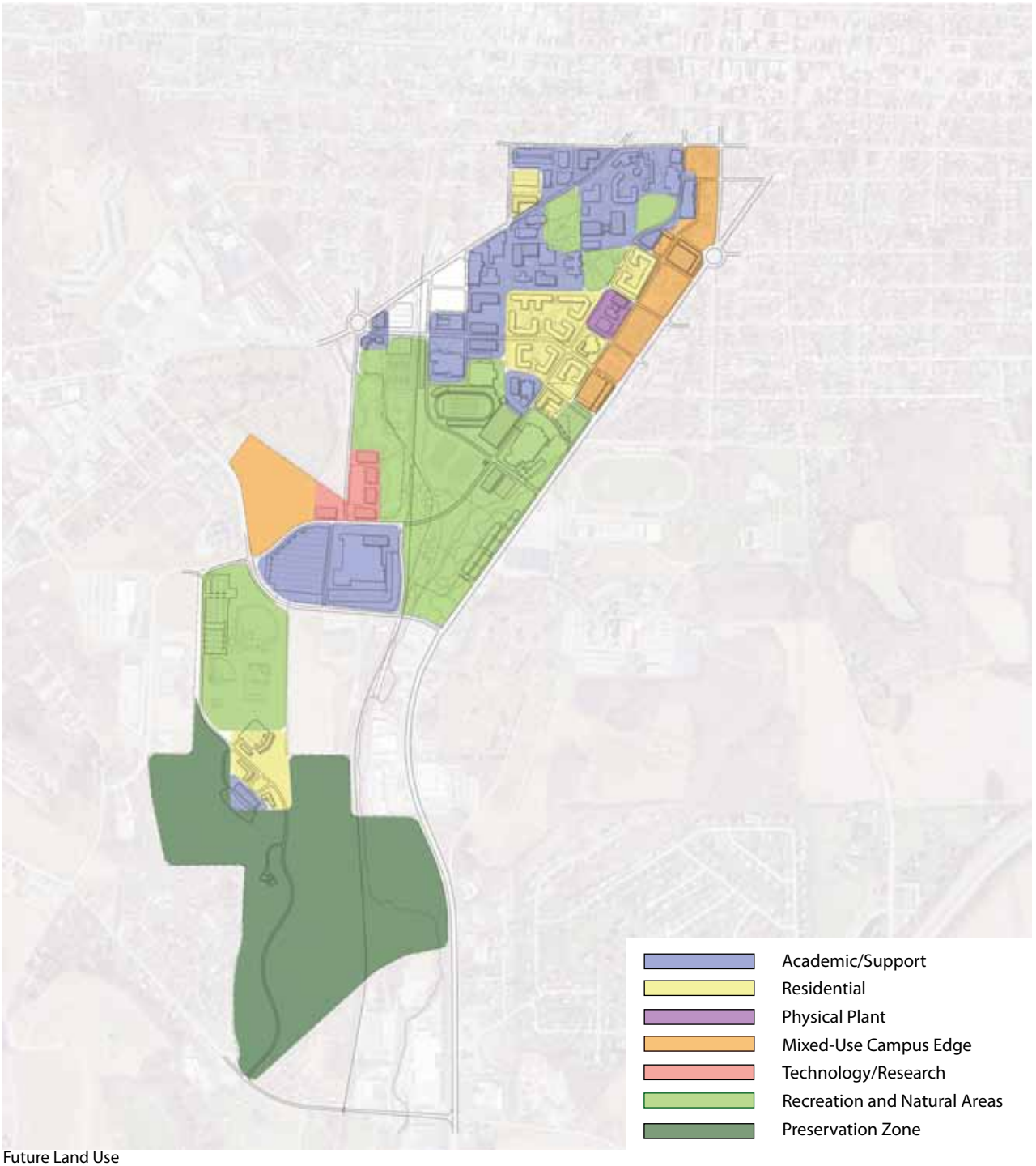
Illustrative Master Plan

FUTURE LAND USE

A future land use strategy for the Indiana campus was developed from the refined alternative, providing a framework for the Master Plan. The Master Plan encourages a denser central academic core in the northern part of campus, with academic uses also extending north across Oakland Avenue. Future development is projected to the south and west of the existing central academic core toward Zink Hall and the intersection of Oakland Avenue and Maple Street. Residential uses expand north of Oakland Avenue and to the southern part of campus through the establishment of a graduate-level focused academic and residential hub. Within all land use zones, the Master Plan recommends integrating a mix of programs, disciplines, and uses.

Future Land Use Recommendations

- Strengthen the existing central academic core through selective infill projects and mixing uses within individual buildings.
- Pursue residential opportunities north of Oakland Avenue.
- Limit development on the southern part of campus to graduate-focused academic and residential uses. Maintain the majority of the southern part of campus as a preservation zone in conjunction with the efforts of the Allegheny Arboretum
- Provide opportunities for public/private partnerships within the Indiana Borough and White Township, including a mixed-use housing and retail district along the Wayne Avenue corridor and a joint venture technology/research outreach adjacent to the Robertshaw Building.
- Augment the floodplain south of Miller Stadium and west of the Robertshaw Building with recreational uses and natural areas



Future Land Use

CAMPUS OPEN SPACE

The future open space strategy augments and expands upon the existing space typologies, building upon the framework of the wonderful existing open spaces on the Indiana campus. Future campus open space will continue to vary greatly in character, form, function, and size; however, all these spaces are integral components of the green network that unites the campus. Open spaces on the Indiana campus include the following:

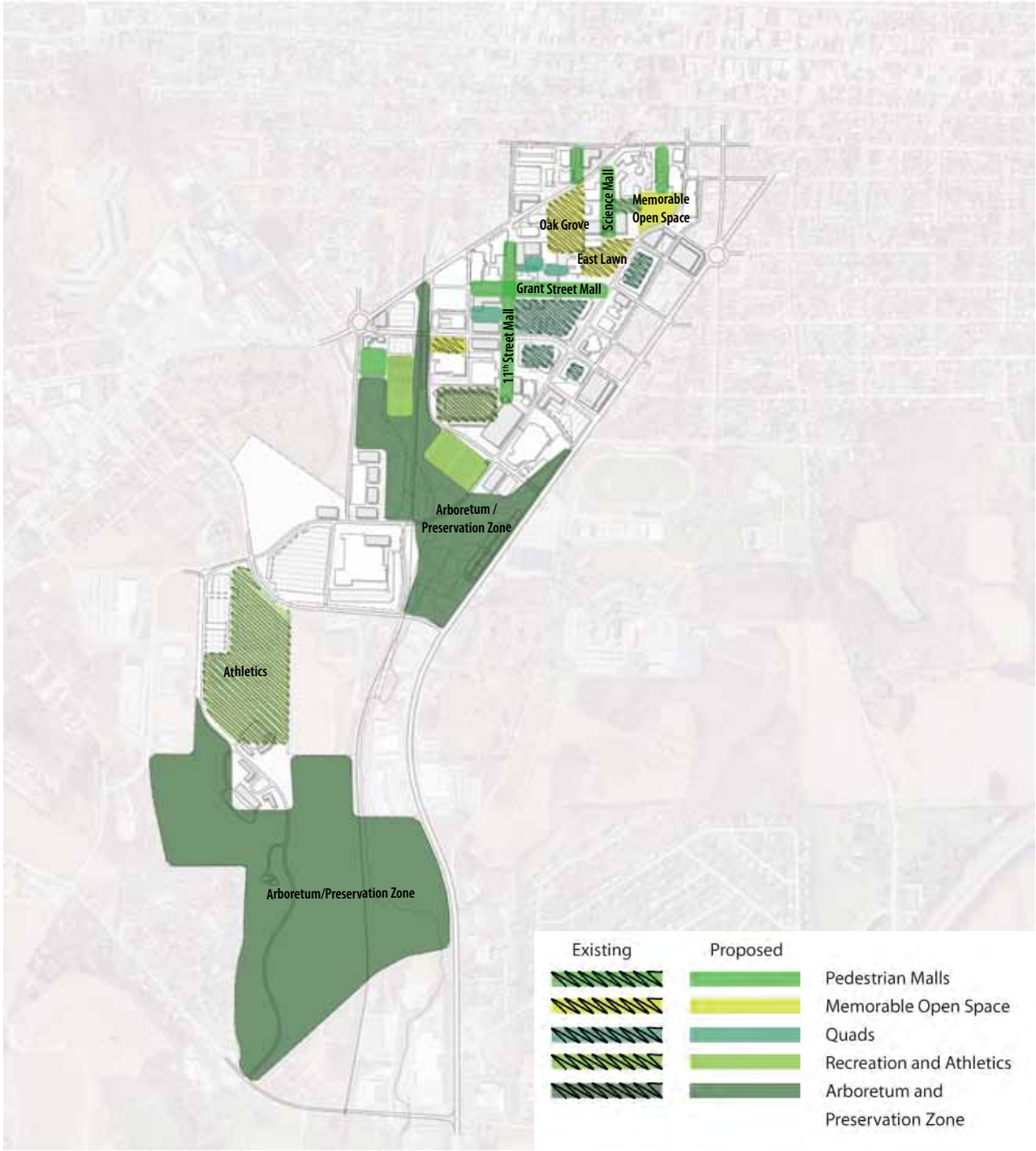
- Memorable Open Spaces
- Pedestrian Malls
- Quads
- Athletics and Recreation
- Arboretum and Preservation Zones

Each of these typologies have unique characteristics and serve a distinct purpose in continuing the tradition of quality open space character that has evolved on the Indiana campus.

Pedestrian Malls

Campus malls are designed to facilitate pedestrian movement and form important linkages on campus. Malls tend to incorporate trees and other landscape elements that aesthetically strengthen these corridors. Site lighting, furniture, and features such as public art are typical elements found in pedestrian malls. Heritage Garden, defined by Keith Hall, Northern Suites, and Whitmyre Hall, forms one of the best examples of a pedestrian mall on the Indiana campus.

The Master Plan suggests the creation of several new pedestrian malls, notably a Science Mall in the northeast portion of campus running from the proposed science facilities (current site of Keith and Leonard Halls) north to Oakland Avenue. Two other prominent malls



Campus Open Space

are proposed existing Grant Street and 11th Street by converting these vehicular corridors into pedestrian spaces.

Memorable Open Spaces

Memorable open spaces are critical to the open space network as a whole, contributing to the overall campus experience of students, faculty, and visitors. The Oak Grove is a classic example of a memorable open space. In addition, the Master Plan identifies the East Lawn and the lawn in front of Zink Hall as existing memorable open spaces.

A significant opportunity for another signature open space is found at the current location of the HUB parking lot. The Master Plan recommendations would create a highly visible and well-trafficked campus space framed by both existing and proposed buildings.

The Oak Grove


The East Lawn

Quads

Campus quads are open spaces defined by architectural enclosures on a number of sides. Quads vary in both size and design and serve as outdoor "living rooms" that create an atmosphere that encourages interaction between people in the physical, social, and intellectual realms. In addition to being a memorable space, the Oak Grove is also a classic campus quad. The siting of future buildings should apply principles of space creation evident in the Oak Grove. Additional quads were created as part of the Residential Revival projects, providing a variety of social spaces for residents of the buildings to enjoy.

Athletics and Recreation

Athletics and recreation at IUP currently revolve around the artificial turf field at Miller Stadium and baseball, softball, and soccer complex on the southern part of campus. Future recreation and athletic space builds upon these zones, adding playing and practice fields adjacent to Miller Stadium. There is also potential for additional recreation uses to activate the recreation and athletic complex on the southern part of campus. Memorable spaces and quads also provide areas for informal recreation and add to the student life experience.

New campus quad at residence halls

Recreation and athletic complex on the southern part of campus

Miller Stadium

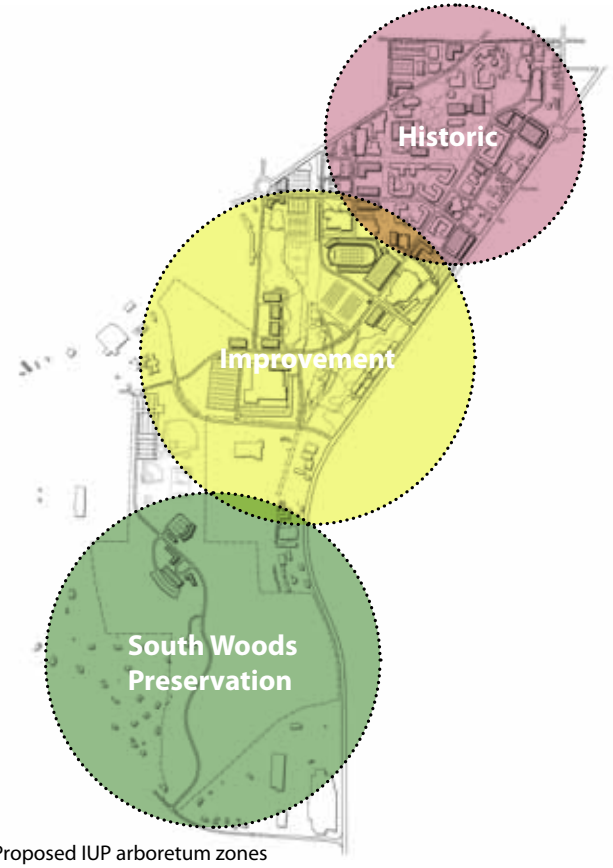
Arboretum and Preservation Zones

The Allegheny Arboretum is a living museum established for the growing and display of trees, shrubs, and vines. It provides a learning environment for the populace of IUP and the Indiana region that will advance the global understanding of temperate forests, cultivate an aesthetic appreciation for the regional flora of the Allegheny Plateau, and demonstrate practical applications of woody plant materials to modify and mitigate local environmental conditions.[1]

In support of this mission and goal, the Master Plan identifies three arboretum zones with distinct aesthetic styles. The Historic, Improvement, and South Woods Preservation zones each have the opportunity to feature the flora and fauna unique to the environs of Western Pennsylvania. Specific goals for the Historic zone focus on maintenance and expansion of the Oak Grove and the East Lawn. The Improvement zone includes the Kovalchick Complex and Wayne Avenue parcels and provides opportunities for a visitor's center, trails, and learning opportunities related to low-lying topography, riparian corridors, and floodplains. The South Woods Preservation zone provides "an arboretum laboratory and a quiet oasis in the midst of the urban campus."[1] The second growth forest includes education opportunities regarding forest management, invasive species removal, and emphasis on native trees and wildflowers.

Opportunities also exist to connect the campus and arboretum to greenways within the region. The Hoodlebug Trail winds through the southern part of the campus and provides access to both existing and planned trail and open space systems.

1 Indiana University of Pennsylvania. "Arboretum Goals and Objectives" < http://www.iup.edu/page.aspx?id=70287>



Proposed IUP arboretum zones


Historic arboretum zone at Oak Grove


Pedestrian link between campus and Robertshaw parking


South Woods preservation zone

CAMPUS TRANSIT

The Master Plan introduces a new transit strategy that will provide a simplified and identifiable transportation system for the Indiana campus. A single transportation corridor, nicknamed the Crimson Line, will link the north and south ends of campus in a simple and efficient 2¼ mile loop along a pedestrian-centered Pratt Drive corridor. Buses are proposed to run along this corridor with stops at key activity nodes roughly every ½ mile, including:

- The intersection of Philadelphia Street and 8th Street
- The proposed memorable campus open space south of the HUB
- The intersection of Pratt Drive and Maple Street, adjacent to Foster Dining Hall
- The Kovalchick Complex
- The Robertshaw parking lot
- The academic and residential facilities on the southern part of campus

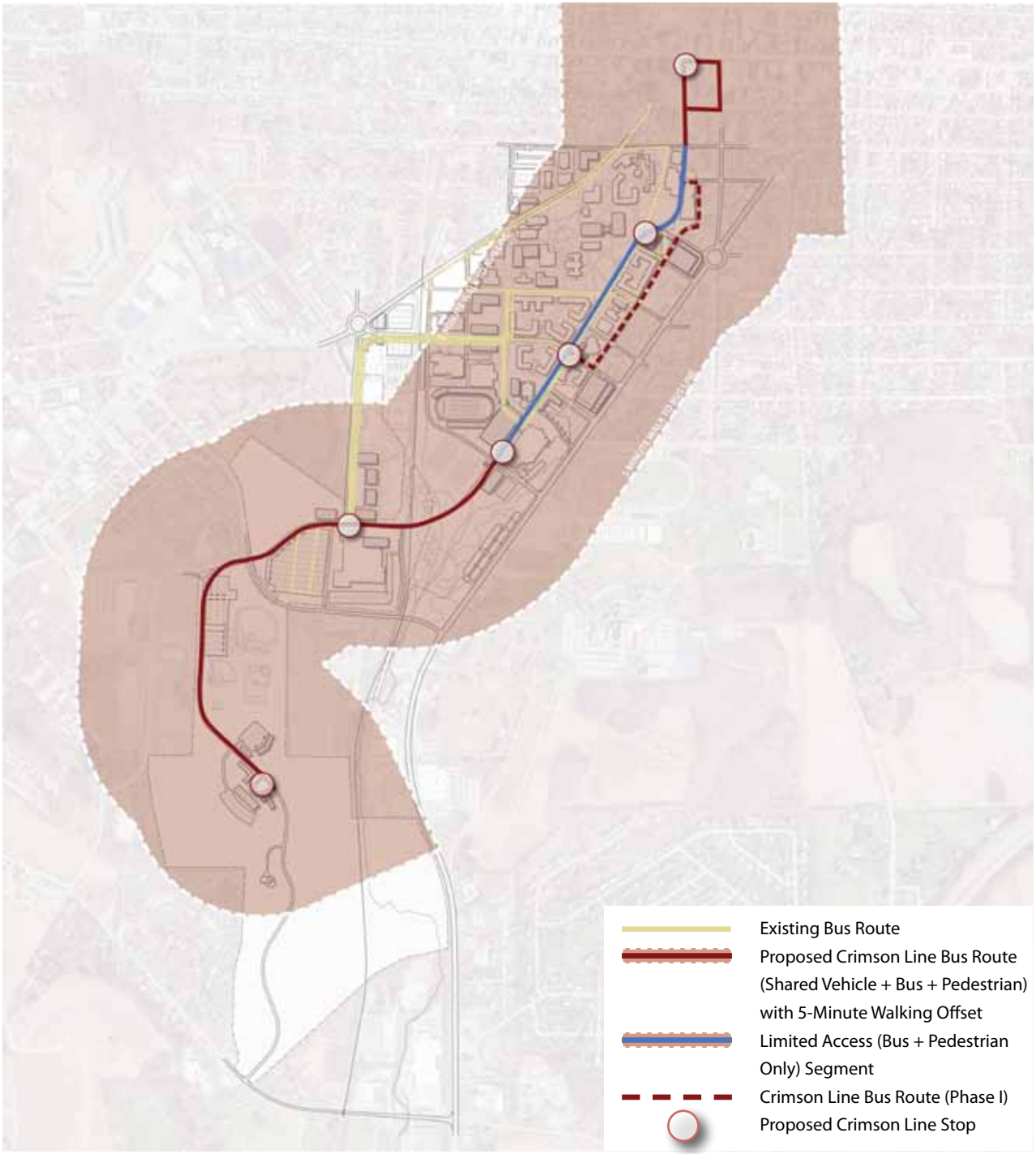
The Crimson Line follows the current alignment of Pratt Drive, with a new section of roadway connecting the southern terminus of Pratt Drive to 13th Street near the Robertshaw Building. A majority of the campus can be accessed within a 5-minute walk from any point along the Crimson Line, making mass transportation a convenient and viable option for the campus population.

In order to reduce conflicts, vehicular access along Pratt Drive will be limited within the central academic core to buses and pedestrians. This will reduce the overall impact of vehicles on the campus while enriching the pedestrian experience. The character of Pratt Drive within this area will have a dramatically different feel than the all-access portions of the road, with enhancements catering to the pedestrian along this

Transit Recommendations

- Establish the Crimson Line north-south transit route linking downtown Indiana to the southern development on campus.
- Locate stops at key campus nodes, providing convenient access to the highest number of riders.
- Coordinate transit/bus schedules with IndiGO for maximum efficiency and ridership.
- Control vehicular access along Pratt Drive in coordination with the Crimson Line transit strategy.

Pedestrian focused character of the proposed Pratt Transit Mall



Crimson Line

CAMPUS ROADS + GATEWAYS

The Master Plan provides a number of strategies to improve the vehicular circulation on campus. The plan strategically removes interior roads and drives to create a pedestrian-friendly core while maintaining emergency and service access to all facilities on mixed-use reinforced paths. Vehicular roads on campus will effectively connect to the parking resources on campus, shaping a positive experience for those arriving to campus, and allowing visitors to become pedestrians in environments with less opportunities for vehicular and pedestrian conflicts.

Campus Roads

To develop a pedestrian-focused core, the Master Plan recommends converting Grant and South 11th Streets into pedestrian-oriented malls and strategically removing other non-essential internal campus roads, such as South Drive. Maple Street will remain a vital cross-campus road and is recommended to undergo streetscape enhancements.

The Master Plan also proposes several new road segments that will improve the vehicular circulation on campus. These roadways will fill in gaps in the existing road network and create new transportation links within the campus. Two significant proposed connections include linking Pratt Drive to South 13th Street, and extending South 12th Street east to intersect with Wayne Avenue south of the Kovalchick Complex.

Campus Gateways

Gateways represent the physical and ideological thresholds of the campus environment. They are typically found on the property boundaries of campus at key arrival points. Gateways should be organized in a hierarchical system of primary, secondary, and tertiary gateways.

Primary gateways should be established at the major campus entry points, paired with additional signage or wayfinding elements that lead to critical destinations. Secondary and tertiary gateways are located at additional activity points around campus. Gateways can cater to either vehicles, pedestrians, or both, depending on their location and purpose.

Vehicular Circulation Changes

Roads to be closed/removed include:

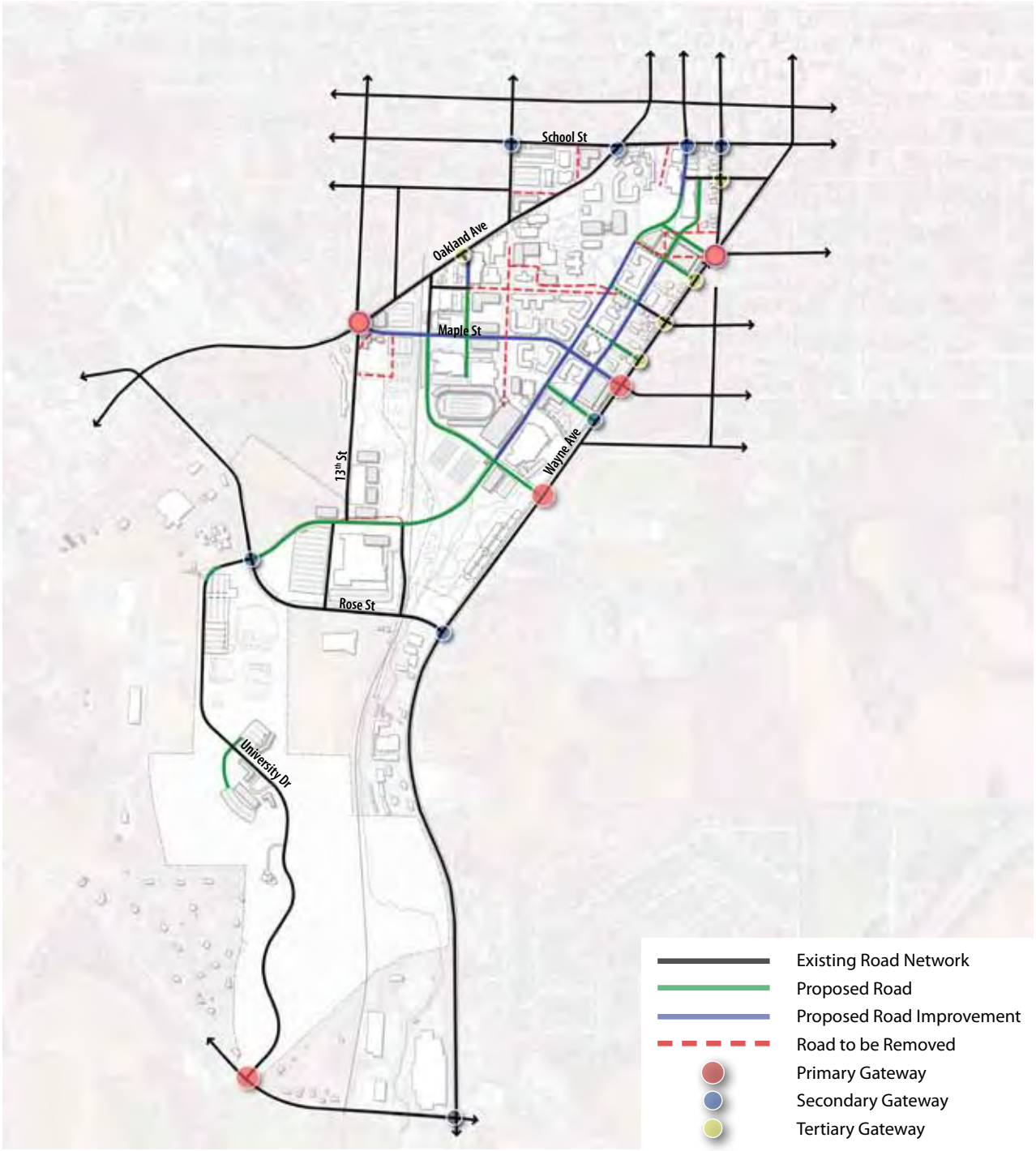
- Grant Street between Papermill Avenue and Garman Avenue
- South Drive
- 11th Street south of Oakland Avenue
- Washington Street between 11th Street and Oakland Avenue
- 10th Street south of School Street
- Pratt Drive service drive
- South Street and Locust Street west of 7th Street
- Fisher Avenue south of Maple Street
- Glass Street
- Segment of 13th Street north of the Robertshaw Building

Campus Roads + Gateways Recommendations

- Remove selected interior roads to improve the pedestrian core of campus.
- Convert the on-campus segments of Grant Street and 11th Street to pedestrian malls.
- Improve the Maple Street corridor through streetscape enhancements.
- Create a series of campus gateways to designate the campus within the community.
- Complete campus and regional traffic studies to evaluate impacts of proposed road closures.

IUP primary gateway on Oakland Avenue

Gateway at Oakland Avenue



Campus Roads + Gateways

PEDESTRIAN + BICYCLE CIRCULATION

Walking is the primary method of circulation on the Indiana campus, and the campus should accommodate pedestrians, relegating motor vehicles to the edges of the central academic core. A successful pedestrian network consists of logical and well-connected pathways leading to a variety of destinations. The Master Plan recommends a number of new pedestrian routes connecting to established routes on the campus. The plan strengthens the pedestrian realm of the campus by transforming Grant and 11th Streets into pedestrian thoroughfares, relegating vehicles to the outer boundaries of the academic and residential cores.

Walkways should be designed for universal access and should incorporate elements such as benches and adequate lighting. Mid-block crossings should be limited and pathways should lead to designated crosswalks.

Pedestrian pathways should also connect to the surrounding neighborhoods to encourage pedestrian circulation to and from campus, including extending through the arboretum zones to connect to the Hoodlebug Trail.

Bicycle Circulation

The Master Plan also promotes bicycle transportation around the campus. The university should work with its municipal neighbors (Indiana Borough and White Township) and Indiana County to coordinate efforts to promote safe and functional bicycle routes. Bicycle routes can be implemented through a number of strategies, including striped and/or shared bicycle lanes on roadways or separate bicycle trails. The April 2011 draft of the *Pedestrian & Bicyclist Transportation Plan for Indiana County, Pennsylvania* has classified local roadways based on the suitability of the roads to accommodate bicycle traffic. A number of the roads that run through or around the campus have been deemed average to above average for use as bicycle transportation routes.

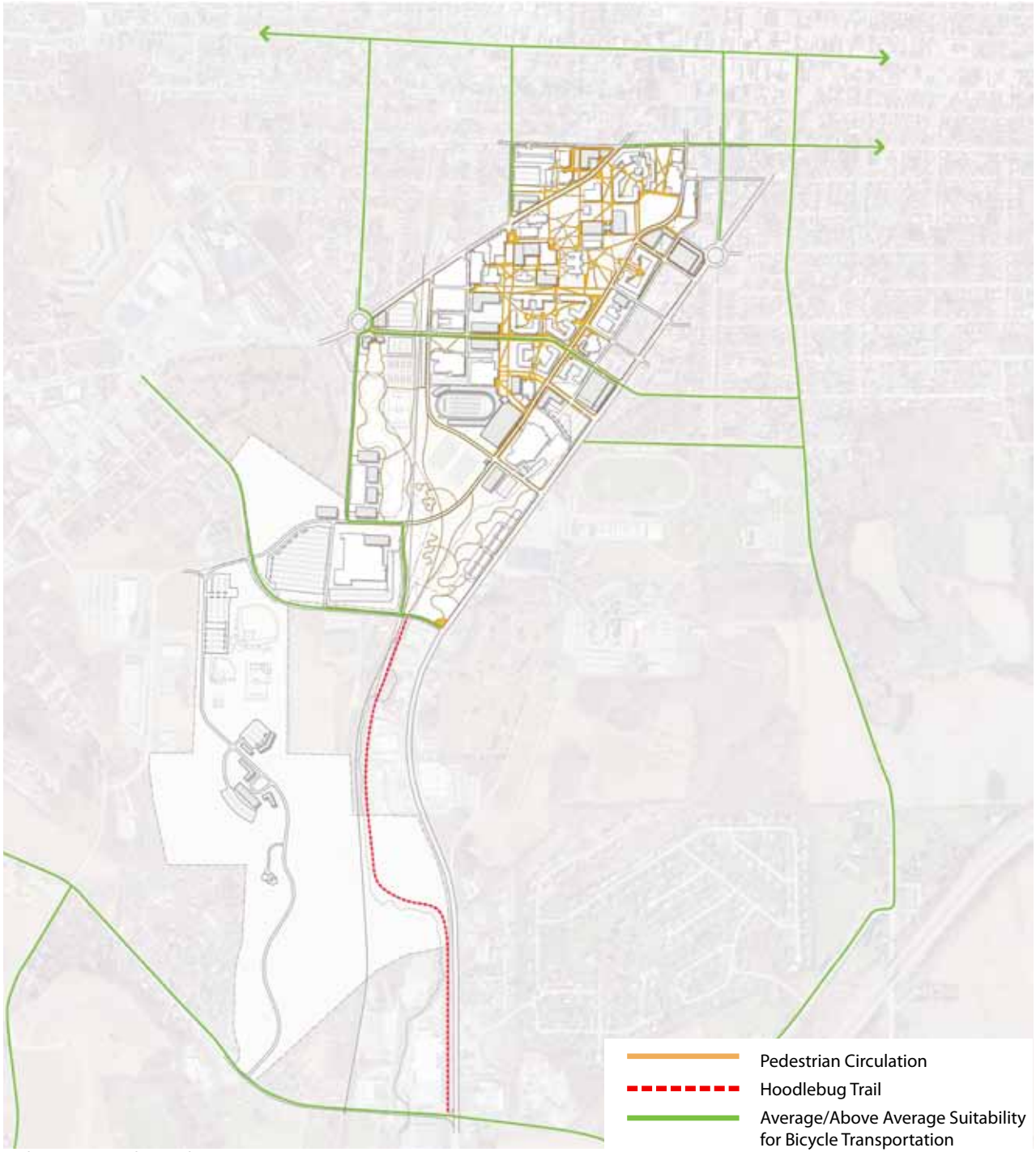
IUP can also encourage bicycling as an alternate transportation method by providing adequate bicycle parking facilities throughout the campus. Campus walkways can be designed to accommodate both pedestrians and bicyclists. Providing showers/changing facilities in future buildings is also a strategy to promote bicycle transportation. An increased campus population utilizing bicycles for transportation not only reduces pollutants and negative environmental impacts from motor vehicles, it also reduces the demand for on-campus parking.

Pedestrian + Bicycle Circulation Recommendations

- Ensure that new walkways connect to major destinations or existing pathways.
- Provide amenities such as benches and lighting for a safe and enriching pedestrian experience.
- Paths can accommodate both pedestrian and bicycle traffic given adequate widths and placement.
- Promote bicycling as an alternative transportation method.
- Utilize pathways to connect to adjacent neighborhoods and regional trails/greenway systems.

Pedestrian activity at the Oak Grove

Existing interior bicycle storage



Pedestrian + Bicycle Circulation

BUILDING DEMOLITION

Based on recommendations from the *Integrated Facilities Plan*, the Master Plan has identified a number of building candidates to be considered for demolition in line with the long-term vision of the plan. A number of these facilities, notably Keith and Leonard Halls, have been identified in previous studies as immediate demolition candidates.

While academic buildings account for a majority of the proposed demolition, two of the demolition candidates include residential buildings: University Towers and McCarthy Hall. Folger Dining Hall has been identified for long-range replacement.

Demolition of facilities should be phased in accordance with the establishment of replacement buildings, ensuring space needs are met while providing new facilities to accommodate future growth.

Demolition Candidates

Project ID	Name	Beds	GSF
D1	Keith		57,200
D2	Leonard		45,900
D3	Walsh		19,000
D4	McCarthy	111	
D5	University Towers	115	
D6	Foster		60,700
D7	Pierce		21,500
D8	Davis		70,700
D9	R&P		8,237
D10	R&P Lab		2,231
D11	Reschini		4,900
D12	Eicher		20,800
D13	Ackerman		39,234
Total		**226**	**350,402**

Building Demolition

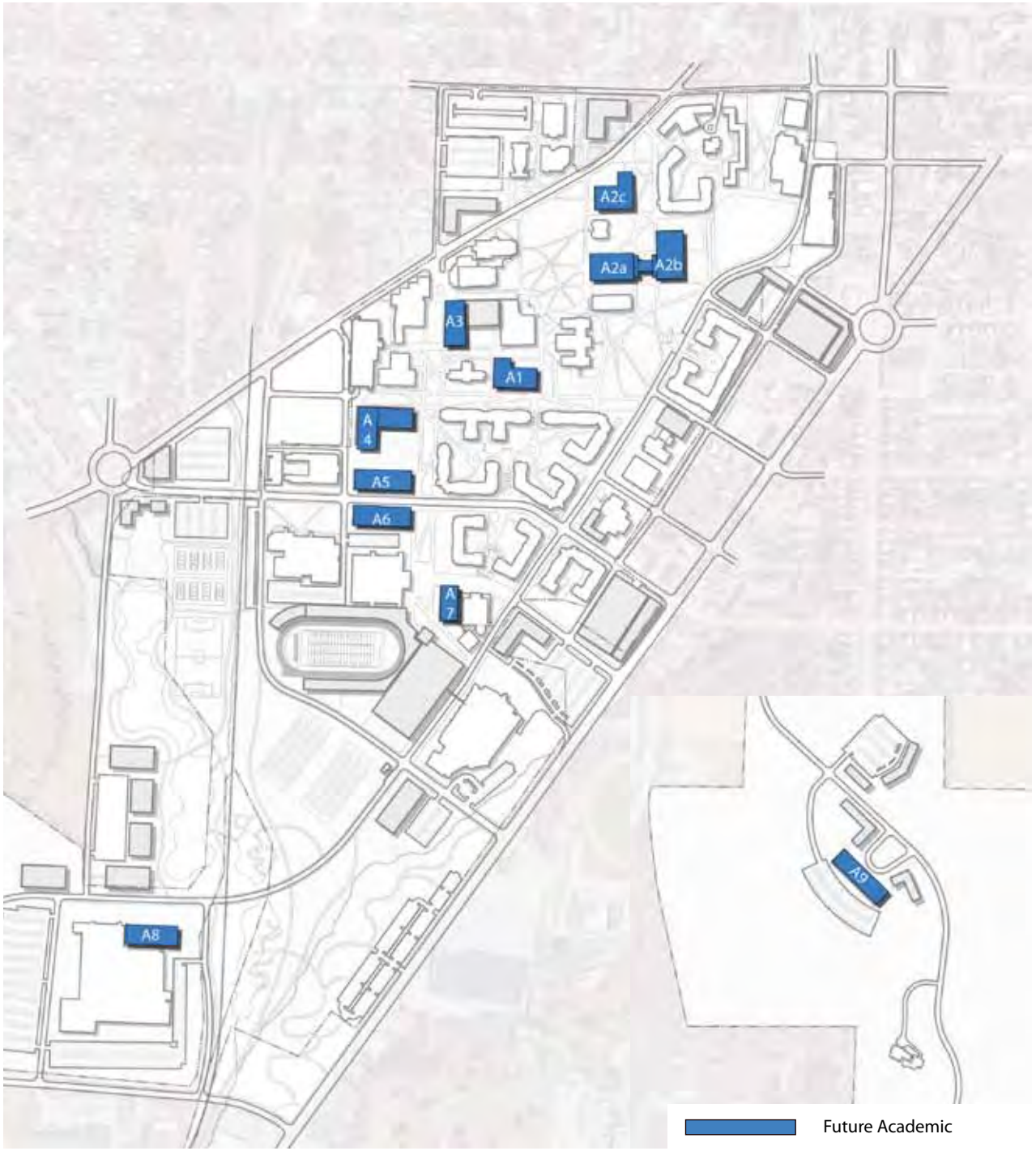
ACADEMIC FACILITIES

The Master Plan identifies locations for future academic opportunities on the Indiana campus, particularly within the existing central academic core north of Maple Street. The new academic building construction shown in the plan on the right represents nearly 900,000 GSF of new space, which meets the demands for projected university growth and accounts for the replacement of demolished academic space.

Building A1 is an immediate priority replacement facility for Keith and Leonard Halls. Buildings A2a and A2b are planned as future science facilities, while A2c represents a renovation of Weyandt Hall. Building A3 is a mixed-use facility with both academic and student life functions. Building A4 begins the southward migration of the academic fabric, while buildings A5, A6, A7, and A8 are long-term academic expansion opportunities. Building A9 represents a long-term vision of the campus, planned to accommodate future graduate-level programs.

Future Academic Facilities

Project ID	GSF	Base	Floors
A1	106,000	21,200	5
A2a	100,000	25,000	4
A2b	100,000	25,000	4
A2c	65,100	Weyandt Ren.	
A3	38,400	19,200	2 (of 4)
A4	124,800	31,200	4
A5	94,000	23,500	4
A6	94,000	23,500	4
A7	25,600	12,800	2
A8	43,200	21,600	4
A9	89,600	22,400	4
Total	**880,700**		



Academic Facilities

ACADEMIC SUPPORT + ATHLETIC FACILITIES

Academic support facilities encompass a wide range of uses. Proposed buildings include an expansion/ renovation of Stabley Library (S1), an addition to the cogeneration boiler plant (S2), and a liner building along Wayne Avenue to house campus Public Safety (S4/ University Towers replacement).

In response to the 2007 *Athletic Master Plan* and based on recommendations from the Master Plan committees, a new indoor multi-sport facility and 200-meter track has been designated to a site adjacent to Miller Stadium (S3). This development includes renovations to Miller Stadium and will be utilized for both recreational and intercollegiate athletics. An alternate site for a multi-sport facility on the R&P Band Parking Lot is considered a viable option if a 300-meter indoor track and multi-sport facility better serves the needs of the University and community. In either scenario, the Master Plan suggests that the location for band practice is moved from the existing R&P Band Parking Lot to the future surface parking lot north of the Kovalchick Complex.

Future Academic Support + Athletic Facilities

Project ID	GSF	Base	Floors
S1	54,000	18,000	3
S2	37,800	12,600	3
S3	290,000	145,000	2
S4	57,000	19,000	3
Total	**438,800**		

Academic Support + Athletic Facilities

RESIDENTIAL + STUDENT LIFE

IUP has made a significant investment in updating the on-campus housing stock through the Residential Revival projects; however, previous studies suggest there is still a high demand for student housing on the Indiana campus. The Master Plan has identified several opportunities for additional on-campus residential development, including mixed-use liner buildings adjacent to a future parking structure (R1, R2, and R3), infilling the campus with traditional and/or suite-style residences (R4 and R7), and graduate student housing (R9, R10, R11, and R12) developed in conjunction with the academic building on the southern part of campus. There is also a unique opportunity to incorporate residential units as part of the renovation of Miller Stadium (R8).

The food and dining services currently found in Foster Hall are proposed to move and occupy the lower levels of the mixed-use building adjacent to Stabley Library (R5), and there is a planned addition to the Crimson Event Center (R6).

Future Residential Facilities

Project ID	GSF	Base	Floors
R1	18,000	6,000	3
R2	29,700	9,900	3
R3	22,500	7,500	3
R4	81,600	20,400	4
R5	38,400	19,200	2 (of 4)
R6	10,400	5,200	2
R7	78,000	19,500	4
R8	35,600	8,900	4
R9	28,500	9,500	3
R10	15,600	5,200	3
R11	43,200	10,800	4
R12	30,400	7,600	4
Total	**431,900**		

Future Residential + Student Life

FUTURE BUILDING OPPORTUNITIES

In order to provide a framework that adaptable to future campus needs, the Master Plan has identified building opportunities that align with the Institutional Vision yet provide flexibility to grow at a sustainable pace. While not required to fulfill the current or projected space needs of the university as set forth in this study, these suggestions should be viewed as prudent opportunities to enhance the scope and offerings of the university at large. Future building opportunities include:

- An academic building (Building F1).
- Potential alumni center and outreach facilities (Buildings F2-F3).
- University cultural center (Building F4).
- Third-party hotel adjacent to the Kovalchick Complex (Building F5).
- Visitor's center (Buildings F6).
- Public/private partnership and research opportunities (Buildings F7-F11).

Future Building Opportunities

Project ID	GSF	Base	Floors
F1	67,200	22,400	3
F2	42,600	14,200	3
F3	10,600	10,600	1
F4	58,200	19,400	3
F5	72,000	24,000	3
F6	1,100	1,100	1
F7	60,000	20,000	3
F8	45,000	15,000	3
F9	45,000	15,000	3
F10	60,000	20,000	3
F11	60,000	20,000	3
Total	**521,700**		

Future Building Opportunities

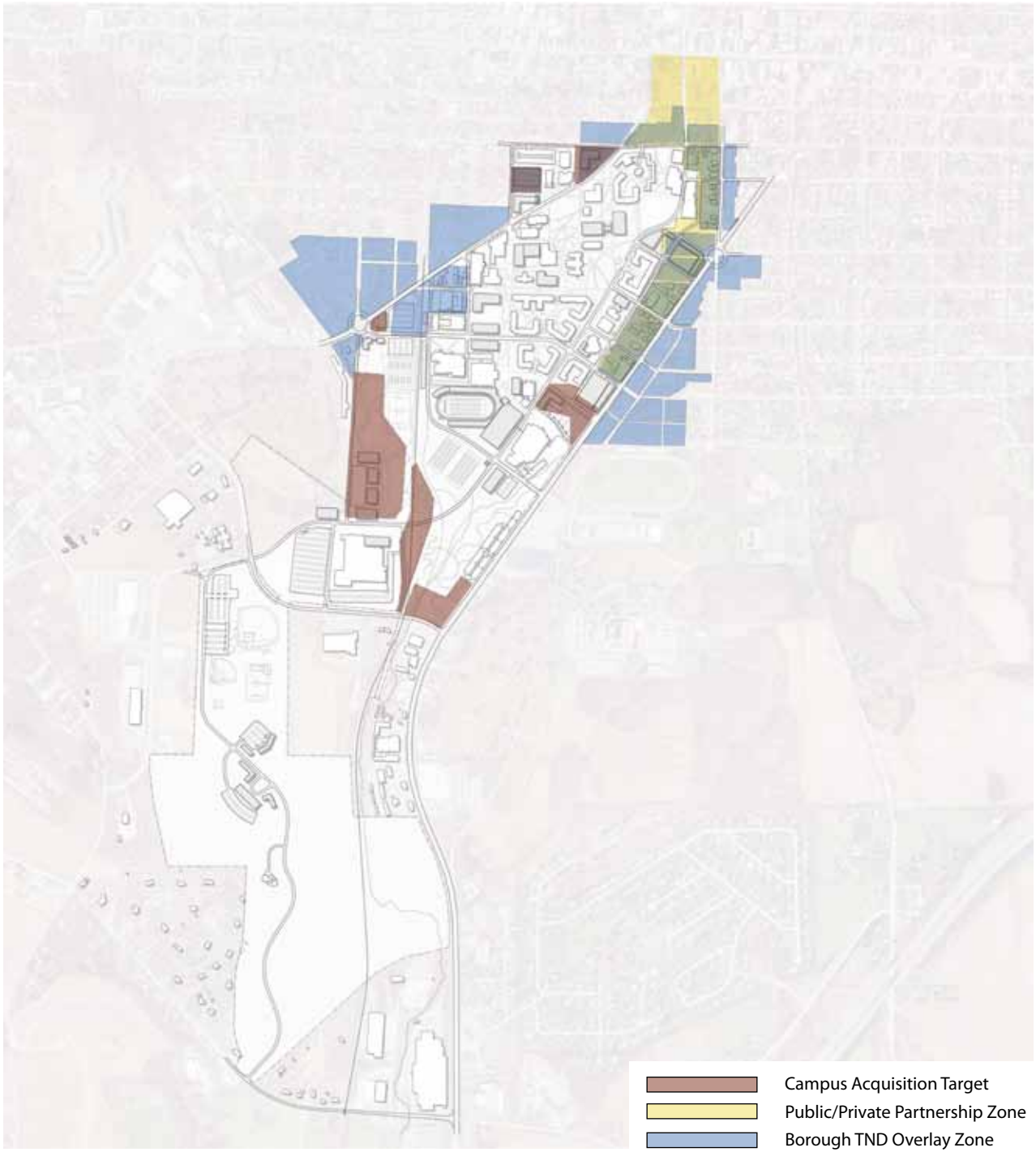
ACQUISITION + OPPORTUNITY ZONES

The Master Plan has identified strategic property acquisition opportunities, along with areas in which IUP should pursue partnerships with the Indiana Borough, private developers, or other community entities. The acquisition targets are priorities as IUP strives to fill gaps in current ownership, strengthening the town-gown interface between IUP and Indiana, and ensuring control of properties essential for long-term growth.

Additional areas adjacent to campus are prime opportunities to explore public/private partnerships. Several of these properties correlate to areas identified by Indiana County as Traditional Neighborhood Development (TND) zones. This is catered toward student residential and retail use, permitting higher densities and mixed-use developments. A majority of these opportunities lie along the Wayne Avenue corridor, providing IUP with a greater presence along this future gateway.

As part of the master planning process, these public/private recommendations were supported by both the Campus Advisory and Community Advisory Committees. Applicable precedents and case studies were scrutinized and discussed as opportunities to learn from similar developments, including the following:

- University Square, University of Wisconsin-Madison
- South Campus Gateway, The Ohio State University
- Taylor Place, Arizona State University
- College Row, Franklin & Marshall College
- South University Village, Wayne State University
- Storrs Center, University of Connecticut



Acquisition + Opportunity Zones

CAMPUS PARKING

The Master Plan suggests the need to increase parking supply by nearly 400 spaces over the next 10 years. Assuming that the ratio of users to parking spaces remains constant over the plan horizon, the need for additional supply accounts for a slight increase in residential student, commuter student, and employee population based on the enrollment projections discussed on page 32.

The projected supply assumes a 5% reduction in parking through the implementation of Transit Demand Management (TDM) strategies. Additional TDM practices should be pursued to further reduce demand. The projected supply numbers should be used as a guideline.

As a campus driven by sustainability goals and the fiscal realities of the time, parking at the Indiana campus should only be built if needed, and when built, it should include Best Management Practices including pervious pavements and bioswales. Parking decks should be viewed as a strategy to satisfy the parking demand while increasing density and reducing stormwater runoff.

Campus Parking Recommendations

- Remove surface parking along South Drive, Grant Street, and Pratt Drive.
- Pursue long-term removal of several other surface parking lots in the central academic core, including the HUB Lot, the R&P Band Parking Lot, and the Eberly Lot.
- Develop replacement surface parking lots on the perimeter of the walkable central academic core with access to Wayne and Oakland Avenues.
- Add two levels to the existing parking deck at Grant Street and Papermill Avenue.
- Provide adequate surface parking for future uses on the southern part of campus.
- Construct a parking garage at Wayne Avenue and Maple Street, adjacent to the Kovalchick Complex.
- Partner with a private entity to develop a mixed-use parking garage at Wayne Avenue and 7th Street.

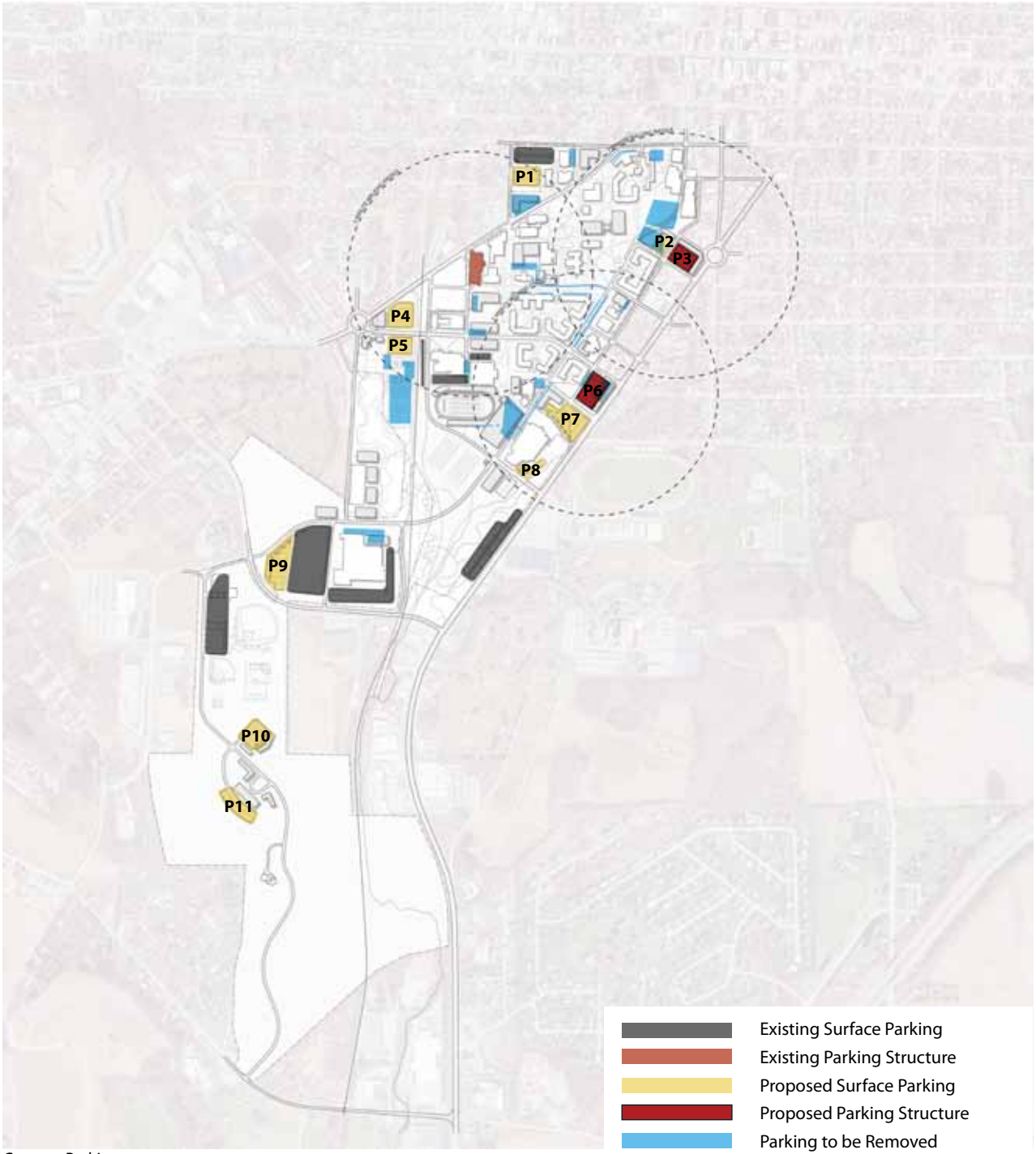
Existing parking structure

PARKING DEMAND ANALYSIS

Type	Ratio	2009 Baseline	2015 Projected	2020 Projected
Total Population		13,713	14,471	14,741
Residential Population		4,000	5,000	5,000
Residential Parking	.25	1,000	1,250	1,250
Commuter Population		5,713	5,943	6,142
Commuter Parking	.30	1,714	1,783	1,843
Employee Population		1,284	1,336	1,380
Employee Parking	.85	1,091	1,135	1,173
Visitor Population		200	208	215
Visitor Parking	.50	100	104	108
Total Demand		3,905	4,272	4,373

FUTURE PARKING

Name	Type	# of Floors	Spaces
P1	Surface		128
P2	Surface		46
P3	Parking Deck	4 @ 130/Floor	520
P4	Surface		149
P5	Surface		104
P6	Parking Deck	5 @ 177/Floor	885
P7	Surface		214
P8	Surface		49
P9	Surface		246
P10	Surface		141
P11	Surface		151
Proposed Parking			2,633
Existing Parking to Remain			1,933
Total			**4,566**



Campus Parking

CAMPUS STORMWATER

The Master Plan recommends a holistic approach to handling stormwater on campus. A stormwater analysis was performed for IUP, collecting data from both the Whites Run and Marsh Run watersheds, including total drainage area and impervious surfaces, roads, buildings, walkways, and any land cover that prohibits water from infiltrating.

Rainfall data was obtained from the Utah Climate Center (UCC) for Indiana, Pennsylvania from October 1, 1946, through June 30, 2009, to determine the frequency for certain storm events. The *Northeast Regional Climate Center Atlas of Precipitation Extremes for the Northeastern United States and Southeastern Canada* (Wilks and Cember, 1993) was used to determine the rainfall amount for a variety of events ranging from the first flush event to the 100-year storm. Data from the UCC was then sorted by these event sizes to show how many events (as a percentage of all events) will occur for a certain storm size. The Rainfall Frequency Analysis table shows that the events 1 inch and smaller make up 91.4% of all rainfall; therefore, water quality devices designed with this capacity will provide the best efficiency for stormwater management techniques.

Rainfall Frequency Analysis

Event	Rainfall, IN	% Events Managed
First Flush	0.50	73.6
	0.75	85.1
	1.00	91.4
	1.25	94.8
	1.50	96.7
	1.75	97.9
1-Year	2.00	98.7
2-Year	2.20	99.0
5-Year	2.67	99.5
10-Year	3.05	99.7
25-Year	3.75	99.8
50-Year	4.25	99.9
100-Year	5.00	100.0

Soils on the Indiana campus are appropriate for infiltration, and there are several strategies to sustainably manage stormwater from both the quality and quantity perspectives. At the broadest level, these methods include the following:

- Infiltration (Quality Control)
- Detention Basins
- Pervious Pavements
- Green Roofs

Infiltration (Quality Control)

Structures designed for infiltration are essential for water quality control. Common methods of infiltration include rain gardens, infiltration planters, bioswales, and constructed wetlands. These methods work to enhance water quality, reduce runoff rates, and recharge the groundwater system, and also have the potential to create habitat.

Detention Basins (Quantity Control)

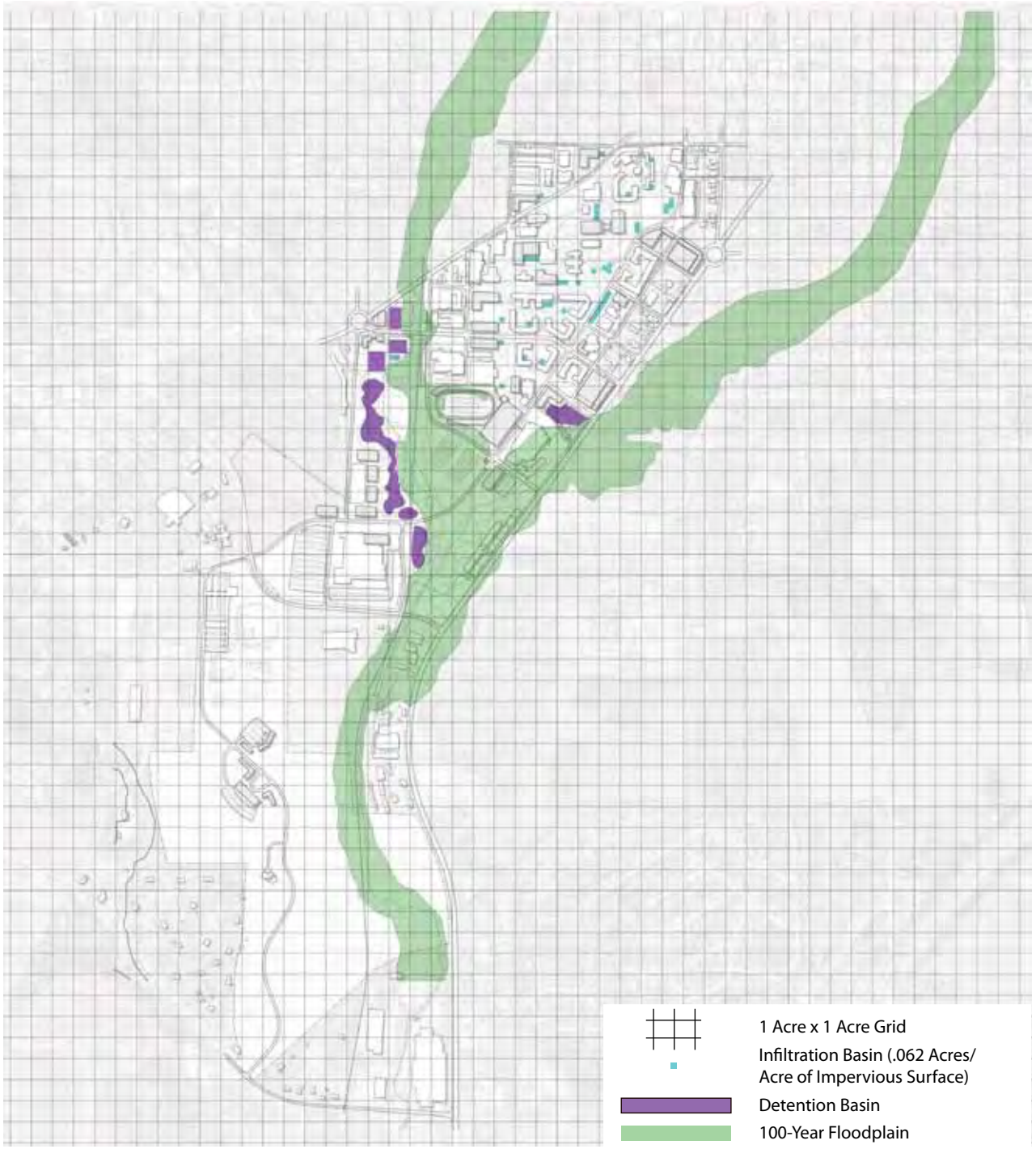
Detention basins are the primary way to control stormwater quantity issues and reduce flooding to downstream areas. Basins help manage large storm events through adding capacity for water to be detained. Detention basins can be found both above and below ground. Underground chambers can be paired with campus uses such as parking lots or recreational fields.

Pervious Pavements

Pervious pavements are materials that have been designed to allow water to infiltrate through the materials and into the ground, thereby reducing water runoff rates. Common pervious pavements include pervious concrete, pervious asphalt, and pervious pavers.

Green Roofs

Green roofs are stormwater management systems utilizing plant material to replace typical impervious roof surfaces, reducing the amount of runoff associated with a storm event. Green roof systems have been proven effective at managing small rainfall events, while aiding in larger events by slowing the runoff rates.



Campus Stormwater

CAMPUS INFRASTRUCTURE + UTILITIES

While there are no major issues with the existing electrical, steam, and chilled water systems on the Indiana campus, the Master Plan focuses on concerns regarding the need for utility systems to serve over 1 million additional square feet of facilities identified as opportunities in the Master Plan.

Electrical

Several tasks were identified as initial phase utility priorities in line with the overall phasing strategy for IUP. They include:

- Adding a new liberal arts building to circuit 1204.
- Removing Leonard Hall from circuit 1202 when Keith and Leonard Halls are demolished.
- Removing Keith Hall from circuit 1202.
- Adding new science building to circuit 1202.
- Demolishing Walsh Hall from circuit 1202.
- Adding a new library addition to circuit 1204.

Steam

The central cogeneration boiler plant has a capacity of 90,000 MBH. The steam system has adequate capacity to serve new buildings proposed in the initial phase of the Master Plan. An additional 65,600 MBH of heating capacity will be needed to accommodate all future phases of the Master Plan. An additional limiting factor for future development could be the distance that future buildings are located from the central plant and main loops.

Chilled Water

In order to adequately serve future facilities at the Indiana campus, chilled water capacities will need to be increased to serve the Master Plan. Utilizing a traditional approach, chilled water could be added in phases, including:

- An additional 1,800 tons of capacity to the north main for a new science building in the initial phase.
- An additional 410 tons to the northwest main for a replacement of Keith and Leonard Halls in the initial phase.
- An additional 1,280 tons of capacity to the southwest main in future phases.

Alternative strategies to distribute adequate cooling to new buildings at the Indiana campus include:

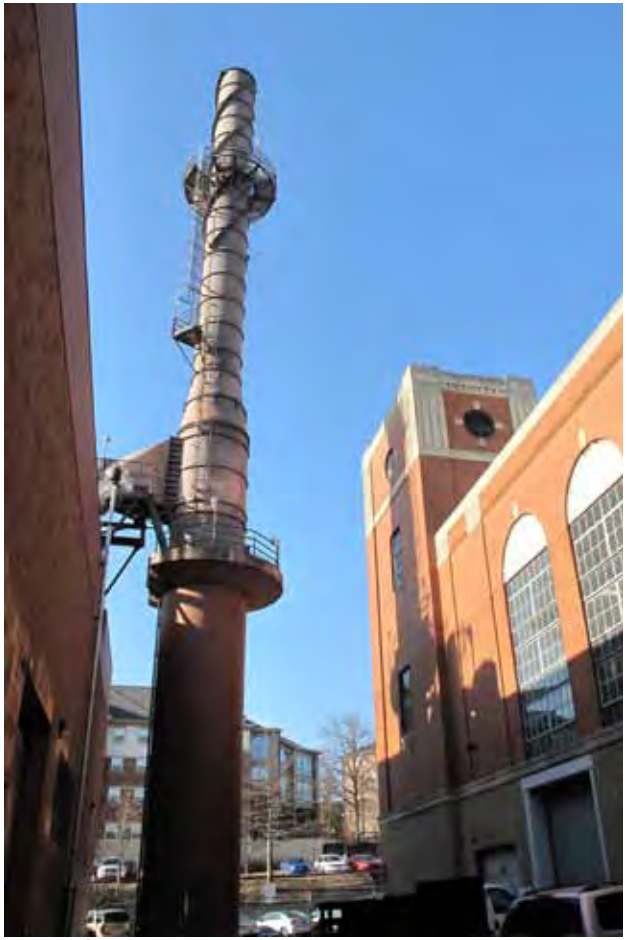
- Providing local cooling systems at all new buildings.
- Increasing the pipe capacity in the north main during initial phases by increasing the total system (delta) T and water flow velocity.

Chilled Water Distribution System Recommendations

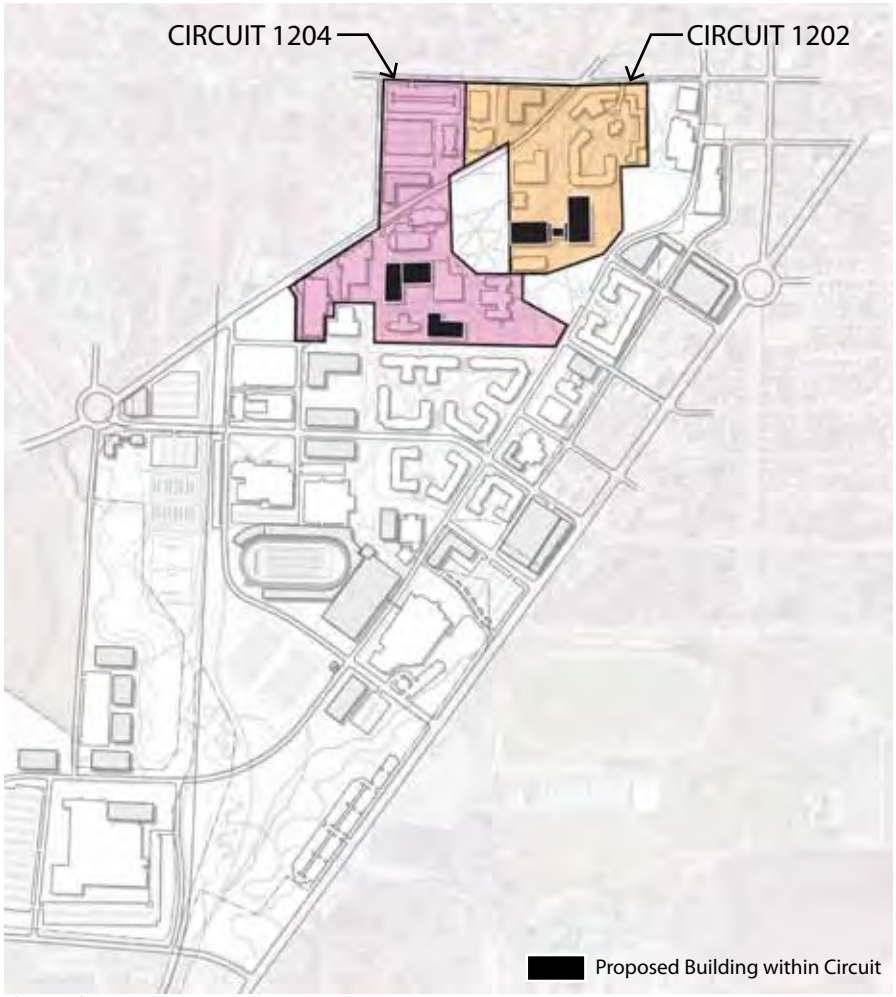
- Increase main line capacities in small increments to accommodate load increases of less than 500 tons in the next 0-10 years.
- Provide local cooling to individual buildings that require over 500 tons of cooling (e.g., new science building).
- Provide local cooling to buildings located far from central plant and main lines (e.g., Hotel, graduate housing).

Chilled Water Plant Capacity Recommendations

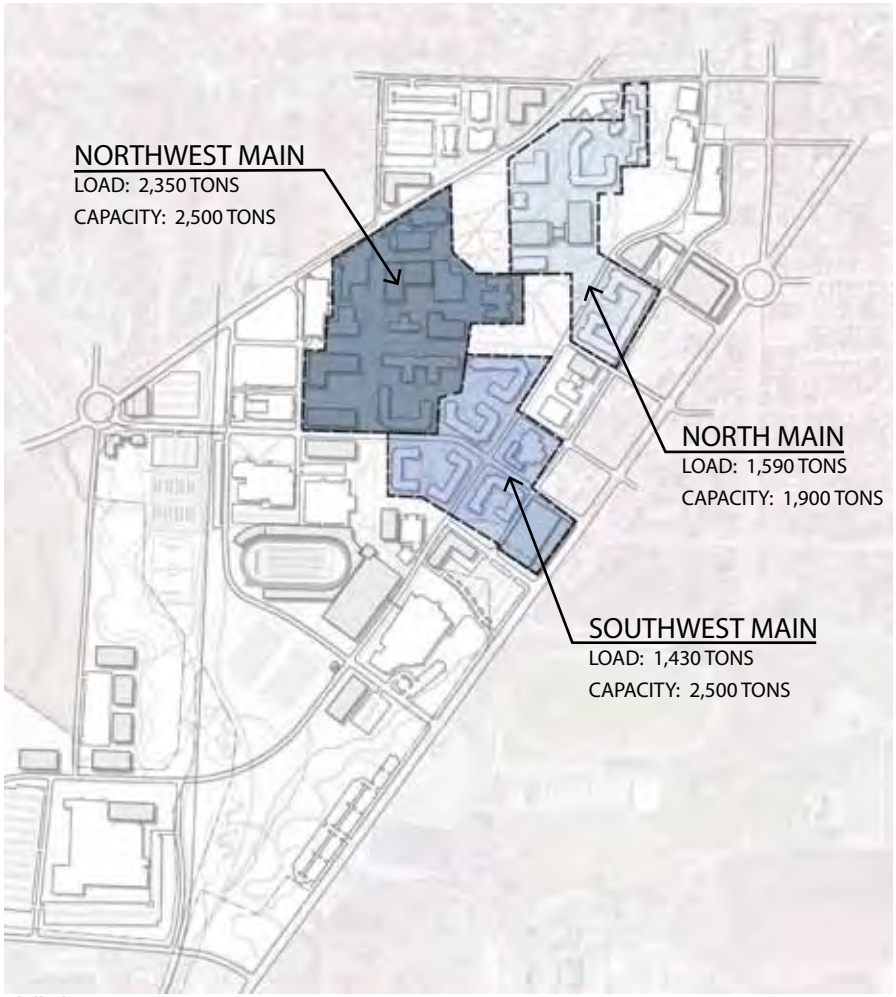
- Increase plant capacity to 4,000 tons in the next 5 years as outlined by the *Central Chilled Water Study*.
- Provide local cooling to buildings with disproportionately large cooling loads (e.g., new science building).



CoGen Plant



Electrical Circuits



Chilled Water

0-5 YEAR PHASING

IUP's strategic goals and overarching planning principles have been scrutinized and embedded in prudent physical planning recommendations at each implementation phase. Succinct priorities for the 0-5 year plan horizon are rooted in the Pennsylvania State System of Higher Education (PASSHE) 5-year capital improvement and priority spending plan for IUP, and include:

- Design and construction of a new facility for the College of Humanities and Social Sciences.
- Design and construction of a hospitality facility adjacent to the Kovalchick Complex.
- Design and construction of a new facility for the College of Natural Sciences and Mathematics on the existing Keith/Leonard footprint and Weyandt Hall renovation.
- Development of a food service master plan.
- Design and construction of the Sprowls Fine Arts Courtyard.
- Preparation of a signage master plan for the Indiana Campus.
- Demolition of McCarthy Hall and construction of a parking lot on the footprint.
- Traffic studies for Grant and 11th Streets.
- Arboretum Phase I program.
- Phase I programming for the Crimson Line.
- Planning for non-traditional student housing.
- Closing Grant Street to through traffic.
- Extension of the Hoodlebug Trail at the Robertshaw Building.
- Property acquisition along Wayne Avenue.
- Complete infrastructure and utility work in conjunction with construction projects.

0-5 YEAR PHASING STRATEGY

	Project	Year(s)	Est. Cost	Fund*
	Planning			
A	Food Service M.P.	2011-12	$175,000	Aux
B	Signage Master Plan	2011-12	$70,000	UC
C	Traffic Studies at Grant + 11th Streets	2012	$75,000	UC
D	Arboretum Phase 1	2012-13	$75,000	Other
E	Crimson Line Phase I	2012-13	$10,000	UC, Aux
F	Non-Traditional Student Housing	2015	$75,000	Aux
G	Property Acquisition along Wayne Avenue	2015	Not Available	Other
	Building			
H	New Facility for College of Humanities and Social Sciences	2011-13	$37,142,000	CC
I	Hospitality Facility at Kovalchick Complex	2011-13	$21,600,000	PC
J	New Facility for College of Natural Sciences + Mathematics & Renovation of Weyandt	2012-15	$86,200,000	CC
	Site			
K	Sprowls Fine Arts Courtyard	2011-12	$300,000	UC
L	Demo McCarthy Hall + Construct New Parking	2012	$500,000	Aux
M	Close Grant Street Between Pratt + 11th	2013	$50,000	UC
N	Hoodlebug Trail Ext.	2014-15	$400,000	Other
O	Increase Chilled Water Capacity	2015	$1,800,000	UC

6-10 YEAR PHASING

6-10 YEAR PHASING STRATEGY

	Project	Year(s)	Est. Cost	Fund*
A	Renovate Elkin Hall	2018-19	$18,152,000	Aux
B	Renovate Weyandt Hall/Demo Walsh	2019-20	$12,000,000	CC
C	Library Expansion & Renovation	2017-19	$26,845,000	CC
D	400-Seat Performance Hall	2017-19	$7,000,000	PC
E	Visitor's Center	2019-20	$875,000	CC, PC, Aux
F	Non-Traditional Student Housing	2018-20	$15,000,000	Aux
G	New Dining Facility	2017-19	$15,000,000	Aux
H	Demolish University Towers	2020	$700,000	Aux/UC
I	Parking & Public Safety Facility	2018-19	$13,500,000	Aux
J	Renovate Breezedale Hall	2018-10	$1,120,000	UC, Other
K	Renovate Whitmyre Hall	2018-20	$3,000,000	Aux, Other
L	Add 2 Levels to Existing Parking Deck	2019-20	$6,979,200	Aux
M	Program for Sorority Housing and Center	2018-19	$100,000	Aux, Other
N	Graduate Apartments on the Southern Part of Campus	2018-20	$37,500,000	Aux
O	Mixed-Use Deck at Wayne/Locust	2018-20	$35,000,000	PC, Other
P	Crimson Line Phase I Road Renovations - Philadelphia to Kovalchick Complex	2018	$4,500,000	Other
Q	Arboretum Phase II	2018-20	$2,500,000	PC, Other
R	Grant St. Mall - 11th to Pratt	2018-19	$4,700,000	UC, Other
S	Grant St. Chilled Water & Steam Relocation	2018-19	$1,350,000	UC
T	Southern Part of Campus Utility	2018-20	$13,500,000	All
U	Develop Program and Scope for University Multi-cultural Center & Pratt Replacement	2017	$75,000	Aux, Other
V	Pedestrian Mall - Science Buildings to Oakland Ave.	2018-19	$1,900,000	UC, Other
W	11th St. Mall - Oakland to Grant	2019-20	$1,700,000	UC, Aux
X	Maple St. Improvements - 11th to Oakland	2019-20	$1,040,000	UC, Aux, Other

11+ YEAR PHASING

11+ YEAR PHASING STRATEGY

Project

- (A) Renovate Memorial Field House
- (B) Renovate Johnson Hall as Safety Science
- (C) Wayne Ave. Parking Phase II
- (D) Renovate Folger Dining, New Entry to Crimson Event Center
- (E) Replace Davis Hall and Demolish Foster
- (F) Demolish Davis Hall
- (G) Demolish Ackerman Hall
- (H) Eicher Building Repurpose for Storage/Archives
- (I) Renovate Stright Hall
- (J) Renovate Zink Hall
- (K) Renovate Sprowls Hall
- (L) Design and Build University Multi-Cultural Center
- (M) Pierce Replacement Adjacent to Robertshaw

Project

- (N) Demolish Pierce
- (O) New Building on Pierce Site
- (P) Demolish/Relocate Reschini Hall
- (Q) Indoor Track and Miller Stadium
- (R) Demolish R&P Office Building and Remediation
- (S) New Academic Building on the Southern Part of Campus
- (T) Roundabout/Gateway at Wayne
- (U) Enhance Library Quad to Sutton
- (V) Arboretum Phase III
- (W) Crimson Line Phase II - Robertshaw Building to Southern Part of Campus
- (X) Crimson Line Phase III - KCAC to the Robertshaw Building

Project

- (Y) Roundabout/Gateway at Oakland
- (Z) 12th Street Roadway Extension - KCAC to Maple Street
- (aa) 11th Street Mall - Grant to Miller Stadium and KCAC
- (bb) Demolish Surface Parking at HUB
- (cc) HUB Signature Outdoor Space
- (dd) Relocate University Services from Pratt Hall
  Pratt Hall and Site to be Utilized for Co-op Student Union Expansion
- (ee) 13th Street Property Acquisition
- (ff) Property Acquisition North of Oakland
- (gg) Relocate Child Care
- (hh) Ackerman Hall Relocation Study
- (ii) Property Acquisition on Maple Street

five | design guidelines

PURPOSE OF DESIGN GUIDELINES

Design guidelines further define the physical planning goals of the *Long-Range Facilities Master Plan* (Master Plan) and provide design direction for implementation of the plan.

The guidelines provide a framework for future development that will:

- Reinforce IUP's location in Western Pennsylvania, Indiana County, and Indiana Borough.
- Encourage flexibility that will allow the Master Plan vision to develop incrementally through influences from various leaders, designers, and planners.
- Further the high-quality standards and contribute to a dynamic campus environment for 21st century learning.
- Unify the main campus under an approach and philosophy that connects buildings with one another and with the landscape to form an integrated and architecturally rich campus context.

About This Chapter

Design guidelines for IUP reinforce the Master Plan principles at a variety of scales. Organized topically, the guidelines provide a framework upon which future consultants can build. The topical guidelines include disciplines ranging from architecture to urban design, site design, and landscape architecture. They include the following:

- Design Principles
- Sustainability
- Architectural Organization
- Floor Area Ratio (FAR)
- Building Form
- Multi-Sided Campus Buildings
- Context + Vernacular
- Exterior Building Enclosure
- Campus Open Space
- Landscape Framework
- Landscape Character Zones

DESIGN PRINCIPLES

"Design …a way of approaching challenges which designers and non-designers alike can learn to use to create positive change in the world."

—Diego Rodriguez (Business Week)

Well designed environments are proven to have profoundly positive impacts on enjoyment, productivity, and success. Additions to, and modifications of, the Indiana campus environment should transcend the notion of simple residential or academic spaces. A well designed built environment can and will reinforce IUP's values, promote learning, be environmentally responsible, and help to develop an integrated and organized campus. The following principles are intended to facilitate a discussion that promotes successful design at IUP.

Existing Context

An existing architectural fabric has already been woven across the campus. Successful future designs should maintain the integrity of that fabric without thoughtlessly imitating the existing elements. Good design should be "neither a vacantly 'international' exercise in modern technology nor a 'sentimental' imitation of vernacular buildings."[1]

Quality

Durable construction has a direct relationship to health, sustainability, and economic viability. Design, construction, and material quality of future developments on the Indiana campus shall be commensurate with institutional facilities. Construction materials and engineering systems should be expected to last at least 50-100 years and should consider life cycle costs alongside initial costs.

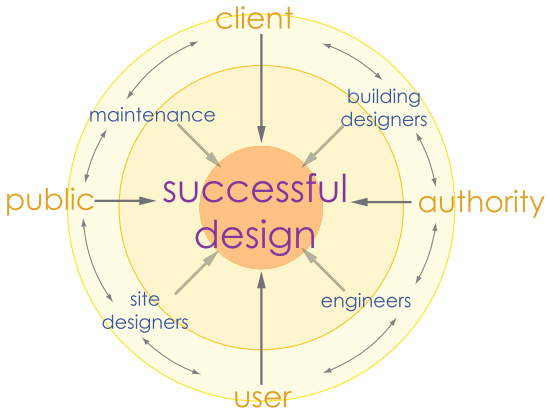
Scale

New developments within the Master Plan will need to be designed with appropriate height and spatial parameters to maintain the campus's intimate character. Pedestrian comfort and safety should be priorities. Buildings and spaces should be welcoming and comfortable.

1 Kenneth Framptom

Integrated Design Process

The best design solutions evolve from an active and organized collaboration across the duration of a project. Collaboration between all team members, including the client team, the design team, and the authorities having jurisdiction, is essential to a successful product. Through balanced interaction, the team members should continually evaluate design decisions to properly inform the project to allow for unique and appropriate solutions.



Sutton Hall

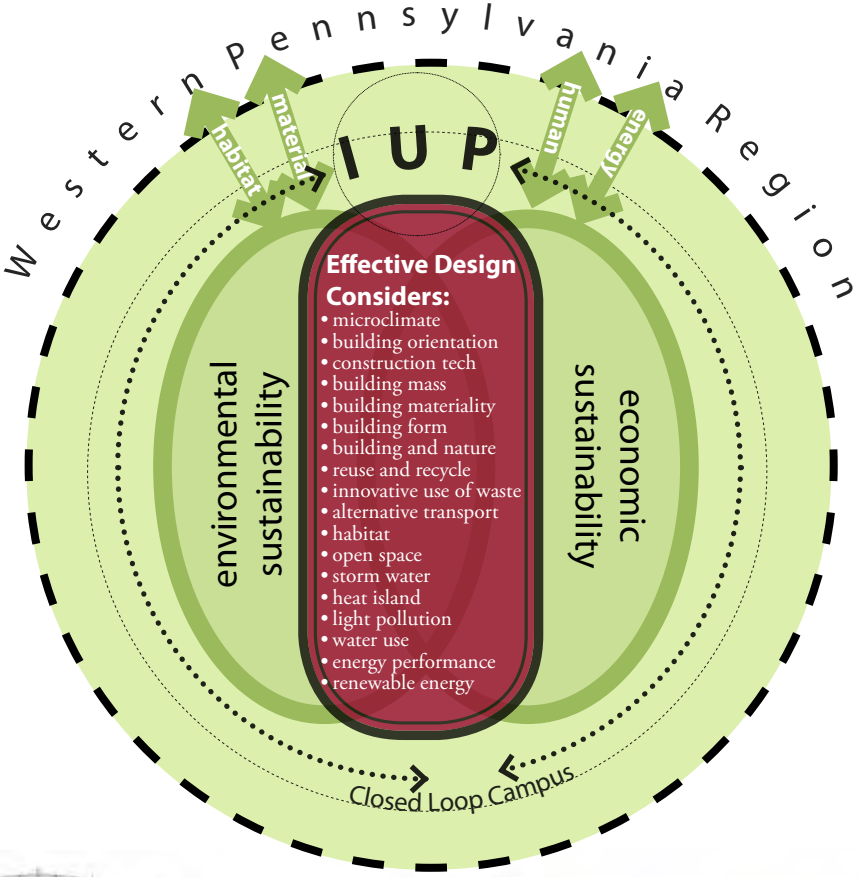
SUSTAINABILITY

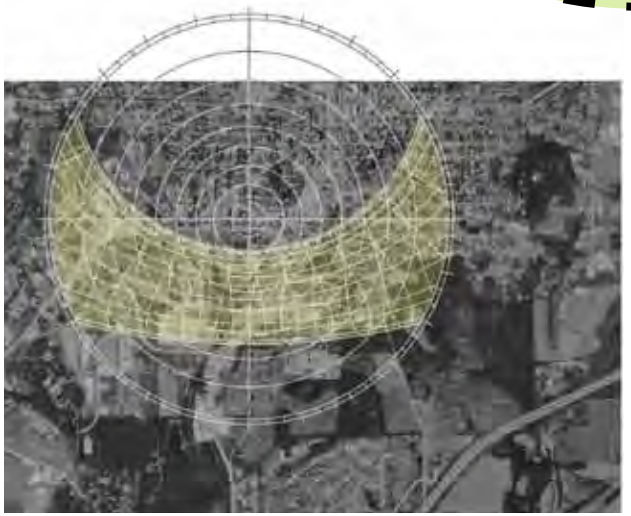
Effective design should reference and respond to the local and geographic microclimate while also considering orientation, construction, mass, materiality, and form. This resulting positive relationship between building and nature allows for beneficial environmental and economic impacts by minimizing carbon footprint and energy consumption. IUP's campus of the 21st century should:

- Represent built and natural systems that reuse and recycle energy, materials, and biological resources to minimize impacts to the environment.
- Emphasize a "closed loop" of waste flows by seeking innovative uses for traditional waste products that allow IUP to be on the leading edge of sustainable thinking.
- Connect to its Western Pennsylvania region by considering habitat, material, energy, and human connections. Architectural and landscape improvements should be consistent with the region's local ecosystem.

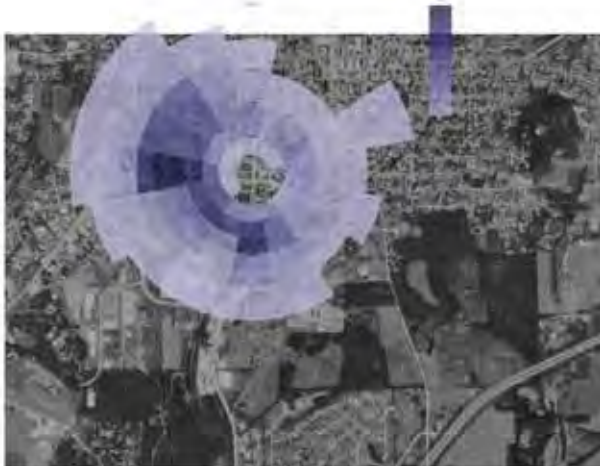
Sustainable design should be a priority for new construction. Using the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) green building and certification system as a guide for opportunities in environmentally sensitive design, sustainable design principles for the Indiana campus will:

- Provide opportunities for alternative transportation.
- Protect and restore habitat.
- Maximize open space.
- Reduce stormwater impact.
- Minimize heat island effect from roof and non-roof elements.
- Reduce light pollution.
- Reduce water consumption with low-flow fixtures and water-efficient landscaping.
- Optimize energy performance.
- Utilize renewable energy.
- Reuse existing materials where applicable.
- Utilize recycled, recyclable, regional, and rapidly renewable materials.
- Maximize daylighting and views.





Sun Path Diagram - Indiana, PA



Prevailing Wind Diagram - Indiana, PA

Consider passive sustainable design opportunities that have the potential to be more cost effective and more easily implemented.

Innovation

In addition to serving their primary function as educational facilities, the Indiana campus and buildings should be considered as educational tools and marketing tools for enticing and retaining quality students and staff. New facilities should utilize features that are innovative by current standards and be flexible enough to incorporate future innovative features.

Merrill Environmental Center, Chesapeake Bay Foundation

Ann Arbor YMCA

University of Michigan Ross School of Business

ARCHITECTURAL ORGANIZATION

Architectural organization references the arrangement, appearance, and functionality of the built environment at IUP. The relationships between buildings, streets, plazas, parks, and pedestrian walkways create a public infrastructure and should promote a dynamic, innovative, and evolving campus. To that end, campus architecture should establish a dialogue with the surrounding pedestrian and landscaped space. Elements that should be considered as a part of IUP's architectural organization include:

- **Threshold.** The starting point of an experience, a threshold is the point where a pedestrian addresses or leaves the building. It should relate to both the adjacent interior and adjacent exterior spaces, and to the building as a whole so as to support the intended experience.
- **Hierarchy.** At the campus scale, assembled groupings of buildings and open space should make an attractive whole, while individual elements should lend to a pedestrian scale that assist users in understanding the building and/or space. Proper arrangement of the elements should support intuitive wayfinding without signage, including architectural clues indicating where to enter and where to congregate.
- **Relationship.** Building elements should define and organize space. Intentionally juxtaposing forms can create space or recognize entry. In addition, appropriate position of primary facades can mediate contradicting edge conditions, including pedestrian to vehicular, entry to loading, primary to secondary, and campus to borough.

Residential Revival Suites at Grant Street

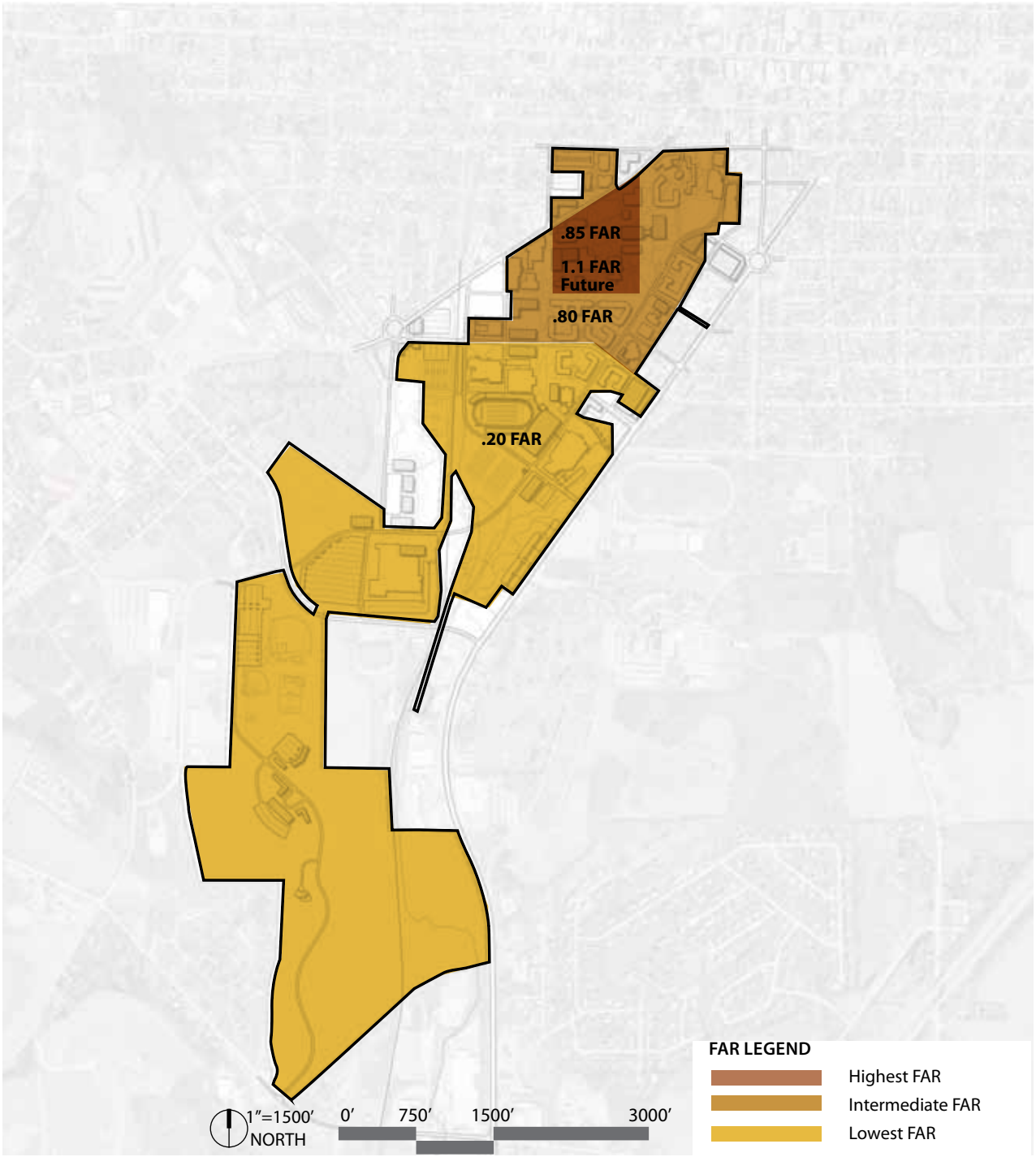
Visteon Village

Christman Building

Uhler Hall

FLOOR AREA RATIO (FAR)

FAR is defined as the ratio of the total square footage of buildings on a site compared to the square footage of the land. The existing FAR of the Indiana campus is .20 south of Maple Street, compared to an existing FAR of .80 on campus north of Maple Street. Highly walkable and pedestrian-oriented environments usually require a higher FAR to achieve an appropriate number of uses within a 5-minute walk. The existing Oak Grove, including the surrounding buildings, has an existing FAR of .85 and a proposed FAR of 1.10 as described in the Master Plan. Based on recommendations of the Master Plan, an ideal range for future campus FAR is between .75 and 1.25. FAR should be considered when determining future carrying capacity of particular parcels of land as the university continues to develop.



BUILDING FORM

Building form includes consideration of mass, shape, scale, and proportion. Beyond subjective aesthetic appearance, form can determine the success of interior and exterior building environments.

Shape establishes a building's identifiable appearance, particularly with regard to outline. Scale indicates perceived or relative size. New construction at IUP should use scale and shape to direct overall campus organization and hierarchy while taking cues from the existing campus context to maintain the integrity of campus. Three- and four-story organizations should offer appropriate density while not overpowering the adjacent existing structures. Narrower floor plates will help to minimize perceived mass, reduce land use, and reduce impervious building area while increasing opportunities for daylight and natural ventilation.

Actual dimensions will vary significantly between university buildings based on design standards for different typologies, but width to length ratios between ⅓ and ½ promote positive user interface, sustainability, and aesthetics.

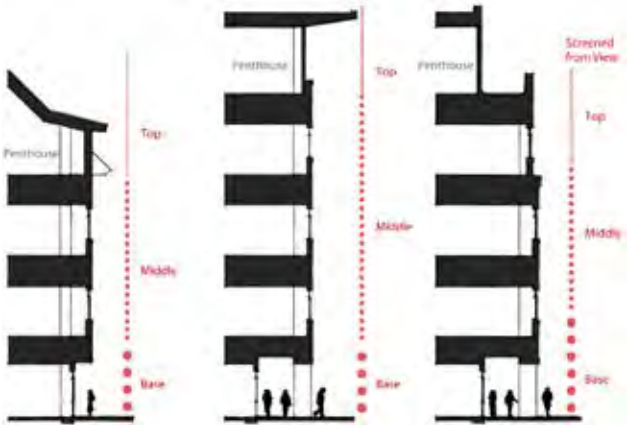
Measurements of proportion and articulation provide an indication of how various parts of a building relate to each other and to the whole. Proportionate and well-articulated buildings also establish a positive relationship with the pedestrian. These relationships are essential for promoting spaces that are inviting and successful.

Projections and setbacks in building facades along with variations in material help to reduce the impact of an otherwise imposing structure.

Vertical composition should acknowledge these basic principles of building form, blending materials and components to create organization and visual interest.

Though not exclusive, a base, middle, top organizational pattern is consistent with the character of academic buildings and supports other aspects of these design guidelines.

- **Bottom (ground level).** The ground level should include a high level of transparency typical of public academic buildings, encouraging relationship to the pedestrian.
- **Middle.** Composition of cladding and fenestration as appropriate to interior space and exterior expression is essential in a successful "middle."
- **Top.** Consideration should be given to termination of the building at the sky, including roof, top of wall, cornice, or coping. Hierarchy is an important consideration on a top of the building.



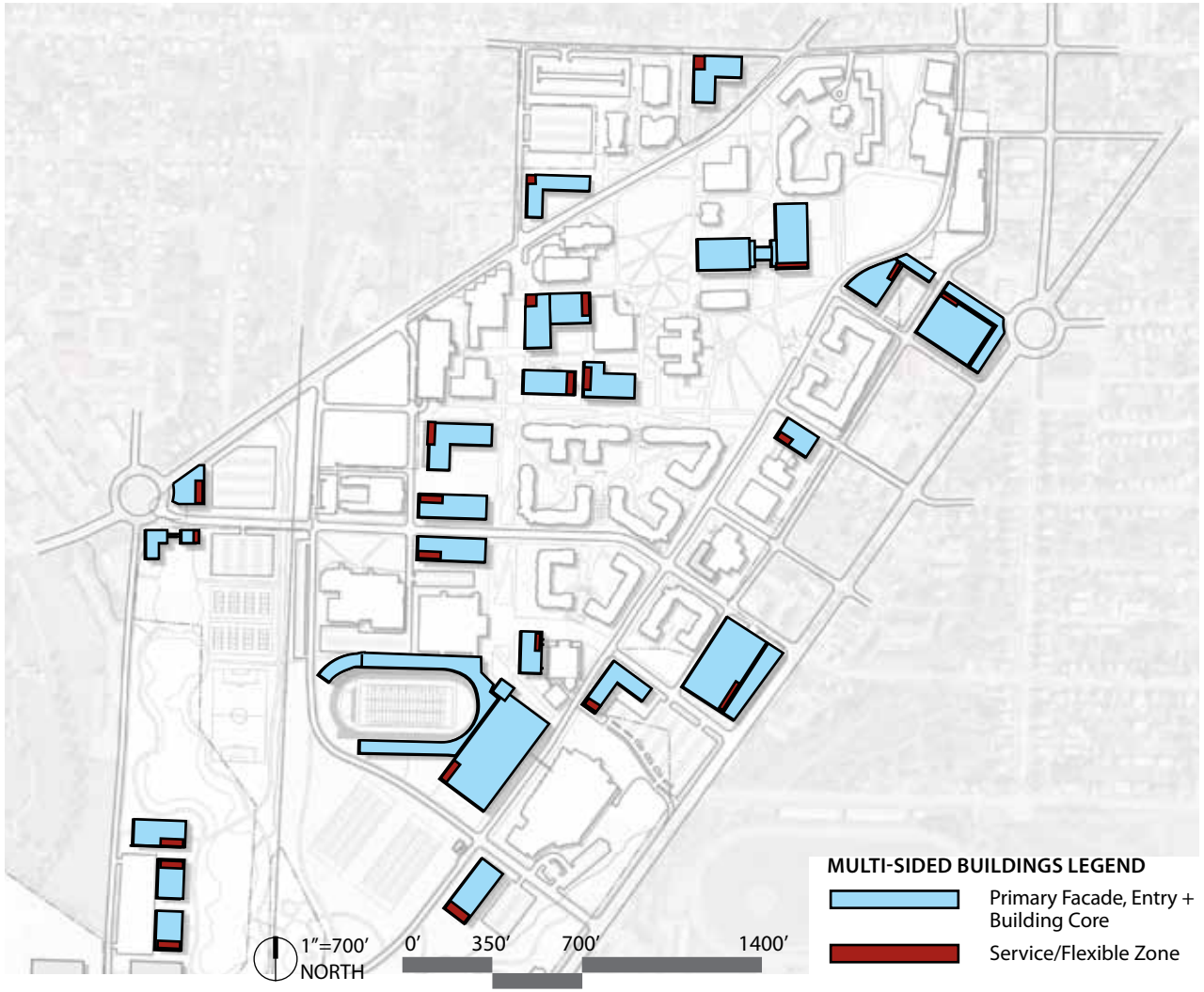
Furman Hall - New York University Law School by Kohn Pedersen Fox

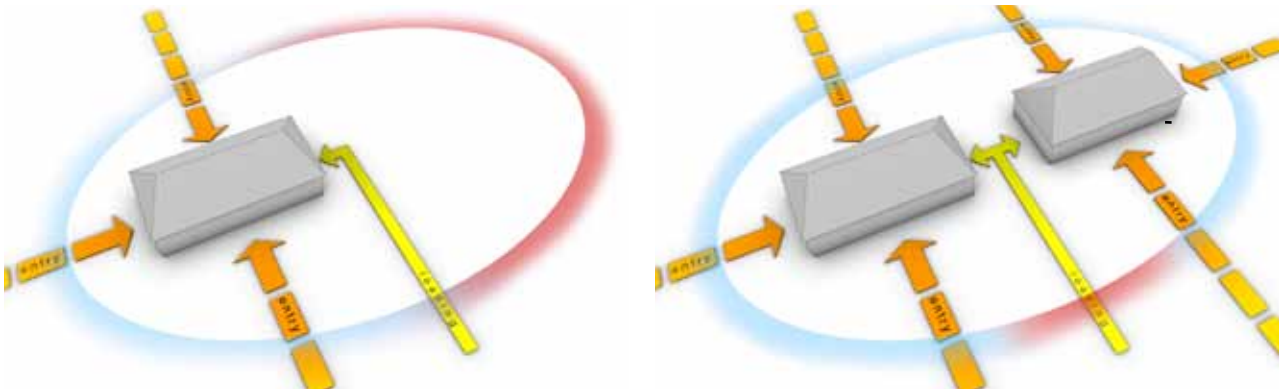
Residential Revival Suites at Maple Street

MULTI-SIDED CAMPUS BUILDINGS

Unlike traditional urban or suburban buildings that are placed on distinct lots and tend to present evident front, rear, and side facades, campus buildings may often be "4 sided" or "4 fronted." In other words, because of campus relationships and open spaces, campus buildings can defy the notion of definitive front or rear facades. The lack of orientation can present significant challenges to both exterior and interior design, particularly with regard to the considerations in these guidelines.

- **Positive Views vs. Negative Views –** When designing multi-sided campus buildings, consider how to subtly and successfully screen "back of house" activity and collocate loading areas to minimize impact and utilize adjacent buildings as screening. Additionally, architects should prevent conflicting circulation when designing multi-sided buildings.
- **Pedestrian Circulation vs. Vehicular Circulation –** It is important to plan for, identify, and/or separate conflicting routes. Pedestrian safety should be promoted through distinction. The design of multi-sided buildings should facilitate ease of access to the building while also considering universal design.
- **Entry vs. Loading –** When designing multi-sided buildings, should differentiate between the pedestrian entry and loading, and consider views and circulation as noted above.
- **Campus vs. Borough –** Design campus buildings to create a sense of hierarchy that identifies the building with the campus while not ostracizing the surrounding community.



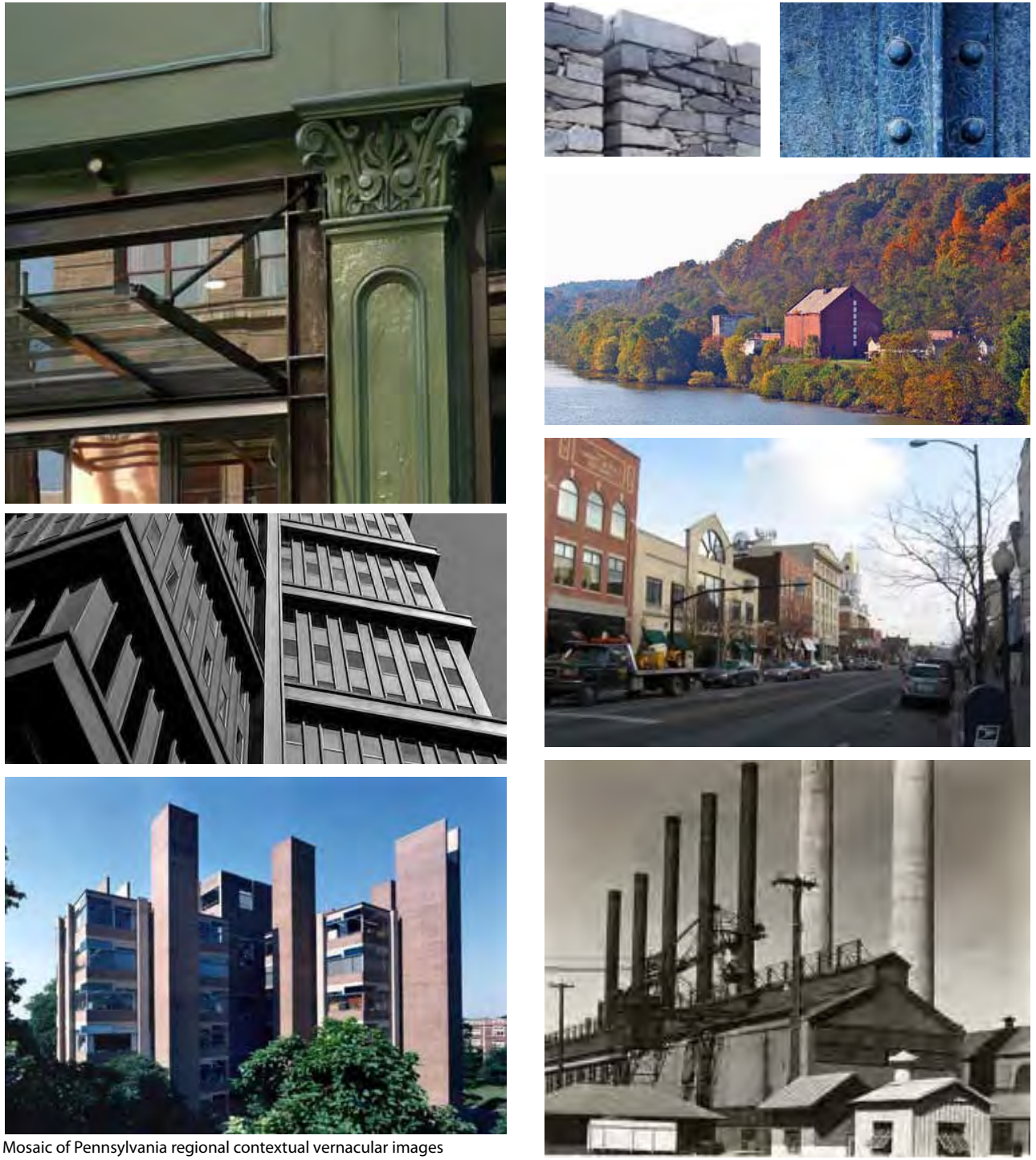


CONTEXT + VERNACULAR

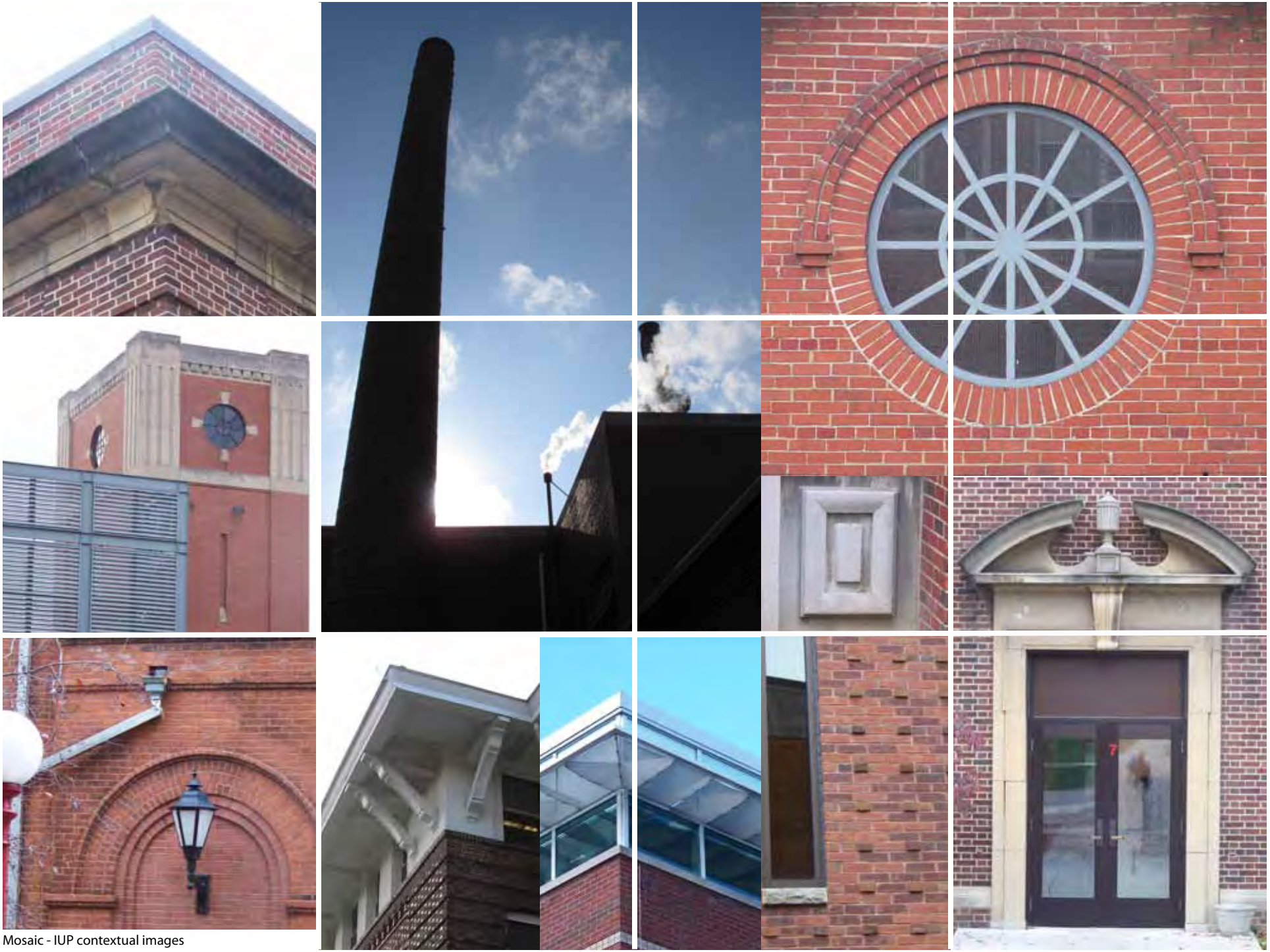
Western Pennsylvania in general and IUP in particular boast rich and diversified architectural heritages. The Western Pennsylvania region is synonymous with craft and industry. Regional influences of strong masonry and steel structures abound. Artistry and skill expressed in detailing authentic and natural materials lend a tactile and pedestrian scale to buildings while promoting a sense of pride. Embracing and extending these influences, some of which already exist on campus, will contribute to a sense of identity at IUP.

The campus boasts a variety of styles, most of which are revivalist in nature. Georgian or Federal styles seem to have been most influential. Notable characteristics are symmetrical design, pitched roofs, overhangs, cornices (in some cases elaborate), porch entrances, colonnades or pilasters, and regular multi-pane fenestration.

Much of the detailing and character can be interpreted (though should not be imitated) in contemporary architectural language to strengthen integrity of the campus fabric. However, blatant counterfeiting of historic or contemporary precedents depresses the value of both the original and the new.



Mosaic of Pennsylvania regional contextual vernacular images



Mosaic - IUP contextual images

EXTERIOR BUILDING ENCLOSURE

Building enclosure, the barrier between exterior and interior space, provides protection from the elements and, at the same time, establishes character in appearance. Traditionally, the building enclosure performs four major functions:

- **Support –** Building enclosure should be durable while bearing internal and external loads.
- **Control –** Enclosure should facilitate climate management including water, air, thermal, and vapor transfer.
- **Finish –** The enclosure must consider aesthetics, be attractive, and be maintenance friendly.
- **Distribution –** Building enclosure usually conveys building systems.

Increased interests in sustainability have put additional responsibility on the building skin, including energy production.

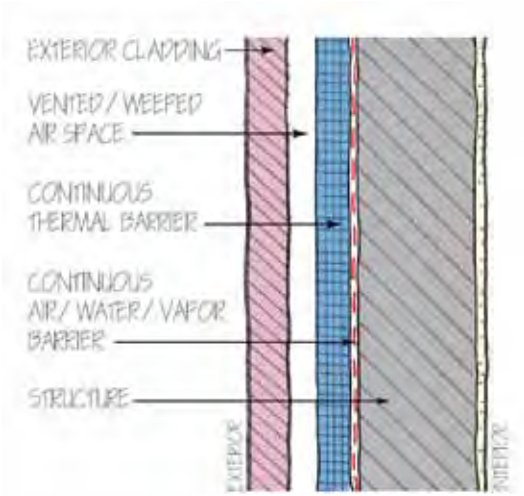
With a focus on sustainability and life cycle costs, new construction at IUP should last 50-100 years without significant maintenance.

In general, exterior building enclosure should be constructed of durable materials and assembled with emphasis on water, air, thermal, and vapor management.

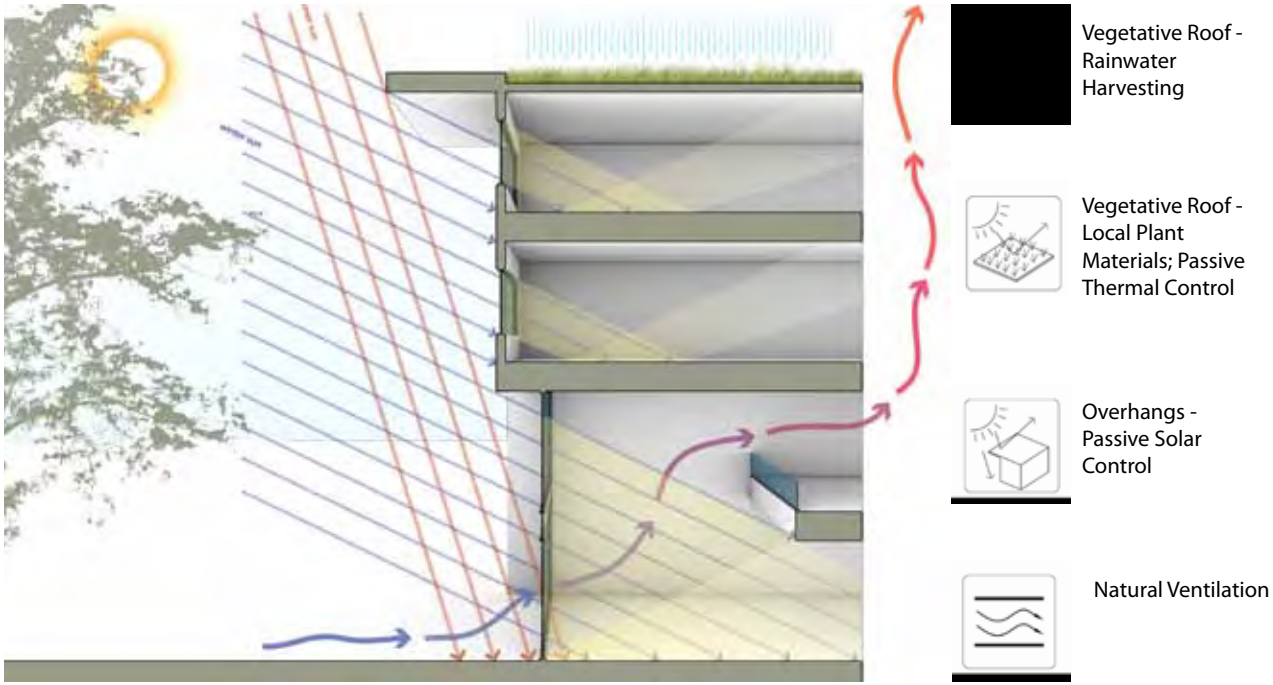
Walls

Construction

In Western Pennsylvania, rain screen design (sometimes referred to as cavity wall design) is preferable to both barrier and mass wall designs. The rain screen design method utilizes multiple components to manage water, air, thermal, and vapor elements. Careful consideration should be given to all components of the wall assembly. The structural component must resist deterioration due to moisture or insects while accommodating gravity and lateral loads. Concrete and Concrete Masonry Units (CMU) are ideal materials for structural components. Successful assembly design is dependent on proper evaluation or selection of water, air, vapor, and thermal barriers with regard to material, performance, and location in the wall.



Rain Screen Wall Construction



Sustainable Opportunities in Exterior Envelope Design

Brick

Brick cladding is pervasive across the Indiana campus. It has been the traditional cladding on campus since the construction of Sutton Hall and should continue to be the prominent material comprising the body of new IUP buildings. Masonry, including brick, decorative CMU, and similar materials, can and should be used to negotiate mass and provide a sense of scale. In its variety of color, size, and assembly, masonry can uniquely express pattern and texture. IUP should develop an approved range of masonry consistent with its existing palette to encourage cohesion and integrity across the campus. Within that palette, creativity and innovation should be encouraged. For example, future buildings could use IUP's traditional red brick in Roman or Norman sizes to emulate Pennsylvania ledge stone.

The University of Pennsylvania Skirkanich Hall by Tod Williams Billie Tsien Architects

University of Utah Museum of Fine Arts by Machado and Silvetti Assoc.

Clark Hall

Sutton Hall

Stone

Stone and similar natural materials coordinate well with masonry and have a precedent on campus. The prominent stone should be consistent with that of existing buildings in the interest of maintaining the integrity of the campus fabric. It is, however, important to consider variation in coursing and size. For example, there is a distinct difference between ashlar and coursed ashlar. Alternate stone or natural materials should be considered as feature or accent. Pennsylvania ledge stone, slate, and terra-cotta are consistent with the vernacular.

IRDB Research Facility by Anshen + Allen

Stone base at Sutton Hall

Residential Revival site wall

Davenport College at Yale University by KieranTimberlake

Metal

Metal boasts a variety of uses in building construction from structure to enclosure. It is both sustainable and versatile. However, careful consideration should be given with regard to application and type. Designs should promote metals that reinforce context or vernacular. Natural metals such as zinc or copper are consistent with the area and have the advantage of self healing. Blackened steel is reminiscent of Western Pennsylvania's rich industrial/craft heritage as is the detailing that usually accompanies it. Designs could consider expressing steel detailing as a part of the building aesthetic to reference history and to negotiate scale.

Uhler Hall

Stephenson Hall

Girton College Library and Archives by Allies and Morrison

University of Louisville Clinical and Translational Research Building by SmithGroup

Wood

Wood, more than other materials, is synonymous with a sense of scale and warmth. It should, however, be used strategically in exterior applications with careful consideration for durability, maintenance, and expansion/contraction. Natural options such as ipe, jarrah, or cedar will withstand the elements, but will weather without sealers. Engineered products such as phenolic composites can be more durable and maintenance friendly.

While wood is not a part of IUP's campus palette, it is consistent with the vernacular and is compatible with the existing campus materials.

Madonna University Franciscan Center for Science and Media by SmithGroup

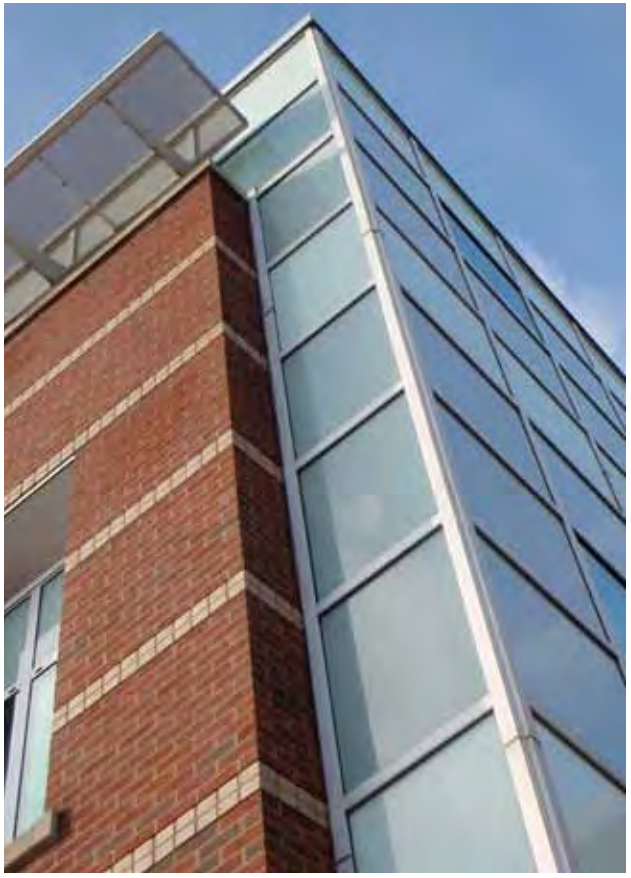
Detroit Zoo Environmental Education Conservation Center by SmithGroup

Detroit Zoo Environmental Education Conservation Center by SmithGroup

Glass

Glazing is a critical component in the success of modern buildings. Ample but strategically located glazing can enhance architectural hierarchy by identifying entry. Glazing can also provide visual connections between exterior and interior spaces, and promote sustainability through naturally day lit interior spaces. Additionally, natural daylighting and visual connection to the exterior have proven to enhance user productivity and satisfaction. Appropriate glass and glazing systems should be selected for specific applications. Primary considerations include thermal, moisture, glare management, and overall appearance. High performance glass and frame assemblies are recommended to reduce energy consumption and unnecessary maintenance. Pressure equalized, rain screen, and water managed systems are preferred to face sealed systems, which can be problematic. Glass should, in general, be selected for an appropriate light transmittance level in conjunction with a suitable "U" value and lowest attainable solar heat gain coefficient. Clear or subtly tinted glass would be more consistent with the existing campus character than strongly tinted or reflective glass. Consider mullion pattern and spacing to negotiate scale and contextual consistency. Translucent glass can be utilized successfully for spandrel panels or to introduce variation in the facade. Integrated shading devices can alleviate thermal migration while maintaining transparency. Additional options include integrated photovoltaics to produce energy.

University of Louisville Clinical and Translational Research Building by SmithGroup



Uhler Hall

The University of Pennsylvania Melvin J. and Claire Levine Hall by KieranTimberlake

The Rothermere American Institute by Kohn Pedersen Fox Associates

Roof

Construction

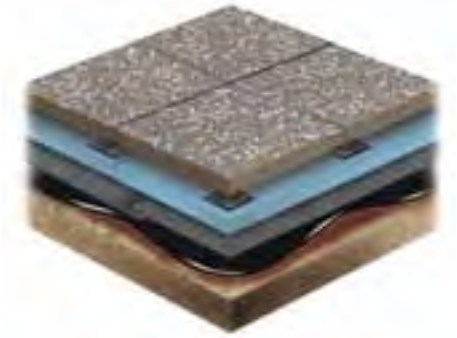
Roof construction can vary dramatically depending on roof type. Roof type is typically chosen with regard to at least one of the envelope's four major functions and/or with regard to cost. Roofs are generally categorized as either low sloped or pitched.

Low Sloped

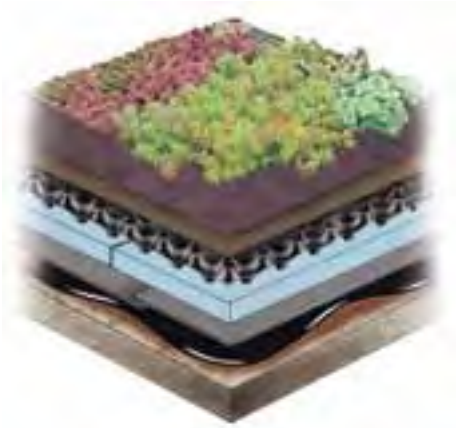
Roofs with slopes between ¼-inch per foot and 3 inches per foot are considered low slope. They typically consist of a watertight membrane, insulation, and structural deck. Various metal roof assemblies can also be applied as a low slope. Protected membrane roofs (PMR) or inverted roof membrane assemblies (IRMA) offer a number of benefits in low sloped roofs including sustainability, longevity, and best life cycle cost. With PMR and IMRA, the membrane is installed at the bottom of the assembly, which is protected by the insulation and a paver, ballast, or vegetative system. These covered membrane systems present a better appearance to neighboring windows that are above them. Vegetative systems offer added benefits in aesthetics, stormwater control, air quality, and energy savings.

Low slope roofs are more typically associated with non-residential buildings and offer the benefit of flexibility and clean lines consistent with contemporary designs.

Ballasted Roof Assembly



Paver Roof Assembly



Vegetative Roof Assembly

Clemson University Sandhill Research & Education Center by SmithGroup

National Audio-Visual Conservation Center by SmithGroup

Pitched

Pitched roofs have slopes 3 inches per foot or steeper and are typically clad in asphalt shingles, metal (panel or shingle), or tile (clay or slate). Due to their height and the visibility of their surface, pitched roofs lend a distinct character to a building, typically associated with residential typologies. In non-residential applications, their added height can be used as occupiable space or to screen rooftop equipment.

Asphalt shingle pitched roofs are the prominent roof on the Indiana campus. The average approximate lifespan for an asphalt shingle roof is 20-30 years. New proposed pitch roof designs on campus should consider slate, tile, or metal on pitched roofs for contextual character, maintenance, life cycle, and longevity.

Pitched roofs typically drain safely to the exterior rather than the interior, which deters water damage from leakage. It also allows a proposed design to incorporate "blue roof" or rainwater harvesting.

Given the conspicuous nature of roofs and the character they lend to a building, consider utilizing roof designs that provide organization and hierarchy to campus. Perhaps, for example, residence halls will have pitched roofs while academic and administrative buildings receive low slope roofs.

Visteon Village by SmithGroup

Sutton Hall

Sutton Hall

Duke University Home Depot Smart Home by SmithGroup

Oak Grove

East Lawn

CAMPUS OPEN SPACE

Campus open spaces at the Indiana campus should be scaled for a diversity of uses, improved pedestrian experience, and increased engagement. Building footprints should reinforce the open space pattern through build-to lines and primary facades that help to define pedestrian space. The following three-dimensional diagrams and sectional graphics give further definition to the campus mall, campus quadrangle, and campus circulation typologies of open space outlined in chapter three of this document.

Campus Malls

11th Street Mall

LEGEND

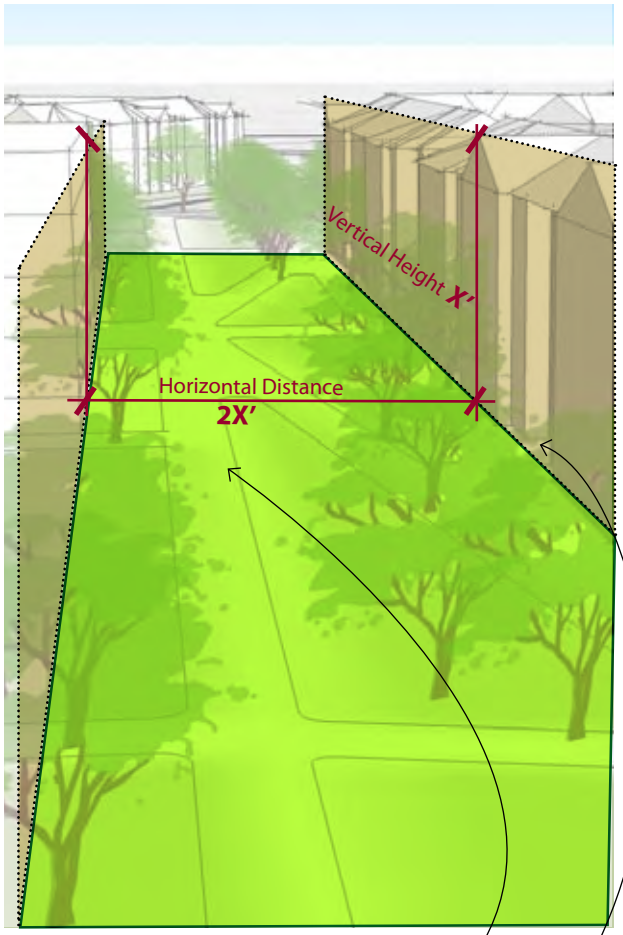
2:1 — Proportion of Horizontal Distance to Vertical Height

Primary Facade/Build-to Line

Space Defining Landscape Element

Pedestrian Space

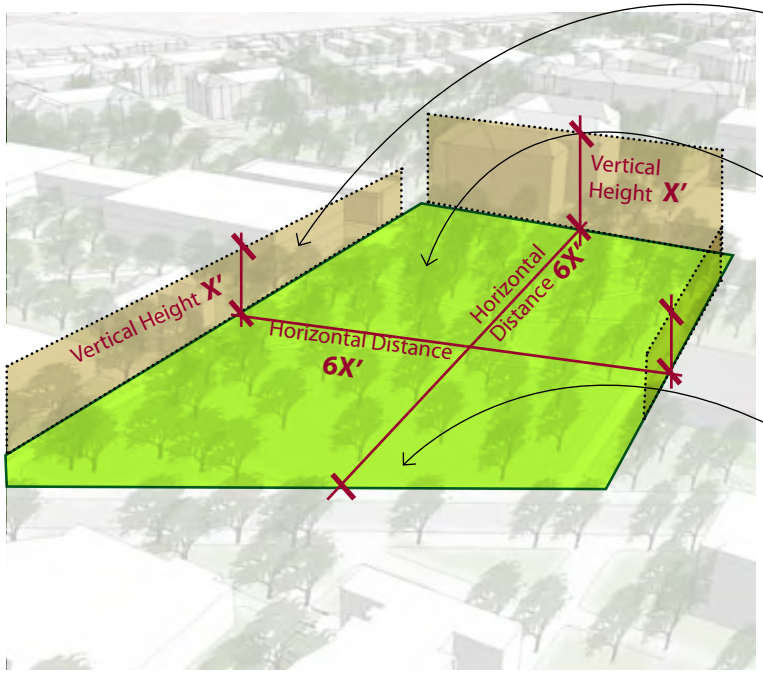
Campus Quadrangles



Grant Street Mall

Locate pedestrian walks to take advantage of microclimates provided by buildings and canopy trees.

Utilize plant material to decrease perceived scale of buildings.



Oak Grove

Construct new buildings to respect Oak Grove setback and heights.

Maintain trees to provide additional vertical scale for the pedestrian.

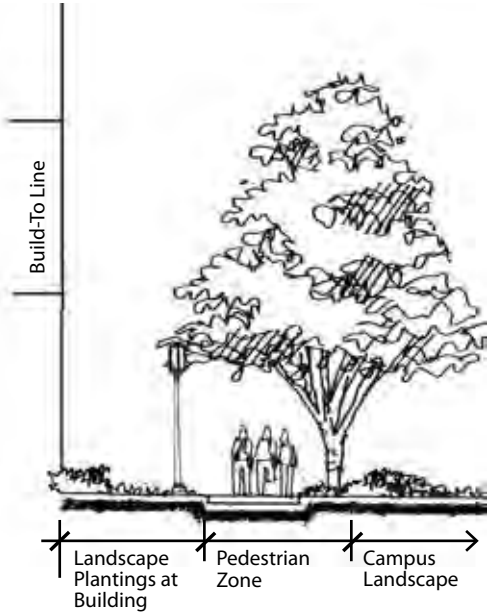
Utilize topographic change at Oakland Avenue to create a sense of enclosure and separation.

East Lawn

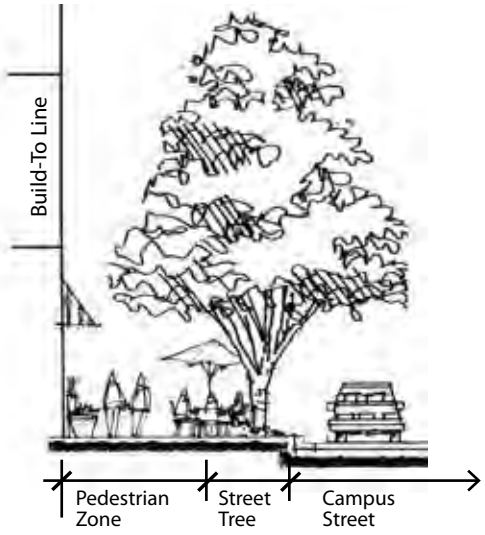
Utilize topographic change between Sutton Hall and Pratt Drive to create an increased sense of enclosure.

Increase tree canopy to provide additional vertical scale for the pedestrian.

Campus Walks

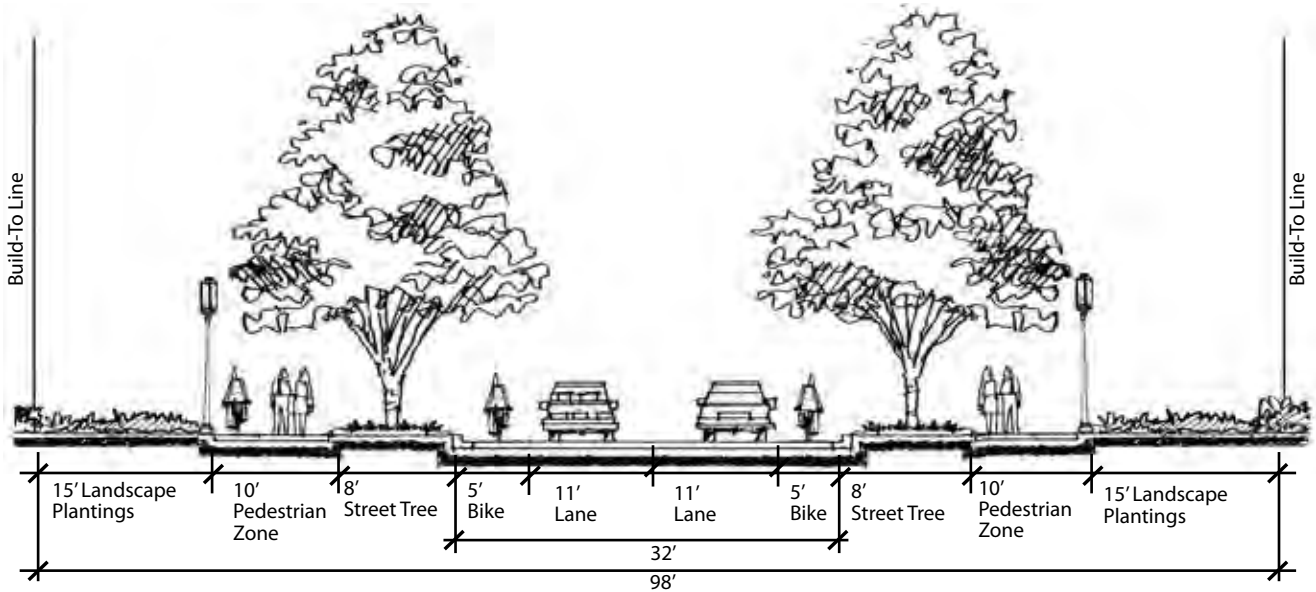


Typical Internal Campus Walks – Scale 1/16″-1′-0″

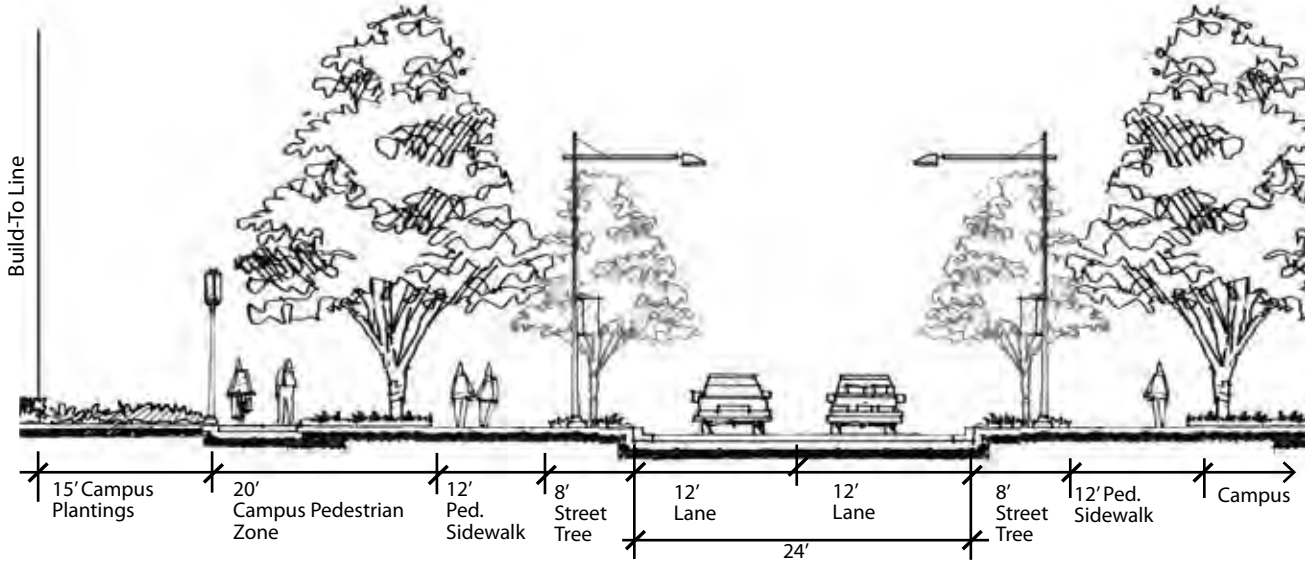


Typical Campus Edge Walks at Wayne Avenue – Scale 1/16″=1′-0″

Campus Streets



Typical Internal Campus Street; Maple Street at Pratt Avenue – Scale 1/16″=1′-0″

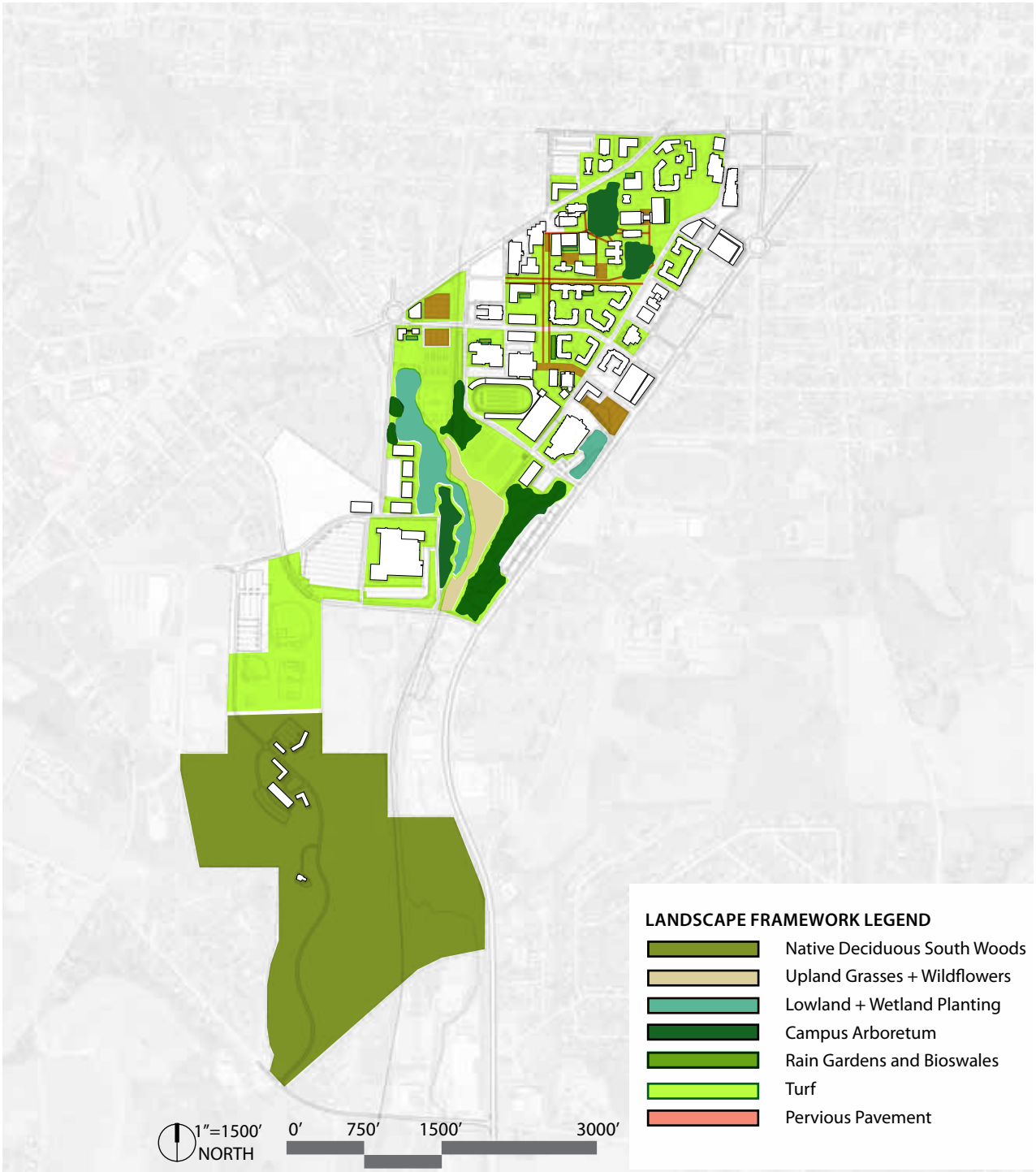


Typical Campus Edge Street; Maple Street at Oakland Avenue and School Street – Scale 1/16″=1′-0″

LANDSCAPE FRAMEWORK

The landscape framework outlines the creation of landscape character zones at IUP, building upon existing campus features, and defined by proposed uses and ideal plant palettes that meet the following sustainability goals:

- Develop and enhance places for people.
- Utilize native plant materials.
- Minimize impact to the floodplain.
- Encourage infiltration.
- Capture and treat stormwater where it falls.
- Create habitat.
- Protect native woodland areas.
- Plant new trees to sequester additional carbon.



LANDSCAPE CHARACTER ZONES

A series of specific objectives for each landscape character zone in the landscape framework highlights landscape performance standards for IUP. Additional objectives have also been provided for exterior lighting and site furnishings. Objectives are paired with character images to further define their intent.

Campus Arboretum

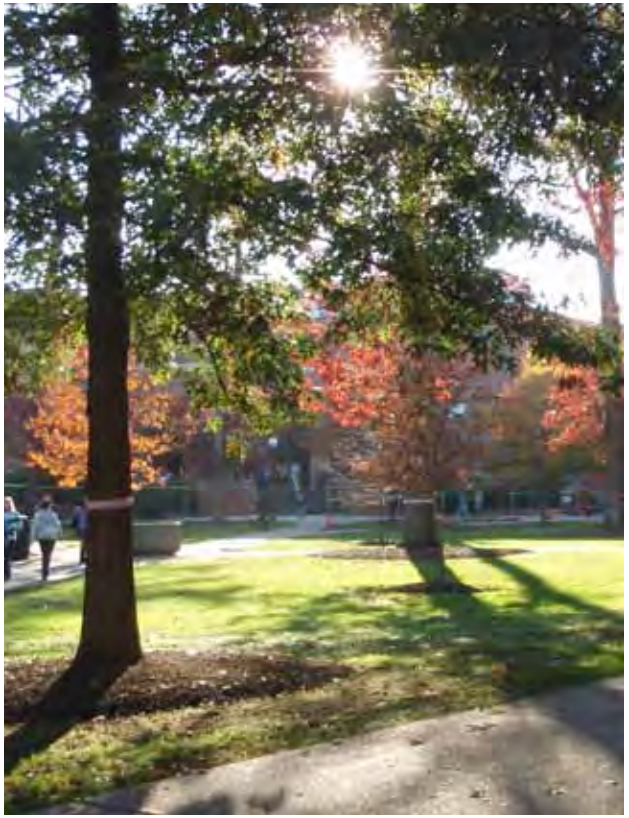
- Maintain and enhance the mixture of existing lawn, landscape beds, and wooded quads on campus.
- Continue to accent key campus landscape areas with well-maintained annual beds.
- Include native shrubs, grasses, perennials, and groundcovers for a variety of height, texture, color, and seasonal interest in landscape beds.
- Improve foundational plantings where appropriate to add character to buildings.
- Use informal groupings of native deciduous species for summer shade and interest.
- Utilize evergreens for year-round color and windbreak.
- Maintain and enhance the character of the Oak Grove, using this iconic campus space as a model for planting on campus.
- Broaden the character and scale of the Oak Grove by extending large canopy trees to other open areas of campus.
- Consult the 2009 *Indiana University of Pennsylvania Preservation Plan* for a partial list of suitable trees and shrubs for campus arboretum areas.
- Utilize native species to minimize irrigation after the initial planting and one to two growing seasons.

Second Growth Native Deciduous South Woods

- Remove invasive species.
- Improve research opportunities and forest management techniques.
- Enhance understory with flowering native trees and wildflowers.
- Increase opportunities for walking trails and educational signage.
- Provide seating areas for quiet reflection and learning.

Upland Grasses + Wildflowers at the Kovalchick Complex

- Consider diverse plantings on drier upland slopes with a wide variety of native plants and wildflowers.
- Develop an arboretum visitor's center.
- Include recreational paths, overlooks, and interpretive displays that highlight native species, delineate the extent of the 100-year floodplain, and emphasize IUP's commitment to sustainable landscapes.
- Include informal groupings of native trees and shrubs.
- Control invasive or exotic species with prescribed burns.



Oak Grove as campus arboretum

Upland grasses + wildflowers

Lowland + Wetland Planting

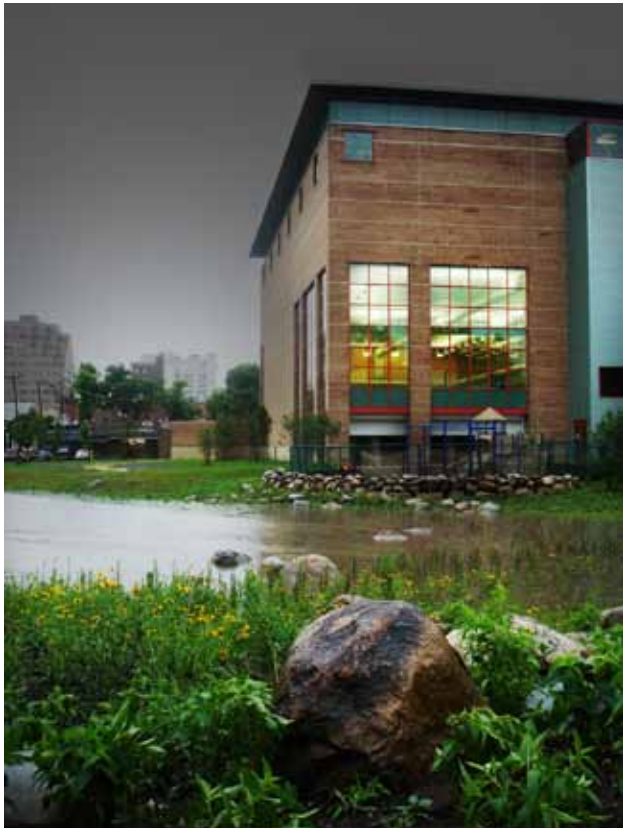
- Utilize native plant species to enhance visual continuity across campus.
- Consider diverse wetland plantings with a variety of grasses, wildflowers, and forbs tolerant of wet conditions and occasional flooding.
- Use a higher mix of marsh plants and sedges for wetlands and areas with standing water.
- Include informal groupings of native trees and shrubs.
- Emphasize environmentally unique areas as educational and demonstration areas.

Turf

- Continue to provide areas of irrigated and manicured turf at key public spaces for informal gathering, outdoor play, and events.
- Consider more drought-tolerant turf grasses that require less irrigation.
- Include groupings of native deciduous canopy trees for a more classic campus image.
- Collect and use rainwater for irrigation.
- Use rain sensors to maximize efficient use of water resources.

Hardscape

- Incorporate movable seating, site amenities, lighting, shade structures, focal point features, public art, and interpretive exhibits in hardscape areas at high pedestrian traffic locations, key intersections, and pedestrian nodes.
- Include vegetation in hardscape areas to interrupt pavement, improve microclimate and visual interest, and add human scale.
- Use innovative stormwater management and rainwater capture for seasonal water features in hardscape areas.
- Construct hardscape areas of pervious pavement and consider the use of recycled materials.



Wetland plantings and stormwater treatment

Turf as an important component of campus

Hardscape areas that provide shade, seating and amenities

Rain Gardens and Bioswales

- Allow stormwater runoff to become a visible and visual amenity on campus.
- Develop small-scale rain gardens and bioswales to intercept and infiltrate stormwater runoff close to where it falls.
- Include bioswales within parking lots.
- Utilize an engineered soil mix for infiltration if poor soil conditions exist.
- Plant rain gardens and bioswales with a mix of marsh and wetland grasses, wildflowers, and low shrubs.
- Use stone and other pervious material to slow and infiltrate runoff.

Lighting, Signage, and Site Furnishings

- Allow for a consistent design of site furnishing and signage components to achieve a more unified campus, in character with IUP's architecture.
- Consider placement of site furnishings in the context of the entire campus.
- Design and place lighting fixtures so that the illumination, intensity, quality, and distribution of light respond to the site characteristics and use.
- Consider uplighting of plant materials to add winter and evening interest.
- Develop a hierarchy of lighting including street, campus, parking lot, and lighting for visibility and safety.
- Minimize light pollution.
- Explore alternative energy powered fixtures.

Green Streets, Greenways + Bikeways

- Include bioswales and rain gardens in streetscape and greenway designs to intercept and infiltrate stormwater runoff from roads and walks. Design one side of the road to handle snow removal.
- Design breaks/inlets into the curb to allow stormwater to enter into rain gardens, with stone mulch to slow entering water and low-scale plants suitable to standing water.
- Use low, drought-tolerant native grasses and perennials to replace the traditional lawn at back of curb.
- Use native species adapted to urban conditions for street trees, spaced 20-40 feet on center in informal groupings with a minimum of three tree species per street or greenway segment.

Stormwater as a visual amenity

Small-scale rain garden

Site amenities adjacent to Waller Hall and Fisher Auditorium

Streetscape plantings

Rain gardens and inlets