



INDIANA UNIVERSITY
BLOOMINGTON

CAMPUS MASTER PLAN



MARCH 2010

SMITHGROUP JJR

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FOREWORD



The fundamental mission of Indiana University is excellence in research and education, and essential to both sustaining and enhancing this excellence even further are the University's facilities—the laboratories, classrooms, arts performance spaces, libraries, residence halls, athletic facilities, and much more. These all support, in numerous vital ways, research and education at Indiana University, and they collectively make a vital contribution to student life and to the broader life of the University community.

It follows that lack of adequate facilities can directly affect Indiana University's aspirations for excellence. For example, a study completed in 2005 noted that lack of space "... represents possibly the biggest single impediment to IU reaching its full potential as a research university."

Over the last few years, the University, with the approval and strong support of the Board of Trustees, has embarked on an aggressive campaign to significantly expand and enhance its facilities in pursuit of its missions of excellence, especially on the Bloomington and Indianapolis campuses.

But such a campaign requires careful planning to ensure that all of the myriad factors that can affect the most efficient functioning of these facilities are taken into account—factors such as campus population growth, enhanced campus social development, preservation of historic campus elements, renovation and restoration needs, transportation, residential accommodation, land use, environmental impact, sustainability, local community impact and interaction, provision of utilities and communications infrastructure, and many others.

In short, Indiana University requires master plans for the future development of both of these campuses that can guide the thoughtful development of both campuses in accordance with a set of fundamental planning principles that provide consistency in decision making, the ability to make informed decisions, predictability, and the most effective use of resources. Ultimately, such plans will preserve and enhance all that is most fundamental to the character of these campuses.

Master plans have a great history in the development of rationally-planned—though human-centered and human-scaled—communities like universities, not only providing guides for wrestling with the thorny day-to-day problems of facility planning, but also providing a coherent vision of the future to inspire and lead.

Although there have been master planning efforts of great quality and distinction for both campuses in the past—most notably that of the legendary Olmsted Brothers for the Bloomington campus in 1929—there was a strong need for new master plans for both campuses that fully reflect the contemporary realities and aspirations of these campuses as they strive to reach new levels of excellence.

These were the goals that I set for the development of the Indiana University master plans when we started the process of their development in 2007. Less than two years later, the fundamentals of these plans were complete and were approved by the Board of Trustees in February 2009. It was noted that these would be followed over the following year by volumes providing all of the detailed analyses and studies behind the plans. This volume, providing a detailed description of the master plan for the Indiana University Bloomington campus, is the first of these. This is the most substantial and comprehensive plan of its type ever developed for the campus. It provides a superb and far-reaching vision for the future development of the campus that is the result of the synthesis of data and input from a myriad of sources and of deep reflection that in turn resulted in a plan that is sensitive to the great traditions of the campus while describing a carefully conceived path to an even more impressive future.

I would like to thank all the faculty, staff, and students (thanked by name later in this volume) who have contributed so much to the development of this master plan. I would also like to congratulate Indiana University's master planners, SmithGroup/JJR, and the University's Master Planner and SmithGroup/JJR Chairman, David King, for an outstanding and exciting plan that will guide the development of the campus for decades to come, and in doing so, ensure that Indiana University will be one of the great universities of the 21st century.

Michael A. McRobbie
President
Indiana University

March 2010

1 | MASTER PLAN SUMMARY





Collins Quad

MASTER PLAN SUMMARY

Indiana University is a distinguished and influential institution steeped in tradition and committed to academic excellence. Renowned for its creative and intellectual endeavors and innovative research, Indiana University is a regional, national, and international academic leader in arts and sciences, business, law, music, journalism, education, informatics, and fine arts.

The University's flagship campus in Bloomington has evolved over its 190 years to become an intrinsically beautiful place known for its scenic landscapes, historic architecture, memorable places, and distinguished neighborhoods. The campus and the surrounding city of Bloomington have developed concurrently over the years to produce a diverse and vibrant community that is exceptionally comfortable and desirable as a place to live, work, and learn. Connections with the local and regional community are strong and representative of Indiana University's commitment to its expanded community.

With an eye to the future, Indiana University has conceived a bold vision for its historic and

storied Bloomington campus. A comprehensive Campus Master Plan has been commissioned to support this mission and establish a framework for decision making and strategic development over the next 20 years. Led by Indiana University President Michael A. McRobbie, the plan is charged with creating a vision for the future that supports the expressed mission of the University and encourages the rigorous pursuit of intellectual curiosity. The plan will reinforce Bloomington's unique campus environment while building upon its established tradition of campus planning. It must consider the realities of Bloomington's physical constraints and address the campus's overall physical form aesthetically, structurally, and functionally. Campus infrastructure needs, environmental sustainability, and economic development are integral to the framework and must be configured to support an academic and research development strategy.

The Campus Master Plan must represent a broad cross-section of campus constituencies and endorse a holistic approach to complex interrelated campus initiatives. Campus



Illustrative Master Plan

development strategies must enhance the University’s commitment to outreach and development while encouraging innovative partnerships within the larger community.

This Campus Master Plan will be used to “fire the imagination” of potential donors and is an essential part of conveying an inspiring long-term vision for the future of Indiana University, to the state of Indiana, and to the nation.

THE VISION – KEY THEMES

Promote Bloomington’s Unique Natural Features

Bloomington’s wealth of natural features, distinguished campus planning tradition, and elegant landscape settings must serve as a guide for future campus development. Natural assets must be respected, preserved, and restored with an environmentally sustainable sensibility. Future development must embrace the ecological character, celebrate natural features, and enhance environmental conditions.

Preserve and Reinvigorate the Core

The coherent iconic character of the historic core of campus must be preserved and maintained.

Development initiatives in this area of campus must promote the continued relevance of the historic structures and distinguished open spaces. Development in other areas of campus should emulate the quality and planning principles employed in the historic core.

Embrace the Jordan River

The Jordan River is Bloomington’s most prominent natural feature and represents a unifying common thread through much of the core campus. Its unifying quality and continuity must be leveraged both formally and functionally as the campus develops, further reinforcing the importance of this natural asset. Future development should embrace the river’s natural scenic quality and accentuate its environmental setting.

Commit to a Walkable Campus

Campus improvement initiatives must focus growth in and around the core campus and discourage remote development. Concentrating development and collocating functions around the core campus will promote a stronger campus community and lead to a sophisticated academic social environment that is more communal, interconnected, convenient,

and intellectually engaging. Increased reliance on pedestrian circulation and public transit combined with discrete parking infrastructure improvements will further enhance the viability of this concentrated campus initiative.

Create Diverse Campus Neighborhoods

All campus neighborhoods must be instilled with a variety of distinctly different functions that promote diverse activities and support integrated living and learning environments. Deliberate mixes of academic, residential, social, and student life amenities will encourage interaction and collaboration and promote complete environs that are socially dynamic and academically enlightening.

“A great university steadily develops its research institutes and facilities that will be needed no matter how the student population fluctuates.”

—Herman B Wells
Indiana University President
1937-1962



Future Aerial Perspective View

PROCESS

The planning process undertaken for the Indiana University Bloomington Campus Master Plan was inclusive and comprehensive. Spanning a 12-month period, the planning effort involved extensive input from faculty, staff, students, administrators, and local community leaders. The planning team was led by an Executive Committee chaired by Indiana University President Michael A. McRobbie and was supported by a Master Plan Working Group and Master Plan Steering Committee. The Working Group and Steering Committee were comprised of key University stakeholders representing academics, research, student life, facilities, and campus infrastructure. Methods of discovery and communication throughout the process included regular Working Group and Steering Committee meetings, topical workshops, focus group sessions, technical meetings, personal interviews, and public open house presentations. Considerable effort was made throughout the process to maximize collaboration and inclusiveness, ensuring that the Campus Master Plan represents a balanced vision of a broad constituency.

ANALYSIS

The planning team devoted considerable time to analysis and inventory activities at the beginning of the planning process. This period of discovery involved detailed assessments of all campus systems, infrastructure, natural resources, and social structure. The campus environment was evaluated for land use distribution, space utilization, building condition, and campus density. Campus systems were assessed for their current condition, relevance, longevity, and efficiency. Detailed studies of campus circulation patterns including vehicular and pedestrian traffic patterns and parking infrastructure were conducted. Observations were made on overall campus character, the significance of memorable campus spaces, and the effectiveness of campus edges and gateways. Particular attention was focused on Bloomington's wealth of environmental resources and significant natural features.



Showalter Fountain

CONCLUSIONS AND RECOMMENDATIONS

Character and Environment

Indiana University's coherent and memorable character and distinctive natural setting are well established but inconsistent beyond the core campus.

Recommendation: Develop areas beyond the core campus that emulate its quality, character, and density.

Recommendation: Focus emphasis on natural features beyond the core campus, and promote the restoration of the Jordan River and the extension of the woodland canopy.

Campus Edges and Gateways

The campus's clearly defined edges along North Indiana Avenue and East Third Street are undermined by understated entry passages at East Seventh Street and North Woodlawn Avenue and also at East Third Street and North Jordan Avenue.

Recommendation: Develop enhanced gateways that celebrate the arrival on campus and reinforce the enduring qualities of Indiana University's first impression.

Neighborhoods

Many of Bloomington's campus neighborhoods are segregated into single-use residential and academic districts that limit vitality and discourage community.

Recommendation: Selectively reallocate student housing, academic infrastructure, and campus amenities to encourage a commingling of functions and promote dynamic, engaging neighborhood environments.

Historic Structures

Many historic structures in the core campus are underutilized and inappropriately configured to meet modern expectations and support current program functions.

Recommendation: Renovate and repurpose historic structures and populate them with active, dynamic programs that will reinvigorate the core campus and ensure the future relevance and viability of these structures.

Gathering Spaces

Campus open spaces and informal gathering locations tend not to be near primary pedestrian circulation corridors and population centers.

Recommendation: Develop new informal gathering spaces in appropriate locations that are convenient, comfortable, and effective.

Parking

The current campus parking capacity is sized to adequately meet demand, but its distribution is inconvenient and not aligned with population centers and primary campus functions.

Recommendation: Selectively redistribute parking capacity to be closer to high demand areas in and around the campus core and projected development areas.

Campus Circulation

Vehicular and pedestrian circulation beyond the core campus and along East Tenth Street is compromised by high traffic volume, the railroad tracks, and limited crossing opportunities.

Recommendation: Develop a new vehicular, transit, and pedestrian circulation corridor along North Woodlawn Avenue from East Seventh Street to the Intercollegiate Athletics neighborhood. This corridor can also serve as a ceremonial pedestrian walk between the core

campus and neighborhoods north of the railroad corridor.

Recommendation: Develop a new vehicular and pedestrian circulation corridor along East Law Lane to facilitate cross-campus circulation and reduce traffic on East Tenth Street.

Recommendation: Promote the use of alternative modes of transportation including transit and bicycles to reduce vehicular traffic.

Learning Environments

The current condition, capacity, and flexibility of campus teaching facilities does not support present or future learning initiatives.

Recommendation: Construct new classroom facilities and extensively renovate the existing inventory to accommodate capacity projections, improve quality, enhance technology, and increase flexibility and interaction.

Research and Academic Office Facilities

Present research and academic office facilities lack the capacity to accommodate current and projected space needs.

Recommendation: Construct new facilities and renovate underutilized existing structures to provide adequate space for the projected capacity.

Student Housing

Most on-campus student housing is remote from the core campus and is comprised of too many traditional dormitory-style rooms and not enough suite-style configurations.

Recommendation: Construct new student housing facilities closer to the core campus that accommodate a diverse mix of housing options.

Stormwater Management

The present condition of stormwater control and drainage patterns has been compromised by campus development, causing uncontrolled flooding during storm surges.

Recommendation: Implement a stormwater control methodology that leverages natural systems and is supplemented by constructed stormwater management infrastructure.

Utility Infrastructure

Chilled water production capacity is limited and will not support projected campus growth. Steam production capacity is adequate to accommodate anticipated growth around the core campus only, but the distribution infrastructure is aging and in need of repair and replacement.

Recommendation: Develop new central or distributed steam and chilled water production facilities as needed to support future campus development.

Recommendation: Replace aging portions of the steam and condensate system to support development around the core campus.

Recommendation: Invest in steam, chilled water, power, and telecommunications system extensions and distribution networks as needed to support future campus development.



Future View of East Seventh Street and Historic Core

SUSTAINABILITY

Environmental sustainability will play a crucial role in the development and improvement of Indiana University's Bloomington campus. The Campus Master Plan defines a broad holistic approach that unifies fundamental planning recommendations with meaningful qualitative and quantitative green strategies. Sustainable planning principles, carbon reduction strategies, alternative modes of transportation considerations, and innovative building initiatives all come together to inform the development vision for the campus and ensure that growth is forward thinking and environmentally sustainable. As part of this initiative, the University has committed that all new structures will be constructed to achieve a LEED® Silver certification as defined by the United States Green Building Council.

Campus development should prioritize sensible land use practices that encourage physical and functional consolidation and facilitate pedestrian mobility, access, and convenience. Campus functions should be concentrated in

defined walkable areas, encouraging multi-use neighborhoods that minimize reliance on automobiles and promote alternative modes of transportation. Transportation and circulation infrastructure should be fully integrated with local and regional transit systems and provide efficient access to campus parking facilities. Bicycle commuting should be encouraged with infrastructure enhancements that include dedicated cyclist commuter lanes and convenient bicycle parking and storage. Parking infrastructure should be refocused along core campus edges to reduce internal campus traffic and facilitate the daily transition of vehicle commuters to campus pedestrians.

Natural resources should be leveraged to improve their inherent effectiveness and enhance environmental quality. Stormwater management practices should be implemented that rely on natural features by restoring ephemeral stream beds, reducing impervious ground cover, and treating stormwater where it falls instead of pushing it downstream. Campus woodland areas and native habitats should be improved and

expanded to increase shaded tree canopies and promote indigenous wildlife.

Campus energy efficiency should be improved, and the University should move toward a carbon neutral campus by implementing greenhouse gas emission reduction strategies. Should all of the recommendations be implemented within the proposed timeline, the University could realize an overall 30 percent greenhouse gas emissions reduction by 2020 and an 80 percent reduction by 2050, including anticipated development. These reductions can be achieved by reducing existing and future energy consumption, diversifying campus energy resources, investing in efficient steam and electricity co-generation facilities, and monitoring actual campus energy use to better understand power consumption and develop reduction strategies.



Future View Looking South on North Woodlawn Avenue to Indiana Memorial Union

2 | INTRODUCTION



MISSION STATEMENT

Bloomington is the flagship residential, doctoral-extensive campus of Indiana University. Its mission is to create, disseminate, preserve, and apply knowledge. It does so through its commitments to cutting-edge research, scholarship, arts, and creative activity; to challenging and inspired undergraduate, graduate, professional, and life-long education; to culturally diverse and international educational programs and communities; to first-rate library and museum collections; to economic development in the state and region; and to meaningful experiences outside the classroom. The Bloomington campus is committed to full diversity, academic freedom, and meeting the changing educational and research needs of the state, the nation, and the world.

By action of the Bloomington Faculty Council, April 19, 2005. Approved by the Board of Trustees, November 4, 2005.



Auditorium and Fine Arts Plaza

INTRODUCTION TO THE PLAN

This is the beginning of an exciting new era for Indiana University Bloomington (IUB). As the University reflects upon almost two centuries of existence, IUB prepares to address contemporary challenges through the development of a physical Campus Master Plan. Collectively, these new challenges include:

- Creating and updating facilities to meet changing learning needs, to sustain a consistent enrollment.
- Developing facilities to support research.
- Renovating and repurposing existing buildings and historic resources.
- Enhancing student life on campus.
- Encouraging greater social engagement through the use of community space.
- Encouraging connectivity to the larger community.
- Maintaining the University's competitiveness as one of the nation's pre-eminent universities in the 21st century.

In February 2008, Indiana University (IU) embarked on a 12-month process to create an

integrated Campus Master Plan. The planning initiative addressed:

- Space needs and University development.
- Building and facilities growth to support learning and research.
- Improvement of the quality of the learning and living environment.
- Contribution to the life sciences economy of the state.
- Expansion of transportation systems.
- Development to meet infrastructure needs.
- Sustainable strategies for campus growth and enhancement.

The Campus Master Plan for IUB is the result of this intensive planning effort. Recognizing that the quality of the physical environment has a tremendous influence on the image of the institution, the Campus Master Plan serves as a foundation for shaping the campus fabric in support of its academic mission and vision.

At its very essence, the Campus Master Plan is an assemblage of powerful ideas. These ideas establish the philosophical framework and

principles for coordinating physical change on the campus. The Campus Master Plan provides guidelines to maintain the inherent beauty and unique characteristics of the campus while, at the same time, identifying opportunities for congruous and harmonious expansion.

New partnerships, collaboration, and innovative thinking will be needed to reach the aspirations of the Campus Master Plan and create a campus environment that continues to provide an outstanding, learning-centered educational community.

INTENT OF THE CAMPUS MASTER PLAN

The intent of the Campus Master Plan is to create a vision for the future of the IUB campus that reinforces its unique environment and supports the mission of the larger University community.

A master plan is a composite document of principles, goals, objectives, ideas, and recommendations, and the graphic maps that support and illustrate these concepts. A master

plan is not solely one component or another, but must be taken together as one document. In this way, it can be used as a long-range tool that can adapt and flexibly respond to future changes.

Over time, IUB has grown incrementally and somewhat organically, largely due to the vision of its past presidents and University leaders. While there have been earlier illustrative master plans and development frameworks, IU has not previously undertaken such a comprehensive master plan for its flagship Bloomington campus.

This Campus Master Plan is the first document to collectively record recommendations for all campus systems, including: future space and program needs; building renovation and new construction; residence life and amenities; athletics and recreational sports; campus landscape and natural features; transportation and parking; infrastructure; and sustainability measures.

In preparing the Campus Master Plan, the planning team reviewed and incorporated many

recently completed studies and district plans, including the following:

2001 Indiana University Bloomington Campus Planning Framework: Analysis

2006 Indiana University Athletic Facilities Development Update

Indiana University Memorial Union Preliminary Planning (2006)

Indiana University Housing Master Plan Update (2007)

2007 Indiana University Recreational Sports Facility Master Plan

Campus Sustainability Report (2008)

During the planning process, the team considered the separate recommendations of each district plan or study in the context of the overall campus, in order to balance competing demands for space or land resources with the larger goals of the University.

The Campus Master Plan for IUB is envisioned as a long-range planning tool addressing the physical, social, intellectual, and sustainability

challenges the University will face in the 21st century. It has been crafted to address both a programmatic 10-year planning horizon for academic demand, and a longer 20-year build-out horizon, recognizing that the pace of construction on campuses fluctuates depending on need and the availability and source of funding.



Sample Gates

GOALS AND OBJECTIVES

The University embarked on the Campus Master Plan with two overarching goals that formed the planning foundation and guided the program and physical development of the plan. These two goals represent the academic aspirations of the University and the unique attributes of its Bloomington campus, linking the institution's physical environment to its educational values.

1. Support Academic Excellence

Driven by the provost, University leadership, and the Bloomington Space Task Force, the Campus Master Plan is a tool for advancing the overall academic mission of the institution by creating a physical environment to support that mission. Discussion during the planning phases centered not only on the quantitative need for space, particularly for research, but also on the qualitative need for flexibility and increased interaction. The University expressed its desire to move away from older models of departmental and academic silos in favor of physical models that emphasize the learning experience and support connectivity and communication

among faculty, staff, and students. This goal is supported by a series of objectives intended to:

- Integrate places for learning and campus life.
- Reflect contemporary learning styles.
- Accommodate change and flexibility.
- Establish a framework for sustainable facility growth.
- Enhance interdisciplinary learning.
- Create a stimulating campus setting.

2. Enhance Campus Character and Quality

The iconic image of the historic core of the Bloomington campus is formed by quality architectural design combined with a mature native landscape. However, moving away from the core, the campus loses this coherency. In response to the desire to enhance the character and beauty of the Bloomington campus, the University leadership developed this second goal to guide the Campus Master Plan. This goal is further defined by its series of objectives intended to:

- Reinforce an appropriate balance of buildings and landscape.

- Apply lessons of scale and character to incomplete campus areas.
- Maintain a high quality memorable landscape.
- Enhance convenience through a diversity of use.
- Develop walkable and quality pedestrian experiences.
- Reinforce a sense of community.
- Protect and celebrate campus history.

MASTER PLAN PROCESS

The Campus Master Plan is the University's plan. Although the consultant team has contributed their technical expertise, the University's participants have passionately guided its development. The Campus Master Plan reflects the institution's vision, priorities, culture, and future needs.

The Indiana University Board of Trustees commissioned SmithGroup and JJR to develop a master plan for the Bloomington campus. Work began in February 2008 and was completed in spring 2009. The planning process was divided into five major tasks: Discovery, Analysis, Alternatives, Refinement, and Documentation.

The planning process included faculty, students, staff, administrators, trustees, and community leaders. Input has been solicited at major decision points throughout the planning process, through regular committee meetings, workshops, focus group sessions, technical meetings, one-on-one interviews, and digital information exchange. As a result, the Campus

Master Plan offers a widely representative planning perspective.

Several important committees were tasked with directing, advising, and supporting the Campus Master Plan.

Executive Committee

The Executive Committee oversaw the development of the Campus Master Plan.

The committee provided final direction to the planning team as well as administrative guidance, coordination of internal and external input, and final planning recommendations.

Michael A. McRobbie, President

J. Terry Clapacs, Vice President and Chief Administrative Officer

Paul Sullivan, Deputy Vice President for Administration

Robert Meadows, Assistant Vice President Facilities & University Architect

Master Plan Working Group

The Master Plan Working Group guided the iterative development of the Campus Master Plan. Members of the group included the University Architects Office as well as academic, auxiliary enterprise, and administrative representatives. This committee provided valuable project support, facilitated consensus building, and furnished current data relevant to the planning effort during its development.

Master Plan Steering Committee

The Master Plan Steering Committee was established to shape the evolution of the Campus Master Plan. Members of the committee included Space Needs Task Force subcommittee chairs and University deans. This committee provided valuable input and greatly facilitated consensus building during the plan's development.

The Space Needs Task Force provided counsel to the planning team regarding six specific topics:

- Faculty Life
- Student Life

- Health, Wellness, and Intercollegiate Athletics
- Libraries, Museums, and Performance Space
- Campus Support, Administration, and Infrastructure
- Classrooms and Teaching Laboratories

Members of the Space Needs Task Force subcommittees represented important University-wide perspectives and highlighted cross-departmental and cross-college perspectives. This deliberate mixing of expertise provided critical user input during the plan's development. Robert Meadows and Amanda Ciccarelli, Executive Assistant to the Provost, served as ex-officio members on all subcommittees.

Campus/Community Leadership and Outreach

The ideas and opportunities documented by the Campus Master Plan reflect the combined efforts of institutional and community representatives working collaboratively with the consultant team. Engagement with the following individuals and groups was a critical component of the planning process:

Michael A. McRobbie, President
 J. Terry Clapacs, Vice President and Chief Administrative Officer
 Paul Sullivan, Deputy Vice President for Administration
 Robert Meadows, Assistant Vice President Facilities & University Architect
 Karen Hanson, Provost
 Indiana University Board of Trustees
 Indiana University Foundation Board of Directors
 Roger Thompson, Vice Provost for Enrollment Management
 University Deans
 Various Department Chairs
 Student VOICE Group
 Athletic Director and Staff
 Director of Residential Programs and Services and Staff
 Indiana Memorial Union Director and Staff
 Recreational Sports
 Auxiliary Services
 Sustainability Committee
 University Architects Office
 Physical Plant and Engineering Staff
 Campus Support Staff

Open Campus Forums
 Bloomington Planning Officials and City Council
 Indiana Minority & Women's Business Enterprises
 Bloomington Community Groups

A full listing of all committee members, groups, and individuals involved in the plan can be found in the Acknowledgements at the end of this report.



Community Participation



Master Plan Working Group

3 | CAMPUS EVOLUTION



CAMPUS HISTORY

THE BEGINNING – INDIANA UNIVERSITY IN THE 19TH CENTURY (1820-1901)

“Education, and the universal diffusion of useful knowledge”¹

In 1816, the newly established State of Indiana outlined the need for advanced education facilities in its constitution. The document mandated that land and resources be set aside for the development of the institution, and anticipated that the educational facilities would be established within 4 years. The State Constitution reserved 640 acres for the State Seminary, the predecessor to Indiana University. A 10-acre site was selected for the campus, located ¼ mile south of the Courthouse Square in Bloomington, adjacent to the railroad tracks and near a natural spring. After the site was selected, excess land was sold to finance academic and construction programs.

On January 24, 1828, the State Seminary was renamed the Indiana College and given

¹ Theophilus A. Wylie, *Indiana University Its History from 1820, When Founded, to 1890*, (Indianapolis: Wm. B. Burford, 1890), p. 14.



Early Buildings (1825-1890)



Indiana Territory, 1818

an expanded mission by the State of Indiana. Indiana College was tasked with “the education of youth in the American, learned and foreign languages, the useful arts, sciences and literature.” Ten years later, on February 15, 1838, the institution was formally renamed Indiana University, and a law school and medical



Historical Map of Bloomington, Circa 1880

school were added to its growing academic portfolio.

Indiana University resided within the boundaries of Seminary Square throughout most of the 19th century. Unfortunately, during the summer of 1883, a fire destroyed the University library,

prompting the trustees to explore relocating the University to a new campus. After considering a number of sites, the trustees chose a 20-acre parcel located at the eastern edge of Bloomington known as Dunn’s Woods.

Construction of Wylie Hall and Owen Hall began immediately, marking the beginning of the first of three periods of significant growth for the University. The original structures at Dunn’s Woods embraced an elaborate Victorian style that was in vogue at the time of their construction. The buildings were designed to be intentionally compact in plan and boasted high ceilings and sophisticated fenestration. Building façades were rendered in red brick with large vertically proportioned openings embellished with limestone accents. Wylie Hall originally embodied a slightly manneristic Victorian expression represented by an asymmetrical finial that rose above the central stair tower. A fire in Wylie Hall led to the elimination of the tower and the reconstruction of the structure with an added fourth level.

With the completion of Wylie and Owen Halls, the University quickly began the development of Maxwell and Kirkwood Halls. These two structures flanked the original campus buildings and began the definition of the Dunn's Woods Quad. This period of construction marked a shift in primary building materials and architectural style on campus. Both structures represent a faithful Romanesque sensibility and are comprised of monolithic rusticated limestone façades, monumental towers, vertically proportioned arched openings, and slate roofs.

Throughout this period of growth, Indiana University expanded to nearly 51 acres and nine buildings, and grew its student population to 1,285.



Wylie Hall with Original Tower, 1884



Wylie Hall, Present Day



Kirkwood Hall, 1894



Owen Hall, 1884



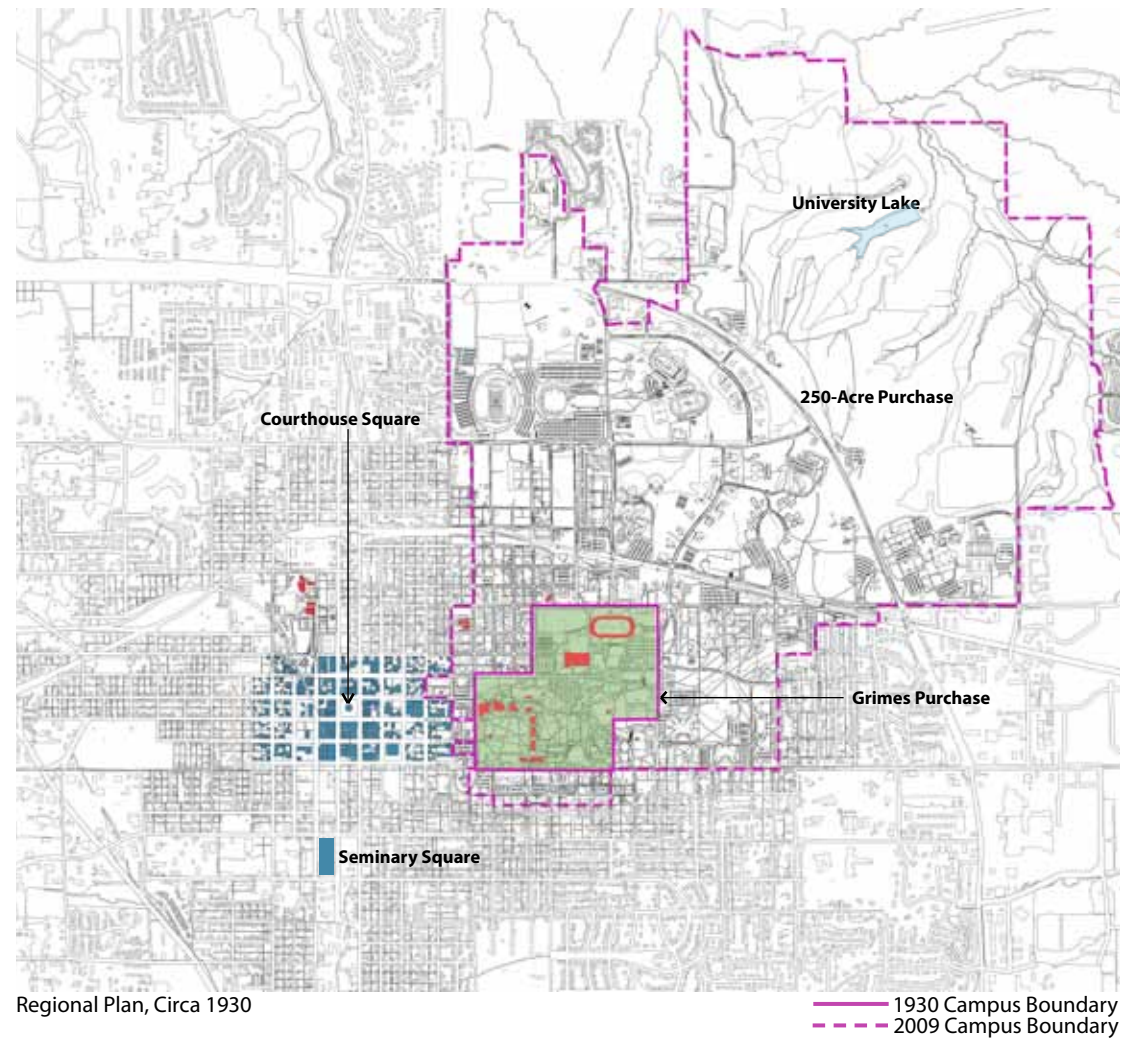
Maxwell Hall, 1890

EXPANSION DURING THE BRYAN ADMINISTRATION (1902-1937)

*"...open paths from every corner of the State through schools to the highest and best things men can achieve."*²

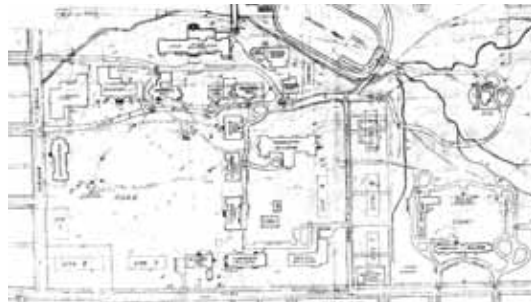
William Lowe Bryan was appointed president of Indiana University in 1902, marking the beginning of the second period of major growth and development for Indiana University's Bloomington campus. During this period, the campus expanded dramatically and much of Indiana University's memorable, naturalistic character was established. Significant land acquisition was directly associated with the University's attempts to secure a potable water source as water shortages afflicted the region. Beginning in 1900 and continuing into the next decade, both the growing University and the City of Bloomington struggled to sustain adequate water resources, and in 1903, Indiana University considered temporarily closing to

² Burton Dorr Myers, M.D., *History of Indiana University Volume II - The Bryan Administration*, Ivy L. Chamness and Burton D. Myers, eds., (Crawfordsville, Indiana: Indiana University, 1952), p. 102.





Historic Kessler Plan, 1915



Historic Olmsted Plan, 1929

address the crisis. On December 2, 1908, the headline of the Bloomington Daily Telephone stated, “Water famine at last; plant closes down to await heavy rains.” In an effort to take control of its water concerns, the University acquired approximately 250 acres northeast of campus in 1909. Construction began on the University Lake Reservoir and University Waterworks shortly thereafter.

In addition to securing the 250-acre tract, the University undertook several significant land acquisitions during the first decades of the Bryan Administration. In 1905, the University acquired the first of two tracts that became known as the Grimes Purchase. The first purchase added 19 acres to the east with the second purchase adding another 21 acres.

In 1915, Indiana University hired George E. Kessler as campus planner and commissioned its first comprehensive campus master plan. Kessler’s plan defined an intentionally naturalistic campus environment that celebrated Bloomington’s unique natural features and

embraced its bold architectural infrastructure. Many of Kessler’s planning concepts live on today and form the basis of Bloomington’s distinguished character and romantic imagery. Kessler’s plan was followed through the 1920s, until the University grew beyond its vision.

The influential Olmsted Brothers assumed the role of master planner following Kessler and presented a new campus master plan in June of 1929. The Olmsted plan defined a bold new picturesque vision for the campus and outlined locations for many future buildings, quads, walkways, and drives. The legacy of the Olmsted Brothers on campus includes the East Third Street campus edge, Wells Quad, and the refinement of Dunn’s Woods.

During the 35 years of the Bryan administration, the Bloomington campus nearly tripled in land area, from 51 acres to 137. The initial structures constructed during this period continued the limestone and slate material palette and the fashionable Romanesque architectural style established by Maxwell and



Franklin Hall, 1907



Student Building, 1906



Indiana Memorial Union, 1932

Kirkwood Halls. Lindley Hall, the Student Building, and Franklin Hall, constructed in 1902, 1906, and 1907, respectively, express distinctly Romanesque characteristics with their rusticated limestone façades and tall vertically proportioned openings. The Student Building's arched openings and central monumental tower represent a faithful interpretation of Romanesque architecture. Lindley Hall's non-arched, rectilinear windows and less monolithic limestone façades express a more modern interpretation, while Franklin Hall's pointed arched windows and thin limestone window mullions convey a more hybrid Romanesque-Gothic style. This Gothic expression was a harbinger of a stylistic shift that would define much of the new campus architecture in the coming decades.



Lindley Hall, 1902



Rawles Hall, 1923

With the construction of Rawles Hall in 1923, Indiana University followed a national architectural trend and began favoring Collegiate Gothic style structures. Many of these structures were constructed during the Bryan presidency and have come to define much of the

memorable imagery of the core campus. Notable Collegiate Gothic structures constructed during this era include Memorial Hall, 1924; Indiana Memorial Union, 1932; Bryan Hall, 1936; Goodbody Hall, 1936; and Myers Hall, 1937.

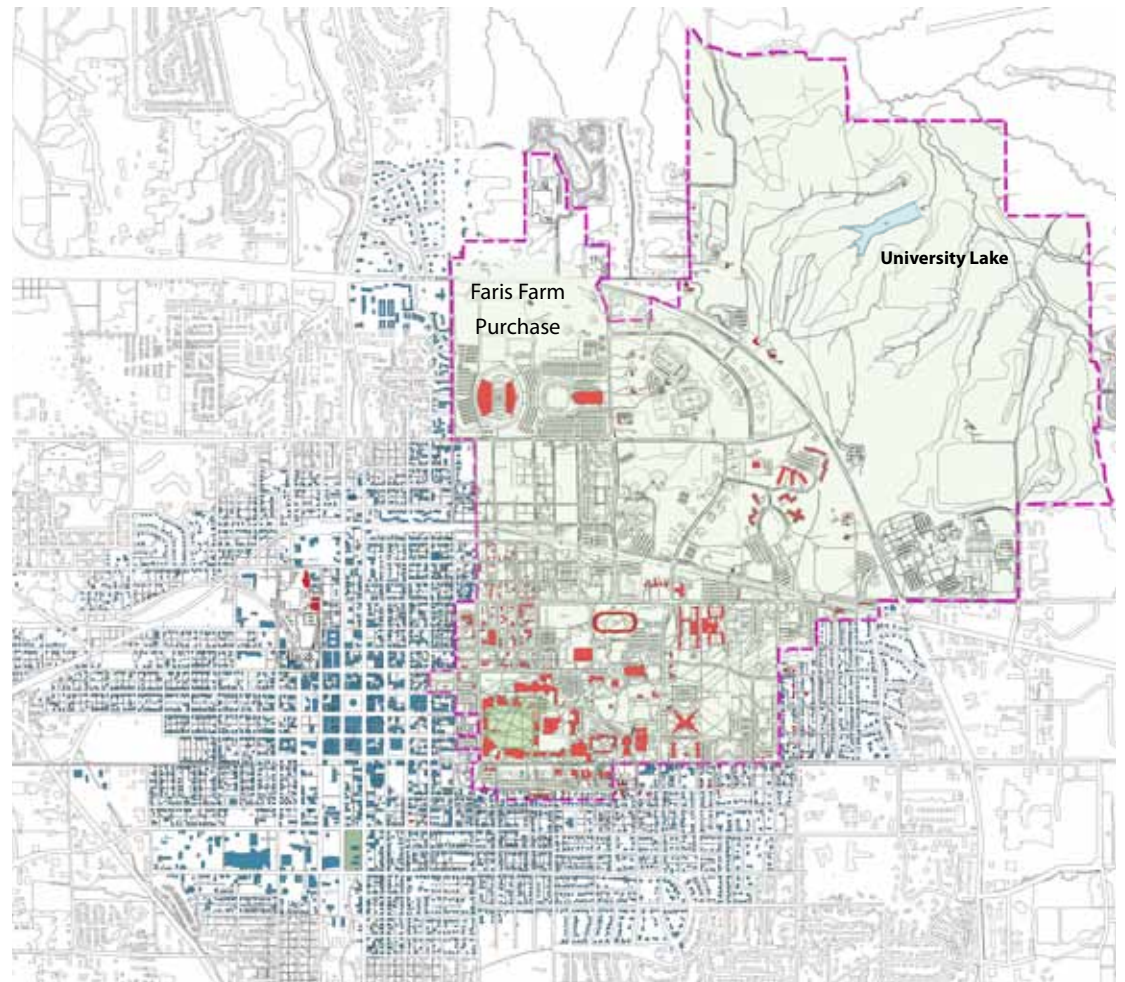
EXPANSION DURING THE WELLS ADMINISTRATION (1937-1962)

“We knew we had to move north and east because most of the undeveloped land lay there—north of Tenth and east of Jordan.”³

Herman B Wells began his tenure as Indiana University president in July of 1937. During Wells’ 25-year presidency, the campus experienced its third and most dramatic expansion, growing 137 acres to nearly its current 1,900 acres. Campus growth throughout this period is largely attributable to the influx of students that overwhelmed Indiana University after World War II. Development established during the Wells administration contributed to much of the iconic campus character and defined expansive new neighborhoods beyond the historic core of campus.

President Wells began his term during the Great Depression, and at that time nearly all of the

³ Herman B Wells, *Being Lucky: Reminiscences & Reflections*, (Bloomington & Indianapolis: Indiana University Press, 1980), p. 195.

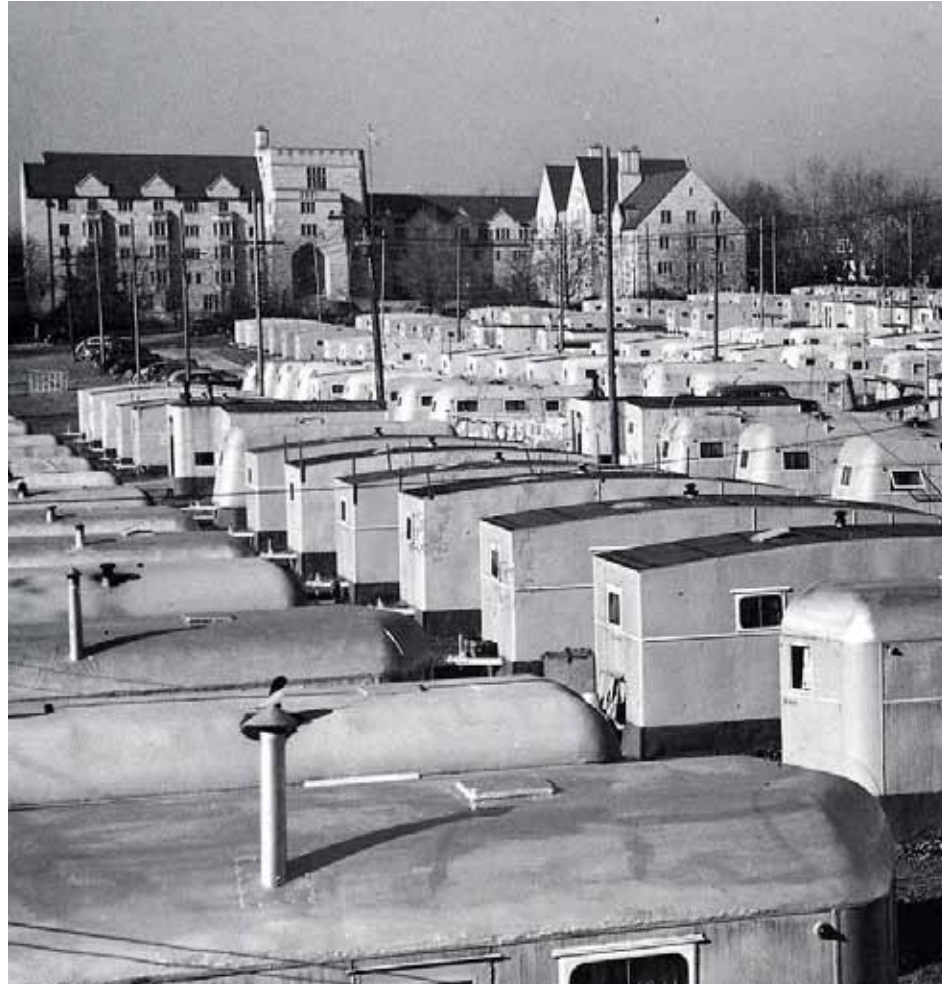


Regional Plan, Circa 1960

--- 2009 Campus Boundary



Woodburn Hall, 1940



Married GI Housing, 1946

University buildings resided between North Indiana and North Jordan Avenues and East Third and East Tenth Streets. Within his first few years, President Wells initiated an ambitious expansion plan that extended the campus to the north and east. Major land acquisitions resulting in hundreds of acres of new campus property continued through the 1940s and 1950s. The addition of Faris Farm in 1956 was especially significant, for its size and location directly north of campus. This acquisition enabled the University to own and control much of the land between the campus core and University Lake.

With land secured for growth, the Wells administration began planning a major campus expansion strategy. Campus-wide facilities were strategically located between academic and housing districts, and future sites for the main library, Auditorium, and Art Museum were established in anticipation of a future center of campus. The area between East Tenth Street and the railroad tracks was intentionally undeveloped and reserved for future expansion and campus growth. The Indiana University Golf Course was constructed on undeveloped land preserved for the University Lake watershed.

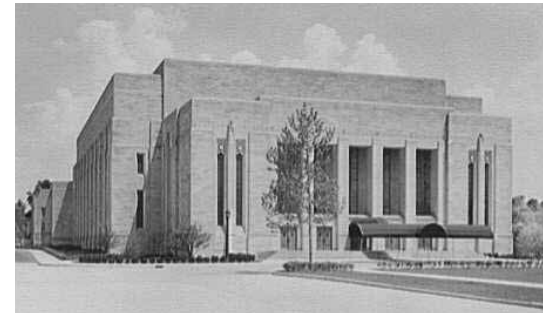
In an effort to minimize disturbances and preserve neighbor relations, the University deliberately developed new student housing in areas remote from established neighborhoods and core campus facilities.

“When I became president, I discovered that one of the most frequent complaints we received at the president’s office concerned the sleep-disturbing din from fraternity and sorority houses.”

—President Wells

In the initial years of the Well’s presidency, many of the new structures on campus embraced the Collegiate Gothic style initiated in the 1920s. Many notable structures were constructed during this period including Morrison Hall, 1940; Woodburn Hall, 1940; and Swain Hall West, 1940. As campus expansion accelerated in the late 1940s, the Wells administration embraced a bold new architectural vision that has come to define much of Bloomington’s memorable character. President Wells stated that “It is our plan from the start to try to preserve the traditional style of architecture on the old campus with as little modification as possible but, as we move outward, to allow the buildings to conform with architectural styles currently in vogue.”

The well regarded New York City firm of Eggers & Higgins was selected as principal designers and planners for the growing campus and were charged with defining an architectural vision for the rapidly growing campus. Over their nearly 30 years of service to Indiana University, Eggers & Higgins, in conjunction with various local Indiana design firms, directed all development and building construction for the Bloomington



Auditorium, 1941



Musical Arts Center, 1972



Read Hall, 1953

campus. Architectural styles evolved significantly during the period, as did the work of Eggers & Higgins. The stylistic range is best exemplified by Eggers & Higgins' first commission, the Auditorium in 1941, and their last, the Musical Arts Center in 1972.

The Auditorium, along with Woodburn Hall, represents a hybrid of Collegiate Gothic and Art Deco architectural styles, often referred to as Moderne. Beginning with the mass construction of student housing facilities in the late 1940s, Indiana University shifted stylistically again and embraced the Modern architectural style that dominated construction during this period. Many of these new campus structures expressed a simple and restrained Modern architectural style and diverged from the traditional limestone building palette. Structures of note that exemplify this period of development include the University Apartments, 1949; Read Hall, 1953; and Teter Quad, 1957. Campus buildings began to express a more monumental scale and presence in the late 1950s with the construction of Ballantine Hall in 1959. In the late 1960s, Indiana University continued this monumental trend and embraced Brutalist Modernism for many of its significant new structures. The Herman B Wells Library and the Musical Arts Center are the most notable examples of this style on campus.



Ballantine Hall, 1959

During the campus's dramatic expansion, University landscape architect Frits Loonsten maintained and championed the use of indigenous planting on campus. He embraced the naturalized landscaping direction established by Kessler and the Olmsted Brothers, and promoted the use of wildflowers and encouraged the development of natural wooded areas on campus. Loonsten also promoted the creation of three natural areas to be located east of campus. His influence prompted President Wells to write, "Much of the beauty of the campus can be attributed to [Loonsten's] taste and expertise."



Eigenmann Hall, 1971

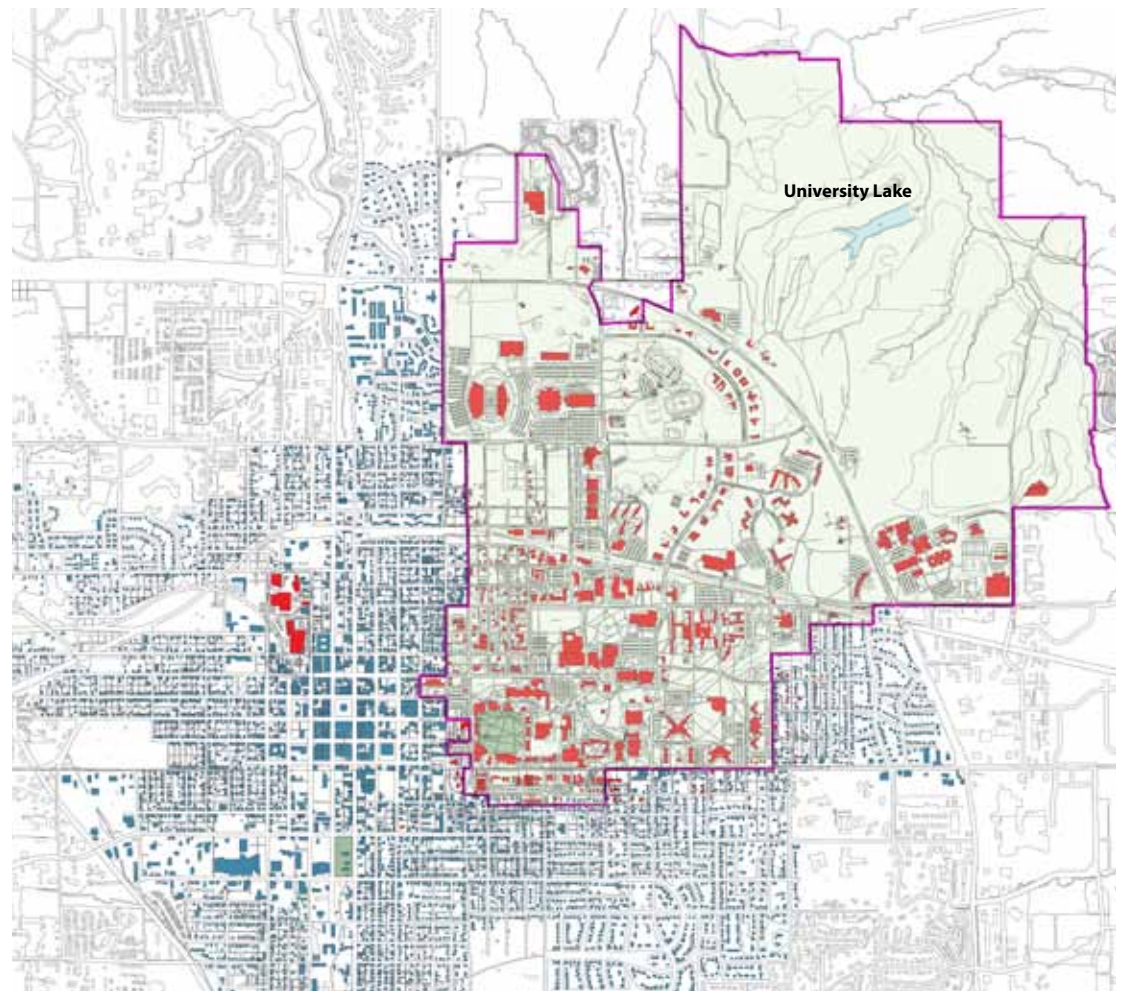


Herman B Wells Library, 1969

THE POST WELLS ERA THROUGH TODAY (1963-Present)

In the decades since the Wells presidency, the Bloomington campus has continued to grow with the vision and sensibilities established during his era. Student housing was built well outside the campus core, mostly north of the railroad corridor and east of North Jordan Avenue. Research and support buildings were built north of the SR 45/46 Bypass along with recreational facilities.

Recent master planning efforts, such as those undertaken by Beyer Blinder Belle, influenced University expansion through the late 1990s while respecting and preserving the historic core. The challenges of connecting residential districts with academic areas as well as the development of new academic buildings in the historic core remain planning priorities.



Regional Plan, 2009



Beyer Blinder Belle, 2006 Conceptual Framework Plan



Godfrey Graduate and Executive Education Center, 2000



Simon Hall, 2007

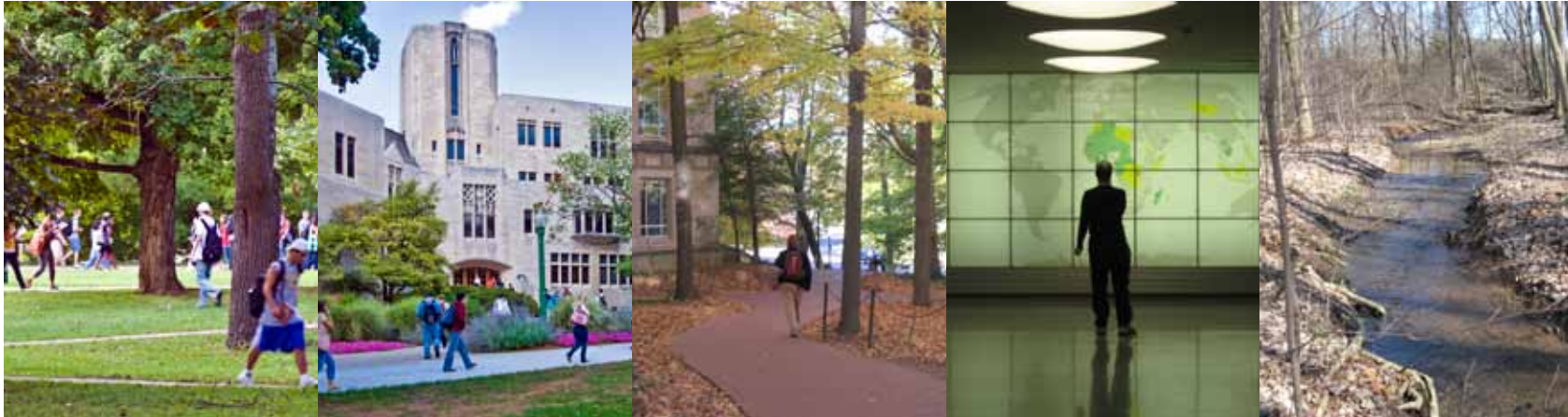


Student Recreation Sports Center, 1992

INDIANA UNIVERSITY FUTURE

The development and legacy of Bloomington's various campus planning efforts will greatly inform current planning initiatives. The new Campus Master Plan will endeavor to preserve the historic heart of the campus and emulate its aesthetic qualities and character in future development initiatives. The new plan will honor the landscape traditions and environmental sensibilities of the original planners and encourage investment in sustainable, natural resources. The plan will also re-evaluate current land use patterns to leverage future development and enhance University growth.

4 | EXISTING CONDITIONS



THE CAMPUS TODAY

At the start of the Campus Master Plan in early 2008, the University's Bloomington campus has a student population of nearly 40,000 and draws students from the local, regional, national, and international levels. The University houses about 30 percent of its students on campus. The Indiana University Bloomington (IUB) campus is supported by approximately 7,000 faculty and staff.

2007 Baseline Data

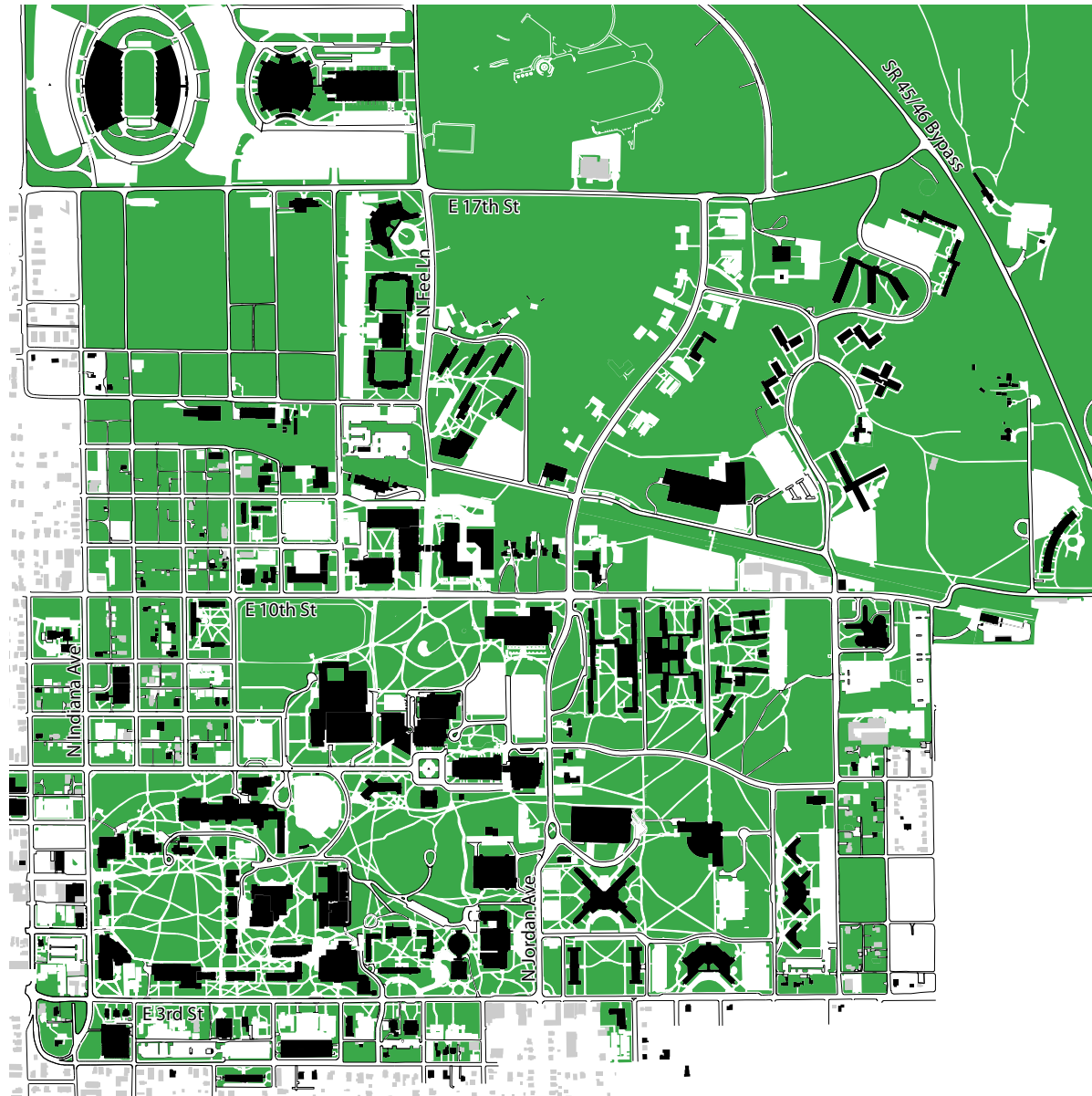
| | |
|----------------------------|-------------------|
| Campus Population | 45,691 |
| Enrollment | 38,990 |
| Undergraduate | 30,394 |
| Graduate | 7,672 |
| Professional | 924 |
| Faculty | 2,309 |
| Staff | 5,392 |
| Campus Acreage | 1,933 |
| Number of Buildings | 520 |
| Gross Square Feet | 15,324,204 |
| Floor Area Ratio | 0.18 |
| Parking Spaces | 20,639 |
| Parking Ratio | 2.21 |
| Number of Beds | 11,688 |
| Living On Campus | 30% |



Sample Gates and East Kirkwood Avenue

The campus is spread over 1,933 acres¹ with 520 buildings, encompassing over 15 million square feet of classrooms, laboratories, dorms, offices, athletic facilities, and support spaces. The University also provides 20,639 on-campus parking spaces for visitors, faculty, staff, students, and events. The Floor Area Ratio for campus is 0.18, which is calculated by dividing the total building gross square footage (15,324,204 SF) by the entire campus square footage, or site area (84,201,480 SF).

¹ *Indiana University Fact Book 2007-2008*, University Reporting & Research, Indiana University, January 2008, p. 2



Map of the Indiana University Bloomington Campus, 2008

CAMPUS COMPARISONS

- University of Iowa
- Princeton University
- Cornell University
- University of North Carolina at Chapel Hill
- University of Colorado at Boulder
- The Pennsylvania State University

During the planning process, the physical campus of IUB was compared to six other university campuses that included two Big Ten Conference schools, two Ivy League schools, one Southeastern Conference campus, and one Big Twelve Conference school. These campuses were chosen primarily for physical commonalities shared with IUB. Comparisons were drawn from a list of common attributes such as population, land area, building area, physical scale, density, parking, and on-campus housing.¹

The bar charts on page 47 summarize IUB relative to density, parking per person, and on-campus housing to the comparison campuses. In general, IUB has a lower campus density overall. The Bloomington campus has more

¹ Information used in these comparisons were supplied by the institution represented via their web site or through interviews with campus personnel. The data used was collected from the academic year 2007-2008.

parking supply than most of the comparison campuses, suggesting there may be a parking surplus overall on campus. IUB ranks slightly higher than average in the percentage of on-campus housing.

Of the six campuses in this study, the University of Iowa provided the best comparison case. Iowa and IUB are members of the Big Ten Conference and were founded in the early 19th century shortly after their respective states joined the Union. Their campus and city populations are strikingly similar—with campus populations around 45,000 and city populations in the 60,000-70,000 range. The Iowa and IUB campuses also occupy roughly the same amount of land and built area. Princeton University had the least amount of commonalities with IUB. Princeton is approximately one-fifth the size of IUB in student population and land area; however, Princeton's compact campus is triple the density of the IUB campus. While both campuses provide one parking space for every two people on campus, Princeton houses almost 70 percent of its student body on campus,

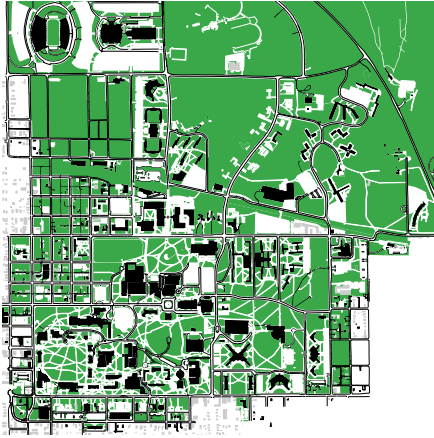
more than double the rate of IUB. Princeton's denser footprint accommodates more academic space per student and more on-campus housing opportunities.

Iowa accomplishes its higher density and parking ratio by encouraging its faculty and staff to carpool through incentive programs, providing remote parking for students living in residence halls, and promoting its campus bus system.

University of Colorado at Boulder's parking ratio per person is slightly better than IUB's at three people per parking space; however, the University of Colorado at Boulder houses fewer students on campus. This is due in part to the bicycle culture in the city of Boulder, which was recently named one of the top bicycling cities by *Bicycling Magazine*. According to this article, in Boulder, "fourteen percent of all trips are now taken by bike—an almost European figure."²

² Brian Fiske, "Best Cities For Cycling: Still The Greatest," *Bicycling Magazine*, November 2008, <http://www.bicycling.com/article/0,6610,s1-2-19-17077-1,00.html>.

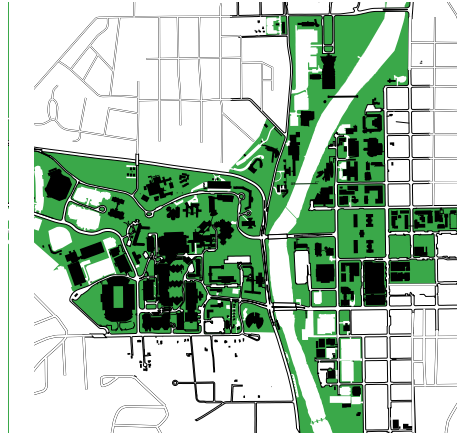
INDIANA UNIVERSITY BLOOMINGTON



scale 1"=3000'

UNIVERSITY OF IOWA

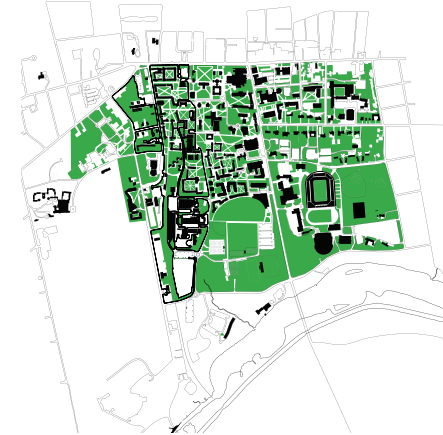
- Campus/city populations similar
- One-third fewer parking spaces
- One-third fewer beds on campus



scale 1"=3000'

PRINCETON UNIVERSITY

- One-fifth the student population/land area
- Triple the density
- 70 percent of students live on campus



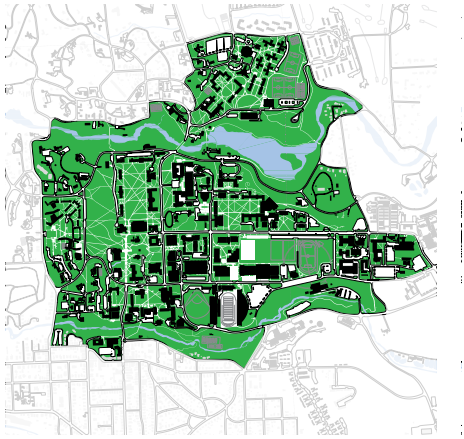
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| | IUB | IOWA |
|---------------------------------|------------|-------------|
| Campus Population | 45,691 | 45,403 |
| Enrollment | 38,990 | 30,409 |
| Undergraduate | 30,394 | 20,907 |
| Graduate | 7,672 | 5,482 |
| Professional | 924 | 4,020 |
| Faculty | 2,309 | 2,156 |
| Staff | 5,392 | 12,838 |
| Campus Acreage | 1,933 | 1,700 |
| Number of Buildings | 520 | 265 |
| Gross Square Feet | 15,324,204 | 16,400,000 |
| Floor Area Ratio | 0.18 | 0.22 |
| Parking Spaces | 20,639 | 14,128 |
| No. of People Per Parking Space | 2.21 | 3.21 |
| Number of Beds | 11,688 | 5,578 |
| Living On Campus | 30% | 18% |

| | IUB | PRINCETON |
|---------------------------------|------------|------------------|
| Campus Population | 45,691 | 12,734 |
| Enrollment | 38,990 | 7,334 |
| Undergraduate | 30,394 | 4,918 |
| Graduate | 7,672 | 2,416 |
| Professional | 924 | N/A |
| Faculty | 2,309 | 1,126 |
| Staff | 5,392 | 4,274 |
| Campus Acreage | 1,933 | 400 |
| Number of Buildings | 520 | 180 |
| Gross Square Feet | 15,324,204 | 9,000,000 |
| Floor Area Ratio | 0.18 | 0.52 |
| Parking Spaces | 20,639 | 6,000 |
| No. of People Per Parking Space | 2.21 | 2.12 |
| Number of Beds | 11,688 | 5,000 |
| Living On Campus | 30% | 68% |

CORNELL UNIVERSITY

- Half the student population
- Campus area 20 percent larger
- Nearly equal in built area



scale 1"=3000'

| | IUB | CORNELL |
|---------------------------------|------------|----------------|
| Campus Population | 45,691 | 34,210 |
| Enrollment | 38,990 | 18,885 |
| Undergraduate | 30,394 | 13,510 |
| Graduate | 7,672 | 5,375 |
| Professional | 924 | 915 |
| Faculty | 2,309 | 2,906 |
| Staff | 5,392 | 11,504 |
| Campus Acreage | 1,933 | 2,300 |
| Number of Buildings | 520 | 692 |
| Gross Square Feet | 15,324,204 | 14,869,425 |
| Floor Area Ratio | 0.18 | 0.15 |
| Parking Spaces | 20,639 | 13,499 |
| No. of People Per Parking Space | 2.21 | 2.53 |
| Number of Beds | 11,688 | 4,729 |
| Living On Campus | 30% | 25% |

UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

- Smaller in population and land area
- Larger graduate, professional populations
- More densely developed

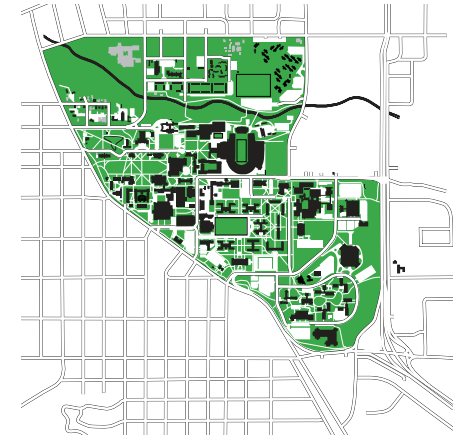


scale 1"=3000'

| | IUB | UNC-CH |
|---------------------------------|------------|---------------|
| Campus Population | 45,691 | 39,669 |
| Enrollment | 38,990 | 28,136 |
| Undergraduate | 30,394 | 17,628 |
| Graduate | 7,672 | 8,177 |
| Professional | 924 | 2,331 |
| Faculty | 2,309 | 3,295 |
| Staff | 5,392 | 8,238 |
| Campus Acreage | 1,933 | 729 |
| Number of Buildings | 520 | 337 |
| Gross Square Feet | 15,324,204 | 8,033,589 |
| Floor Area Ratio | 0.18 | 0.25 |
| Parking Spaces | 20,639 | 14,973 |
| No. of People Per Parking Space | 2.21 | 2.65 |
| Number of Beds | 11,688 | 8,564 |
| Living On Campus | 30% | 30% |

UNIVERSITY OF COLORADO AT BOULDER

- Nearly 10,000 fewer students
- Half the size of the IUB campus
- Twice the building density



scale 1"=3000'

| | IUB | BOULDER |
|---------------------------------|------------|----------------|
| Campus Population | 45,691 | 35,971 |
| Enrollment | 38,990 | 28,988 |
| Undergraduate | 30,394 | 24,473 |
| Graduate | 7,672 | 4,515 |
| Professional | 924 | N/A |
| Faculty | 2,309 | 3,715 |
| Staff | 5,392 | 3,268 |
| Campus Acreage | 1,933 | 786 |
| Number of Buildings | 520 | 334 |
| Gross Square Feet | 15,324,204 | 9,979,201 |
| Floor Area Ratio | 0.18 | 0.29 |
| Parking Spaces | 20,639 | 11,989 |
| No. of People Per Parking Space | 2.21 | 3.00 |
| Number of Beds | 11,688 | 7,075 |
| Living On Campus | 30% | 24% |

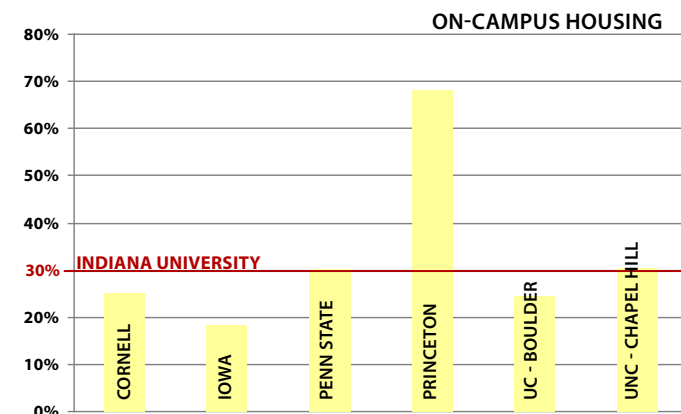
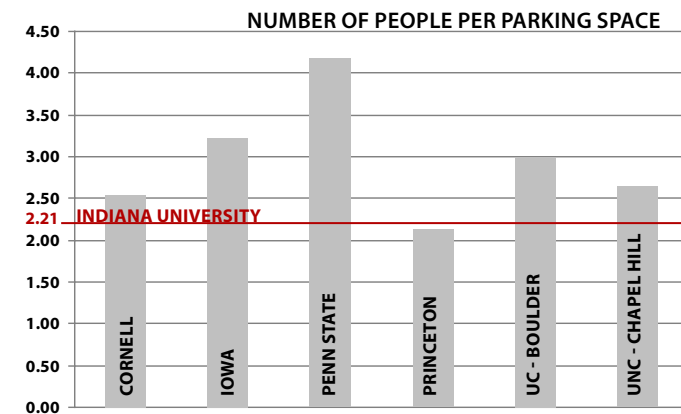
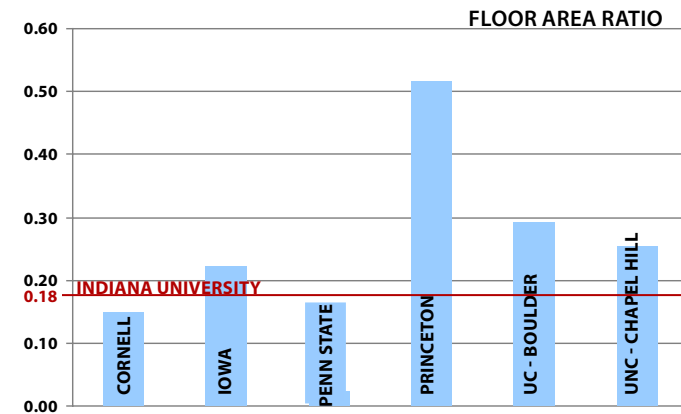
THE PENNSYLVANIA STATE UNIVERSITY

- Main campus area similar to IUB
- Similar gross square footage and density
- Fewer parking spaces per person (athletic events use open fields)



scale 1"=3000'

| | IUB | PSU |
|---------------------------------|------------|------------|
| Campus Population | 45,691 | 58,380 |
| Enrollment | 38,990 | 43,252 |
| Undergraduate | 30,394 | 36,815 |
| Graduate | 7,672 | 6,233 |
| Professional | 924 | 204 |
| Faculty | 2,309 | 2,651 |
| Staff | 5,392 | 12,477 |
| Campus Acreage | 1,933 | 2,232 |
| Number of Buildings | 520 | 758 |
| Gross Square Feet | 15,324,204 | 15,500,000 |
| Floor Area Ratio | 0.18 | 0.16 |
| Parking Spaces | 20,639 | 14,000 |
| No. of People Per Parking Space | 2.21 | 4.17 |
| Number of Beds | 11,688 | 13,000 |
| Living On Campus | 30% | 30% |



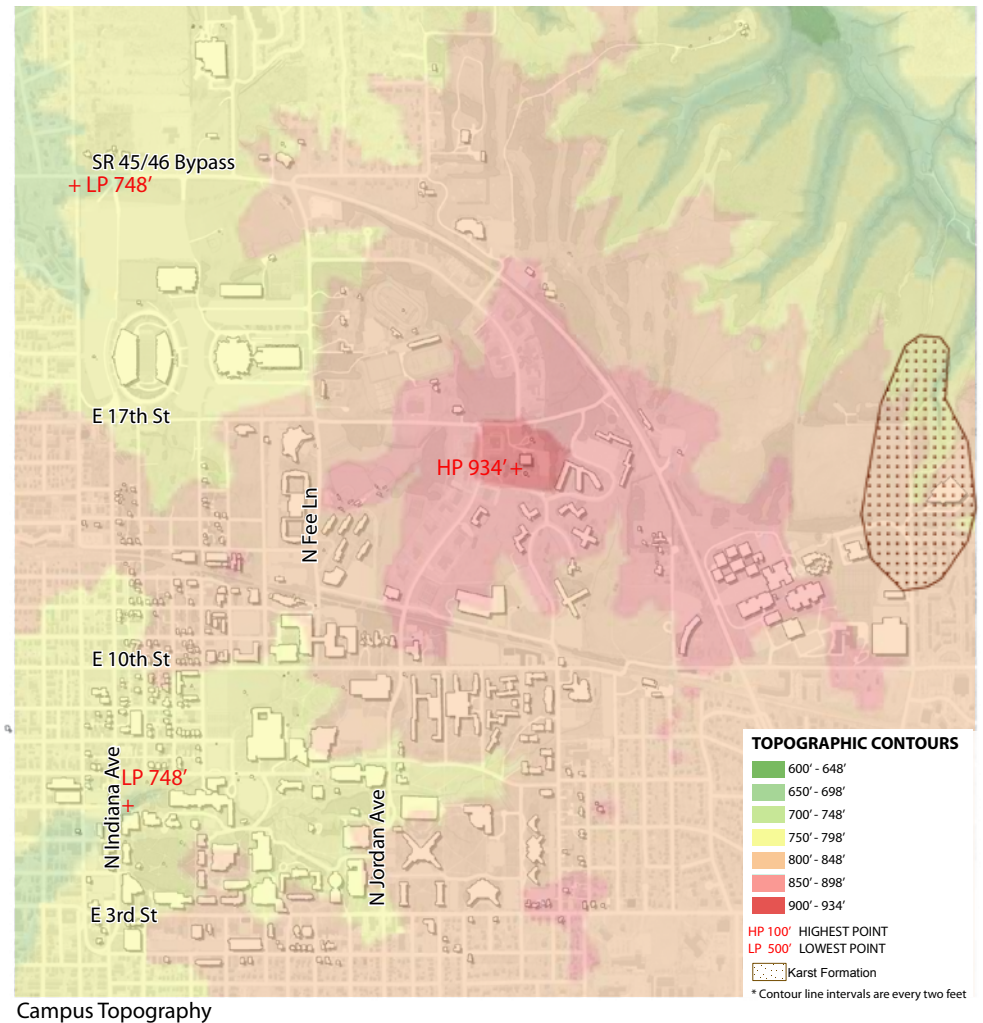
CAMPUS ANALYSIS

NATURAL FEATURES

Land Form and Hydrology

Bloomington, Indiana, lies just south of the Tipton Till Plain, the farthest reach of glacial activity in Indiana. The change in topography is evident at the Martinsville Hills, north of Bloomington, where the flat landscape of the glacial outwash plain gives way to older geological formations and bedrock hills of south central Indiana. The predominant underlying rock of Bloomington is limestone, with minor amounts of siltstone, shale, sandstone, and dolomite.

Monroe County and the city of Bloomington straddle the transition between two geological formations: the Mitchell Plain and the Norman Upland. The limestone bedrock within the Mitchell Plain has partially dissolved, creating a system of underground sinkholes, caves, streams, and springs known as karst formations. Three significant areas of karst are located near campus to the north and one to the east below the Indiana University Golf Course. Karst formations tend to be structurally unstable and therefore unsuitable for significant campus development.



The unglaciated, rolling topography of Bloomington provides a unique physical character and natural setting for the campus. The campus has a change in grade ranging 200 feet, from a low point of 748.0 feet at the outlet of the Jordan River north of Franklin Hall to a high point of 934.0 feet at the Carillon Tower along East Seventeenth Street. The high point is both the highest elevation within the campus and within the city of Bloomington. The majority of campus is gently rolling topography, with limited areas of steep slopes greater than 15 percent. The steepest slopes on campus form the valley of Griffy Creek, north of the SR 45/46 Bypass.

Watersheds and Site Drainage

The high point of campus lies along a ridge of land that forms the divide between two major watersheds for the region. The topography of campus is further subdivided into four distinct watersheds. The southern portion of campus feeds into the Clear Creek and Jackson Creek watersheds. The northern portion of campus feeds into the Cascade Creek and Sycamore Creek watersheds. The majority of the south



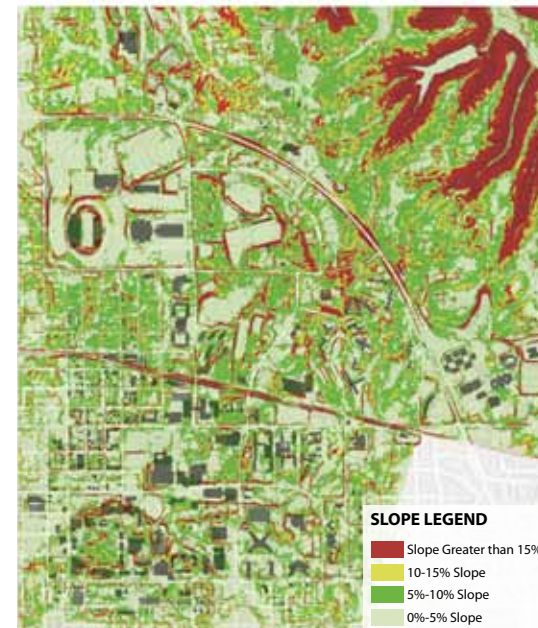
Jordan River at Dunn Meadow, Campus Low Point

half of campus is drained by the Jordan River, a tributary of Clear Creek. A small portion on the eastern side of campus drains to the Jackson Creek watershed. The northwest portion of campus lies within the Cascade Creek watershed. To the northeast, the Indiana University Golf Course drains to the Sycamore Creek watershed. (See watershed map, p. 50).

Seven hundred thirty-one acres drain via the Jordan River to a culvert at the intersection of East Sixth Street and North Indiana Avenue. At this point, the Jordan River connects to the City of Bloomington's storm system, which drains to the Clear Creek watershed. This culvert corresponds to a 100-year floodplain area defined by FEMA in the southwestern portion of campus. This floodplain expands along the Jordan River into an area known as Dunn Meadow. This is the only 100-year floodplain area defined by FEMA within Indiana University's boundaries. Dunn Meadow is an open, mown grass field north of the Jordan River culvert beneath Indiana Avenue at East Sixth Street. About 44 percent, or 232 acres,



Carillon Tower, Campus High Point



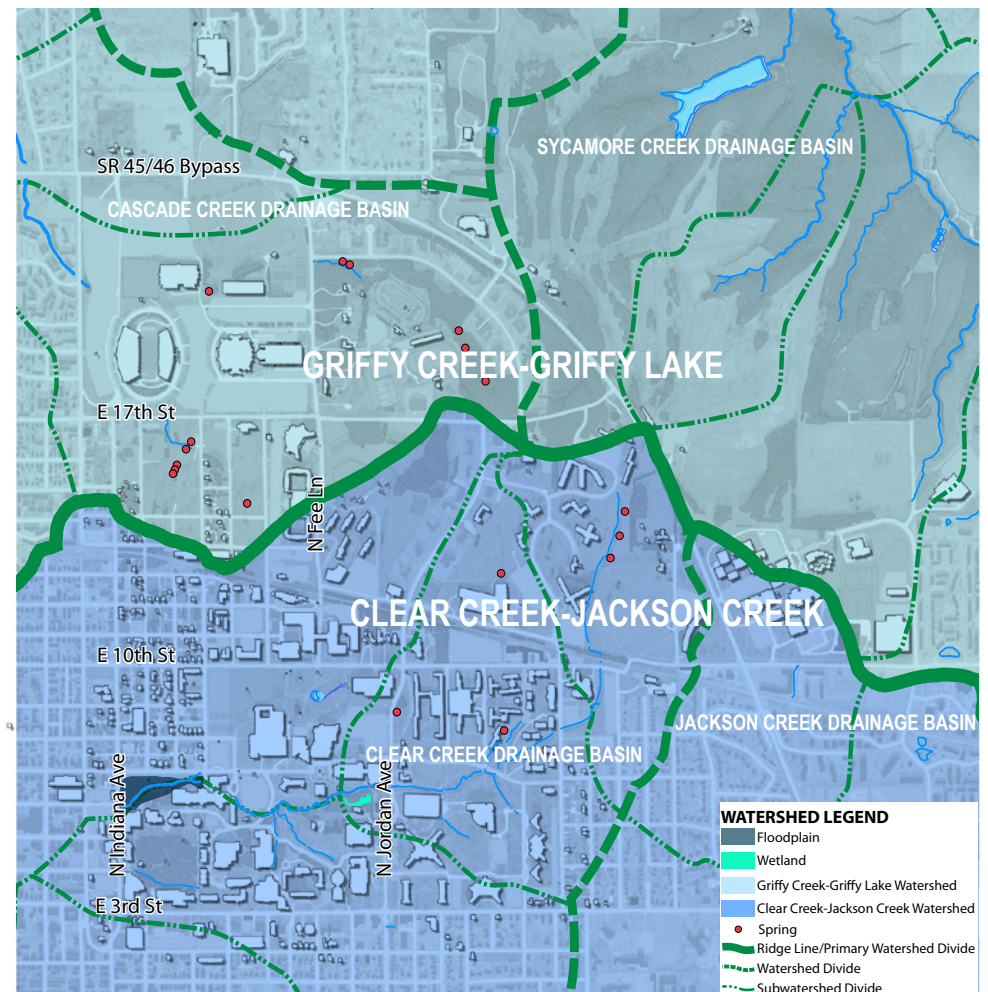
Existing Steep Slopes

of the Jordan River watershed is impervious, due to building roof area, sidewalks, and paved surfaces. The 731-acre Jordan River watershed includes 149 acres of off-site residential area, south of campus, that drains via storm inlets and underground pipes into the Jordan River on campus.

On the north side of campus, 358 acres drain to the Cascade Creek watershed via open streams and underground storm sewers. An underground pipe below Memorial Stadium and the adjacent athletic facilities discharges runoff to a culvert at the intersection of East Varsity Lane and North Dunn Street. The imperviousness of the Cascade Creek watershed is 36 percent, 129 acres, slightly better than the Jordan River.

Jordan River and Cascade Creek

The Jordan River is a significant natural feature that contributes to Indiana University's natural aesthetic. The Jordan River's headwaters are north of the railroad tracks between North Jordan Avenue and the SR 45/46 Bypass, and



Watersheds, Floodplain, and Wetlands



High Quality Portion of Jordan River



Low Quality Streams at Jordan River Headwaters

is fed from natural springs, surface runoff, and numerous storm drains that discharge directly into the river. Sections of the Jordan River, particularly within the historic core, flow through forested areas with naturally vegetated buffer zones. However, the majority of the stream corridor is in poor condition, with mown grass banks, no shade trees or woody vegetation, and substantial bank slumping and erosion. Streams in this condition often have issues of water quality from a variety of causes. Lack of shading causes stream warming, decreases dissolved oxygen, and encourages evaporation on hot days. Lack of woody vegetation allows untreated surface runoff such as silt, debris, and lawn chemicals to discharge directly into the stream, affecting water quality and bank stability, leading to erosion and scouring during large storm events. Untreated stormwater runoff from storm inlets often adds pollutants from impervious surfaces such as roads and parking lots, which may include heavy metals and hydrocarbons. Undetained direct stormwater runoff conveyed by storm pipes can allow surges of water to enter the stream during high flow

events, exacerbating bank erosion and scouring. Water quality testing done by the University prior to this plan has indicated the presence of *e. coli* within the Jordan River (mapped locations not available).

To the north, similar stream corridor conditions are found along Cascade Creek. The majority of the Cascade Creek stream system is located within the northwest corner of campus. Like the Jordan River, this stream system is fed by several naturally occurring springs, surface runoff, and storm drain discharge. On campus, the stream varies from well-shaded, flowing through mature deciduous forest, to unshaded with no woody vegetation on its banks. This stream system has the same riparian corridor issues as the Jordan River.

Wetlands

A small wetland (1 to 2 acres) exists in the forested area south of the Jordan River, between the Musical Arts Center and the Auditorium. This wetland is connected to the Jordan River through an overflow channel that appears to

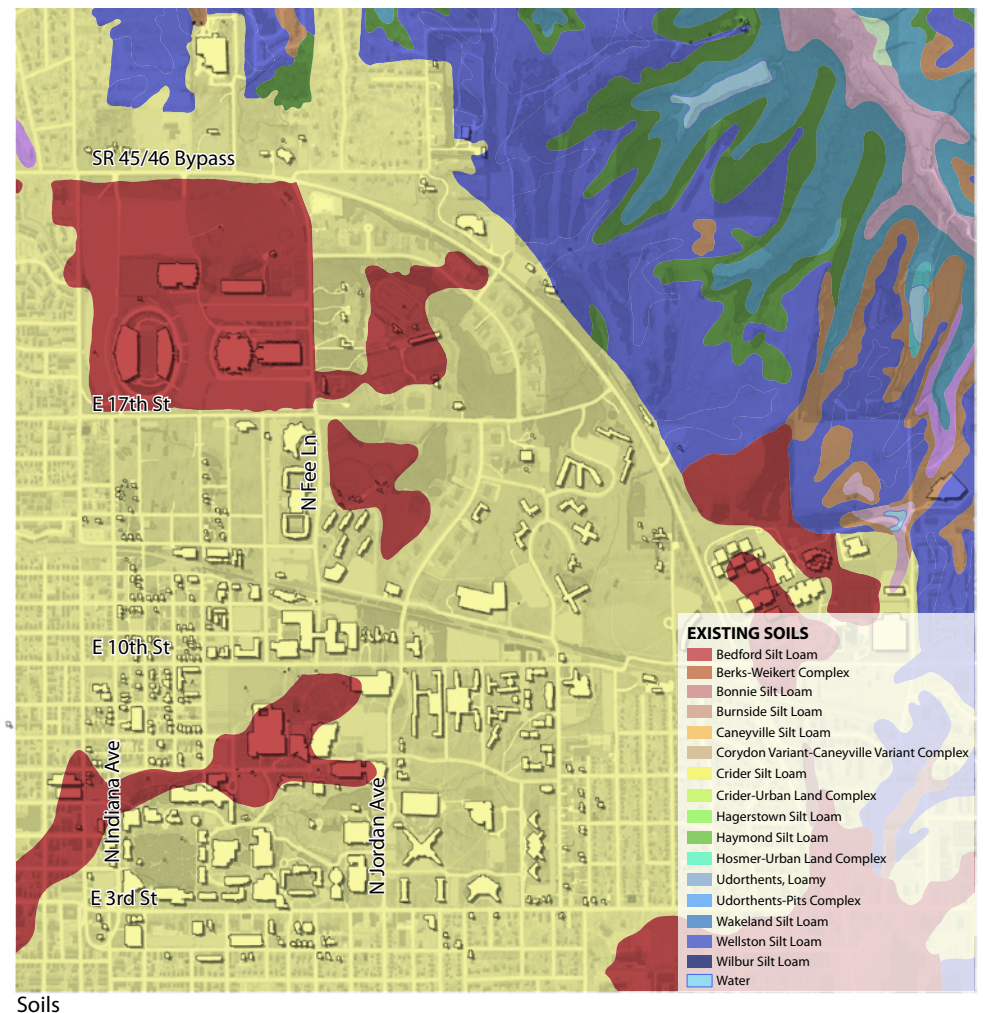
be ephemeral in nature, flowing only during periods of high rainfall. An additional wetland area was identified along the floodplains of Griffy Creek and the lower portion of Sycamore Creek, beyond the campus boundaries to the north (north of the soils map window).

Soils

Three soils are present within the main portion of campus south and west of the SR 45/46 Bypass: Crider silt loam, Crider-urban land complex, and Udorthents. The Crider soil is well drained. Udorthents are human-altered soils predominately used as fill. Udorthents are located along the Jordan River and in the northwest section of campus and Athletics campus, along the former Cascade Creek corridor. Hydric soils, a wetland indicator, are present within the floodplains of the Griffy Creek.

Vegetation and Land Cover

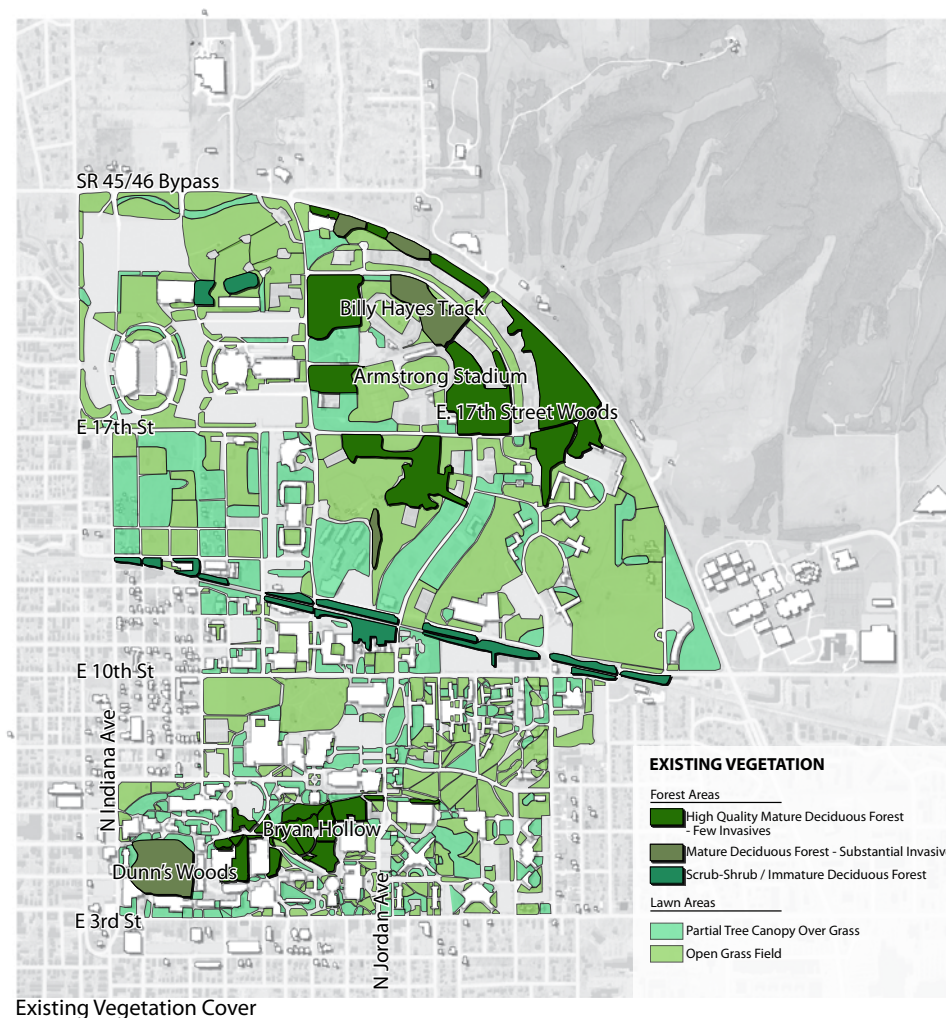
Prior to European settlement, Indiana's environment consisted of forestland, prairies, wetlands, and savannas. Forestland dominated



the landscape, accounting for approximately 82 percent of the land area, supporting a complex web of prey and predator animals. Today, the landscape across Indiana has changed as a result of agriculture and human development. It is estimated that less than 20 percent of Indiana is now forested.

The majority of the IUB campus land cover is open mown lawn or partial tree canopy over mown lawn. Approximately 36 percent of total campus property is covered by tree canopy. South and west of the SR 45/46 Bypass, only 20 percent of the land area is covered by tree canopy. The majority of woodland habitat is north of the SR 45/46 Bypass, surrounding the Griffy Lake Nature Preserve. Wildlife habitat on campus is in varying degrees of health and quality and consists of woodland, wooded stream corridors, and Griffy Lake. The University is currently working to restore some prairie areas and increase bird habitat in this area.

General observations of forest and woodland quality on campus identified three categories:



mature deciduous woodland with few invasives; mature deciduous woodland with substantial invasives; and scrub-shrub or immature woods. Mature deciduous forests with few invasives are found north of the SR 45/46 Bypass, on the steep slopes of the Griffy Creek valley, on campus north and south of East Seventeenth Street between North Fee Lane and the SR 45/46 Bypass, and within Bryan Hollow in the historic core. Mature forests with significant invasive species occur northeast of the Billy Hayes Track and Armstrong Stadium, and within Dunn's Woods. Scrub-shrub woodlands typically follow the railroad corridor in the center of campus. Three distinguished woodlands on campus are worthy of note: Dunn's Woods, Bryan Hollow, and the East Seventeenth Street woods.

Dunn's Woods

Dunn's Woods is a significant landmark on the IUB campus. It anchors the core of the historic campus and the Old Crescent, framed by the original academic buildings surrounding this memorable natural space.



Dunn's Woods Historic Photograph



Dunn's Woods Existing Summer Condition



Dunn's Woods Existing Winter Condition

Dunn's Woods' character has evolved since it was established. Early photographs of the historic campus depict less woodland density with a relatively open understory. Over the last several decades, Dunn's Woods has filled in and become overgrown. Currently, a variety of invasive plantings have led to a much denser understory, which has hindered and limited mature growth. Large patches of wintercreeper (*Euonymus fortunei*), a non-native invasive plant, occupy the forest floor, limiting the growth of nearly all other herbaceous species.

A tree survey conducted in 2006 found that 70 percent of the Dunn's Woods forest canopy is comprised of sugar maple (*Acer saccharum*), white ash (*Fraxinus Americana*), and beech (*Fagus grandifolia*) with a diameter of 6 inches or more. Native herbaceous species observed were harbinger-of-spring (*Erigenia bulbosa*) and wild chive (*Allium* species).

Bryan Hollow

Bryan Hollow is the woodland west of North Jordan Avenue from East Third Street to East

Seventh Street. Less dense than Dunn's Woods, its mature canopy of deciduous trees, combined with a network of pedestrian paths and the natural meander of the Jordan River make it a memorable natural space. Along with Dunn's Woods, Bryan Hollow reinforces the natural impression of IUB as a "campus in the woods." The tree species include sugar and red maples (*Acer saccharum* and *rubrum*), beech (*Fagus grandifolia*), and white and red oaks (*Quercus alba* and *rubra*). Forest floor species include harbinger-of-spring (*Erigenia bulbosa*), waterleaf (*Hydrophyllum* species), and wild chive (*Allium* species).

East Seventeenth Street Woods

The East Seventeenth Street woods contain large, mature trees ranging from 2 to 3 feet in diameter and from 75 to 100 feet tall. Upland and lowland tree species include bur oak (*Quercus macrocarpa*), sugar maple (*Acer saccharum*), white ash (*Fraxinus Americana*), black walnut (*Juglans nigra*), shagbark hickory (*Carya ovate*), red maple (*Acer rubrum*), sycamore (*Platanus occidentalis*), and eastern cottonwood (*Populus deltoides*).

Occupying the outer edge of the campus, East Seventeenth Street woods has few paths and is not as heavily traveled as Dunn's Woods or Bryan Hollow. It is primarily accessible to the Greek residential houses north and south of East Seventeenth Street, and is visible to vehicular traffic on East Seventeenth Street, creating a green border to the street edge.



Bryan Hollow

LANDSCAPE CHARACTER

“The new campus comprises twenty acres of elevated ground, on the eastern edge of the city, covered with a heavy growth of maple and beech timber. The commanding position of the land and the beauty of the natural forest which occupies it render this one of the most attractive college sites in the country.”

—Indiana University Trustees, Upon Choosing the Dunn’s Woods Site for the New College, 1883

As the trustees of the University observed, the site selected for the new campus had great natural character and prominence. Indiana University is consistently ranked among the top ten most beautiful campuses in the United States. High-quality architectural design and the use of native limestone, combined with the site’s topography, woodlands, streams, and historic courtyards evoke a distinctly memorable campus with iconic imagery.

The character of the campus represents a Romantic Naturalism, a landscape style employed on many early American campuses. Indiana University’s design character can be

attributed to the work of the Olmsted Brothers in the early 1900s and Fritz Loonsten, the University’s landscape architect in the mid 20th century. Both emphasized and reinforced a natural wooded character while minimizing formal or ornamental plantings.

The campus is organized by a series of informally connected outdoor spaces that have evolved incrementally as the campus developed. Distinguished buildings define unique academic spaces, from the Old Crescent around Dunn’s Woods to memorable quads. Distinct open spaces such as Dunn Meadow, Woodlawn Field, and Cox Arboretum are bounded on one or two sides by public rights-of-way and fronted by both residential and University buildings, making the campus’s public space highly visible. Cultural and performance facilities on campus tend to be organized in a more formal geometry around ceremonial spaces, such as the Showalter Fountain and the Fine Arts Plaza on East Seventh Street, and the entrance to the Simon Music Center and Frank E. McKinney Jr. Fountain on North Jordan Avenue.

Memorable Spaces

The structure of campus can be further defined as a series of memorable spaces, diverse in their scale, character, and function. Each space also contributes to the overall character and quality of the campus. These spaces include unique areas such as Dunn’s Woods, Bryan Hollow, Cox Arboretum, Dunn Meadow, and Hilltop Garden. These landscapes possess unique qualities and a sense of proportion and scale that make them important destinations and focal points for the whole campus.

There are a few outstanding quad examples on the IUB campus, such as Wells Quad and Collins Quad. These quads are distinguished by their sense of enclosure and the carefully articulated relationship between architecture and landscape.

Herman B Wells Plaza and the Commemorative Garden at the Indiana Memorial Union are examples of more intimate spaces found on campus. These smaller plazas, gardens, and unique features give a personal, human scale to the campus.

Preservation areas are the natural or cultural spaces that provide significant visual, historical, and/or environmental benefits. This group includes such areas as East Seventeenth Street woods, Beck Chapel and Dunn Cemetery, SPEA grove, and Rogers-Fee Lane Cemetery.



ONE-OF-A-KIND PLACES

- 1. Dunn’s Woods
- 2. Dunn Meadow
- 3. Bryan Hollow
- 4. Cox Arboretum
- 5. Fine Arts Plaza
- 6. Hilltop Garden

QUADS

- 7. Wells Quad
- 8. Collins Quad
- 9. Godfrey Graduate and Executive Education Center Courtyard

PRESERVATION AREAS

- 10. Dunn Cemetery
- 11. Rogers-Fee Lane Cemetery
- 12. Beech Grove
- 13. SPEA Grove
- 14. East Seventeenth Street Woods

INTIMATE SPACES

- 15. Sunken Garden
- 16. Wells Plaza
- 17. McKinney Fountain



Sunken Garden



Dunn Meadow



Cox Arboretum



Wells Plaza

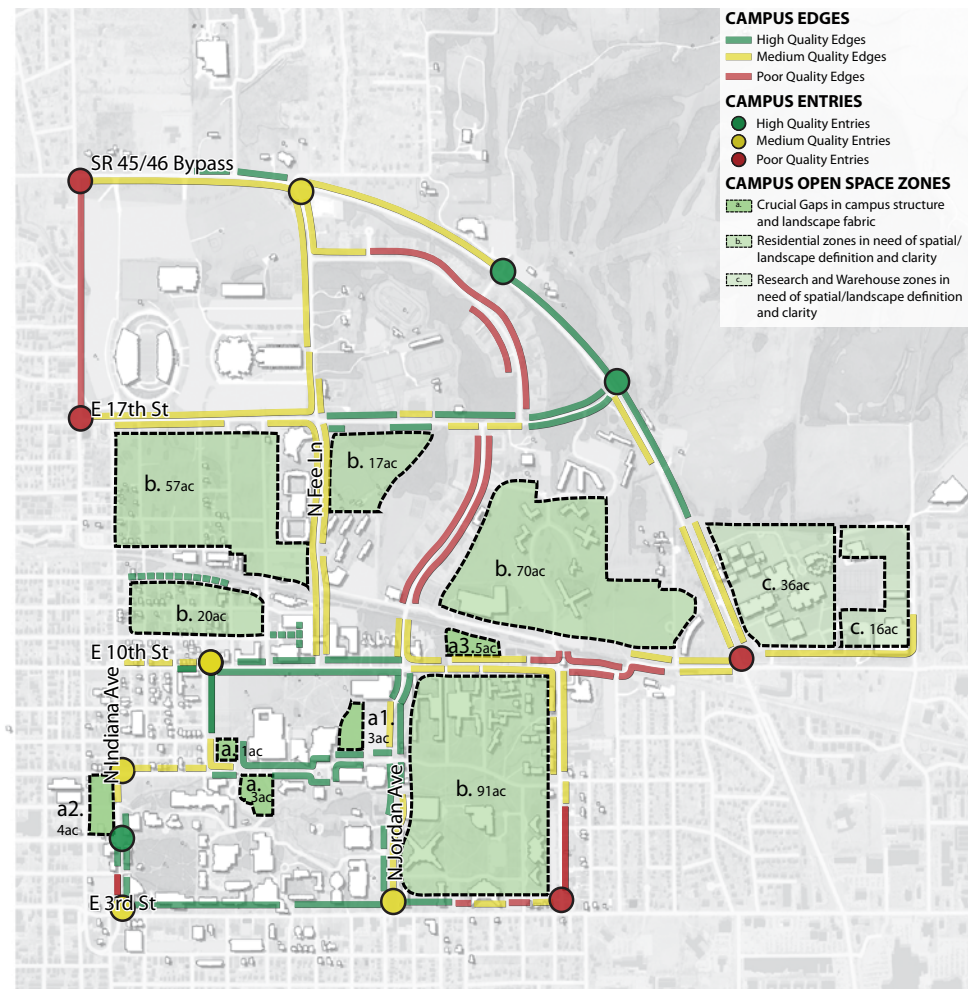


Beck Chapel at Dunn Cemetery

Character Gaps

Large, unscreened parking lots, undefined or underutilized open space surrounding the high-rise residential towers, and lesser quality construction of certain campus facilities and adjacent buildings create gaps in the perceived aesthetic quality of the campus.

Although the two surface parking lots on campus provide needed parking at the Indiana Memorial Union, Wells Library, and the academic core, they occupy critical visual zones on campus, and are not consistent with the aesthetic character or quality environment found in prominent campus spaces. Similarly, surface parking lots at North Indiana Avenue west of campus, on East Tenth Street east of North Jordan Avenue, and on North Dunn Street by the stadium also detract from the visual quality of the campus. Character gaps are also evident at the retail establishments at the Crosstown Shopping Center at East Tenth and North Union Streets. The structures and streetscapes lack the quality and aesthetic character of a retail district appropriate for Indiana University.



Existing Character Gaps



Indiana Memorial Union Parking Lot



Open Space North of East Tenth Street



Open Space North of East Law Lane

Other major character gaps exist in the residential areas and open spaces east of North Jordan Avenue and north of the railroad tracks. The landscape character here departs from the model of buildings shaping space found in the historic core. Instead, buildings occupy space, leaving large tracts of undefined, undifferentiated landscape, typically with few mature trees. These areas lack the density and cohesive design character that is so successful in the historic core. The quads within these post World War II residential dormitories have minimal landscape and do not engage the architecture or topography as other successful residential quads on campus do.

There is a large tract of underutilized land north of East Tenth Street that extends to East Seventeenth Street on the western side of campus. This area has become a loose mix of campus support facilities, warehouses, physical plant, smaller departments, open space, and scattered rental housing. Many of the facilities and roads in this area are in poor physical condition. This area of campus provides the

greatest opportunity for future campus growth and landscape enhancement.

North of East Seventeenth Street, the Athletics campus contains a large footprint, highly individualized buildings, but no sense of a campus structure or organization that is scaled to the pedestrian or connected back to the main campus.

The emerging Research Park on the eastern edge of campus, east of the SR 45/46 Bypass is an area in transition. Once the home of the University School, it is an area of low, 1-story buildings surrounded by surface parking lots, physically and visually divorced from the main campus. It currently lacks a coherent campus structure and landscape expression, and does not have a strong identity. The transformation of the Research Park area and its separation from the main campus provides an opportunity to create a new architectural and landscape expression, one that can include more innovative practices in architectural design, stormwater management, and sustainable, native landscapes.

Campus Edges

The campus edge along North Indiana Avenue from East Kirkwood Avenue to East Third Street, and East Third Street between North Indiana and North Jordan Avenues is an excellent example of a coherent college edge and civic boundary. Its consistent building setback, informal massing of deciduous tree canopy and flowering understory trees, scale and materiality of the buildings, and consistent streetscape edge create a clear and distinct campus identity.

Unfortunately, the East Third Street prototype is not evident on all edges of the campus. Surface parking lots, sparse landscape, and an inconsistent architectural style and setback dilute the clarity of many campus edges. Examples of poor edges include North Union Street to the east, East Atwater Street to the south, North Dunn Street west of the Athletics campus, and East Tenth Street east and west of the SR 45/46 Bypass.

The campus edge along the SR 45/46 Bypass provides a unique scale and landscape character.

Much of this corridor and edge is defined by woods and views across the Indiana University Golf Course. Unfortunately, it lacks a consistent landscape character and design treatment to unify and define this prominent corridor and campus boundary.

Bloomington residents have identified the area north of the railroad tracks between North Indiana and North Woodlawn Avenues as poorly defined and underutilized. While this area is used for tailgating during football season, landscape enhancements can create a more attractive and better-defined edge of this part of campus.



East Third Street Edge



North Indiana Avenue Edge

Gateways

There are a number of successful pedestrian-scaled gateways into the IUB campus. The Sample Gates, at the intersection of East Kirkwood and North Indiana Avenues, were built to provide a grander entrance and portal between the campus and the city of Bloomington, and have become a local landmark and icon emblematic of Indiana University. Constructed in the late 20th century, the Sample Gates were designed to be compatible with the architectural character and materials of the early 20th century buildings of Franklin Hall and Bryan Hall.

Other successful pedestrian-scaled gateways occur along campus entrances on East Third Street, and pedestrian entrances into Cox Arboretum off of East Tenth Street. Though existing gateways are somewhat unique in design, each gateway maintains a consistency through the use of limestone and human-scaled proportions.

The campus is in need of equally successful vehicular-scaled gateways. Existing entry signs are under-scaled or nonexistent. Key vehicular gateways occur on the SR 45/46 Bypass at North Dunn Street, North Fee Lane, and East Tenth Street; on East Seventeenth Street at North Dunn Street and the SR 45/46 Bypass; and on East Third Street at South Rose Avenue, the southeast corner of campus. In some instances, the scale of campus facilities, such as Memorial Stadium, serve as unofficial gateways into campus.



Sample Gates



Pedestrian Entrance to Cox Arboretum at East Tenth Street



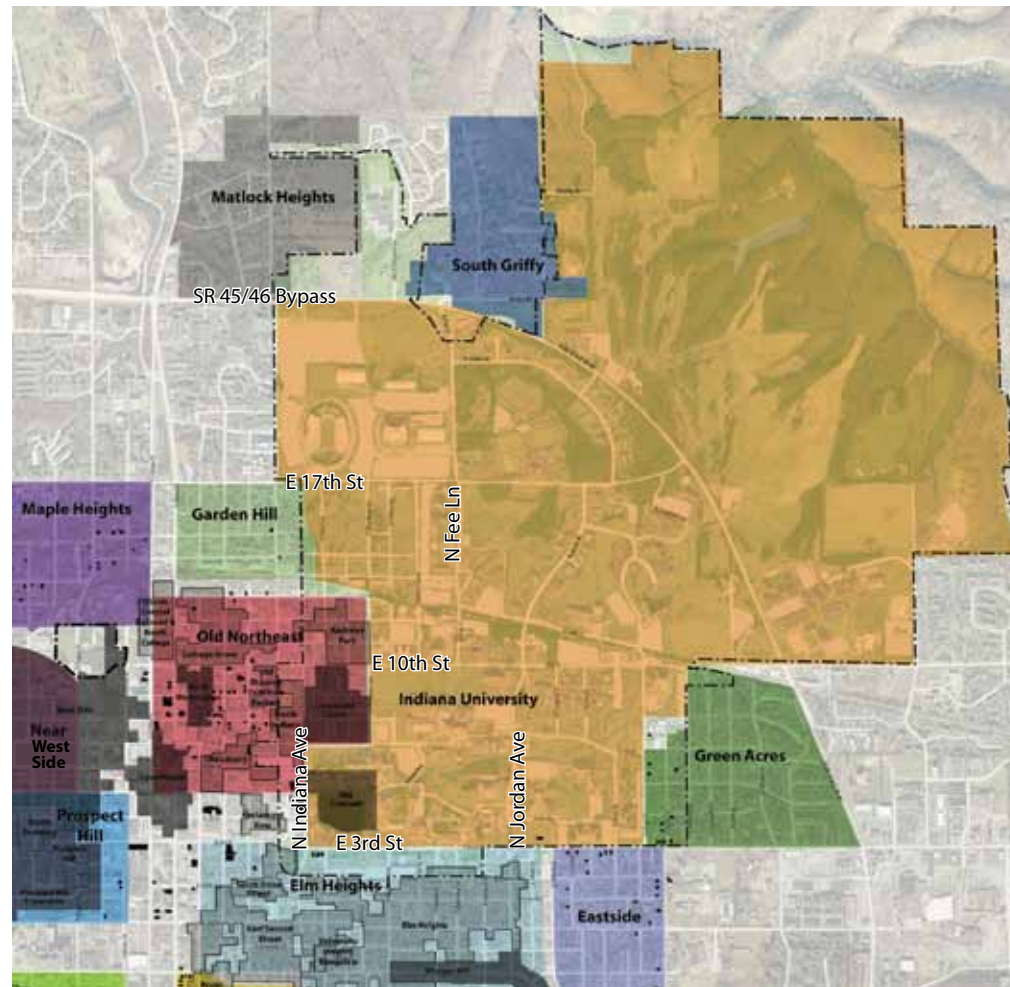
Cox Arboretum Gates

CAMPUS DEVELOPMENT

Community Context

According to the 2000 Census, the city of Bloomington has a population of 69,261, with a metropolitan area population of 175,506. The campus of IUB occupies and is the primary land owner in the northeast quadrant of the city. City residential neighborhoods and the town's commercial district border the campus on the south, east, and west. Campus property to the north abuts the Indiana University Research and Teaching Preserve.

Seven city neighborhoods share a common boundary with the campus: Eastside, Elm Heights, Old Northeast, Garden Hill, Matlock Heights, South Griffy, and Green Acres. Matlock Heights, South Griffy, Eastside, and Elm Heights are all stable, single-family residential neighborhoods. The area of Elm Heights south of East Third Street contains many smaller historic districts, including the Vinegar Hill Historic District.



Community Context



East Kirkwood Avenue



University Courts Neighborhood

Garden Hill is located north of the railroad tracks and west of North Indiana Avenue, and is dominated by student rental housing. Only 5 percent of the housing stock in this area is owner occupied. A concentration of apartment complexes located just north of Garden Hill also provides a large percentage of off-campus student housing. East of campus, Green Acres is a neighborhood transitioning from primarily owner-occupied property to a mix of student and single-family residential housing.

The Old Northeast neighborhood is an owner-occupied and student residential mixed-use neighborhood between downtown and campus. It is home to three National Register Historic Districts and four locally designated neighborhoods, according to the Bloomington Decennial Historic Survey. The Old Northeast neighborhood includes the University Courts Historic District, defined as the 9-block area from East Seventh Street to East Tenth Street, between North Woodlawn Avenue and North Indiana Avenue. This Historic District is a fairly intact, residential area close to campus that

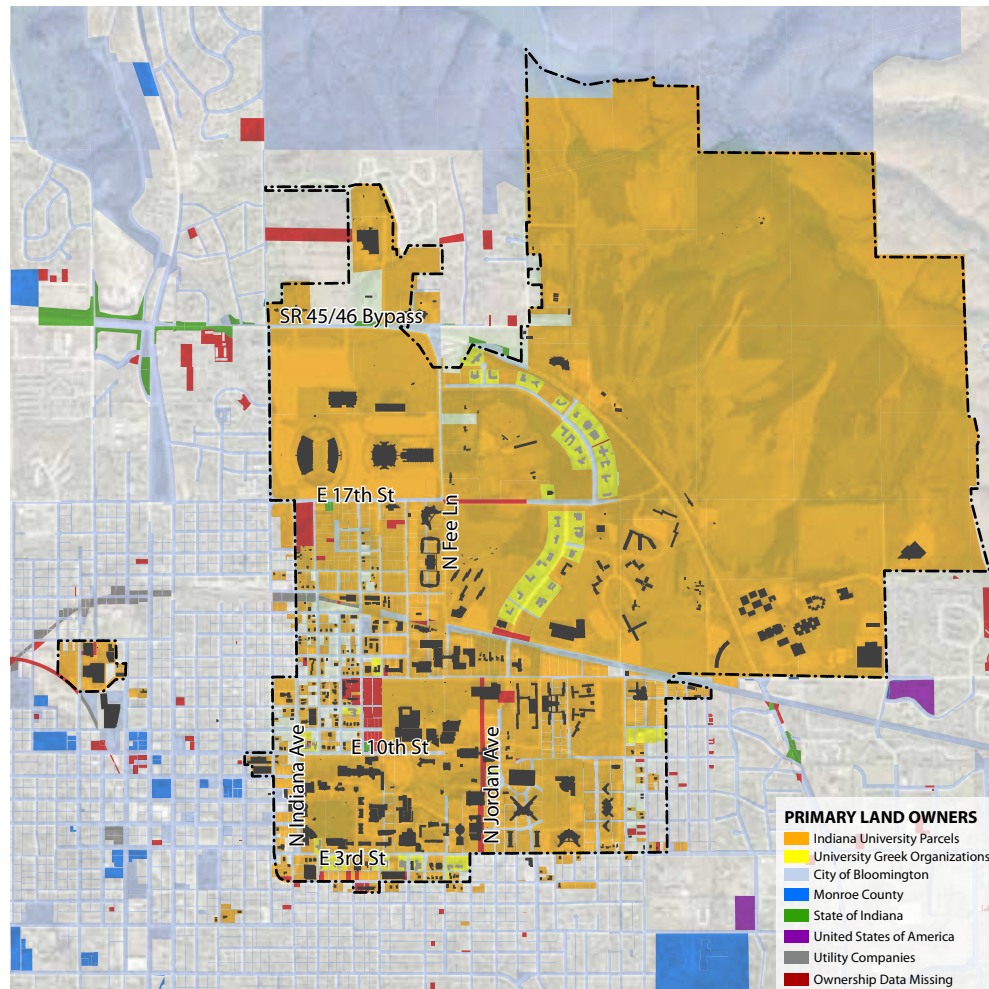
could be restored as an asset to the University and the city. The University owns approximately 70 percent of the property within the University Courts area, including the Collins Living-Learning Center, the Hutton Honors College, and smaller facilities and institutions. Another nationally recognized Historic District in the Old Northeast neighborhood is the North Indiana Avenue Historic District, a narrow zone between North Indiana Avenue and North Dunn Street from East Sixth Street to East Tenth Street. The McCalla School is the primary University building in this district.

There is a strong physical town and gown relationship between the city of Bloomington and the IUB campus. This relationship is embodied in East Kirkwood Avenue, the main commercial spine connecting the campus to downtown Bloomington. It is a thriving, pedestrian-scaled retail corridor and student gathering place west of campus, and a vital link to the central business district. Although it was previously a street that continued through campus, East Kirkwood Avenue now terminates

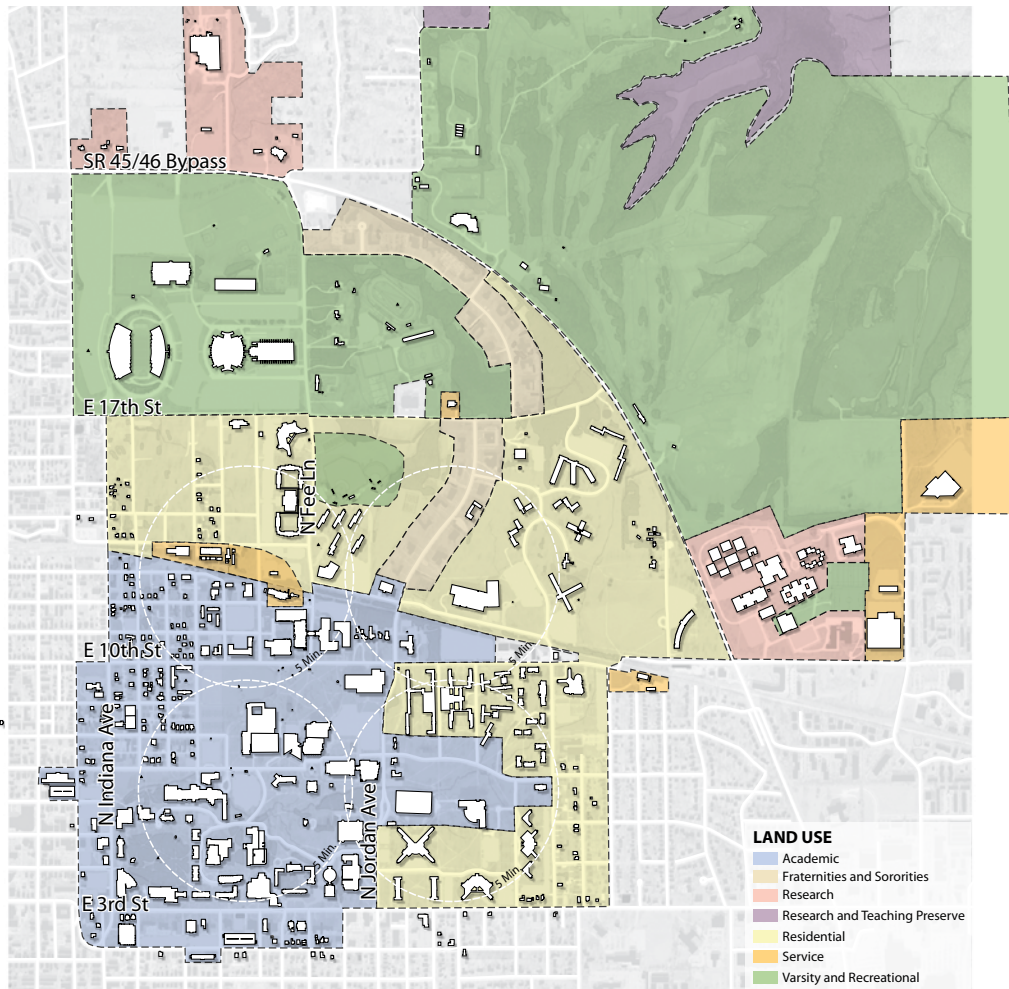
at the Sample Gates at North Indiana Avenue. East Kirkwood Avenue will continue to be an important pedestrian corridor and route for the city and campus.

Property Ownership

Indiana University, the Indiana University Foundation, and the Indiana University Trustees are the primary land owners on the IUB campus. Due to University efforts to relocate Greek housing away from established neighborhoods, Greek organizations are the second largest ownership group within the campus boundaries, primarily along North Jordan Avenue north of the railroad tracks.



Property Ownership



Land Use

Land Use

The current pattern of land use on campus consists of the academic core in the southwest quadrant of campus, with a radial band of residential uses and Greek housing to the north and east, and an outer band of athletics and recreation, research, and campus support uses. This stratified land use configuration was established in the 1950s and 1960s, when the University constructed new residential dorms outside of the academic center of campus and relocated the football stadium north of East Seventeenth Street. This configuration emerged from the perception that the University had outgrown its historic campus pattern of a mix of residential, recreational, and academic uses within a walkable distance. It then embraced the concept of concentrating uses into separate land use districts outside of the core, supported by a new pattern of development scaled to the automobile.

Over time, this pattern has resulted in isolated residential neighborhoods farther from the core, increasing the need for students to drive

or use transit services to reach their daily destinations. Indiana University currently houses approximately 11,600 students, or 30 percent, on campus in a range of dormitories, suites, and apartment buildings. The majority of apartments and a significant percentage of dorms and suites are located beyond a 15-minute walk from the campus core. Separated land use districts have led to a lack of vibrancy and amenities within residential neighborhoods, and an academic core that lacks an evening population to support social activities and programs at the Indiana Memorial Union (IMU). This can be addressed by re-introducing housing and a greater mix of uses within and closer to the academic core.

Within the academic core, all academic and academic support uses are within a 5- to 7-minute walking distance from the center of campus. The College of Arts and Sciences occupies most of the historic core. Critical adjacencies and the desire to share specialized technology have resulted in a concentration of science facilities near the center of the historic core. Professional schools such as the Maurer

School of Law and the Godfrey Graduate and Executive Education Center are located toward the perimeter, along with the Jacobs School of Music and the School of Education.

East Seventh Street is the academic and cultural “Main Street” of campus. It contains the greatest mix of uses, from academic and classroom space to recreation, cultural facilities, and performance spaces. Despite its mix of uses, East Seventh Street still lacks a sense of activity and vibrancy to attract students and visitors for longer periods of time.

The IMU is a key destination on East Seventh Street, but faces challenges to its continued vitality and relevance. Primarily supported by its hotel and conference functions, the IMU has very poor internal circulation and poor visibility for its retail, bookstore, and food services. Student activities and organizations are also hidden from view. It lacks open gathering spaces for students to “see and be seen.” From the exterior, the IUB has historically had its back door to East Seventh Street and the high volume



Indiana Memorial Union



Indiana Memorial Union Interior

of foot traffic there. The success of the recently opened Starbucks coffee shop in the IMU indicates that there is still a demand for student services and retail at the heart of campus.

The former University School east of campus, at East Tenth Street and the SR 45/46 Bypass, is an area in transition, from a 1-story middle school campus into an advanced technology environment for the University and private sector interests. The University has constructed a new Data Center with the capacity to attract private sector companies and partners for research into life sciences and other technology endeavors. This location provides good access and visibility from the SR 45/46 Bypass, but lacks connectivity to the main campus.

Competitive athletics venues and practice facilities can be found in four locations on campus: the stadium area north of East Seventeenth Street and west of North Fee Lane; the track and field stadium north of East Seventeenth Street and east of North Fee Lane; baseball and softball fields east of North Fee

Lane and south of East Seventeenth Street; and the soccer field and rugby field east of campus and the SR 45/46 Bypass. An Athletics Master Plan was prepared prior to the Campus Master Plan and recommended the consolidation of athletic facilities to the two primary athletic zones at the stadium and the track and field complexes, north of East Seventeenth Street. The plan also proposed a new men's baseball and women's softball complex south of the SR 45/46 Bypass and west of North Fee Lane, as a new "gateway" complex and identity for the University. This would free up the land area on North Fee Lane for future redevelopment.

The Athletics Master Plan also proposed the following changes: expansion of Memorial Stadium with construction of a new North End Zone (complete in August 2009); a new basketball practice facility (now under construction); a future site for the replacement of Assembly Hall, south of its current location; and expansion and improvements to the Indiana Tennis Center. The plan also recommended a new surface parking layout and internal

pedestrian circulation to better serve event traffic for the Athletics campus.



2006 Athletics Master Plan, HOK Sport



Woodlawn Field



Evan Williams Club Sports Field



Recreational Sports Field complex

Recreational Sports

Recreational Sports currently operates and maintains three field locations:

| | |
|--|------------------|
| The Recreational Sports Field Complex | 13 acres |
| Woodlawn Field | 7 acres |
| <u>Evan Williams Club Sports Field</u> | <u>2.5 acres</u> |
| Total Acreage | 22.5 acres |

Woodlawn Field has three fields used for club and informal sports, and has challenges with drainage, lighting, and function. The 13-acre Recreational Sports Field Complex on North Fee Lane and the SR 45/46 Bypass has six multipurpose fields that can only be used for one sport at a time, limiting recreational and intramural team participation. The consolidation of athletic facilities north of the stadium would require the relocation of the Recreational Sports Field Complex. The Recreational Sports program has demonstrated a demand for increased recreational fields and has requested new land area to replace and expand their fields.

Other campus services, including the existing power plant and chilled water facility, are located along the railroad line or in facilities on North Range Road and East Tenth Street.

Campus Height and Density

Buildings on the IUB campus range in height from 1 to 17 stories. The majority of structures, approximately 77 percent, are between 1 and 4 stories. Nineteen percent, or one-fifth of buildings, are between 5 to 8 stories. High-rise buildings taller than 9 stories make up only 5 percent of the buildings on campus.

Floor Area Ratio (FAR) is a means of measuring the proportion of building square footage to land area to determine the density of development. Based on 2007 baseline data, the IUB campus has an overall FAR of 0.42 (minus the golf course acreage). Broken into specific campus neighborhoods and districts, the FAR ranges from 0.2 to 1.45. Despite the high-rise dormitories, residential areas are at a very low density, from 0.2 to 0.4. At 1.3 FAR, the historic core of campus is an excellent model for campus density that balances open space with a very human-scaled sense of development.

Data provided by the University Architect's Office also provides a picture of the 2007

building capacity for the academic core.

Building capacity is measured in Teaching Stations (the student capacity of a room or building) and Office Stations (individual office work stations for faculty and/or department administration). Comparisons by campus area reinforce the model of the historic core as a workable standard for density.

Academic Building Capacity

| | |
|-----------------------|---------------|
| Teaching Stations | 23,999 |
| Office Stations | 7,612 |
| Total Capacity | 31,611 |

Campus Area: Building Capacity

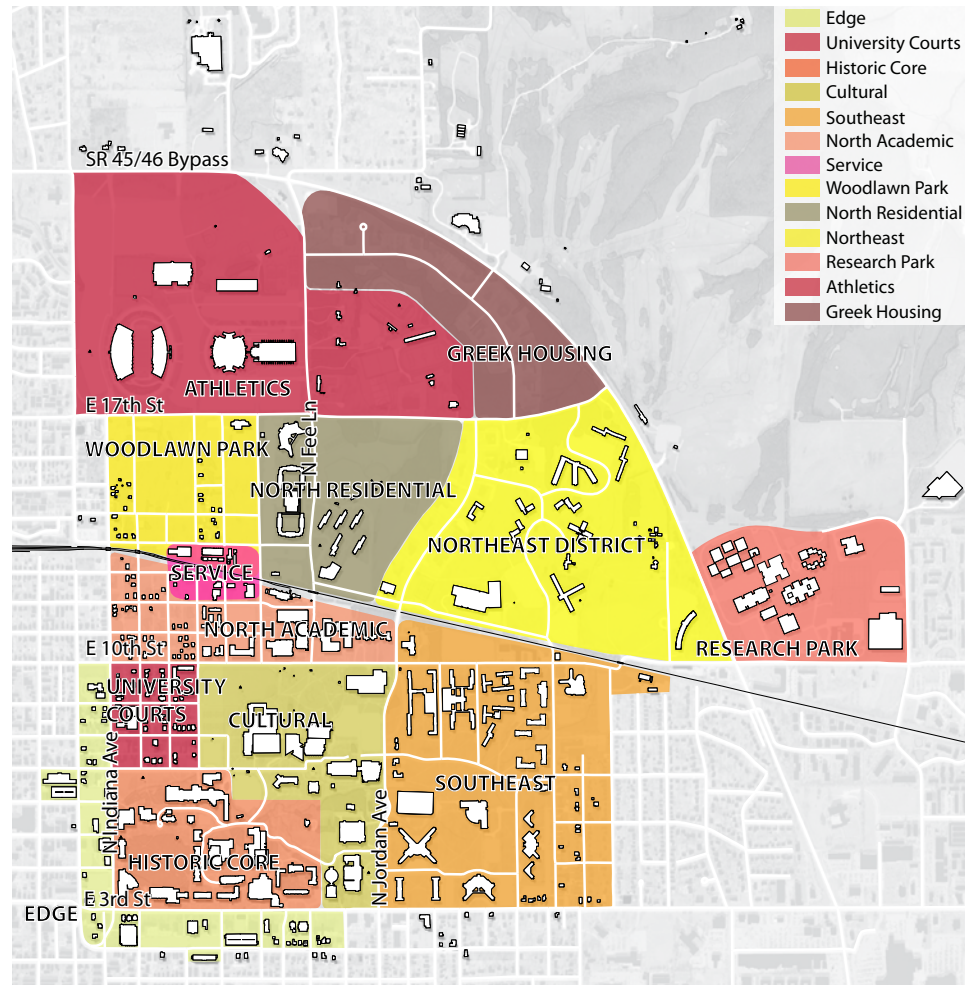
| | |
|-----------------------------------|--------|
| Historic Core | 14,740 |
| East Seventh Street/Cultural Area | 9,321 |
| North of East Tenth Street | 6,756 |
| East of North Jordan Avenue | 1,816 |

Top 5 Buildings Capacity

| | |
|--|-------|
| Ballantine Hall | 4,314 |
| Kelley School of Business | 2,958 |
| School of Education | 1,816 |
| Woodburn Hall | 1,729 |
| Godfrey Grad. and Executive Ed. Center | 1,417 |

| Existing FAR Density | | | |
|----------------------|----------------|-----------|-----|
| District | Total Bldg GSF | Dist Area | FAR |
| Edge | 1,057,776 | 2,271,729 | 0.5 |
| University Courts | 343,649 | 1,139,679 | 0.3 |
| Historic Core | 3,600,747 | 3,168,066 | 1.3 |
| Cultural | 3,284,924 | 3,415,192 | 1.0 |
| Southeast | 2,841,467 | 7,239,046 | 0.4 |
| North Academic | 2,555,813 | 2,546,246 | 1.0 |
| Service | 124,518 | 575,829 | 0.2 |
| Woodlawn Park | 126,222 | 2,572,256 | 0.0 |
| North Residential | 1,322,535 | 3,456,646 | 0.4 |
| Northeast | 1,318,109 | 7,181,797 | 0.2 |
| Research Park | 1,248,264 | 3,073,629 | 0.4 |
| Athletics | 1,315,540 | 8,577,728 | 0.2 |
| Greek Housing | 3,214 | 3,084,528 | 0.0 |

* Note: Total Building GSF includes all IUB buildings based on 2007 baseline data (including parking decks within each district). Non-IUB buildings and structures are excluded.



Existing Density

Building Condition

An evaluation of the physical condition for all campus facilities was conducted by the University Architect's Office and given to the planning team. Buildings were evaluated based on building age, replacement value, building component values, overall condition, prior renewal, capital expenditures, and observation. The majority of buildings on campus were found to either be in satisfactory condition, requiring no immediate renovation, or fair condition, requiring minor to moderate levels of renovation. Approximately eight campus structures were identified as being in need of major remodeling as a part of this evaluation. These included Geological Sciences; Swain, Owen, Kirkwood, Goodbody, Franklin, and Merrill Halls; and the Central Heating Plant north of East Eleventh Street.

A number of structures were identified for demolition based on their existing condition, rehabilitation costs, adaptive re-use potential and quality of space. These included the Banta, Bicknell, Hepburn and Nutt Apartments north

of North Law Lane, as well as smaller support facilities near the chiller plant and railroad tracks. A number of smaller residential structures along North Woodlawn Avenue north of East Tenth Street were also in poor condition and identified for removal.

Educational Adequacy

Different from the building condition study, which only evaluated the physical condition of facilities, 27 buildings on the IUB campus were evaluated for educational adequacy, including an analysis of their functionality, suitability of use and purpose, and flexibility of space. The buildings were sorted into five categories:

1. High Quality/Model Buildings
2. Recently Renovated Buildings
3. Buildings Requiring Upgrade/Renovation
4. Historic Buildings in Need of Renovation
5. Outdated Buildings for Renovation or Replacement



Owen Hall



Swain Hall



Geological Sciences

The specific buildings evaluated included the following:

1. High Quality Buildings

Godfrey Graduate and Executive Education Center

Musical Arts Center

Student Recreational Sports Center

Simon Hall

2. Recently Renovated Buildings

Informatics

Lindley Hall

3. Buildings Requiring Upgrades

Assembly Hall

Ballantine Hall

Kelley School of Business Undergraduate Building

Chemistry

Ernie Pyle Hall

Fine Arts

School of Health, Physical Education and Recreation

Jordan Hall

Maurer School of Law

Merrill Hall

School of Optometry

Psychology

Simon Music Library/Center

School of Public and Environmental Affairs

Sycamore Hall

Wells Library

School of Education

4. Historic Buildings for Renovation

Franklin Hall

Swain Hall West

5. Outdated Buildings

Geological Sciences

School of Music Addition

Specific buildings of note in this assessment included Ballantine Hall, Jordan Hall, Merrill Hall, Maurer School of Law, Ernie Pyle Hall, Sycamore Hall, Swain Hall West, and Geological Sciences. Refer to the Technical Appendix for the full *IUB Educational Adequacy* report.

Ballantine Hall is primarily (80 percent) classroom use and faculty offices. Ballantine Hall is the largest academic facility on the campus, with the highest building occupancy and the lowest gross square feet (GSF) per occupant.



Simon Hall



Lindley Hall



Kelley School of Business

Ballantine Hall

| | |
|-------------------|---------|
| GSF | 305,420 |
| Teaching Stations | 3,792 |
| Office Stations | 522 |
| Total Occupancy | 4,314 |
| GSF/Occupant | 71 |

As a large monolith with narrow hallways, Ballantine Hall contains no common student gathering spaces. The classrooms are outdated, with insufficient square feet per student station for modern learning methods and group work. Faculty offices on the upper floors have no air conditioning.

Jordan Hall requires ongoing classroom and lab renovations. Merrill Hall is in need of major renovation and expansion to accommodate the needs of Jacobs School of Music. Sycamore Hall, which was originally built as a women's dormitory and converted to classrooms, teaching labs, and offices, needs continuing upgrades and ventilation. Both Ernie Pyle Hall and the Maurer School of Law do not have enough space for their programs.

Franklin Hall and Swain Hall West are historic buildings in need of preservation and renovation. Swain Hall West's labs and lecture halls are significantly outdated and in need of major renovation. Although not specifically evaluated for educational adequacy, other historic buildings in need of sensitive renovation include Kirkwood Hall, Owen Hall, Rawles Hall, Memorial Hall, Goodbody Hall, and Morrison Hall. The Geological Sciences building is a candidate in need of major renovation.



Ballantine Hall



Ballantine Hall Interior



Jordan Hall

CIRCULATION AND PARKING

Four tools were used to obtain and analyze data related to campus transportation and parking: traffic counts provided by the City of Bloomington (City) and updated with select intersection counts on campus; interviews with University and City staff; general observations including a parking utilization study; and a campus survey to understand users' transportation behavior patterns and concerns. Refer to the Technical Appendix for the full *IUB Transportation Analysis in Support of the Master Plan* report.

Roads and Vehicular Traffic

The IUB campus is served by a roadway network and hierarchy of streets that include city arterials, campus circulators, local campus streets, and streets that serve as both city and campus circulation corridors, such as East Tenth Street.

City Arterials

SR 45/46 Bypass
East Third Street/East Atwater Avenue Pair
North Indiana Avenue/North Dunn Street
East Tenth Street

Campus Circulators

North Fee Lane
North Jordan Avenue
North Indiana Avenue/North Dunn Street
East Seventeenth Street
East Tenth Street

Local Campus Streets

East Seventh Street
East Law Lane
North Walnut Grove
North Woodlawn Avenue
North Union Street
South Rose Avenue
Jones Avenue

The SR 45/46 Bypass around the northern end of campus was created for the purpose of routing non-campus traffic around the perimeter in order to alleviate congestion on crowded campus streets. However, there is now significant congestion on the bypass due to large volumes of city traffic and the low capacity of the mostly two-lane roadway. The State of Indiana has plans to widen the bypass from two lanes to four with a center median. This widening should help with congestion on the bypass.

The three main east-west routes through campus are East Seventeenth Street, East Tenth Street, and the East Third Street/East Atwater Avenue one-way pair. Although it connects to North College Avenue and North Walnut Street (the downtown's north-south pair west of campus), East Seventeenth Street is not used as a city through road because it terminates at the bypass without a traffic signal.

East Tenth Street has a high amount of congestion, acting as both a city circulator and as a campus circulator road. East Tenth Street

functions as a through road during non-rush hour times, and as a collecting and distributing road during rush hours. Daily traffic volumes fluctuate along the East Tenth Street corridor, peaking between North Fee Lane and North Woodlawn Avenue. East Tenth Street has a very high percentage of turning movements during peak travel times, adding to its congestion. Long queues of vehicles occur on a regular basis due to heavy use by multiple modes of transportation, the lack of alternatives for vehicular traffic, the high amount of turning movements, the high amount of pedestrians, and the numerous bus routes and stops along East Tenth Street. Improving the function and pedestrian safety of the East Tenth Street corridor is a high priority for the City and the University.

The combined average daily traffic on the East Third Street/East Atwater Avenue one-way pair carries the most amount of east-west traffic. With a high percentage of through traffic and a lower percentage of turning movements, the East Third Street/East Atwater Avenue pair

serves as the primary city through road in the University area for Bloomington traffic. This high amount of city-based traffic at the campus edge creates conflicts with bus operations and pedestrian access from University parking decks and residential neighborhoods to the south.

There is a lack of east-west connectivity between the emerging Research Park east of the bypass and the main campus. The SR 45/46 Bypass will become an increasingly busy corridor and difficult to cross for traffic and pedestrians. Physical connections between the Research Park and the main campus must be developed to improve the synergy of research and technology uses with other University research and programs.

The existing campus road network provides limited options for north-south traffic. The western side of campus lacks north-south connectivity because no road makes a direct connection between the bypass and the southwestern edge of the campus. North Indiana Avenue/North Dunn Street are the north-south

one-way pair that serves city and campus traffic at the western edge of the campus. The pair's narrow streets and single railroad underpass limit the pair's capacity for traffic.

A transportation analysis indicated that motorists arrive to campus from multiple directions. The highest percentage of traffic, 32 percent, arrives from the east and southeast, evenly split on East Tenth and East Third Streets. Twenty-two percent of traffic arrives from the southwest, along North Indiana Avenue or East Third Street. However, parking facilities are not located near these arrival points, which forces motorists to drive into the center of campus in order to park. This leads to increased campus traffic congestion and conflicts with pedestrians.

Most campus streets are very narrow. North Jordan Avenue is the only campus roadway over 30 feet wide that traverses several blocks. There are limited options for improving existing congestion by widening streets within the existing rights-of-way without significant

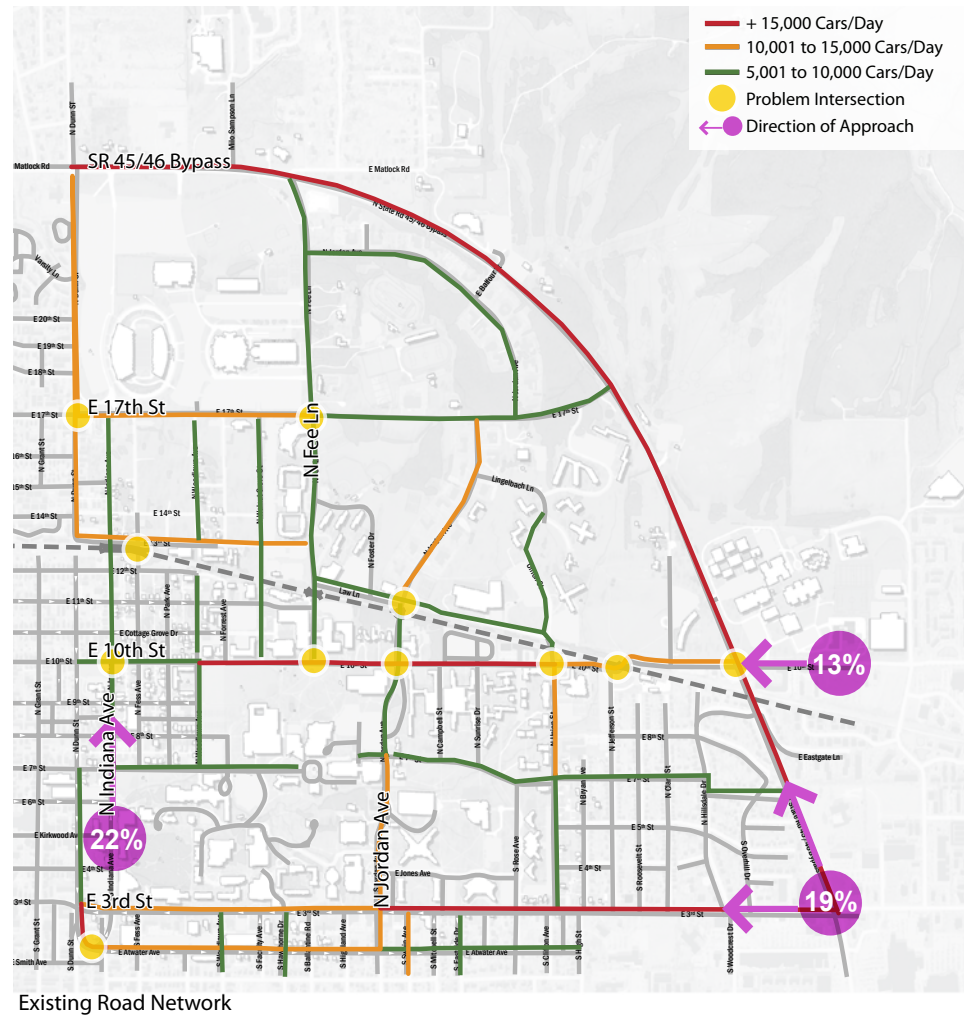


East Tenth Street

cost or impact to the pedestrian environment. Alternative measures must be found to alleviate campus traffic congestion and improve pedestrian safety.

Service Corridors

In the historic core of campus, the original “front door” of buildings was the façade facing a public street, such as East Third Street, North Indiana Avenue, East Seventh Street, or the former East Kirkwood Avenue inside campus. Service and loading areas were located at the “back door.”





— Service Corridors South of the Railroad

As the campus has grown, former back door areas now face major pedestrian walks and open spaces, such as the Jordan River or the Cox Arboretum. These service areas are exposed to pedestrian traffic and detract from the quality of the campus environment. Service access is often at odds with pedestrian movement. The service drive from East Seventh Street between the Wildermuth Intramural Center and the Art Museum is also one of the busiest pedestrian walks into campus. As the campus continues to develop, service areas and drives will need to be more carefully integrated into the campus fabric. As feasible, service drives within the historic core should be reserved for service and emergency access only.

Parking

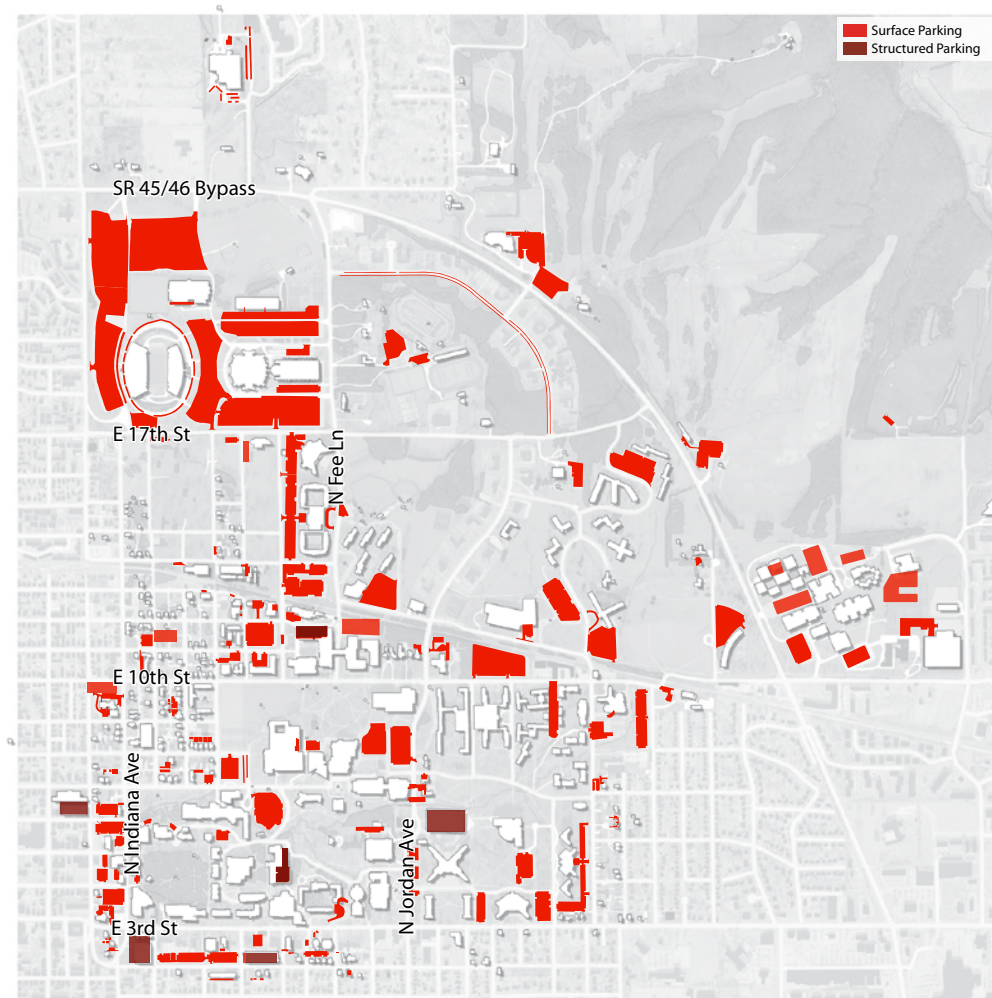
The existing parking supply on campus is 20,639 spaces, which includes 6,500 remote parking spaces used by commuters and for athletic events near the stadium. This leaves 14,139 spaces on campus, including the surface lots east of the bypass. Spaces are divided among faculty and staff permits, student residential

permits, visitor spaces, and other commuter lots. The six structured parking decks (including the garage at Ballantine Hall and the Poplars Garage) contain 3,023 spaces, while the remainder are in surface lots.

To determine the actual parking demand on campus, the planning team conducted a parking utilization study, with on-site observations of parking lot use during peak class times. The results revealed that the campus has a significant parking issue in distribution and location of parking, not in supply. Decks and lots within and adjacent to the academic core were typically at or above 90 percent utilization, considered full. In two notable exceptions, the two parking decks south of East Third Street were only 50 to 70 percent utilized, showing capacity to accommodate additional parking. The commuter parking lots adjacent to the stadium were typically less than 50 percent full, indicating an oversupply of parking in that area for typical day and commuter use. Based on the observed utilization and no expected growth in enrollment, the planning team determined

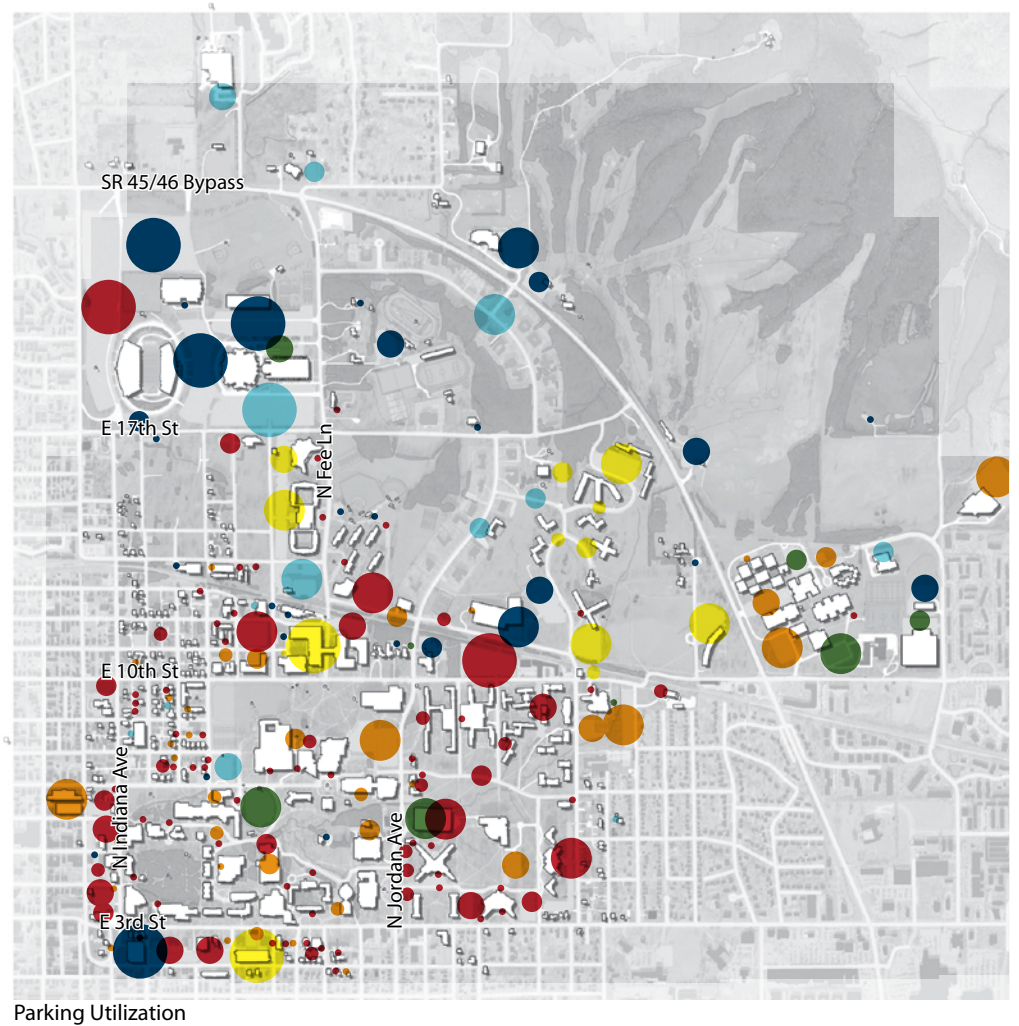
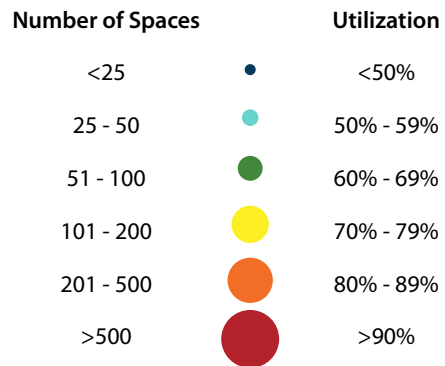


Surface Parking at Athletics Campus



Existing Parking Map

a parking demand at 14,860 spaces. However, this demand estimate does not take into account the location in which people prefer to park. Redistribution of parking displaced by future construction and access to the remote parking near the stadium are key concerns for the Campus Master Plan.



Transit/Alternate Transportation

The campus is served by seven campus bus routes and bus service from Bloomington Transit. Due to the one-way streets at the perimeter of campus (North Third Street and East Atwater Avenue, North Indiana Avenue and North Dunn Street), campus bus routes make a one-way loop around the academic core of campus, which can create time delays for travelers. There are no campus bus connections to the property east of the bypass or to the support facilities on North Range Road.

The planning team conducted a user survey for faculty, staff, and graduate and undergraduate students in order to understand travel and parking patterns, and use of transit on campus. The survey revealed that:

- 27 percent of students do not own a car.
- 34 percent of students own a car but do not have a parking permit.
- Undergraduate and graduate students move their cars during the day more frequently than faculty (53 and 40 percent, respectively, compared to 25).

- 57 percent of undergraduate, but only 11 percent of graduate students use transit to move around campus.
- 75 percent of parking garage users are faculty and staff.

These findings suggest that increasing transit ridership on campus among all users, and shifting faculty and staff parking from on-campus lots to underutilized garages at the periphery would be viable options for reducing both parking demand and the number of vehicles within the core.

The survey also found that 90 percent of undergraduates, 75 percent of graduates, 57 percent of faculty, and 35 percent of staff live within 3 miles of campus, which indicates that increased transit ridership and alternative modes of transportation would be beneficial and supported. Because of residential proximity, the survey demonstrated a positive mode split between driving to campus and other forms of transportation. For all campus users (faculty,

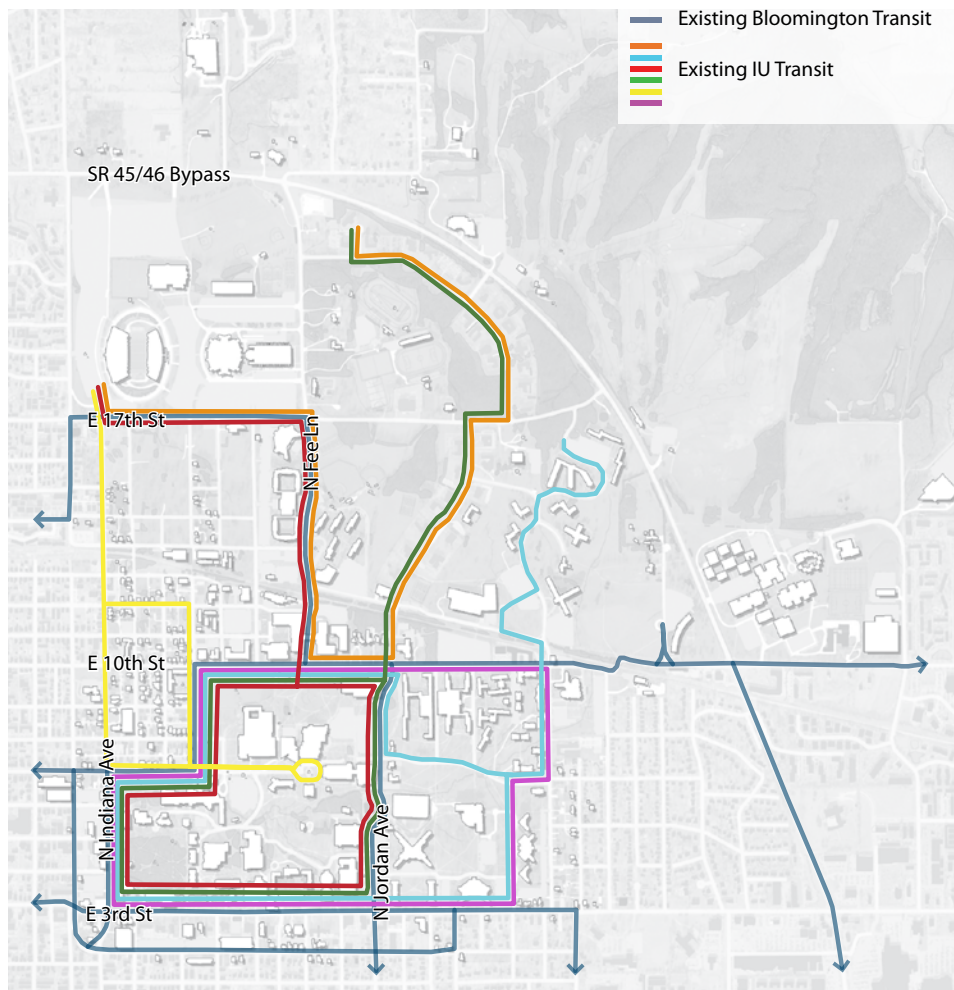


Bloomington Transit

staff, and graduate and undergraduate students) the mode split is:

- 48 percent drive alone.
- 8 percent carpool or get dropped off.
- 14 percent walk.
- 7 percent bike.
- 21 percent bus.

Removing the student population, there is still a positive mode split for faculty and staff: 70 percent drive and 30 percent use alternative means of transportation, including carpooling, bus, biking, and walking.



Existing Transit Routes

The survey also found that transit services are well used by students, and that 74 percent of transit riders are “satisfied” or “very satisfied” with the existing bus service. The survey also found that:

- 71 percent of faculty and 78 percent of staff drive alone to campus.
- Faculty and staff who drive generally do not take transit to get around campus.
- 86 percent of driving faculty and approximately 50 percent of driving staff would consider alternate modes of transportation if they became more desirable.
- 10 percent of staff participates in a carpool.

Results suggest that improvements to the campus transit system could encourage more ridership by faculty and staff, both for commuting and for movement around campus during the work day. This increase would also reduce the amount of congestion on campus.

The Rail Corridor

One of the primary obstacles to north-south movement on campus is the rail corridor that bisects campus on a diagonal, roughly from East Twelfth Street to East Tenth Street. There are seven railroad crossings from North Dunn Street to the bypass, with two at-grade and five grade-separated vehicular crossings. Only two crossings, North Fee Lane and North Jordan Avenue (both grade separated), are in good condition and function smoothly for vehicular and pedestrian traffic. However, the East Tenth Street underpass on the east side of campus is in poor condition and no longer has the height clearance to accommodate new bus systems. It also cannot accommodate pedestrian and bike movement with traffic. Improvements to this underpass are a high priority and part of the traffic solution for East Tenth Street.

To improve north-south movement on the west side, the planning team evaluated the possibility of creating a new grade-separated crossing on North Woodlawn Avenue. This would assist in a more efficient transit movement and promote



a direct connection between the core of campus and the remote parking supply at the stadium. Because of the existing grade elevation of the railroad tracks at North Woodlawn Avenue, as well as the required 23-foot height clearance and decking over the tracks, a bridge across the railroad at North Woodlawn Avenue will necessitate significant costs, ramping, and engineering work, and was deemed infeasible. A simpler alternative has been evaluated involving re-grading for an at-grade crossing on North Woodlawn Avenue, with appropriate traffic controls and signals at the rail line. While technically feasible, this solution requires the cooperation of the railroad ownership.



Rail Underpass at East Tenth Street

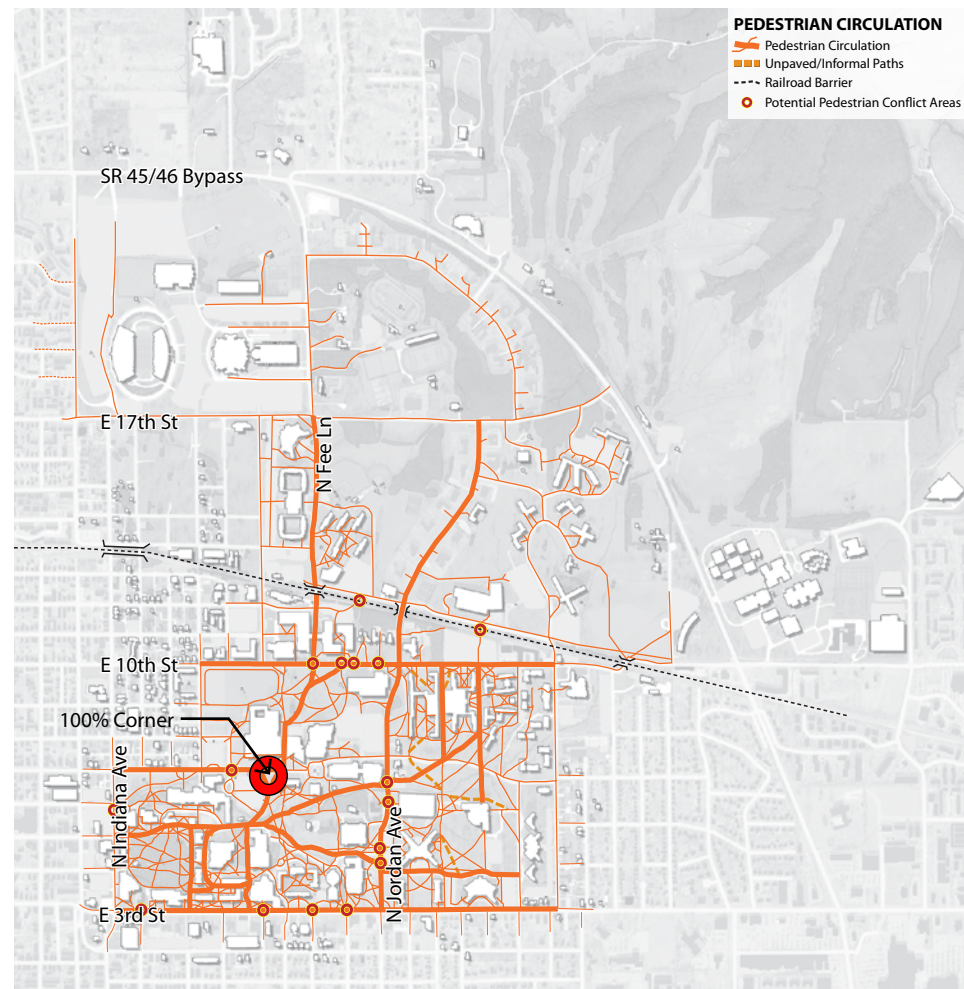


Plan for At-Grade Crossing

Pedestrian Circulation

The IUB campus has a rich network of pedestrian walks in the campus core. This network is fed by three main branches of pedestrian movement: a north branch from the residences on North Fee Lane that travels through the Cox Arboretum; an eastern branch from the Wright and Teter residential dorms across North Jordan Avenue (nicknamed “The March” by students); and a southeast branch from Forest Quad, Willkie, Hall and Read Hall that crosses North Jordan Avenue north of Jones Avenue. There is also heavy pedestrian traffic on East Seventh Street west of North Jordan Avenue and on the campus walkway that leads west to the Sample Gates and East Kirkwood Avenue off campus. East Seventh Street was recently closed to through traffic from the IMU to the Fine Arts Plaza to allow greater pedestrian movement and reduce conflicts.

There are major pedestrian and vehicular conflicts where each of the three branches of pedestrian traffic crosses North Jordan Avenue or East Tenth Street at North Fee Lane. Similarly,



Pedestrian Circulation

there are a number of pedestrian conflicts on East Third Street for people walking to campus from the south residential neighborhoods. The traffic volume and distance between signalized intersections on East Third Street impede easy access to campus for pedestrians. There are also a number of ad hoc pedestrian crossings across the railroad tracks that create a safety concern.

The busiest pedestrian intersection, the “100 percent corner,” is at East Seventh Street and North Forrest Avenue, where foot traffic from North Fee Lane funnels through the service drive between the Art Museum and the School of Health, Physical Education and Recreation (HPER), and crosses paths with the east-west foot traffic on East Seventh Street. Unfortunately, this 100 percent corner for pedestrians is also the surface parking lot for the IMU. The University has missed an opportunity to create a central gathering space at this important crossroads. Traffic entering and exiting this lot and the surface lot north of East Seventh Street also creates congestion and conflicts for pedestrians and transit.

Walkways are less frequent as distance from the campus core increases, at which point walkways are often in poor condition and typically serve only foot traffic from parking lots to dormitories or apartments. Gaps in the pedestrian network north of the railroad also make it difficult for students to reach other north side destinations, such as the Student Recreational Sports Center, comfortably on foot. East Seventeenth Street does not have continuous sidewalks on both sides of the street within the campus. There is no pedestrian walk or access to the Research Park or recreational fields east of the bypass.

Bicycle Use

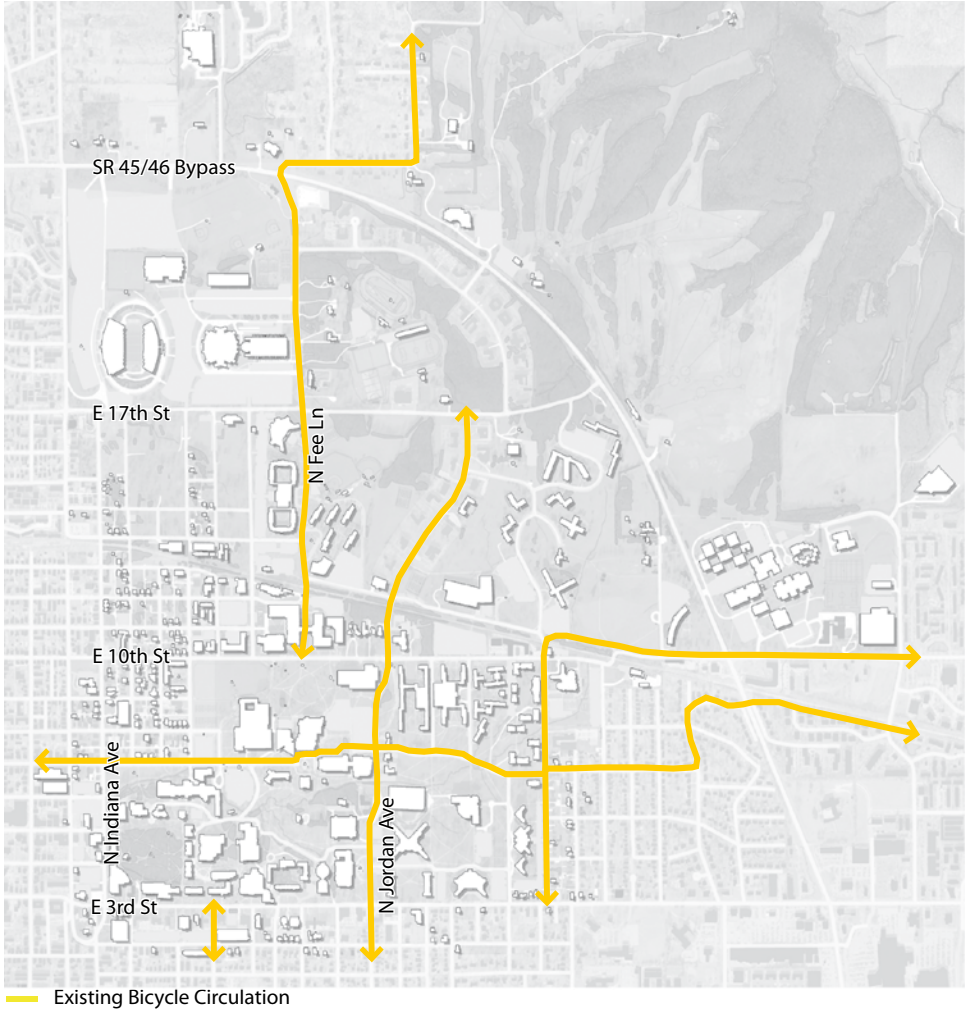
Cycling, in the form of the Little 500, has long been a tradition at Indiana University. Despite this legacy, the existing bicycle network and support infrastructure is somewhat limited. The current bicycle network on the IUB campus consists primarily of street bike lanes that have been designated by the City. The primary roads on campus that have bike lanes are North Fee Lane, North Jordan Avenue, North Union Street, East Seventh Street, and East Tenth Street

east of North Union Street. Very few bike lanes exist to serve the western and southern edges of campus. Informal bike routes through campus often cause conflicts between pedestrians and cyclists.

According to a recent campus survey, only 5 percent of students regularly commute to campus via bicycle. Nearly 10 percent of faculty and staff travel to campus via bicycle. The buildings on campus most frequented by cyclists surveyed were Ballantine Hall, the IMU, Wells Library, and the HPER. There are 3,417 existing bicycle parking spaces on campus; however, only 6 percent of those are covered. University staff indicated that many bicycle racks are parked over capacity. Additional bike routes and more bicycle racks are needed to support increased bicycle use on campus as an alternative to vehicular circulation.



Sign to Motorists on East Tenth Street



CAMPUS INFRASTRUCTURE

Chilled Water System

The IUB campus currently maintains and operates a Central Chilled Water Plant located near East Thirteenth Street and North Woodlawn Avenue. The current capacity of the existing plant is 14,500 tons. The main source of energy for the plant is electricity, which drives the main compressors and plant auxiliaries (water circulating pumps and cooling tower fans). Several buildings on campus are served by local, dedicated building chiller systems, and are not connected to the campus system. As such, these buildings are not considered part of the campus chilled water system. A new 1,000-ton chiller plant was installed and ready for service at Forest Quad in 2007. The new chiller plant is connected to the campus chilled water distribution system, and is available for supplementation when necessary.

Campus Cooling Problems

The connected load of the campus chilled water system will be 16,042 tons with the completion of Multidisciplinary Science Building II. The

additions to the system of these new loads represent a potential shortfall of 2,230 tons during peak cooling conditions. To manage the problem, a temporary curtailment of chilled water supply to select buildings has been implemented in the past. This curtailment plan ensures that conditions are maintained in buildings with critical missions such as classrooms and research. There are areas of the campus chilled water system that experience inadequate chilled water delivery.

Steam and Condensate System

Steam is generated for the IUB campus at the Central Heating Plant (CHP). The plant has a total capacity of 610,000 lb/hr provided by six boilers. The firm¹ capacity of the CHP is 460,000 lb/hr. The peak load is approximately 365,000 lb/hr.

¹ “Firm” capacity refers to the CHP steam capacity with the largest boiler out of service.

Table 1: Heating Plant Capacity (lb/hr)

| | |
|------------------------------|---------|
| Total Capacity | 640,000 |
| Firm Capacity | 460,000 |
| Peak Load | 365,000 |
| Available for future (firm) | 95,000 |
| Available for future (total) | 245,000 |

The boilers range in capacity from 50,000 lb/hr to 180,000 lb/hr (see Table 2 below). Saturated steam is provided to the campus at 125 psig (pound-force per square inch gauge), primarily north campus and the University School, and 40 psig for south campus.

Table 2: Boiler Capacities (lb/hr)

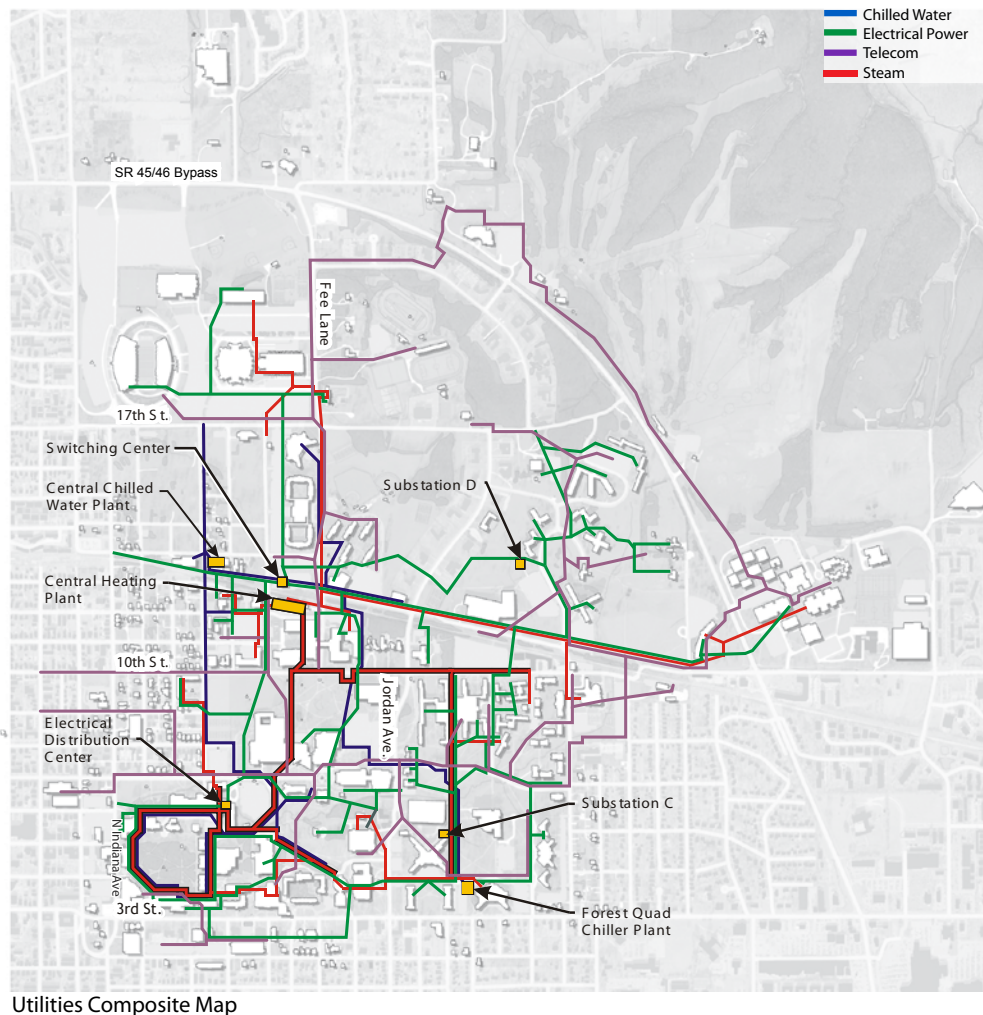
| Boiler | Coal | Gas | Fuel Oil | Yr Installed |
|--------|---------|---------|----------|--------------|
| 3 | 80,000 | 50,000 | 50,000 | 1959 |
| 4 | 80,000 | 60,000 | 60,000 | 1959 |
| 5 | - | 150,000 | 150,000 | 1964 |
| 6 | 150,000 | 130,000 | 130,000 | 1970 |
| 7 | | 180,000 | | 2007 |

Campus Heating Problems

Although there are several new installations, the overall condition of the steam distribution piping, condensate return piping, and tunnels has deteriorated such that safety is a concern in some areas, and a substantial amount of boiler capacity is being spent on distribution losses. Distribution losses are reported to be equivalent to approximately 75,000 lb/hr of boiler capacity during peak load conditions.² The IUB Facilities Engineering Group reports that thermal losses in the steam distribution piping increase by approximately 20,000 lb/hr when it rains, which is also indicative of failed insulation and conduits.

A preliminary analysis of the system indicates that thermal losses could be lowered to about 10,000 lb/hr and mass losses could be reduced to about 35,000 lb/hr during peak load conditions with significant upgrades and additions to the condensate piping system.

² *Indiana University Utility Master Plan – Final Report*, February 2003; Sebesta Blomberg



Electrical System

Duke Energy is the electrical utility provider for the IUB campus. Duke Energy feeds the 44.5MW load of the campus from their North Dunn Street and Rogers Street substations. IUB's distribution system includes four main locations known as the Distribution Center, the Switching Center, Substation C, and Substation D. The reliability and uptime of Duke Energy's existing power circuits to the Distribution and Switching Centers are very good. The location of the Distribution Center, southeast of the IMU, does not allow for physical expansion. However, the Switching Center's physical location, at East Thirteenth Street and North Walnut Grove, does allow for expansion. Duke Energy's North Dunn Street substation is capable of supporting the projected growth of the Switching Center.

Campus Power Problems

Due to its advanced age and maturity of service life, the existing 4160V distribution equipment in the Distribution Center will require an equipment upgrade in 5 to 10 years. The 5kV cables throughout the historic core from the

Distribution Center must be replaced in the next 5 to 10 years. The Distribution Center offers very little growth potential; it is landlocked, and the historic nature of the landscape is not conducive to physical expansion. Due to these restraints, Duke Energy has very few options for adding new circuits to the Distribution Center.

There is only one main duct bank route under the SR 45/46 Bypass to the Research Park neighborhood. The two circuits presently feeding the Research Park originate from the Switching Center. There is no second power source for the Research Park neighborhood, which includes the existing Wrubel Computing Center and the location of the new Data Center. The new Data Center expansion will require a second redundant power source.

Proposed growth plans indicate some duct banks in the East Seventh Street cultural district may need to be relocated in order to support the planned growth. A new Substation C may need to be built and loads transferred to support planned growth in the North Jordan Avenue area.

The existing 12.47kV site distribution is not sufficient to support the projected long-term growth of the campus. Existing 12.47kV distribution circuit cabling in the intercollegiate athletics area will need to be replaced in the next 5 to 10 years.

Telecommunications System

The telecommunications distribution system is comprised of duct bank systems interwoven throughout the IUB campus along with a small amount of conduit routed in utility tunnels. Much of the duct bank systems consist of a large quantity of existing copper voice cable, all of which will eventually be replaced by the voice systems of current and future technology Voice Over Internet Protocol (VOIP). VOIP is provided through the fiber optic data network, which eliminates the need for large copper voice cables that historically fill up duct bank systems.

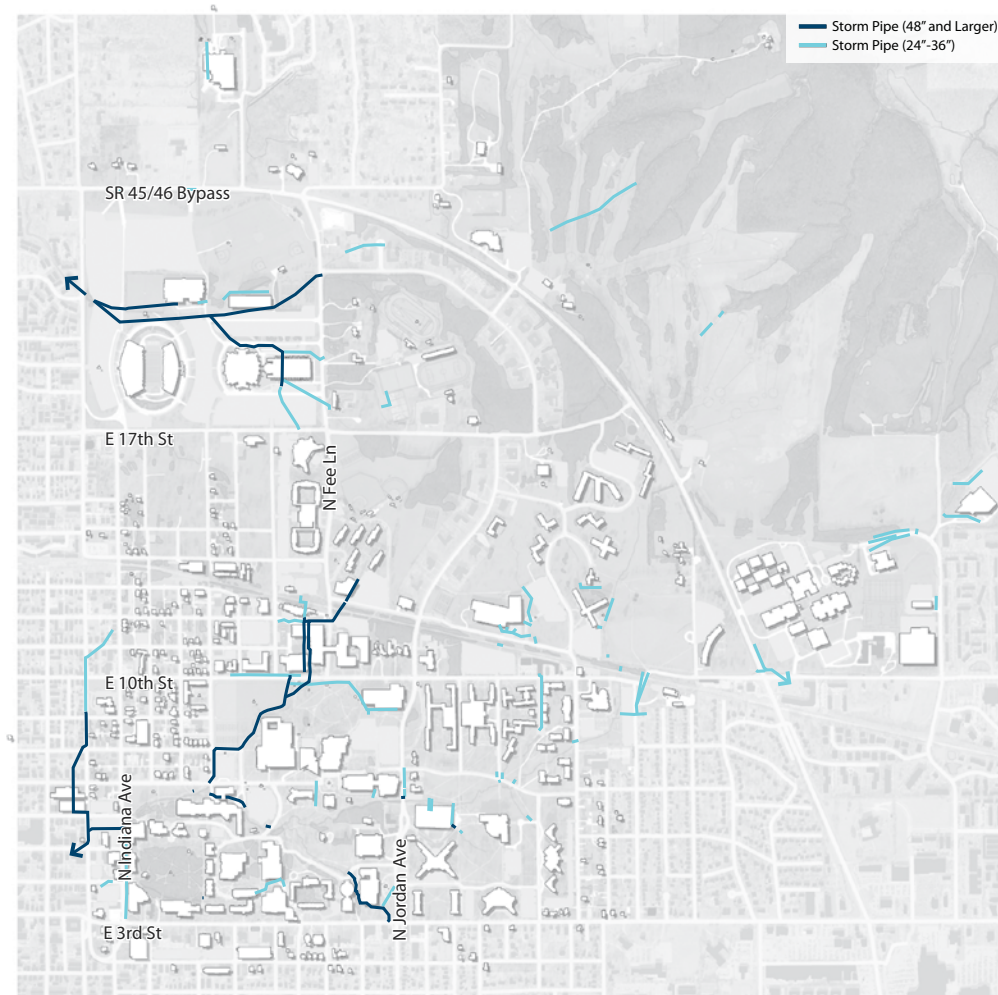
Telecommunication Problems

The IUB campus has several duct banks that are near capacity. However, several highly loaded duct bank areas can remain viable with the

addition of new duct bank sections between existing maintenance holes. With the increase in cellular phone usage on the IUB campus, there is an immediate need for additional cellular tower coverage throughout the campus, to eliminate dead zone areas. University Information Technology Services (UITs) has been in negotiations with cellular service vendors to place towers on campus.

Stormwater System

As stated previously, there are two main gravity-fed storm sewer systems on campus. The first is the Jordan River watershed, which drains to a culvert beneath North Indiana Avenue north of East Sixth Street. Beyond this culvert, the stream eventually drains to the Clear Creek. The Jordan River is used as the storm sewer main line, with several smaller systems outletting directly to the stream. As development has occurred on campus, additions to the storm sewer system have been made, resulting in numerous small outlets rather than a few larger outlets.



Existing Stormwater

The second watershed is the Cascade Creek watershed, which drains to a culvert beneath East Varsity Lane near North Dunn Street. Unlike the Jordan River watershed, two large storm sewer mains collect all of the stormwater from this portion of campus. These mains outlet to a green space just upstream of the culvert at the edge of campus. In the upstream portions of the watershed, several smaller at-grade waterways are used to transport storm flows to the two main sewers.

In both watersheds, the integrity of the storm sewers seems to be adequate. During large events, backups occur within both watersheds; however, this appears to be more a result of undersizing of the culverts at the downstream ends of the watersheds rather than undersizing or inadequacy of the individual storm sewers.

Sanitary Sewer System

The IUB and City sanitary sewer system is gravity fed and roughly follows the same drainage patterns as the stormwater. The

north portion of campus drains north and eventually ends at the Blucher Poole Waste Water Treatment Facility, which is located approximately 5 miles north of campus. The south portion of campus drains south to be treated at the Dillman Waste Water Treatment Facility, which is located approximately 5 miles south of campus. According to IUB staff, the Dillman Waste Water Treatment Facility was designed with a treatment capacity of 15 million gallons a day and a peak hydraulic capacity in excess of 30 million gallons daily. It is fed by a 48-inch sewer main. The Blucher Poole Waste Water Treatment Plant was designed with a treatment capacity of 6 million gallons a day and a peak hydraulic capacity of 12 million gallons daily, and it is fed by a 36-inch sewer main. There are three main lines exiting campus that tie into the City's sanitary sewer system (Outlets 1, 2, and 3):

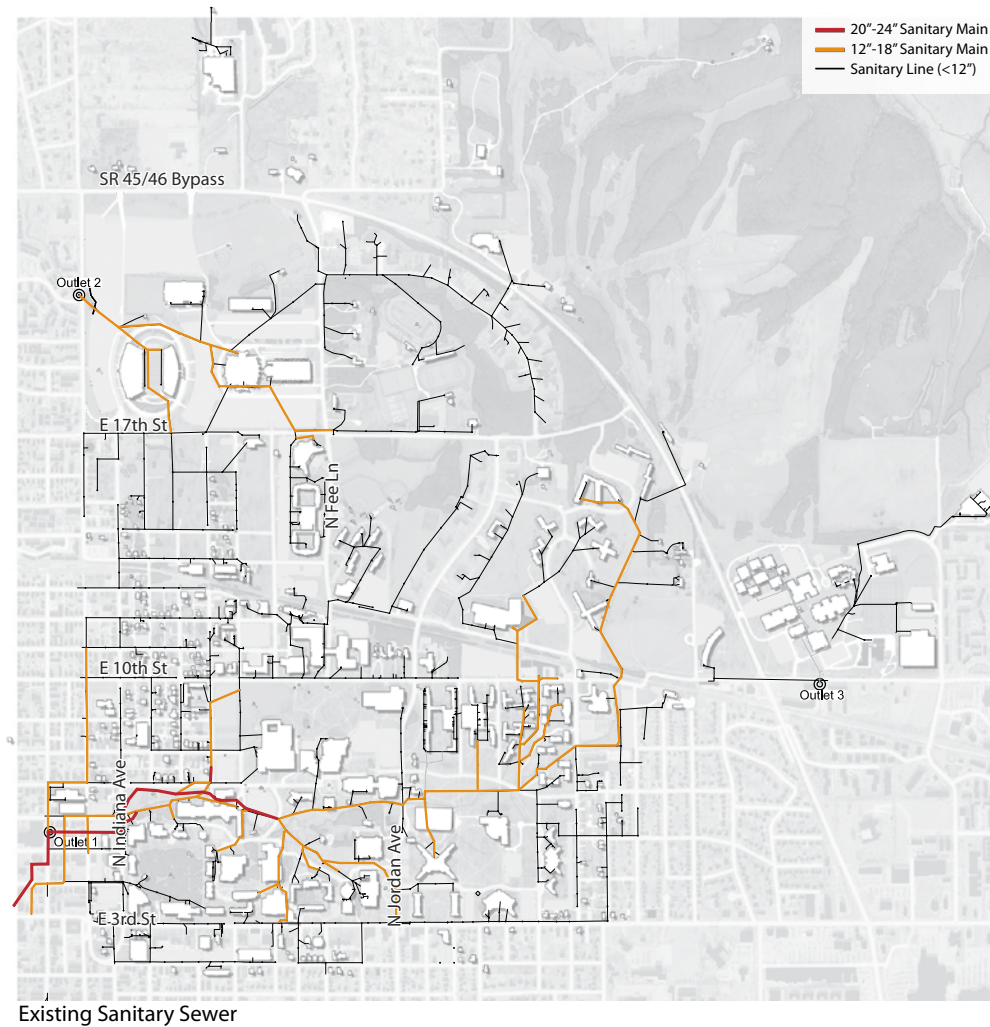
- Outlet 1 is a 24-inch main that exits campus to the southwest between East Kirkwood Avenue and East Sixth Street and eventually drains to the Dillman Waste

Water Treatment Facility. The sewer lines that drain to this outlet roughly follow the Jordan River watershed drainage pattern.

- Outlet 2 is a 12-inch main that exits campus to the northwest at North Dunn Street and eventually drains to the Blucher Poole Waste Water Treatment Facility. The sewer lines that drain to this outlet roughly follow the Cascade Creek watershed drainage pattern.
- Outlet 3 is a 10-inch main that exits campus to the east at East Tenth Street. This outlet also drains to the Dillman Waste Water Treatment Facility. The sewer lines that drain to this outlet roughly follow the Jackson Creek drainage pattern. According to University staff, Outlet 3 experiences capacity challenges.

There are several exposed sanitary sewer lines that cross the Jordan River. Between North Indiana Avenue and North Sunrise Drive, there are approximately 12 locations along the Jordan River where exposed sanitary sewer lines can be

seen crossing the river or one of its tributaries. By being exposed, these sewers are in danger of freezing during the winter months or becoming damaged from vandalism or increased wear.



PROGRAM

The planning team evaluated three aspects of space needs to determine future demand for academic, support, and campus life programs to be accommodated in the Campus Master Plan. These three aspects are: qualitative space needs, quantitative space needs, and social needs.

QUALITATIVE SPACE NEEDS

The Space Needs Task Force worked with the planning team early in the master planning process to identify the qualitative challenges to educational space on campus. Input from this task force and the findings from the *IUB Educational Adequacy* report reveal a shortage of well-designed learning spaces. The renovation of existing spaces and the addition of quality learning spaces are vital to serving the needs of students and faculty members. The faculty increasingly encourages an engaged, interpersonal learning style based on discussion and classroom dialogue. All classroom types—including large lecture halls—should be upgraded to promote collaborative learning. In particular, new or renovated small seminar

rooms are needed to maximize the potential for group work and active learning.

In addition to enhanced teaching facilities, the campus requires a greater number of informal student gathering places. Facilitating student interaction in areas adjacent to lecture halls and classrooms will improve the effectiveness of study groups and peer mentoring. Learning spaces for graduate students should also be located within department homes and adjacent to faculty offices. This interconnectivity will help to characterize classroom learning as an extension of research-related activities.

Classrooms for undergraduates can be relocated throughout residential campus neighborhoods so that residential hall activities can become more fully integrated with course work. Additionally, future academic facilities can be located along major pedestrian corridors, interspersed with retail and dining options. Utilizing learning space in academic units, libraries, and residence halls will encourage student interaction inside and outside of the formal classroom.

Provisions should be made to incorporate new portable communication technologies into existing classrooms, including streaming video, web conferencing, and virtual learning software.



Student Collaboration at the Kelley School of Business



Group Work Space on Campus

QUANTITATIVE SPACE NEEDS

Quantitative space needs include the mathematically driven elements that are necessary for future program development. They outline the physical building blocks of campus and identify specific space types. Space needs are in essence an assemblage of spatial parts from which to construct a physical vision of the future campus. It is important to apply this technical information through a qualitative filter and broad campus-wide lens.

For the purposes of the Campus Master Plan, the space needs were derived in assignable square feet (ASF) and subsequently converted to gross square feet (GSF). This conversion assumes a 63 percent ratio of ASF to GSF (1.58 multiplier). This building efficiency relationship was validated, on a campus-wide level, by the Indiana University Facilities Inventory Summary for the Bloomington campus. Campus space needs are divided into four broad categories of academic, academic support, auxiliary, and residential typologies.

Academic Space

- Classroom, laboratory, research, office, service

Academic Support Space

- Library, administrative, recreation, assembly, exhibit, physical plant

Auxiliary Space

- Student center, health, athletics

Residential Space

- Residence halls, dining facilities

Campus Baseline: 2007-2008 Academic Year

| | |
|-------------------------|--------------|
| Total Enrollment | 38,990 |
| Undergraduate | 30,394 (78%) |
| Graduate | 7,672 (20%) |
| Professional | 924 |
| Faculty | 2,309 |
| Staff | 5,392 |
| Total Campus Population | 46,591 |

The planning team utilized the fall 2007 data as the point of departure for spatial and programmatic projections. Consideration of facilities needs, transportation requirements, and

infrastructure demands are based on aggregate totals of the campus population and not full-time equivalent (FTE) metrics.

Historical Enrollment Growth

Historically, working in increments of 10 years, the University experienced an average growth of 4,600 students per decade from 1948 to 2008.

Over the last decade, IUB has experienced consistent growth in student enrollment. Using information from the Indiana University Reporting and Research database, from 1998 to 2008, the University grew from an enrollment of 34,937 to 38,990, adding 4,053 students, representing 11.6 percent growth.

| Enrollment | Decade | % Growth |
|---------------|---------|----------|
| 11,003 (1948) | | |
| 12,127 (1958) | 1948-58 | 10.2 |
| 27,098 (1968) | 1958-68 | 123.0 |
| 31,884 (1978) | 1968-78 | 17.6 |
| 33,421 (1988) | 1978-88 | 4.8 |
| 34,937 (1998) | 1988-98 | .5 |

Projected Enrollment Target

Based on fall 2007 data, Indiana University reported a record student head count of 38,990 and an FTE enrollment of 34,653. The relatively high ratio of FTE to head count suggests a reasonably high utilization of campus facilities through the day. This spatial efficiency was confirmed during interviews with faculty representatives and reiterated in the Space Needs Analysis.

For the purposes of the Campus Master Plan, the enrollment level of 39,000 was established as the planning target. Essentially, this suggests maintaining the student enrollment levels of the 2007-2008 academic year. More importantly, the University's strategic vision recommends an overall increase in graduate enrollment levels and commensurate faculty participation. This new direction underscores a renewed commitment to a quality student experience, enhanced learning environments, and the need for state-of-the-art facilities to meet the competitive academic needs of the future.

Historical Facilities Growth

Based on fall 2007 baseline data, Indiana University contains more than 520 buildings on 1933 acres representing 15.3 million GSF of total facilities. Using information from the Indiana University Bureau of Facilities Programming and Utilization, from 1998 to 2008, the University grew from 14.4 to 15.3 million GSF, adding 0.9 million GSF and representing 6.3 percent growth. Historically, the University has experienced an average increase of 1.3 million GSF per decade:

| Facilities | Decade | % Growth |
|-----------------------|---------|----------|
| 10,688,569 GSF (1968) | | |
| 12,202,210 GSF (1978) | 1968-78 | 14.0 |
| 13,474,772 GSF (1988) | 1978-88 | 10.4 |
| 14,395,317 GSF (1998) | 1988-98 | 6.8 |

Process to Determine Need

The planning team conducted two studies to validate quantitative space needs for campus: (1) a benchmarking analysis of space allocation per student of peer institutions within the Big Ten system and (2) a space needs analysis comparing

current IUB space to a normative database of over 400 comparable universities across the country.

Indiana University provided the planning team with a staffing file, which included faculty and staff identified by job title and unit assignment, and a facility inventory that summarized space by space type and assigned unit. Enrollment information separated by school was also provided. During the study, the planning team met with campus leaders and deans in addition to representatives from various master plan committees to review unique space needs. The planning team visited the campus and toured selected buildings. The data was utilized to analyze space needs and to illustrate benchmarking data. For reference, the nomenclature "base year" refers to the academic year 2007 and "future year/target year" refers to a 10-year minimum planning horizon.

Refer to the Technical Appendix for the full *IUB Space Needs Analysis for the Master Plan* report.

Data Analysis Summary

SPACE ALLOCATION BENCHMARKING

A benchmarking analysis of space allocation per student was conducted to compare IUB to Big Ten peer institutions. At the outset of the study, the Indiana University Bureau of Facilities Programming and Utilization provided data on eight of the Big Ten institutions included in the analysis. (For purposes of this study, data from peer institutions was identified by letter designation only, resulting in identifications of University A through University H. The University did not provide information on which data matched a specific institution beyond the letter designation.) The following peer institutions were included in the benchmarking study:

- Michigan State University
- The Ohio State University
- The Pennsylvania State University
- Purdue University
- University of Illinois
- University of Michigan
- University of Minnesota
- University of Wisconsin

| Institution | Total Campus ASF | Student FTE | FT Faculty | Faculty/Student Ratio |
|---------------------------------------|--------------------|----------------|--------------|-----------------------|
| Benchmark Institutions | | | | |
| University A | 11,259,134 | 41,282 | 2,050 | 1:20 |
| University B | 11,167,870 | 39,341 | 1,960 | 1:20 |
| University C | 12,726,097 | 49,641 | 2,652 | 1:19 |
| University D | 11,041,403 | 40,709 | 3,152 | 1:13 |
| University E | 9,084,570 | 37,534 | 1,728 | 1:22 |
| University F | 18,931,032 | 39,993 | 2,439 | 1:16 |
| University G | 11,223,106 | 39,873 | 2,053 | 1:19 |
| University H | 10,561,758 | 48,133 | n/a* | n/a* |
| BENCHMARK AVERAGE | 11,999,371 | 42,063 | 2,291 | 1:18 |
| Indiana University Bloomington | 9,002,327 | 36,062 | 1,401 | 1:26 |
| <i>IUB COMPARED TO AVERAGE</i> | (2,997,044) | (6,001) | (890) | (8) |
| <i>IUB as a % of AVERAGE</i> | (25%) | (14%) | (39%) | (43%) |

* Faculty data was not provided for University H.

Benchmarking Analysis of Space Allocation

| Institution | Total Campus ASF | ASF per Student FTE | ASF per FT Faculty |
|---------------------------------------|--------------------|---------------------|--------------------|
| Benchmark Institutions | | | |
| University A | 11,259,134 | 273 | 5,492 |
| University B | 11,167,870 | 284 | 5,698 |
| University C | 12,726,097 | 256 | 4,799 |
| University D | 11,041,403 | 271 | 3,503 |
| University E | 9,084,570 | 242 | 5,257 |
| University F | 18,931,032 | 473 | 7,762 |
| University G | 11,223,106 | 281 | 5,467 |
| University H | 10,561,758 | 219 | n/a* |
| BENCHMARK AVERAGE | 11,999,371 | 288 | 5,425 |
| Indiana University Bloomington | 9,002,327 | 250 | 6,426 |
| <i>IUB COMPARED TO AVERAGE</i> | (2,997,044) | (38) | 1,000 |
| <i>IUB as a % of AVERAGE</i> | (25%) | (13%) | 18% |

* Faculty data was not provided for University H.

The student FTE enrollment and full-time faculty for each of the provided institutions are illustrated in the data analysis summary table on previous page.

Following the comparative analysis, the benchmarking data was normalized by calculating the ASF per student and ASF per full-time faculty. Once normalized, the average for the peers was calculated and compared to the data for the IUB campus. The planning team compared ASF per student and ASF per full-time faculty campus-wide by type of space, and by school and college.

Space Allocation Findings

The ASF per student at the peer institutions ranges from 219 ASF to 473 ASF per student. The average of the peers is 288 ASF per student. IUB has 250 ASF per student, ranking seventh in ASF per student when compared to the Big Ten institutions in the study.

IUB has less faculty per student than any of the Big Ten peers that were analyzed (1 full-time faculty per 26 students). This results in a relatively higher ASF per full-time faculty ratio than its peers.

The ASF per full-time faculty ranges from 3,503 ASF to 7,762 ASF per faculty. The average of the peers is 5,425 ASF per full-time faculty. IUB has 6,426 ASF per full-time faculty, placing IUB second in ranking with the Big Ten peers surveyed.

This benchmarking comparison demonstrated that IUB is extremely efficient in providing education to its student population in both space and faculty ratios compared to other Big Ten universities.

SPACE NEEDS ANALYSIS

The *IUB Space Needs Analysis for the Master Plan* study focused on the campus-wide level and analyzed physical space needs by major space type. The study also evaluated space needs at the school level and provided information on where each academic school or college stands in relation to recognized space guidelines at current and proposed activity levels. The purpose of the study was twofold:

- To identify and define existing and future space needs to aid IUB in fulfilling its educational mission.
- To provide potential square footage requirements to aid in prudent land use, capacity, adjacency, and campus organizational decision making.

Space Needs Analysis Findings

Existing Space Needs at the Campus-Wide Level

At the campus-wide level in the base year, IUB has a total space deficit of 1,427,014 ASF (2,286,000 GSF). This is equivalent to 26 percent of the existing space on campus.

Existing Space Needs by Category

The greatest existing space needs at the base year are in research space and academic office space. This is equivalent to more than 35 percent of the overall existing campus-wide need.

Capital Projects

According to the *IUB Space Needs Analysis for the Master Plan*, IUB has approximately 552,521 ASF (885,109 GSF) of capital projects that are approved, funded and programed. Projects included in the study include:

| Building Name | ASF |
|--|---------|
| Multidisciplinary Science Building 2 | 65,000 |
| Auxiliary Library Facility II | 21,651 |
| Hutton Honors College | 10,215 |
| Ashton Apartment Complex | 246,600 |
| Optometry Clinic | 13,200 |
| Life Sciences Incubator Building | 22,000 |
| Griffey Research and Teaching Preserve | 4,298 |
| North End Zone Football Stadium | 169,557 |

The Master Plan section of this report references a list of projects both in construction and under

design that add several current projects to the above list, totaling 1,407,076 GSF.

Campus-Wide Projected Space Needs

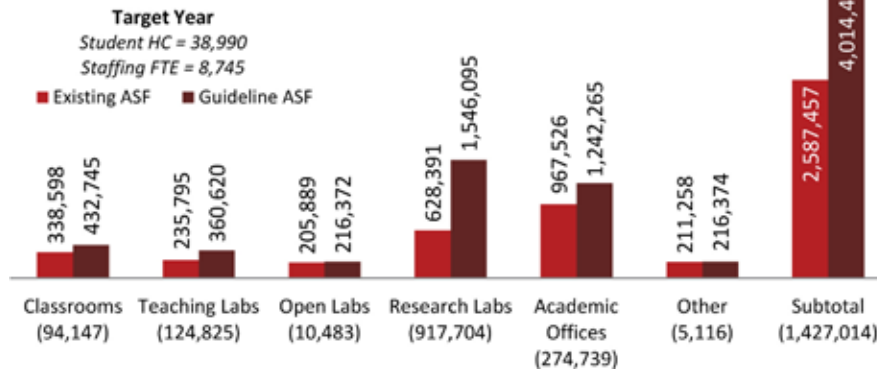
Future year projections, including consideration of the need to replace 602,161 GSF of demolition candidates, suggest that the University can anticipate an overall space deficit for the IUB campus of 2,063,000 ASF (3,270,500 GSF).

Projected Space Needs by Category

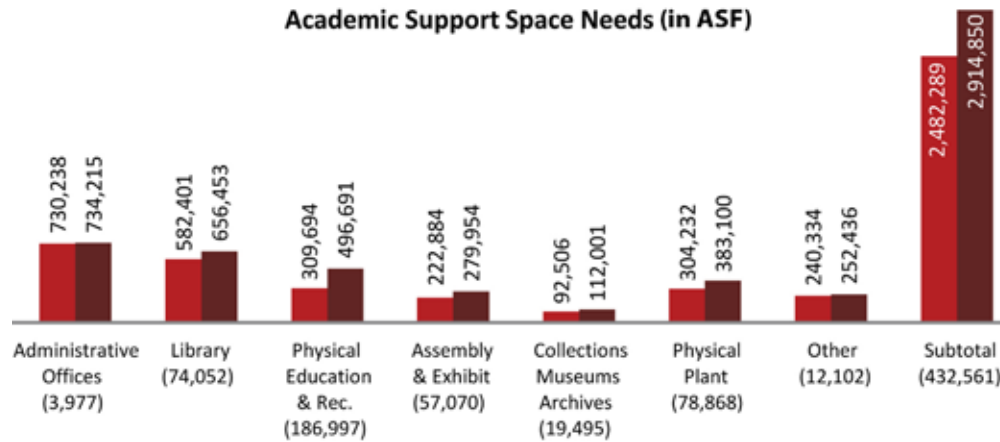
Future year projections show that the greatest space needs remain in the categories of research space and academic office space. These two categories represent 58 percent of the overall space needed at the future year.

| Space Category | Future Needs | |
|-------------------------------|------------------|------------------|
| | (GSF) | (ASF) |
| Academic Space | 2,286,000 | 1,427,014 |
| Academic Support Space | 680,500 | 432,561 |
| Auxiliary Space | 304,000 | 203,349 |
| <u>Subtotal</u> | <u>3,270,500</u> | <u>2,062,924</u> |
| <u>Demolition Replacement</u> | <u>602,161</u> | <u>379,361</u> |
| Total Space Need | 3,872,661 | 2,442,285 |

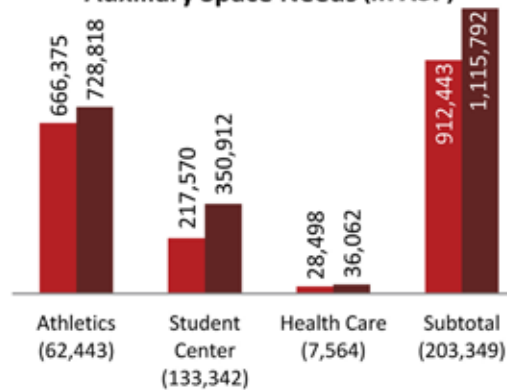
Academic Space Needs (in ASF)



Academic Support Space Needs (in ASF)



Auxiliary Space Needs (in ASF)





Briscoe Quad

SOCIAL NEEDS

Residence Life

Campus living communities shape the Bloomington collegiate experience. As of fall 2007, the campus contains approximately 11,600 beds, or 12,500 beds including Ashton Residence Center currently under construction. The campus contains residential zones of different ages, amenity structure, and typology in three main residential areas:

- East of Jordan (Ashton, Eigenmann, Teter, Wright, Forest, Read, and Willkie)
- North Area (Briscoe, Collins, Foster and McNutt)
- Northeast Area (Evermann Apartments;

Campus View Apartments; Tulip Tree Apartments; Banta, Bicknell, Hepburn and Nutt)

Additionally, the campus offers a number of innovative learning communities. Each of these groups adds diversity, vibrancy, and amenities to the on-campus experience:

- Academic Communities
- Freshman Interest Groups
- Living-Learning Centers
- Thematic Communities

The vast majority of the 11,600 beds on campus, 83 percent, are traditional dorm rooms. Apartments on campus are 10 percent of the total, while the most popular form of on-campus housing, the suite-style units, are only 6 percent of the housing stock.

Existing On-Campus Housing Breakdown

| | |
|-----------------------|--------------------|
| Traditional Rooms | 9,730 beds |
| Suite-Style Units | 750 beds |
| Apartments | 1,190 beds |
| <u>Total</u> | <u>11,670 beds</u> |
| New Ashton Apartments | 830 beds |
| Grand Total | 12,500 beds |

An Indiana University Housing Master Plan Update was developed separately from the Campus Master Plan effort. This study found that the University was over-supplied in the number of traditional dorm rooms, and underserved by more modern suite-style and apartment-type living. It recommended a significant change in the composition of residential beds on campus, decreasing the amount of traditional rooms and increasing the amount of suite-style and apartments.

In order to remain competitive with its peer institutions, the University must re-evaluate and update its housing stock and provide a wider variety of on-campus housing. This will include a balanced mix of renovated, traditional

residence halls, innovative suite-style units, and new apartment models. This re-mix of housing will attract a greater cross-section of the student population, including retention of more upper classmen living on campus.

In addition to residence life program housing, there are approximately 4,000 students living in Greek housing along North Jordan Avenue. This housing area is largely built out. In order to serve the housing needs of the Greek system and to respond to other thematic residential communities, the University will need land area identified for such future growth.

CAMPUS GATHERING SPACES

Currently, the Bloomington campus lacks sufficient gathering spaces conveniently located to the variety of users on campus. Gathering spaces include a range of retail and commercial uses, recreational uses, student-run businesses and services, public spaces, small restaurants, casual food, coffee houses, and evening destinations. They encompass both indoor and outdoor spaces, and provide opportunities for interaction, recreation, healthy living, arts, culture, and fun—creating a more fully integrated, lively, and intellectually stimulating on-campus experience.

Direct observations and results from the Student Spending Habits Survey, fall 2004, show the campus is underserved for food choices, and that students generally evaluate the availability and quality of food options, services, amenities, and entertainment on campus as unsatisfactory. Faculty, staff, and visitors attending events and performances are also under-served by campus amenities and gathering spaces.



Starbucks at the Indiana Memorial Union



Indiana Memorial Union Terrace



Existing Retail at the Indiana Memorial Union

Untapped Potential

The University attracts a wide cross-section of the population at different times of the season or year for various purposes that can provide a market for enhanced retail and gathering spaces on campus.

Primary Users

- Indiana University Students, Faculty, and Staff
- Overnight Guests at the Campus Hotel
- Conference Attendees
- Summer Camp and Direct Indiana University Academic Summer Program Attendees

Secondary/Regional Users

- Residents of Bloomington
- Residents of Monroe County
- Visitors to Monroe County

Campus athletic events and other popular campus festivities (Little 500, IU Sing, IU Arts Week) draw a significant number of users to

campus. Other key destinations on campus include:

- Indiana Memorial Union: 20,000 visitors (daily, during the academic year).
- Jacobs School of Music: 43,755 visitors (2007-2008).
- Indiana University Auditorium: 400,000 visitors (annual).
- IMU Conference Center: 750,000 visitors (annual).

Taking into account retail expenditures and economic activity in the city of Bloomington and the region, the IUB campus has the potential to capture up to \$40 million annually in expenditures on campus. The primary user group for campus is projected to account for 87 percent of potential expenditures. Thirteen percent of expenditures is projected to come from the secondary/regional user group. Students are projected to account for 70 percent of the total expenditures. This potential commercial expenditure can be translated into the equivalent of up to 30 small businesses and

amenities on campus, for a combined total of approximately 40,000 GSF of additional retail and enhanced gathering spaces. Amenities could range from simple, small food carts/kiosks with outdoor seating to concepts of 600 to 2,000 square feet.

In order to ensure the success of future campus retail, amenities, and enhanced gathering spaces, they must be closely integrated with the renovation of the IMU, areas of campus density, and areas of high pedestrian activity.

CONCLUSIONS

PLANNING CHALLENGES

The Bloomington campus of Indiana University is an outstanding model of an American university campus. However, universities are dynamic environments. Ongoing transformation within higher education, in response to internal and external forces, requires change to facilitate growth; to address deficiencies in campus character, circulation, and infrastructure; and to envision new ways to enliven the campus and demonstrate a sustainable environment. The following items summarize the current campus conditions and challenges addressed by the Campus Master Plan.

Natural Features and Landscape Character

- The landscape character, quads, edges, and gateways of the historic core at IUB comprise one of the best examples of a college landscape; however, the quality and richness of the campus landscape tends to diminish beyond the historic core.
- Stormwater runoff, flooding, and the poor environmental quality of portions of the Jordan River corridor are all related issues.

Fortunately, the Bloomington campus lies at the headwaters of its drainage systems, and can have a significant positive impact through its management of these environmental factors.

- Large open spaces on campus, particularly along riparian corridors, lack the woodland and habitat quality of the academic core. Existing woods on campus, including the historic Dunn's Woods, require increased efforts to manage invasive species.
- Surface parking lots do not contribute to the visual quality of the campus experience in the core. Particularly, the two surface lots on East Seventh Street adjacent to the IMU occupy the symbolic entrance to campus and complicate pedestrian movement at this 100 percent corner.

Campus Development and Future Program

- The historic core represents an ideal campus density and balance of open space to buildings that can be applied to other, less dense areas of campus.

- The architectural and landscape tradition of the core of campus is IUB's signature trademark and identity. New development in the core must be compatible with the existing character.
- Existing historic buildings within the academic core need renovation and repurposing to match building typology to appropriate uses.
- Academic buildings lack the quality of teaching space needed for innovative group learning and interaction. Ballantine Hall is a prime example of the need to renovate academic space for more interaction.
- There is a current academic space shortage of 2.3 million GSF. The greatest space needs are for research and academic office space.
- There is a total future need for over 4 million GSF in academic, research, support, and auxiliary uses, including replacement of over 730,000 GSF of outdated facilities.
- Residential areas tend to be single use zones, often remote from the main academic campus.

- A surplus of traditional dorm rooms and a deficit of more popular suite-style and apartment units creates a need to re-think the housing mix on campus.
- There is a lack of informal gathering and social spaces close to the daily population on campus.

Circulation and Parking

- The traffic congestion on East Tenth Street and lack of alternatives for east-west vehicular movement create backups and pedestrian conflicts.
- The rail corridor and lack of north-south connections on the west side of campus limit movement and access to remote parking at the Athletics campus.
- The railroad underpass at East Tenth Street is in poor condition and will not accommodate future bus movement.
- The lack of connectivity for vehicular, bicycle, transit, and pedestrian movement isolates the emerging Research Park neighborhood east of the bypass from the academic core.

- There is sufficient parking supply on campus to meet current and future demand. The primary issues are the distribution, accessibility, and location of future parking to serve the academic core and major campus destinations.
- Improved transit routes and an increase in bicycle paths and facilities will enhance use of alternative transportation modes on campus.

Infrastructure

- There are capacity limitations campus wide with the Central Chilled Water Plant on North Woodlawn Avenue and East Thirteenth Street. Additional chilled water capacity must be added to multiple locations to serve future development.
- There is steam and condensate capacity for future development on the main campus from the CHP; however, distribution lines need repair, upgrading, and/or replacement.
- Capacity and/or distribution lines for chilled water, steam, and power need to be provided for areas of new campus growth

north of East Tenth Street along North Woodlawn Avenue, and for the Research Park east of the SR 45/46 Bypass.

- The need for improvements to sanitary, storm, electrical, and telecommunications varies by neighborhood across campus.
- Sustainable strategies are needed for campus growth and enhancement.

5 | THE MASTER PLAN



MASTER PLAN PRINCIPLES

The physical Campus Master Plan is comprised of three components: the principles and themes, campus-wide systems and guidelines, and neighborhood recommendations.

The planning principles convey the intent, goals, and long-term values of the University. They are the most fixed and enduring elements. The planning principles were developed early in the process to test campus concepts and alternative scenarios for campus development. They represent ideas regarding campus enhancement, preservation, and opportunities to reinvigorate existing campus neighborhoods and districts. The planning principles for the Bloomington campus include:

- Respect the character of the historic core.
- Restore the Jordan River corridor.
- Define and enhance neighborhood edges.
- Create a compact, walkable campus.
- Increase and enhance gathering spaces.
- Introduce vertical integration.
- Preserve natural features and memorable open spaces.

- Sustainably manage physical and natural resources.
- Provide the infrastructure necessary to support campus growth and change.

KEY THEMES

These planning principles grew into five key themes that guided the detailed concepts and recommendations of the Campus Master Plan.

1. Promote Bloomington's Unique Natural Features
2. Preserve and Reinvigorate the Core
3. Embrace the Jordan River
4. Commit to a Walkable Campus
5. Create Diverse Campus Neighborhoods

1. Promote Bloomington's Unique Natural Features

Indiana University is defined by a powerful and very special genius loci. As one of the most beautiful campuses in America, the grounds are dominated by a cathedral of trees and an abundance of spatial experiences. The richness of these experiences is defined in large part by the indigenous vegetation and unglaciated geology



Dunn Meadow and Jordan River at Indiana Memorial Union

of south central Indiana. As a result, the campus enjoys unique topographic variety, habitat diversity, and an abundance of natural character. The campus has captured this natural heritage and developed a special vocabulary defined by its terrain and vegetation, and has emphasized the sympathetic development of buildings in response to this unique landscape context.

Theme 1 Recommendations

- Preserve natural features and memorable open spaces.
- Compose new spaces that respect the topography, native ecology, and viewsheds.

- Ensure that new architecture creates meaningful and appropriately scaled exterior spaces.
- Reconnect woods, streams, and other key habitat to larger regional preserves.
- Maintain a natural, informal landscape character across campus, balanced with the preservation of existing classical and romantic landscapes.
- Sustainably manage physical and natural resources.

2. Preserve and Reinvigorate the Core

One of the principal consequences of new space types is larger buildings. This phenomenon is not new to higher education or to Bloomington. This leaves smaller and older facilities searching for compatible uses and long-term functions. The Campus Master Plan recommends the conversion of certain facilities in the historic core back to their original use as student housing, and the return of the historic crescent and Dunn’s Woods areas of campus into a re-engaged learning environment. This can be accomplished by selectively replacing administrative functions

with academic units and better woodland management. This strategic repurposing will energize the historic core with student life, activity, and academic purpose. The long-term consequences of this shift will help enliven the Indiana Memorial Union and repopulate the “original” quad of campus with an academic vitality closer to downtown Bloomington.

In addition to repurposing buildings, the renovation and construction of new academic buildings should create opportunities for greater interaction among students, faculty, and staff, across different disciplines and departments. Enhanced gathering spaces, both inside and outside of buildings, provide an alternative, informal learning environment just as critical as formal classrooms and labs.

Theme 2 Recommendations

- Respect the character of the historic core.
- Selectively re-introduce academic and residential functions into the core.
- Preserve and renovate historic buildings.



Jordan River in Bryan Hollow

- Repurpose historic buildings with programs compatible with their size.
- Develop the Indiana Memorial Union as the social and cultural destination.
- Program and energize underutilized campus spaces and landscapes.
- Increase places for unprogrammed, social interaction within buildings and in the external campus environment.

3. Embrace the Jordan River

One of the more obvious and yet underutilized assets of the campus environs is the Jordan River. Named for past University president and ichthyologist David Starr Jordan, the Jordan River represents an opportunity for campus-wide rejuvenation. Although central to campus, the Jordan River is in poor quality in the upper watershed segments and some portions of the core campus.

One of the key recommendations of the Campus Master Plan is to emphasize the river corridor as an organizing element, a new front door, and focal point of sustainably managed resources. The river is also an important habitat connection and will be a continuous, wooded spine between Griffy Lake, the core of campus, and the city of Bloomington.

Theme 3 Recommendations

- Restore the Jordan River corridor.
- Use the Jordan River as a linear organizing element and front door for new facilities.

- Rebuild the river for habitat and a restored ecology.
- Mimic the best segments of the river and extend this vocabulary to poor quality areas.
- Enhance water quality with a continuous vegetative buffer and tree canopy.
- Route pedestrian paths, punctuated by outdoor spaces and access points, along its length.

4. Commit to a Walkable Campus

One of the most powerful ideas of the Campus Master Plan is to contract, or compress the campus closer to the core. Simply stated, it aims to develop a long-range strategy to relocate from the perimeter and repopulate the center.

Until the mid 20th century, the campus maintained a unique spatial and pedestrian-centered environment. This vernacular was defined by human-scaled spaces, compact neighborhoods, and comfortable walking distances. As the Bloomington campus expanded following World War II, new patterns arose based on automobile travel distances. The principal



Jordan River



Bryan Hollow

consequence of this development was the consumption of acreage and campus “sprawl” out to the SR 45/46 Bypass. This led to a time and spatial inequality for those students residing in apartments at the perimeter of campus, and an increase in bus service and automobiles on campus. It also resulted in a lack of scale, pedestrian character, and walkability.

An important corollary of this commitment to a walkable campus is to replicate the density, character, and spatial order of the best elements of the historic core in underdeveloped areas of campus. This will positively affect the density, interaction, and quality of space for campus areas adjacent to the core.



Bryan Hollow at the Indiana Memorial Union Parking Lot

Theme 4 Recommendations

- Create a compact, walkable campus.
- Focus new development and infill south of the railroad tracks.
- Develop underutilized areas to a similar level of density as the historic core.
- Replace aged, outdated housing from the campus perimeter with new models on campus, closer to the core.
- Use class change times and walking distances as a determinant for facility placement.
- Strengthen pedestrian connections and enhance the pedestrian experience.
- Use structured parking in lieu of surface lots to preserve land resources.

5. Create Diverse Campus Neighborhoods

Diverse campus neighborhoods are integrated learning and living environments for faculty and students. They are places that blur the boundary between academics, housing, and recreation. Previous concepts in campus planning called for single-use zoning—isolating academic from residential precincts. Diverse campus neighborhoods are complete places where a variety of students of a variety of ages and interests can find a housing type to meet their needs. They are places where students can take classes within their residence hall or neighborhood; where they may find access to faculty; where they can study together, socialize, get coffee, or recreate; and where they can access student services and amenities. As Indiana University contemplates future academic, research, and residential life expansion, the success of the Campus Master Plan is contingent on developing such complete neighborhoods.

Theme 5 Recommendations

- Define and enhance campus neighborhoods and edges.
- Develop neighborhoods as complete living and learning environments.
- Combine academic, residence life, social, recreational, and community amenities.
- Introduce a mix of uses vertically within buildings and as adjacent uses within neighborhoods.
- Use the 5-minute walking radius ($\frac{1}{4}$ mile or 1,250 feet) as a geographic delineation of a neighborhood.
- Increase and enhance gathering spaces.
- Maintain pedestrian movement as the primary transportation mode.
- Develop transit mechanisms to link other neighborhoods and campus-wide destinations.

ILLUSTRATIVE MASTER PLAN

The Illustrative Master Plan represents an ideal future campus configuration, translating the principles and key planning themes into a graphical representation. It illustrates opportunities for new development and provides a guide for growth, representing future building envelopes, their relative scale, and how they shape space. Specifically, the Illustrative Master Plan proposes the placement of new features such as opportunities for future buildings, roadways, open space, parking, and other facilities in relationship to existing campus facilities, roads, parking, and open space. Second, the Illustrative Master Plan introduces a spatial order between the physical elements of campus.

The Illustrative Master Plan is supported by the following series of recommendations for campus-wide systems:

- Sustainable Planning
- Campus Development
- Landscape Character
- Circulation and Parking
- Campus Infrastructure
- Architectural Guidelines

Recommendations are detailed for ten campus neighborhoods, with suggestions for future development, re-use, open space, infrastructure, and design guidelines at the neighborhood level.

Campus Neighborhoods:

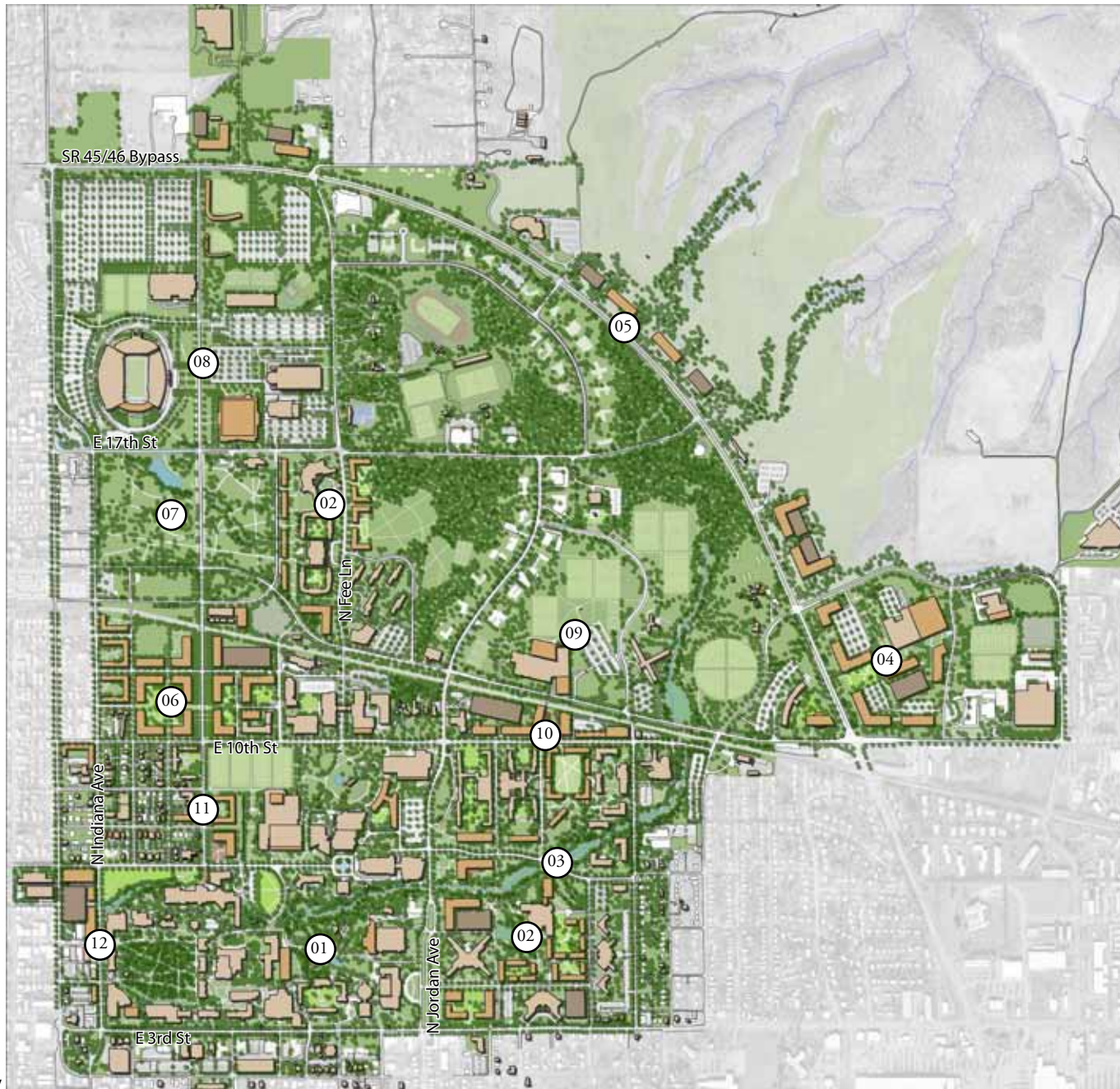
- Historic Core
- Seventh Street - Cultural District
- University Edge
- Jordan Avenue Corridor
- East of Jordan
- Woodlawn and Tenth Street
- Fee Lane Area
- Northeast Area
- Research Park
- Intercollegiate Athletics

As a planning document, the Illustrative Master Plan and its supporting graphics are most valuable when communicating the character and intent of the plan, rather than specific detail. This plan is not a final design, and the footprints shown will not be the final building configurations. At the Campus Master Plan altitude, specific college or departmental designations are not predetermined for proposed

footprints. Taken collectively, the Illustrative Master Plan is intended to aid in short-, mid-, and long-term decision making. As political, administrative, and programmatic variables change, the Campus Master Plan needs to remain flexible. The fundamental function of the Campus Master Plan then, is to suggest a principle-driven framework for managing future opportunities.

CAMPUS MASTER PLAN SUMMARY STATISTICS

| Proposed Use | Total GSF |
|--------------------------------|--------------|
| Existing Facilities | 15,324,204 |
| - Demolition/Replacement | 602,161 |
| Total Proposed Facilities | |
| + Academic, Support, Auxiliary | 4,198,000 |
| Total Future Development | 18,920,043 |
| Existing Housing to Remain | 11,670 |
| Ashton Housing | 830 |
| Residential Replacement | (2,050) |
| <u>Proposed Housing</u> | <u>2,050</u> |
| Total Future Housing | 12,500 |

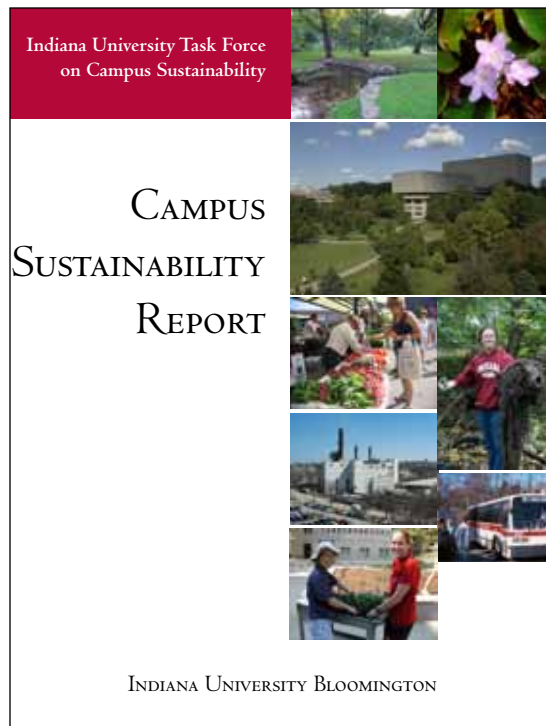


LEGEND

- 01 Selective Infill
- 02 Mixed-Use Residential
- 03 Riparian Improvements
- 04 Research Park
- 05 Technology Corridor
- 06 Woodlawn and Tenth Street Academic Development
- 07 New Arboretum
- 08 Consolidated Athletics
- 09 Consolidated Recreation
- 10 East Tenth Street Mixed-Use
- 11 Alumni Walk
- 12 Campus Edge Development

- Proposed Building
- Existing Building
- Potential Parking Opportunity

SUSTAINABLE PLANNING



Campus Sustainability Report

Building on the groundbreaking *Campus Sustainability Report* (January 7, 2008), this Campus Master Plan embeds sustainability throughout. The Campus Master Plan has focused on a purposeful and strategic incorporation of both quantitative and qualitative improvements to the setting of the academic mission, to promote a campus that manifests sustainable planning principles. Implicit in the plan is the goal of developing the campus as a learning environment where innovation is promoted, interpreted, and celebrated.

Overlaid on the key themes of the Campus Master Plan, the recommendations are grouped under several broad sustainable planning principles:

1. Adopt environmentally sensitive land use practices.
2. Move toward a carbon-neutral campus.
3. Ensure a range of transportation options.
4. Plan for innovative sustainable buildings and landscapes.

1. Adopt Environmentally Sensitive Land Use Practices.

“Through research, self-reporting, and adoption of environmentally sensitive land-use practices we seek to help IUB use resources sustainably and improve environmental quality and to protect the health of citizens on campus, in Bloomington, and beyond.”

—“Environmental Quality and Land Use,”
Campus Sustainability Report, 2008

Building on the extraordinary environmental quality of the Bloomington campus, the Campus Master Plan increases the campus area dedicated to quality habitat—woodland, stream, and meadow. Tree cover is increased from 20 to 40 percent of the campus area. By strategically consolidating the location of residential and student recreational areas, pedestrian activity and transit ridership is promoted and the quality of student life enhanced. The Jordan River corridor is enhanced and reconceived as the central piece in an on-campus biological stormwater treatment and flood accommodation system.

Sustainability Principle 1 Recommendations

- Enhance and protect existing woodlands—Dunn’s Woods, Bryan Hollow, and the Research and Teaching Preserve.
 - Expand and connect existing woodland fragments outside the campus core.
 - Protect existing ephemeral streams; restore subsurface hydrology and seasonal flow.
 - Eliminate invasive species and control non-native, non-invasive species.
 - Promote an increase in native landscaping, including restoration of riparian vegetation, no-mow zones, and forested areas.
 - Decrease use of hazardous lawn chemicals, pesticides, and fertilizer wherever possible.
 - Implement Integrated Pest Management in both outdoor and indoor environments, wherever possible.
 - Locate opportunities for community gardening, composting, and permaculture, with potential links for Residential Programs and Services and Indiana Memorial Union dining facilities.
 - Capture and treat water where it falls or as close as possible.
- Release water from the campus at volumes no greater than that released by the site in its native state.
 - Allow the Jordan River and its tributaries to flood in controlled areas upstream.
 - Establish or enhance vegetated buffers for the Jordan River.
 - Protect and restore aquatic habitat on the Jordan River and its tributaries.
 - Create wetlands within stream corridors for habitat and flood control.
 - Diversify uses throughout the campus to encourage walking and increase quality of life.
 - Increase density of academic and cultural uses along the East Seventh Street corridor.
 - Create academic and residential campus quads between East Tenth Street and the railroad tracks and between North Jordan Avenue and North Union Street.
 - Steadily move uses south and west from the northeast portion of campus and create/reinforce woodland, stream corridor, and meadow habitats and community gardens.



Jordan River “Environmental Quality and Land Use,”
Campus Sustainability Report



Pedestrian Routes

- Create recreation fields convenient to residential uses.
- Create residential neighborhoods centered on green space and amenities.
- Reinforce existing campus pedestrian routes through additional academic and residential buildings, campus amenities, and site amenities.
- Mix academic, residential, recreational, student services, cultural, and administrative uses throughout campus.

2. Move Toward a Carbon-Neutral Campus.

“To raise awareness of IUB’s energy use among faculty, staff, and students and implement strategies to maximize the efficiency of on-campus production and distribution systems as well as reduce energy consumption and greenhouse gas emissions.”

—“Energy,” *Campus Sustainability Report*, 2008

The Campus Master Plan proposes a number of pathways that could lead to a significant reduction in greenhouse gas emissions up to 80 percent by the year 2050. It identifies strategies that, if fully implemented, would result in a

30 percent reduction in carbon emissions by 2020, even while increasing the built area by 25 percent. As an example, this is consistent with targets established by the American College and University Presidents Climate Commitment (ACUPCC). The emissions addressed here result from the use of electricity and the generation of steam and chilled water. The University may wish to address the full range of emissions related to travel, commuting, and procurement through the evolution of other policies

Sustainability Principle 2 Recommendations

- Use carbon emissions as a metric to measure future energy production and use efficiency.
- Diversify energy sources to anticipate unpredictable futures (availability, regulation, and cost).
- Anticipate solar thermal applications in the design of buildings and systems.
- Investigate biomass fuel opportunities leveraging regional agricultural wastes or University-owned woodland management.
- Plan to co-generate electricity while making steam or chilled water.
- Identify disproportionately high energy users to prioritize investments in energy efficiency.
- Set payback parameters to qualify energy efficiency initiatives.
- Reduce the energy requirements for computer servers by consolidation and virtualization into space designed for Data Center use.
- Improve the energy efficiency for the Data Center through layout best practice, temperature control, and improved cooling technologies.



Central Heating Plant, “Energy,” *Campus Sustainability Report*



IU Bus, "Transportation," *Campus Sustainability Report*



North Indiana Avenue

- Establish campus-wide standards for equipment efficiencies (computers and office equipment, food service equipment, and lab equipment).
- Investigate funding and financing tools to reward/monetize emissions reduction.
- Improve energy efficiency in new construction by 30 to 50 percent over the baseline.
- Install occupancy sensors and more efficient lighting in new and existing buildings.
- Optimize laboratory energy use with high-efficiency fume hoods.
- Renovate 10 percent of existing buildings to improve energy efficiency by 26 percent over the baseline.
- Retrofit commission the remaining existing buildings to optimize performance.
- Continue to repair the steam distribution system to reduce losses.
- Purchase green power to accelerate the progress towards carbon neutrality.

3. Ensure a Range of Transportation Options.

"To promote a sustainable transportation system that will provide safe access and mobility for students, faculty, staff and visitors, and to ensure that individuals have a broad range of safe and convenient transportation options to walk, bicycle, carpool, or ride public transit to and around campus."

—"Transportation," *Campus Sustainability Report*, 2008

While 90 percent of undergraduate students, 75 percent of graduate students, and 57 percent of faculty live within 3 miles of campus, almost half of all campus users drive to campus alone each day. In addition, significant numbers of students move their cars during the day. This suggests that walking and riding city or campus public transit are not sufficiently convenient. The Campus Master Plan identifies land use changes to consolidate diverse campus uses within easy walking distance and reorganizes some of the critical routes through campus to increase convenience and safety.

Sustainability Principle 3 Recommendations

- Increase the use of lower impact modes of transportation in lieu of reliance on single-occupancy vehicles.
- Create pedestrian and bicycle priority on campus.
- Organize transit routes and select vehicles for short headways and passenger convenience.
- Reinforce inter-system connectivity with Bloomington Transit, and make the transfer between systems seamless and convenient.
- Plan and advocate for potential future regional passenger rail service and locate a future station to support campus circulation patterns.
- Increase density of central campus land use to increase pedestrian connectivity.
- Develop new buildings and pathways along the Jordan River to reinforce desirable pedestrian routes.
- Develop new separate and safe bike routes and furnish covered and protected bike racks liberally throughout the campus.
- Develop grade-separated railroad crossings for bicycles and pedestrians.
- Provide retail and service opportunities relevant to the several distinct on-campus populations to encourage the meeting of day-to-day needs on foot.
- Create a safe and convenient pedestrian and bicycle crossing at East Tenth Street and the SR 45/46 Bypass.
- Create vehicular east-west cross-campus alternatives to East Tenth Street away from the campus core.
- Concentrate new residential uses south of the railroad tracks and along North Fee Lane.
- Leverage available sites within the campus core and between East Tenth Street and the railroad tracks for new academic uses.
- Locate new parking to intercept traffic at the campus edge to reduce internal traffic and the need for shuttles.
- Develop and implement Transportation Demand Management strategies to reduce future parking demand—parking pricing, bicycle sharing, marketing for carpooling and Guaranteed Ride Home programs, and car-sharing.



Collins Quad



"Built Environment," *Campus Sustainability Report*

4. Plan for Innovative Sustainable Buildings and Landscapes.

"To promote campus sustainability through innovative building design and engineering principles that promote functionality, safety, and energy efficiency while respecting campus culture and heritage."

—"Built Environment," *Campus Sustainability Report*, 2008

By 2020, the Campus Master Plan anticipates that a significant number of existing buildings will be renovated, over 3 million gross square feet (GSF) of new buildings will be constructed, and a number of older, inefficient buildings will be demolished. This is an ideal time to establish standards of sustainable design to guide this new development. The University has set LEED® Silver certification as its benchmark. In addition, the Campus Master Plan outlines strategies to build on the significant past water conservation initiatives to further reduce potable water use by 50 percent over today's use, even while increasing the overall built square footage on campus.

Sustainability Principle 4 Recommendations

- Design buildings for daylight harvesting without unwanted heat gain or glare.
- Orient (and pitch) roofs for solar thermal and photovoltaic applications (immediate or future).
- Site buildings for microclimate characteristics such as cooling summer breezes, protection against winter winds, sunlight, and shade.

- Site vegetative and landscaping features to create beneficial local microclimates to minimize energy and water usage in campus buildings.
- Install meters to create a thorough database of existing campus building energy (electricity, chilled water, and steam) and water use.
- Use efficient plumbing fixtures in new construction.
- Retrofit existing plumbing fixtures, especially in residential facilities.
- Consider graywater capture and re-use in new construction.
- Systematically identify and remedy leaks.
- Meter water use at each building.
- Decrease impervious land cover in the site development associated with new construction.

CAMPUS DEVELOPMENT

FUTURE LAND USE

The Campus Master Plan proposes a future campus that is invigorated by multiple-use districts and buildings, woven together through increased connectivity. The Campus Master Plan promotes flexibility and a mixing of programs, disciplines, and campus uses within neighborhoods and vertically within buildings. Campus neighborhoods will have a principal use, but will also contain other secondary uses to encourage a more diverse neighborhood population, as well as more activities and pedestrian life on the campus.

Core academic uses will continue to be clustered in and around the historic core, with expansion east of North Jordan Avenue and moving up North Woodlawn Avenue to the area north of East Tenth Street. Core academic uses will also include cultural and performance facilities, recreational uses, residence life, administrative functions, and special resources such as the Wells Library and the Indiana Memorial Union.

Residential neighborhoods are encouraged to incorporate more activity and learning environments, with classrooms integrated into neighborhoods and residential halls. Enhanced gathering spaces, student services, and amenities are also encouraged within campus neighborhoods.

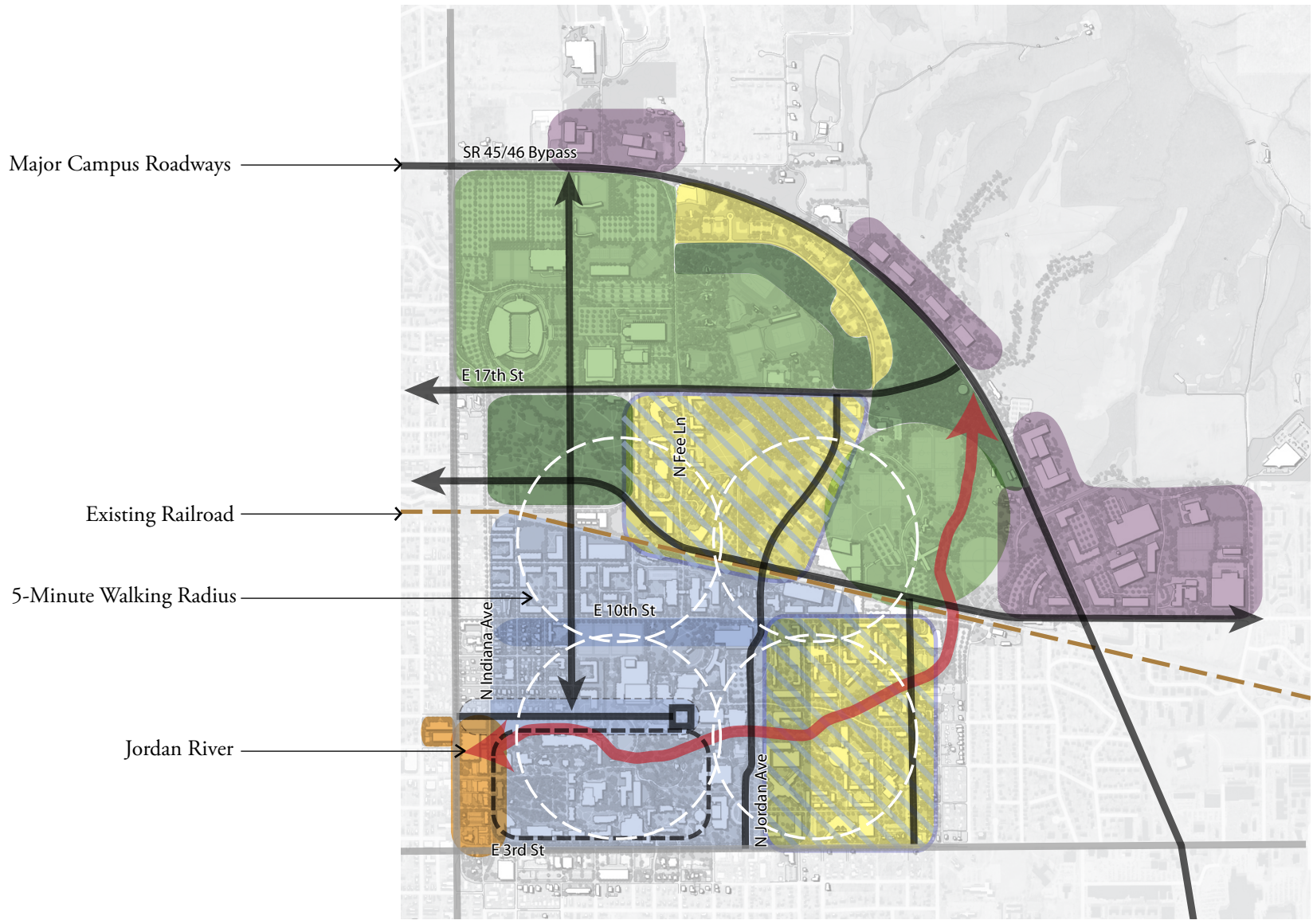
Land in the north and northeast areas of campus will be principally used for athletics and recreational sports. These functions are proposed with secondary uses of classroom space, meeting space, retail, and gathering space.

Private and joint venture research and technology uses are proposed at the Research Park and on select sites along the SR 45/46 Bypass.

LAND USE RECOMMENDATIONS

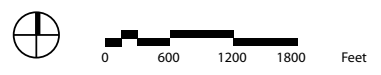
- Diversify uses inside the historic core with new residential, a repurposed Indiana Memorial Union, expanded recreation opportunities at Wildermuth Intramural Center, and informal study and gathering spaces within buildings.

- Restore the University Courts neighborhood to a predominantly residential neighborhood.
- Blend current on-campus residential zones with new academic, academic support, student services, and shared amenities.
- Improve Woodlawn Field and consolidate displaced recreational sports to a more centrally located area on campus, adjacent to the Student Recreational Sports Center.
- Establish new private technology and research company sites on the bypass.
- Consolidate the Athletics campus on the north side of campus.
- Pursue mixed-use, public/private partnerships on campus edges at North Indiana Avenue and on East Tenth Street at North Union Street.
- Enhance the East Seventh Street corridor as a combination of academic, cultural, recreational, and commercial uses at the heart of campus.



FUTURE LAND USE

- Residential-Greek Housing
- Academic
- Research Park
- Academic-Residential Mixed-Use
- Mixed-Use Campus Edge
- Varsity and Recreational Athletics
- Preservation Zones



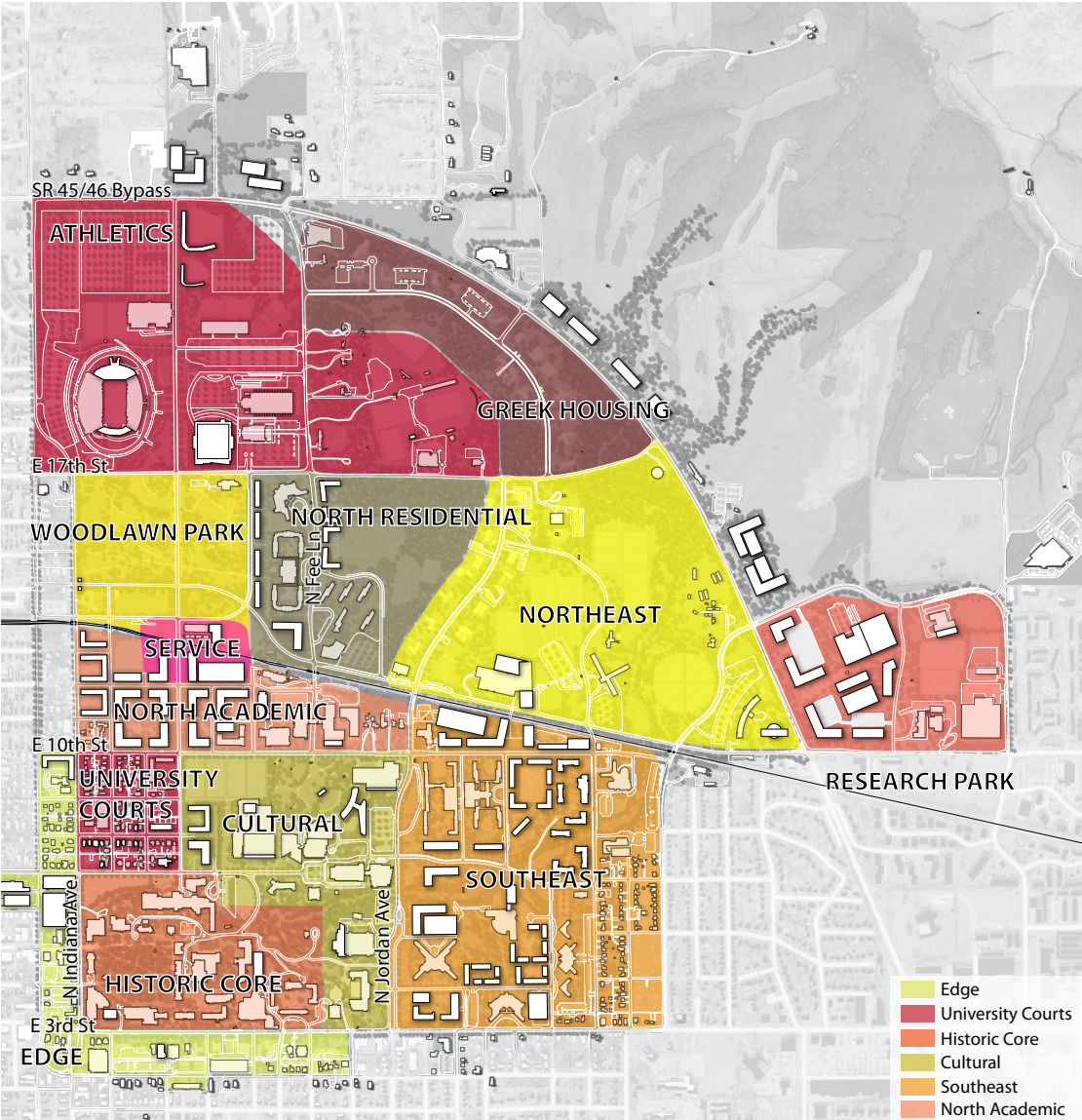
FUTURE DENSITY AND FAR

A comfortable density, along with a mix of uses, creates vibrant campuses. The historic core of Indiana University Bloomington (IUB) has one of the highest Floor Area Ratios (FAR) of the campus districts, yet its collection of historic buildings and pockets of open space creates a unique and beautiful college campus. The Campus Master Plan minimizes new development in the historic core, with only a handful of sites targeted for additions and repurposing. The density of the historic core is used as a model for the development of new campus academic and residential neighborhoods.

New residential and academic buildings are proposed as infill to increase the density east and north of the campus core. New residential buildings planned with new quad and courtyard spaces are modeled after the tradition and scale of great residential quads of other universities.

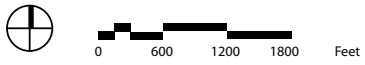
DENSITY AND FAR RECOMMENDATIONS

- Complete limited building additions and select new construction within the historic core while maintaining its overall density.
- Develop a compact academic district north of East Tenth Street along North Woodlawn Avenue.
- Increase the variety of uses and density for the north and east areas of campus.
- Reflect the density and scale of East Kirkwood Avenue and North Indiana Avenue for new mixed-use development at the campus edges.
- Increase the density of the retail and commercial environment on East Tenth Street and North Union Street.
- Maintain a 4- to 6-story building height for the majority of campus (refer to the Architectural Guidelines).



| Proposed FAR Density Summary | | |
|------------------------------|--------------|--------------|
| District | Existing FAR | Proposed FAR |
| Edge | 0.5 | 0.6 |
| University Courts | 0.3 | 0.3 |
| Historic Core | 1.3 | 1.2 |
| Cultural | 1.0 | 1.2 |
| Southeast | 0.4 | 0.6 |
| North Academic | 1.0 | 1.6 |
| Service | 0.2 | 0.7 |
| Woodlawn Park | 0.0 | 0.1 |
| North Residential | 0.4 | 0.7 |
| Northeast | 0.2 | 0.1 |
| Research Park | 0.4 | 1.1 |
| Athletics | 0.2 | 0.2 |
| Greek Housing | 0.0 | 0.0 |

PROPOSED DENSITY



- Edge
- University Courts
- Historic Core
- Cultural
- Southeast
- North Academic
- Service
- Woodlawn Park
- North Residential
- Northeast
- Research Park
- Athletics
- Greek Housing

CURRENT CAPITAL PROJECTS

Current capital projects include those projects that are under construction and projects in the planning and design stage at the time of this report. The range of current capital projects represents the University's commitment and support to the sciences, arts and humanities, research, and enhanced student life. The University has almost 1 million GSF under construction or nearing completion, and another ½ million GSF in the planning, programming, or design stages. In addition, the University has requested funding to support approximately one new research facility every other year for the next 10 years for the Bloomington campus. At an average 200,000 GSF, that will amount to 1 million GSF of new science and research facilities within the programming horizon of this Campus Master Plan.

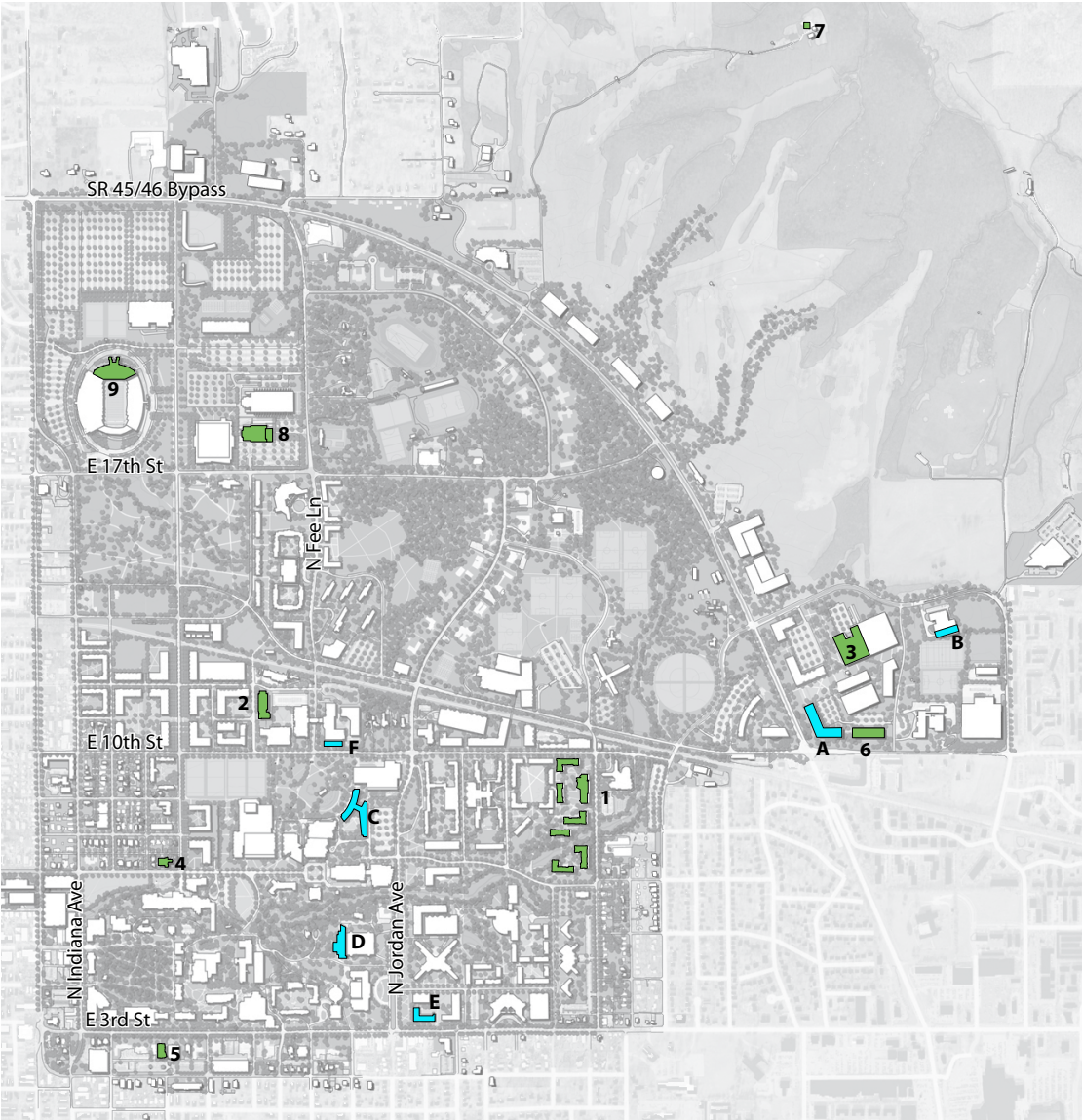
The following tables and map describe the approved projects under construction or in the planning and design process, their location, and size.

PROJECTS IN PLANNING AND DESIGN

| Project Name | | |
|--------------|------------------------------------|----------------|
| A | CIB | 118,000 |
| B | Auxiliary Library Facility II | 22,000 |
| C | International Studies Bldg. | 175,000 |
| D | MAC Addition | 25,000 |
| E | Jacobs School of Music East Studio | 85,000 |
| F | Kelly Addition | 78,000 |
| | | 503,000 |

PROJECTS IN CONSTRUCTION

| Project Name | | |
|--------------|---------------------------|----------------|
| 1 | Ashton | 410,000 |
| 2 | MSB 2 | 125,000 |
| 3 | Data Center | 90,000 |
| 4 | Hutton Honors | 17,365 |
| 5 | Optometry Clinic | 22,440 |
| 6 | Life Sciences Incubator | 37,400 |
| 7 | Griffy Research | 7,300 |
| 8 | Baseketball Player Devel. | 64,571 |
| 9 | North End Zone | 130,000 |
| | | 904,076 |



EXISTING CAPITAL IMPROVEMENTS

- Projects in Planning and Design
- Projects in Construction



DEMOLITION CANDIDATES

There are four broad categories of demolition candidates proposed in the Campus Master Plan: the University School area east of the bypass; older residential buildings on North Union Street north of the tracks; demolition and repurposing of two garage sites in the academic core; and demolition of smaller structures to accommodate future academic expansion north of East Tenth Street along the North Woodlawn Avenue corridor.

Outdated residential buildings north of the railroad tracks are proposed to be removed over time in order to consolidate on-campus housing in neighborhoods closer to the academic core. Phasing of this demolition must be coordinated with construction of replacement housing units elsewhere on campus.

The following table and map show the location and size of each facility proposed for demolition.

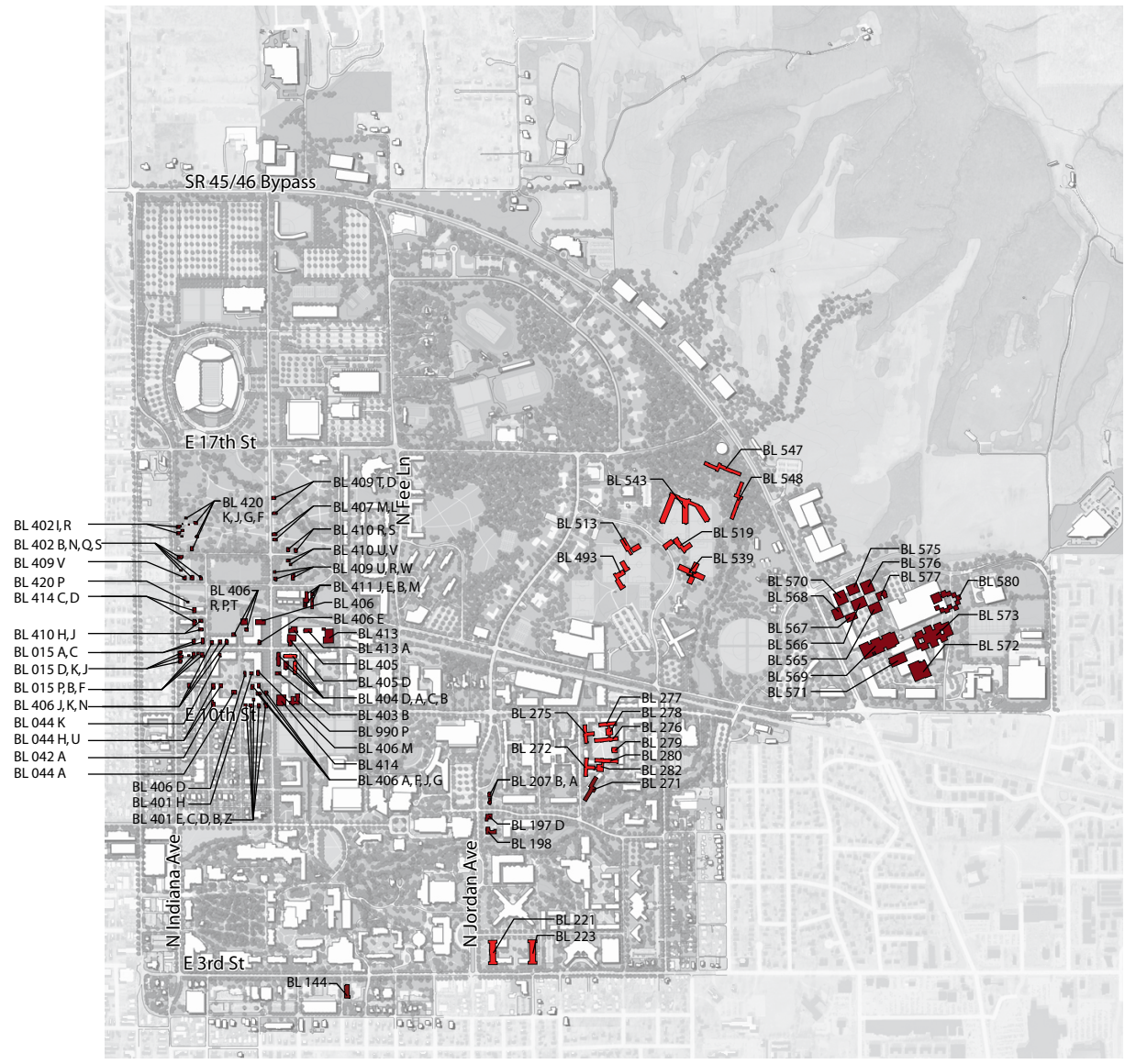
ACADEMIC AND SUPPORT DEMOLITION CANDIDATES

| IUB BLD. # | GSF |
|-------------------------------|--------|
| BL 015 A,B,C, D, F, J, K, P | 11,170 |
| BL 042 A | 4,487 |
| BL 044 A,K,U | 4,176 |
| BL 044 H | 2,640 |
| BL 144 | 19,937 |
| BL 197 D | 10,182 |
| BL 198 | 16,525 |
| BL 207 A, B | 8,913 |
| BL 271 | 37,349 |
| BL 401 A, B, D, E, F, H, J, Z | 14,707 |
| BL 401 C | 3,887 |
| BL 401 G | 2,835 |
| BL 401 Y | 700 |
| BL 402 B, I, N, P, Q, R, S | 5,851 |
| BL 403 B | 3,152 |
| BL 404 C | 3,394 |
| BL 404 D | 19,434 |
| BL 405 | 4,126 |
| BL 405 D | 7,265 |
| BL 406 | 5,234 |
| BL 406 D, E, J, K, M, N, T | 8,784 |
| BL 406 R | 3,832 |
| BL 406 P | 1,150 |
| BL 407 L, M | 3,106 |
| BL 409 D, R, T, U, V, W | 7,297 |
| BL 410 H, J, R, S, U, V | 5,961 |
| BL 411 B, C, E, J, M | 10,877 |
| BL 413 | 25,411 |
| BL 413 A | 6,713 |
| BL 414 | 28,172 |
| BL 414 C | 2,445 |
| BL 414 D | 1,500 |
| BL 420 F, G, J, K, P | 2,719 |
| BL 565 | 10,151 |
| BL 566 | 15,033 |
| BL 567 | 6,512 |
| BL 568 | 8,323 |
| BL 569 | 47,248 |

| | |
|----------------|--------|
| BL 570 | 12,714 |
| BL 571 | 20,028 |
| BL 572 | 35,669 |
| BL 573 | 56,453 |
| BL 575 | 8,580 |
| BL 576 | 11,836 |
| BL 577 | 10,421 |
| BL 580 | 39,419 |
| BL 655 D | 1,013 |
| BL 990P | 24,830 |
| 602,161 | |

RESIDENTIAL DEMOLITION CANDIDATES

| IUB BLD. # | BEDS | GSF |
|------------|------|----------------|
| BL 221 | | 69,156 |
| BL 223 | | 69,157 |
| BL 272 | | 36,110 |
| BL 275 | | 36,396 |
| BL 276 | | 35,615 |
| BL 277 | | 25,769 |
| BL 278 | | 4,759 |
| BL 279 | | 2,684 |
| BL 280 | | 40,378 |
| BL 282 | | 3,892 |
| BL 404 A | | 14,653 |
| BL 404 B | | 17,294 |
| BL 493 | | 26,033 |
| BL 513 | | 24,520 |
| BL 519 | | 25,212 |
| BL 539 | | 35,904 |
| BL 543 | | 220,039 |
| BL 547 | | 49,030 |
| BL 548 | | 49,029 |
| | | 785,630 |



BL 402I,R
 BL 402 B,N,Q,S
 BL 409 V
 BL 420 P
 BL 414 C,D
 BL 410 H,J
 BL 015 A,C
 BL 015 D,K,J
 BL 015 P,B,F
 BL 406 J,K,N
 BL 044 K
 BL 044 H,U
 BL 042 A
 BL 044 A

BL 420 K,J,G,F
 BL 407 M,L
 BL 410 R,S
 BL 410 U,V
 BL 409 U,R,W
 BL 411 J,E,B,M
 BL 406 R,P,T
 BL 406 E
 BL 413
 BL 413 A
 BL 405
 BL 405 D
 BL 404 D,A,C,B
 BL 403 B
 BL 990 P
 BL 406 M
 BL 414
 BL 406 A,E,J,G
 BL 406 D
 BL 401 H
 BL 401 E,C,D,B,Z
 BL 414

BL 547
 BL 548
 BL 513
 BL 493
 BL 519
 BL 539
 BL 570
 BL 568
 BL 575
 BL 576
 BL 577
 BL 580
 BL 573
 BL 567
 BL 566
 BL 565
 BL 569
 BL 571
 BL 275
 BL 272
 BL 207 B, A
 BL 197 D
 BL 198
 BL 277
 BL 278
 BL 276
 BL 279
 BL 280
 BL 282
 BL 271
 BL 221
 BL 223

DEMOLITION CANDIDATES

- █ Residential Demolition Candidates
- █ Academic and Support Demolition Candidates



RENOVATION CANDIDATES

The University has evaluated the condition of its buildings and identified a range of facilities that are in need of minor, moderate, or major renovations. The majority of facilities that will need moderate or major remodeling are located within the historic core and include the Indiana Memorial Union, Swain Hall West, Owen Hall, Kirkwood Hall, Goodbody Hall, and Merrill Hall. The Geological Sciences building on East Tenth Street is another academic facility in need of major renovation. Retaining and renovating these campus assets and historic structures are key parts of the Campus Master Plan and part of the vision to reinvigorate the historic core. A second category of facilities will require remodeling to upgrade their adequacy for academic use, including Franklin Hall, Jordan Hall, and Ballantine Hall. Remodelling will be needed to convert Eigenmann Hall from residential to office, support, and research uses. In the long term (15-20 years), Tulip Tree Apartments are recommended for conversion and remodeling to office/mixed-use.

Facilities will always need to adapt to new trends in higher education. The Wells Library is an excellent example of how Indiana University has re-imagined the concept of a library for the 21st century. IUB has re-energized the Wells Library with interactive student spaces such as the Information Commons and the Research Commons, host to the new Institute for Digital Arts and Humanities. These areas form dynamic, collaborative environments that meet students' technological and group study needs.

The University has also planned the renovation of several of its residential halls to transform them into more modern living arrangements. These include Briscoe, Forest, Read, and Teter residential halls.

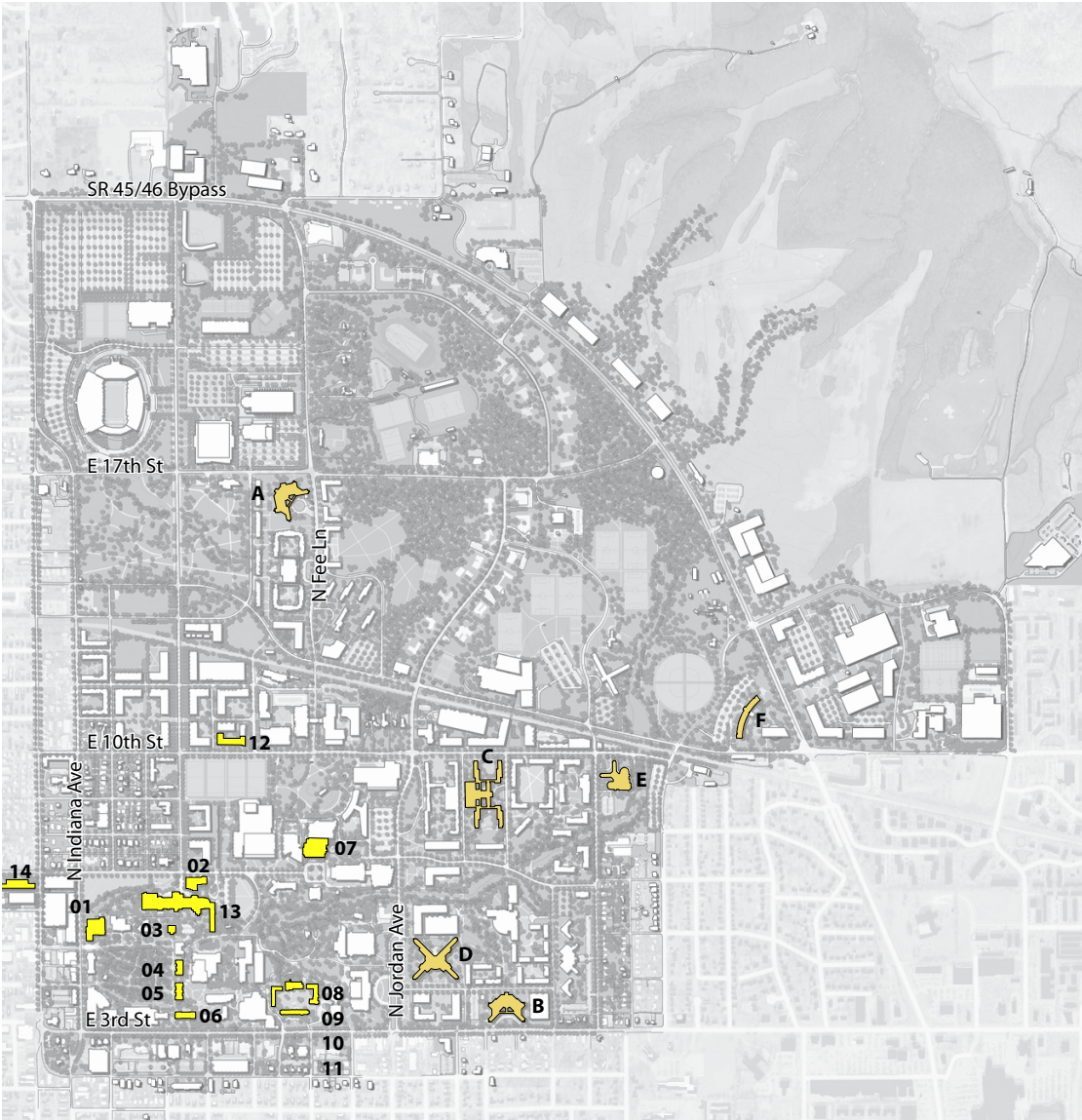
The following table and map list the facilities proposed for renovation.

ACADEMIC AND SUPPORT RENOVATION CANDIDATES

| | Building Name | |
|----|------------------------|------------------|
| 1 | Franklin Hall | 138,149 |
| 2 | Ernie Pyle Hall | 38,292 |
| 3 | Owen Hall | 20,148 |
| 4 | Kirkwood Hall | 37,481 |
| 5 | Lindley Hall | 59,910 |
| 6 | Rawles Hall | 42,019 |
| 7 | Fine Arts | 115,554 |
| 8 | Memorial Hall | 58,575 |
| 9 | Goodbody Hall | 37,522 |
| 10 | Morrison Hall | 53,989 |
| 11 | Sycamore Hall | 74,654 |
| 12 | Geological Sciences | 126,422 |
| 13 | Indiana Memorial Union | 438,753 |
| 14 | Poplars | 150,420 |
| | | 1,391,888 |

RESIDENTIAL RENOVATION CANDIDATES

| | Building Name | |
|---|---------------|------------------|
| A | Briscoe | 279,424 |
| B | Forest | 289,012 |
| C | Teter | 300,873 |
| D | Read | 358,643 |
| E | Eigenmann | 349,437 |
| F | Tulip Tree | 263,003 |
| | | 1,840,392 |



RENOVATION CANDIDATES

- Residential Renovation Candidates
- Academic and Support Renovation Candidates



FUTURE ACADEMIC AND SUPPORT GROWTH

The Campus Master Plan suggests a number of future building footprints to accommodate the proposed program for academic, academic support, auxiliary services, special uses, athletics, and recreational sports facilities. The plan represents over 4 million GSF of new development, additions, and replacement facilities. The majority of new development sites shown are south of the railroad tracks, to maintain a compact, walkable campus and fill in “character gaps” on underutilized parts of campus.

A future Assembly Hall replacement and all future Research Park development is shown on the plan, but not counted in the 4 million GSF of new development, additions, and replacement facilities.

FUTURE ACADEMIC AND SUPPORT

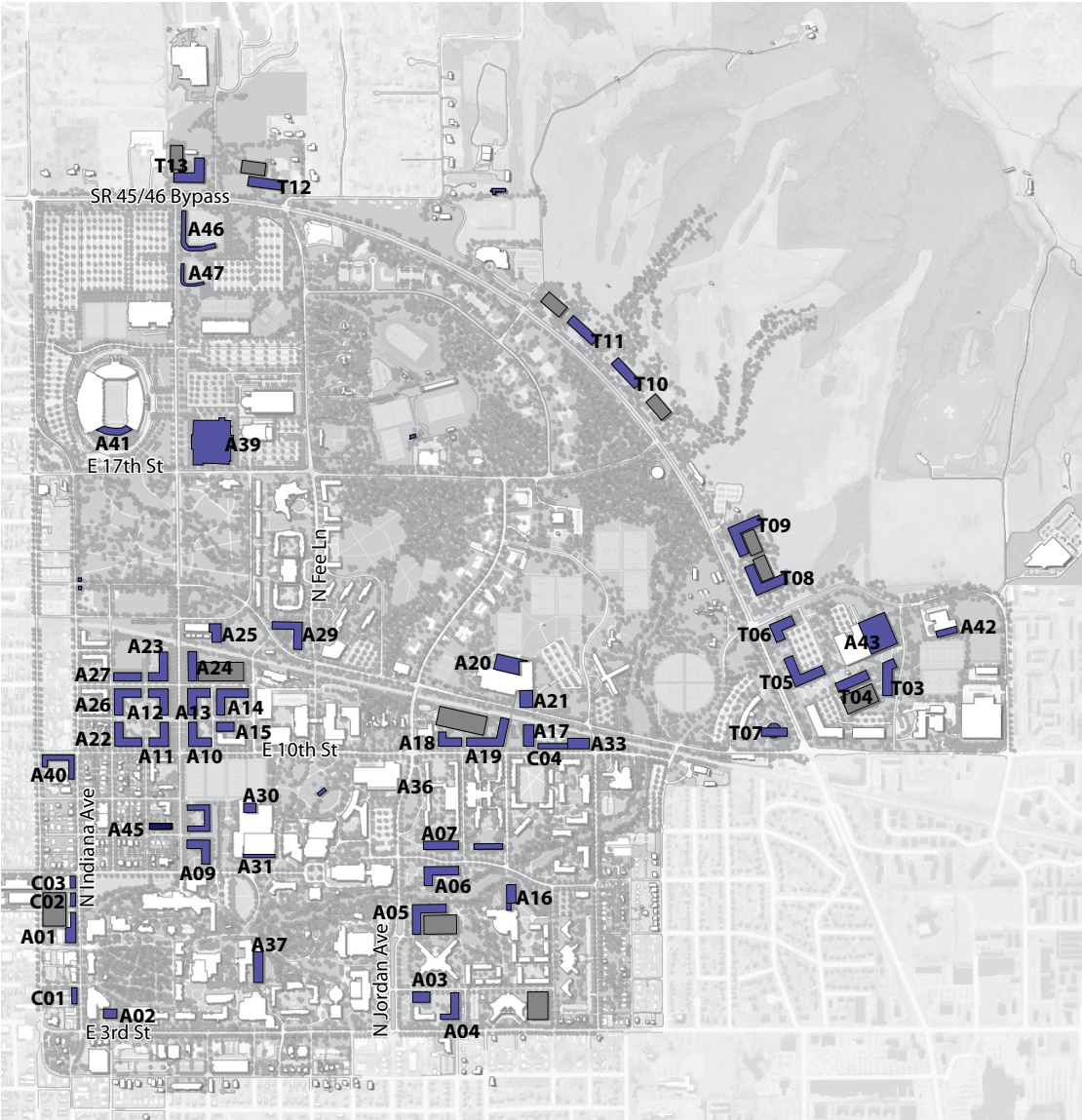
| Name | Base GSF | FL | GSF |
|------|----------|------|------------------|
| A1 | 20,000 | 5.00 | 100,000 |
| A2 | 12,000 | 5.00 | 60,000 |
| A3 | 25,000 | 5.00 | 125,000 |
| A4 | 25,000 | 5.00 | 125,000 |
| A5 | 40,000 | 5.00 | 200,000 |
| A6 | 35,000 | 5.00 | 175,000 |
| A7 | 25,000 | 5.00 | 125,000 |
| A9 | 30,000 | 5.00 | 150,000 |
| A10 | 29,000 | 4.00 | 116,000 |
| A11 | 27,000 | 5.00 | 135,000 |
| A12 | 28,000 | 5.00 | 140,000 |
| A13 | 30,000 | 5.00 | 150,000 |
| A14 | 38,000 | 5.00 | 190,000 |
| A15 | 14,000 | 5.00 | 70,000 |
| A16 | 16,000 | 4.00 | 64,000 |
| A17 | 20,000 | 4.00 | 80,000 |
| A18 | 21,500 | 2.00 | 43,000 |
| A19 | 45,000 | 4.00 | 180,000 |
| A20 | 35,000 | 5.00 | 175,000 |
| A21 | 20,000 | 5.00 | 100,000 |
| A22 | 32,000 | 4.00 | 128,000 |
| A23 | 28,000 | 3.00 | 84,000 |
| A24 | 22,000 | 6.00 | 132,000 |
| A25 | 18,000 | 4.00 | 72,000 |
| A26 | 34,000 | 4.00 | 136,000 |
| A27 | 16,000 | 1.00 | 16,000 |
| A28 | 9,000 | 4.00 | 36,000 |
| A29 | 35,000 | 5.00 | 175,000 |
| A30 | 9,000 | 2.00 | 18,000 |
| A31 | 9,000 | 3.00 | 27,000 |
| A33 | 22,000 | 5.00 | 110,000 |
| A36 | 5,000 | 2.00 | 10,000 |
| A37 | 25,000 | 6.00 | 150,000 |
| A39 | 150,000 | 2.00 | 300,000 |
| A40 | 27,000 | 4.00 | 108,000 |
| A41 | 16,000 | 1.00 | 16,000 |
| A42 | 12,000 | 2.00 | 24,000 |
| A43 | 80,000 | 1.00 | 80,000 |
| A45 | 9,500 | 4.00 | 38,000 |
| A46 | 25,000 | 1.00 | 25,000 |
| A47 | 10,000 | 1.00 | 10,000 |
| | | | 4,198,000 |

FUTURE RESEARCH PARK

| Name | FL | GSF |
|------|------|------------------|
| T3 | 4.00 | 130,000 |
| T4 | 4.00 | 120,000 |
| T5 | 4.00 | 190,000 |
| T6 | 4.00 | 100,000 |
| T7 | 4.00 | 48,000 |
| T8 | 4.00 | 188,000 |
| T9 | 4.00 | 188,000 |
| T10 | 4.00 | 120,000 |
| T11 | 4.00 | 120,000 |
| T12 | 4.00 | 120,000 |
| T13 | 4.00 | 152,000 |
| | | 1,476,000 |

FUTURE AND REDEVELOPED COMMERCIAL

| Name | FL | GSF |
|------|------|---------------|
| C1 | 1.00 | 8,000 |
| C2 | 1.00 | 6,000 |
| C3 | 1.00 | 25,000 |
| C4 | 1.00 | 13,000 |
| | | 52,000 |



FUTURE GROWTH (NON-RESIDENTIAL)

■ Academic and Support Buildings



RESIDENCE LIFE GROWTH

Indiana University has made a commitment to update its on-campus housing and residential life, in order to continue attracting and retaining students. The University has begun an aggressive campaign to convert older traditional dorm rooms into more modern suite-style units, and will add new apartments with amenities to bring its housing stock into better alignment with student and market demands.

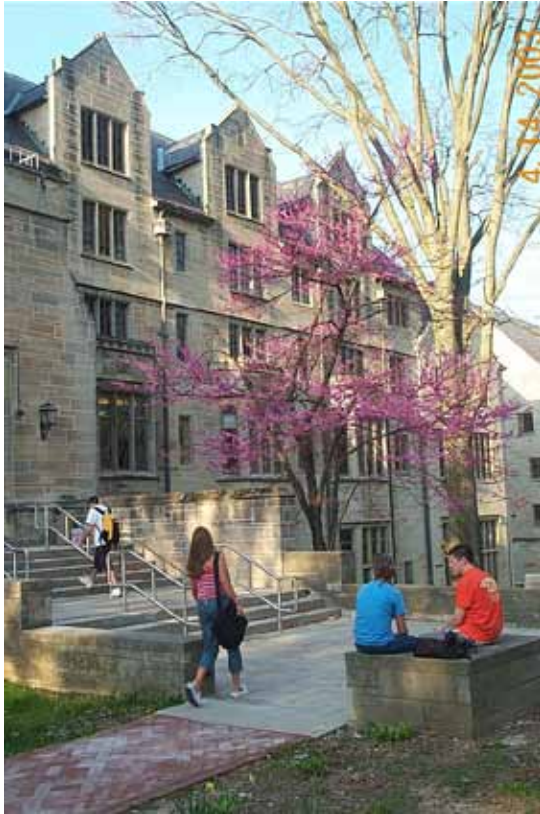
Proposed On-Campus Housing Breakdown

| | |
|-------------------|-------------------|
| Traditional Rooms | 7,910 beds |
| Suite-Style Units | 1,950 beds |
| <u>Apartments</u> | <u>2,640 beds</u> |
| Grand Total | 12,500 beds |

Implementation of this mix will result in a decline of 1,820 traditional dorm beds, and an increase of 1,200 and 620 suite-style and apartment beds, respectively. The University has committed to maintaining 12,500 beds, or approximately 30 percent of its student population on campus.



Future Ashton Residence Complex, Ratio Architects



Morrison Hall, Wells Quad

As of this writing, the national average for residence halls is 333 GSF/bed. In general, traditional housing requires the least square footage per bed, falling in the range of 250-275 GSF/bed. Suite-style housing requires more space per student for common amenities and generally totals 300-325 GSF/bed. Finally, apartment-style units require the most space per student, totaling 400-plus GSF per bed.

For Campus Master Plan purposes, a median of 350-400 GSF per bed has been applied to the 2,050-bed demand. Translating the number and type of residential beds proposed in the Campus Master Plan into GSF of space results in a range of 717,500 to 820,000 GSF.

More Housing Choice on Campus

The Campus Master Plan proposes construction of more multi-age, multi-use neighborhoods closer to the academic core. More integrated living-learning environments (mixing residences with classroom space and services) and smaller scale housing for special interest groups are also part of the proposed mix. Goodbody, Memorial,

Morrison, and Sycamore Halls (Wells Quad) are proposed for conversion back to residential use, bringing student life closer to the Indiana Memorial Union and the historic core.

A number of the apartment buildings north of East Law Lane on North Union Street are in need of major renovation or are designated to be replaced. It is recommended that these units be replaced and moved closer to the campus core over time in more complete neighborhoods, rather than renovated.

Depending on the density and final program of new residential units, the Campus Master Plan shows a reserve for future housing units/beds beyond the target year and count. Some of these locations could be developed as a public/private partnership.

RESIDENCE LIFE RECOMMENDATIONS

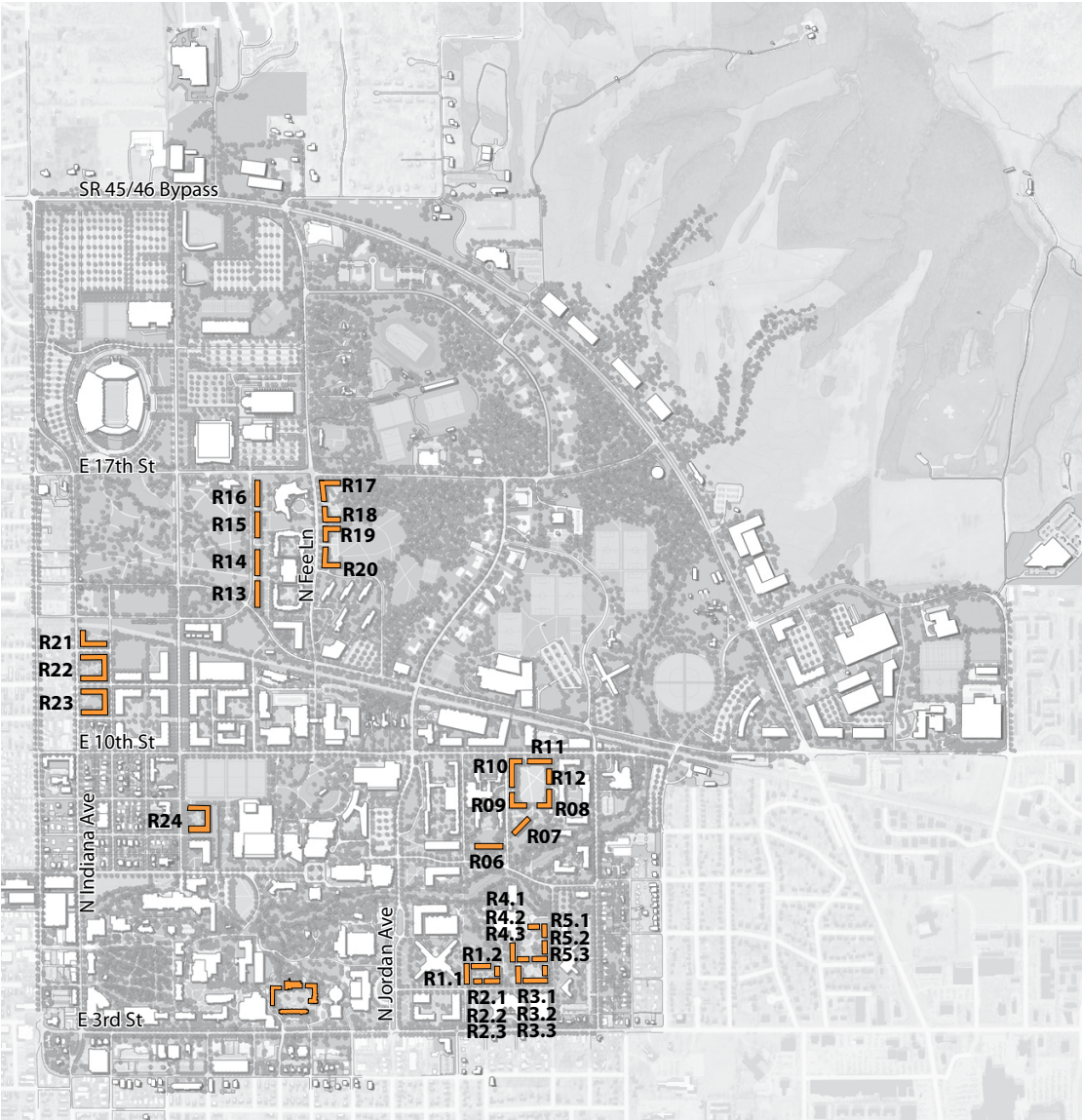
- Reduce the number of traditional dorm units and increase suite-style rooms and apartments on campus.
- Build new housing stock and a variety of housing types on North Walnut Grove and North Fee Lane to bring a more diverse mix of students to that neighborhood.
- Gradually relocate and remove out-of-date housing and apartments north of the Student Recreational Sports Center.
- Convert Wells Quad back to residential use in the historic core.
- Develop special interest or program houses as part of the new residential neighborhoods near Jones Avenue and South Rose Avenue.
- Develop a new living-learning community modeled after Collins Quad on North Woodlawn Avenue and East Eighth Street.
- Build new housing (possibly as a private partnership) on North Indiana Avenue north of East Tenth Street.
- Replace the traditional dorm housing east of North Sunrise Drive over the long term.
- Consider development of artists’ studios and lofts with potential Fine Arts programs on the McCalla School site.
- Construct residential units (possibly as a private partnership) with new mixed-use projects on North Indiana Avenue and on East Tenth Street at North Union Street.
- Move residential beds out of Eigenmann Hall and repurpose it for office and research uses.
- Repurpose Tulip Tree Apartments in the long term for future office/mixed-use related to the Research Park.

FUTURE RESIDENCE LIFE

| Name | FL | Beds | GSF | GSF/BED |
|------|------|--------------|----------------|---------|
| R1.1 | 4.00 | 100 | 40,000 | 400 |
| R1.2 | 4.00 | 100 | 40,000 | 400 |
| R2.1 | 4.00 | 50 | 20,000 | 400 |
| R2.2 | 4.00 | 75 | 30,000 | 400 |
| R2.3 | 4.00 | 50 | 20,000 | 400 |
| R3.1 | 4.00 | 80 | 32,000 | 400 |
| R3.2 | 4.00 | 100 | 40,000 | 400 |
| R3.3 | 4.00 | 50 | 20,000 | 400 |
| R4.1 | 4.00 | 100 | 40,000 | 400 |
| R4.2 | 4.00 | 50 | 20,000 | 400 |
| R4.3 | 4.00 | 75 | 30,000 | 400 |
| R5.1 | 4.00 | 65 | 26,000 | 400 |
| R5.2 | 4.00 | 55 | 22,000 | 400 |
| R5.3 | 4.00 | 55 | 22,000 | 400 |
| R06 | 5.00 | 125 | 50,000 | 400 |
| R07 | 5.00 | 125 | 50,000 | 400 |
| R13 | 6.00 | 188 | 75,000 | 400 |
| R14 | 6.00 | 188 | 75,000 | 400 |
| R15 | 6.00 | 188 | 75,000 | 400 |
| R16 | 6.00 | 188 | 75,000 | 400 |
| | | 2,005 | 802,000 | |

LONG-TERM RESIDENCE LIFE

| Name | FL | Beds | GSF | GSF/BED |
|------|------|--------------|----------------|---------|
| R08 | 4.00 | 130 | 52,000 | 400 |
| R09 | 4.00 | 130 | 52,000 | 400 |
| R10 | 4.00 | 170 | 68,000 | 400 |
| R11 | 4.00 | 120 | 48,000 | 400 |
| R12 | 4.00 | 70 | 28,000 | 400 |
| R17 | 4.00 | 170 | 68,000 | 400 |
| R18 | 4.00 | 130 | 52,000 | 400 |
| R19 | 4.00 | 130 | 52,000 | 400 |
| R20 | 4.00 | 170 | 68,000 | 400 |
| R21 | 4.00 | 170 | 68,000 | 400 |
| R22 | 4.00 | 330 | 132,000 | 400 |
| R23 | 4.00 | 330 | 132,000 | 400 |
| R24 | 4.00 | 280 | 112,000 | 400 |
| | | 2,330 | 932,000 | |



FUTURE RESIDENCE LIFE GROWTH

Residential Buildings



ENHANCED GATHERING SPACES

“Coffee shops, bookstores, films, and little restaurants are as vital to the process of education and personal growth as labs and exams. Without them, the university is not a complete educational milieu.”

— Christopher Alexander, *A Pattern Language*

At the campus level, there are special use and recreational facilities that act as gathering spaces for the whole campus community, such as the Indiana Memorial Union (IMU), Wells Library, and the Student Recreational Sports Center. These facilities already provide a variety of activities, food service, and social spaces. The next tier of organized social spaces with activity and food options are the dining halls within individual residence buildings, serving the population of that building or residence quad. A middle layer is missing, which can provide social and gathering spaces at the neighborhood level. These neighborhood spaces will create opportunities for residents, students, faculty, researchers, and staff from the neighborhood to cross paths and interact.

The program for the IUB campus calls for 40,000 GSF of additional retail and enhanced gathering spaces on campus. These changes will meet two objectives: (1) reinforce the heart of campus, and (2) strengthen campus neighborhoods and connect them to the campus core.

Reinforce the Heart of Campus

The main focus for a critical mass of gathering spaces and amenities should be located near and in the IMU. As the highest traffic area of campus, the IMU is where the greatest concentration and diversity of campus users currently intermingle. The East Seventh Street corridor from the IMU to the Auditorium is the nexus of student, visitor, and cultural life on campus, akin to an “academic Main Street.” Wherever possible, these uses should be strategically located for visibility, comfort, and convenience, with outdoor terraces and seating, in an open, pedestrian-friendly streetscape environment.

Campus “Neighborhood” Opportunities

The Campus Master Plan organizes the campus as a series of interlocking neighborhoods defined loosely by a 5-minute walking radius from the center of the neighborhood. Each neighborhood will also contain a neighborhood “commons,” with a range of food offerings, coffee, possible retail, student services, and recreational activities. Neighborhood commons are proposed at roughly the geographic center of each neighborhood, and are located on primary pedestrian routes that lead back to the campus core.

As a third tier of amenities, social spaces within major academic buildings that provide informal seating and small food carts or kiosks will also enhance interaction among undergraduates, graduates, and faculty, and encourage interaction

between departments. Programming smaller initiatives that bring people together will also build stronger ties to the campus and its neighborhoods.

As the University evaluates its approach to food service and amenities on campus, consideration should be given to expanding the current on-campus offerings by including businesses run by local, independent operators with a history of quality and success. An expanded use of meal points and campus access card discount systems will support such local businesses and allow greater flexibility and a higher quality experience for students.

ENHANCED GATHERING SPACE RECOMMENDATIONS

- Renovate the IMU and its immediate environs, and add up to 18,000 to 24,000 square feet of more accessible, visible retail and gathering spaces.
- Develop neighborhood commons for each campus neighborhood, with a range of services, retail, and food options, up to a collective total of approximately 16,000 square feet.
- Redevelop the commercial and retail center at East Tenth Street and North Union Street into a more urban, mixed-use and retail environment.



Outdoor Gathering Space



CAMPUS GATHERING SPACES

- New Gathering Space Opportunities
- Existing Gathering Space



LANDSCAPE CHARACTER

“I hope our alumni will always insist upon retention of our precious islands of green and serenity—our most important physical asset, transcending even classrooms, libraries, and laboratories in their ability to inspire students to dream long dreams of future usefulness and achievement—dreams that are an important and essential part of the undergraduate experience.”

—Herman B Wells, Address to the Alumni, 1962

The IUB campus provides a unique opportunity to work with quality natural systems and memorable outdoor spaces. Based on the planning principles, the Campus Master Plan calls for the preservation and sustainable management of natural features; the restoration of riparian corridors on campus; the creation of new memorable spaces; improvements to campus edges and gateways; and the enhancement of the pedestrian realm.

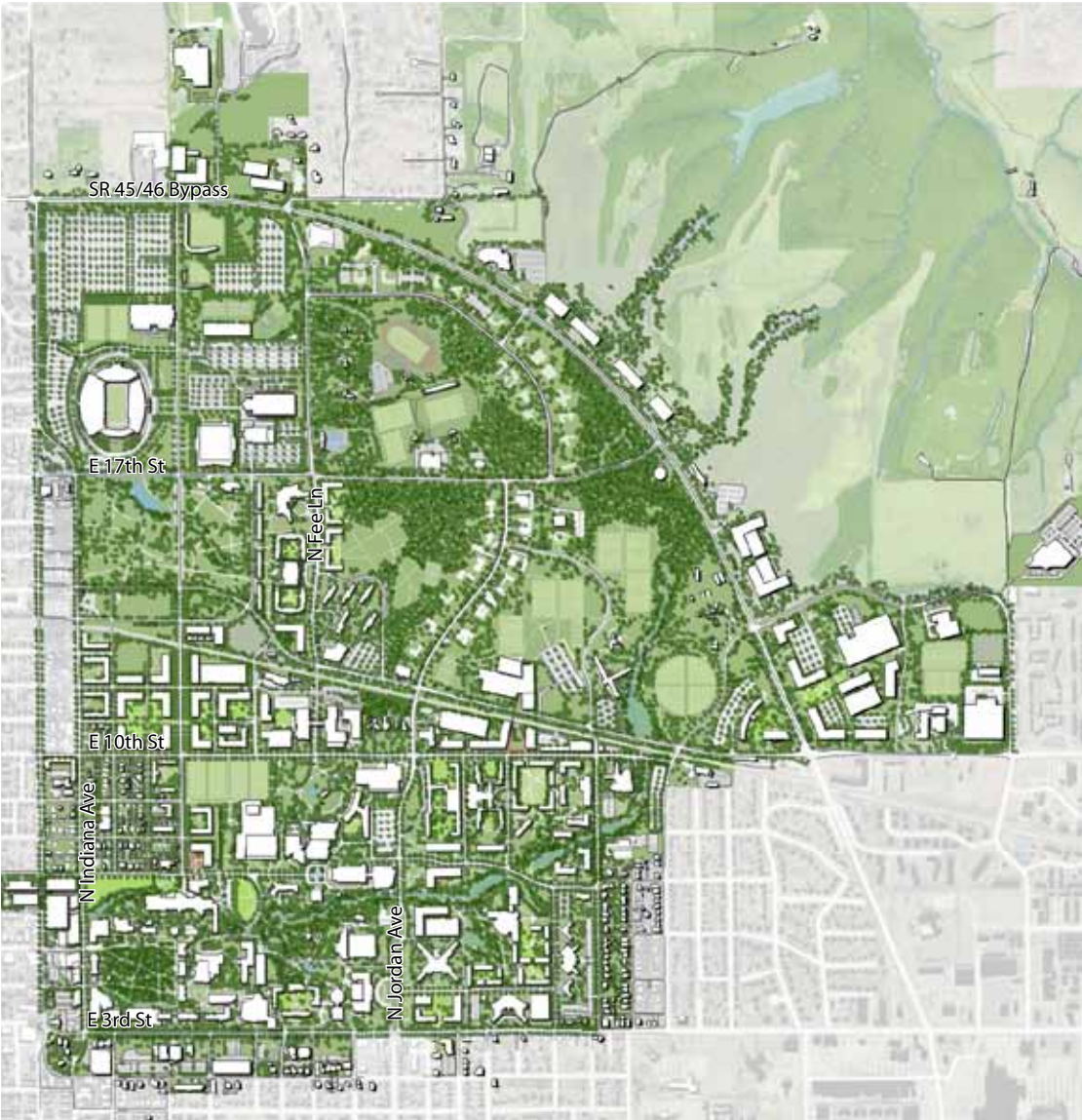
CAMPUS LANDSCAPE AND OPEN SPACE

At the largest scale, the campus can be viewed as an arboretum; it is a “green matrix” that forms the environmental framework of the campus and ties it to the larger region. As part of a regional ecosystem, the landscape should read as one coherent landscape unit across campus, with a diversity of human and natural micro-habitats within. As an ecological arboretum, the campus landscape should reflect a greater biodiversity of tree and herbaceous species on campus, improved woodland management, and restoration of degraded landscapes. The campus arboretum can also provide student learning and research opportunities, offering an immense educational value in support of the University’s sustainability goals for environmental quality and land use.

The current percentage of tree canopy to land area is 20 percent within the SR 45/46 Bypass. The Campus Master Plan recommends doubling the percentage of tree cover on campus to 40 percent. At this level and density of tree cover, the campus will reap numerous environmental benefits. Air pollution removal will increase

from 19,720 pounds per year to 41,414 pounds per year. Carbon storage and sequestration will more than double, increasing from 9,333 total tons stored annually to 19,600 tons stored, and from 73 total tons sequestered annually to 153 total tons sequestered. Stormwater runoff will be reduced, decreasing the amount of silt and pollutants that enter into the Jordan River and Cascade Creek. In fact, doubling the tree canopy on campus will save \$2.3 million that would be spent building alternatively necessary stormwater detention facilities. Increasing the tree canopy on campus is a long-term investment in the future, and depending on the availability and pace of funding, may take 20 years or more to accomplish. As part of this investment, additional resources and staff (including urban foresters) will be needed to maintain and sustain tree growth and health on campus.

The IUB campus has a historic landscape structure and specific elements that were established by Fritz Loonsten in the 20th century. Many of these landscape plantings have passed their peak maturity and condition, and need a



CAMPUS LANDSCAPE AND OPEN SPACE



strategy for replacement. It is recommended that the University conduct a more detailed landscape master plan and maintenance plan to guide the quality of future landscape design and its long-term care and succession.

New tree canopy along the Jordan River will connect the woodland habitats of Dunn's Woods and Bryan Hollow through campus to the East Seventeenth Street woods and beyond, creating a continuous wildlife corridor connected to the woods and natural environment of Griffy Lake. Expansion of the East Seventeenth Street woods and improved forest management to eradicate invasive species will also provide additional habitat.

**CAMPUS LANDSCAPE AND OPEN SPACE
RECOMMENDATIONS**

- Increase the tree cover from 20 percent to 40 percent on campus within the bypass.
- Establish source funding to support additional staff for tree maintenance and woodland management required to maintain increased tree cover.
- Increase tree plantings along the riparian corridors on campus.
- Increase tree plantings in future and renovated campus open spaces and quads.
- Increase tree plantings in street rights-of-way and parking lots.
- Expand existing woodland boundaries, and plant smaller trees and whips of similar species composition within woodland expansion zones.
- Establish a broader no-mow zone to define the woodland expansion zone, and plant with a native seed mix to gradually replace existing lawn.
- Implement an invasive species eradication plan for existing woods.
- Reduce the amount of open, mowed lawn in select areas of low pedestrian traffic and plant native seed mixes.
- In areas with full or partial tree canopy over existing grass, utilize native species as ground cover for those sections with minimal pedestrian traffic.
- Implement a landscape maintenance and tree management plan for the IUB campus.

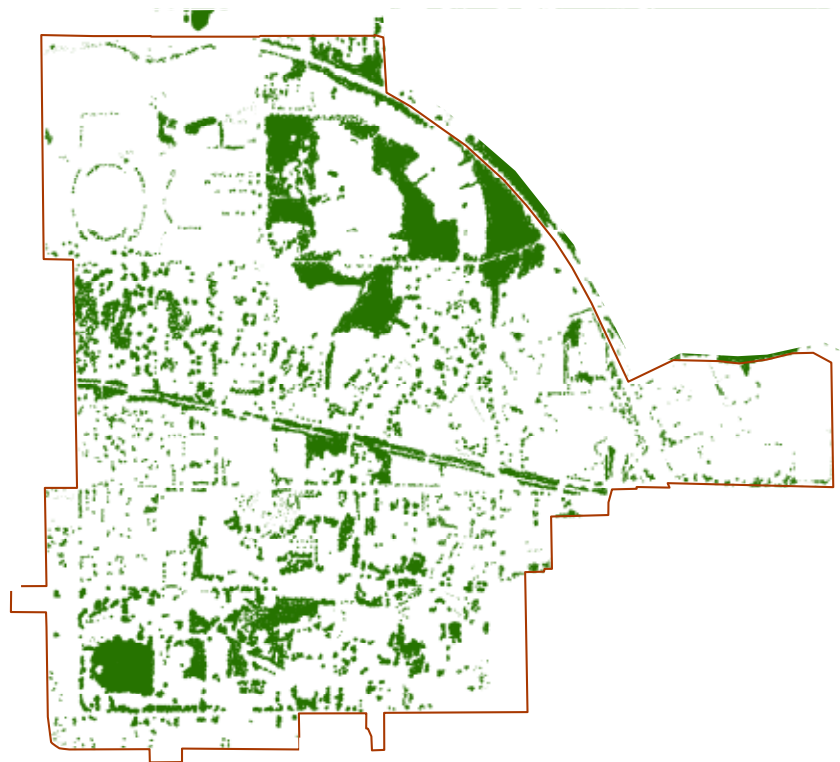


Bryan Hollow

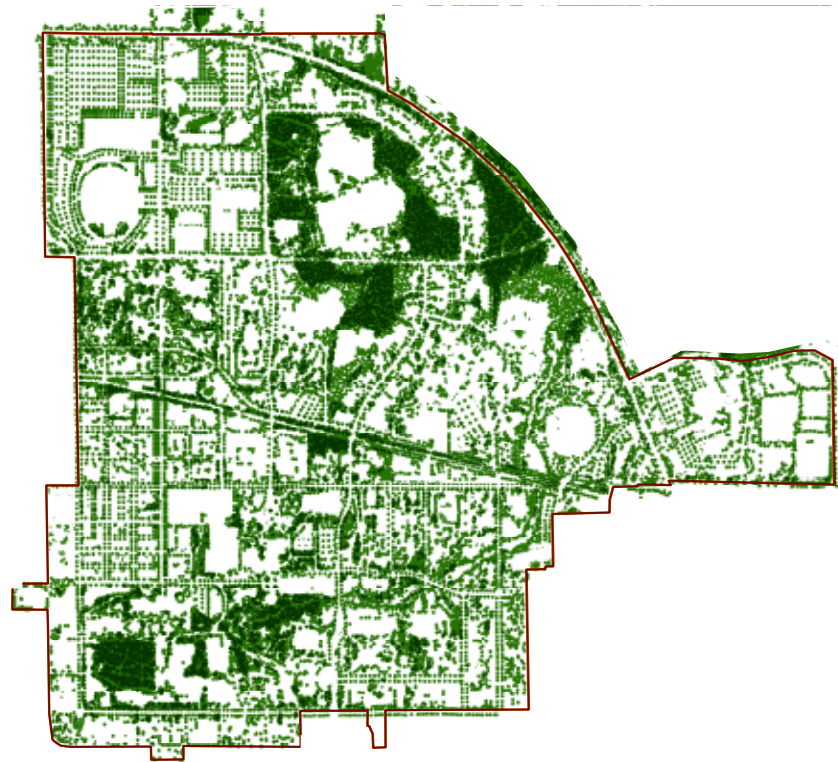


Maurer School of Law Walk Behind Bryan Hall

EXISTING TREE CANOPY: 20.4%



PROPOSED TREE CANOPY: 40.0%



RIPARIAN CORRIDORS

Preservation and restoration of the Jordan River and other riparian corridors on campus has been a key theme of the Campus Master Plan and is one of the nine planning principles. The 2008 *Campus Sustainability Report* recommends improvements to the Jordan River corridor as part of the watershed protection projects. The Campus Master Plan proposes improvements and interventions along the Jordan River and riparian corridors in order to better slow and handle storm events and treat water quality, including the creation of new wetlands in line and adjacent to the streams.

A vegetated buffer of trees, shrubs, and native herbaceous plants is proposed along both sides of the Jordan River and Cascade Creek to slow the flow of surface runoff and to trap pollutants, silt, and nutrients. The buffers will also contain small impoundments and wetlands for additional water storage, filtration, and groundwater recharge, while providing habitat for wildlife. Slowing runoff, planting, and regrading stream banks will also reduce bank sloughing and erosion.

RIPARIAN CORRIDOR RECOMMENDATIONS

- Establish a 50-foot-wide riparian buffer on each side of the stream, planted with native species of trees, shrubs, and herbaceous plants to filter runoff. Prohibit mowing in this zone.

- Plant trees to establish a consistent canopy and shade over stream banks, within and at the edges of the riparian buffer zone.
- Regrade stream banks within the buffer zones to a more gradual slope to reduce erosion.
- Utilize stone and bioengineering techniques such as deep-rooted plants, live stakings, logs, and other techniques to stabilize the toe of slope.
- Create areas of impoundment and new wetlands within the riparian buffer zone through a series of check dams across the streams.
- Create a lower channel within the stream cross-section and check dams to maintain stream flow in low water conditions.
- Plant constructed wetlands with appropriate, native plants and shrubs, and include tree snags, stumps, logs, etc., for habitat.
- Create access points and overlook areas along the stream corridor to allow visual and physical access to the river at carefully designed locations.
- Implement a consistent riparian corridor landscape and management plan for all streams and springs on campus.



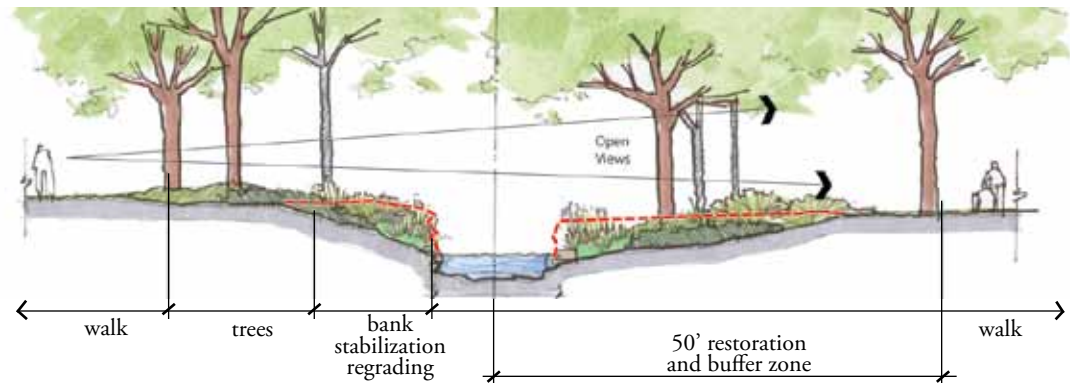
Impaired Streams



Bank Erosion



Healthy Streams Image and Section Below





Jordan River Stream Flow in Low Water Condition



Jordan River Restoration Impoundments in High Water Condition



Proposed Jordan River Check Dam

NEW MEMORABLE SPACES

“A place made of many smaller places, the heart of the campus has been created as a series of courtyards, some formal, some open. The campus is not seen from any one place but reveals itself gradually as a progression of changing outlooks, leading through narrowing and widening vistas that attract the eye and soothe the spirit.”

— *Islands of Green and Serenity: The Courtyards of Indiana University*

The Campus Master Plan identifies a number of new memorable spaces that will be created over time. Large campus open spaces and new or renovated quads are proposed to address the current “character gaps” in the landscape fabric. Future outdoor social and gathering spaces are proposed at important pedestrian crossroads, intended as active public spaces that flow seamlessly between buildings and the outdoors.

Future landscape design should reflect and harmonize with existing natural features and character. New development should be sensitive to existing topography and vegetation, allowing

the natural landscape to shape the aesthetic experience.

The Godfrey Graduate and Executive Education Center enjoys a newer landscaped quad with several of these qualities. Multidisciplinary Science Building II completes the quad’s fourth side, making it is an enclosed space. The quad has a number of different entry points, although the length of some portals are much longer than entry portals for Wells or Collins Quads. Its spatial proportion is 1:2 of vertical height to width of space. It lacks the mature landscape and topographic relief that gives Wells Quad so much of its landscape character, a quality that will be improved over time.

NEW MEMORABLE SPACES

One-of-a-Kind Places

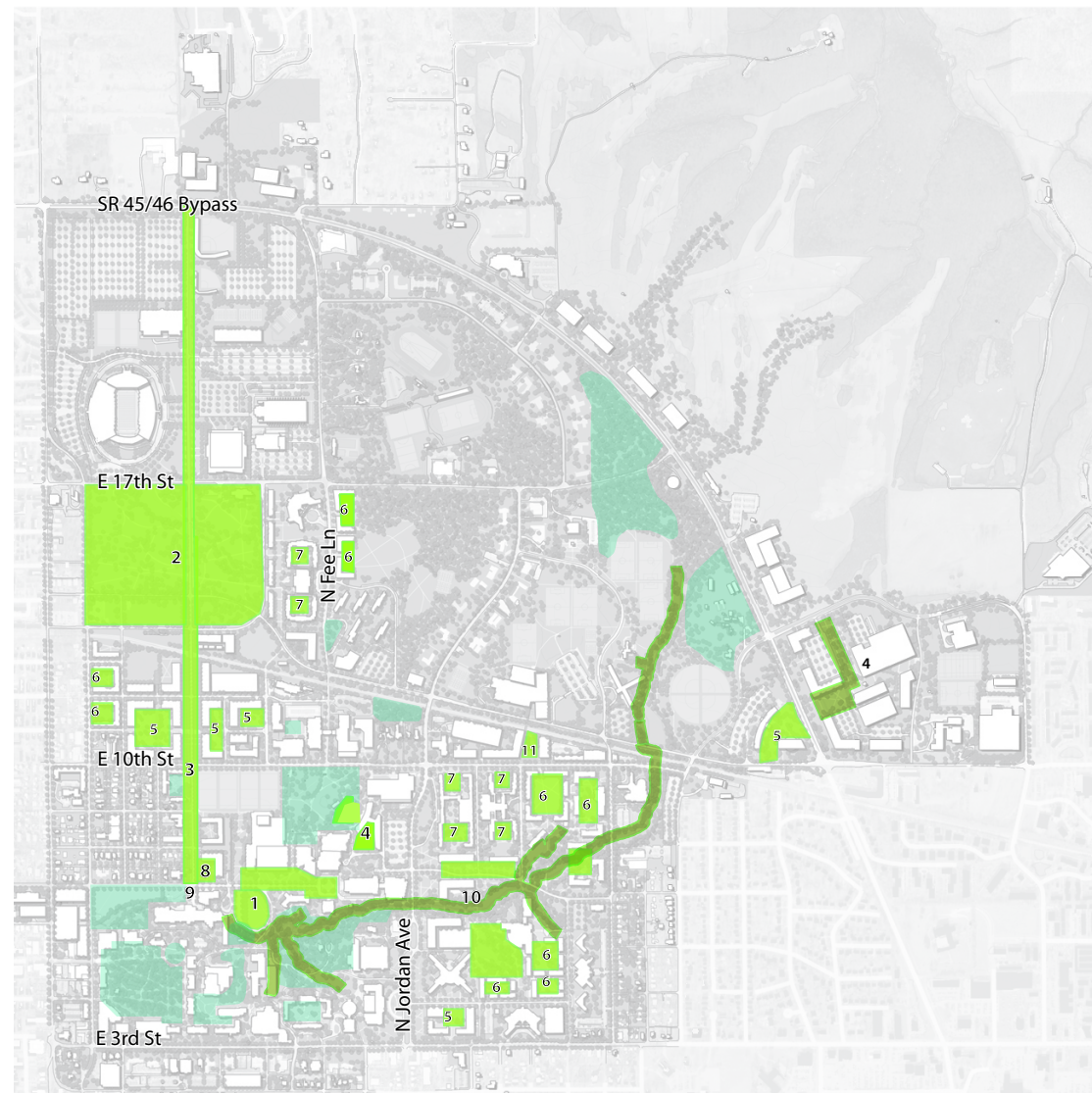
1. New Campus Green
2. Woodland Arboretum + Cascade Lake
3. Woodlawn Corridor + Alumni Walk

Quads

4. Research Park Quad
5. Academic Quads
6. Residential Quads
7. Renovated Quads

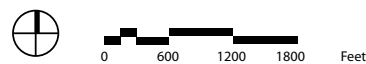
Social Spaces

8. Alumni Plaza
9. Union Plaza
10. Jordan River Terrace
11. Tenth Street Plaza



NEW MEMORABLE SPACES

- Existing Memorable Spaces
- New Memorable Spaces

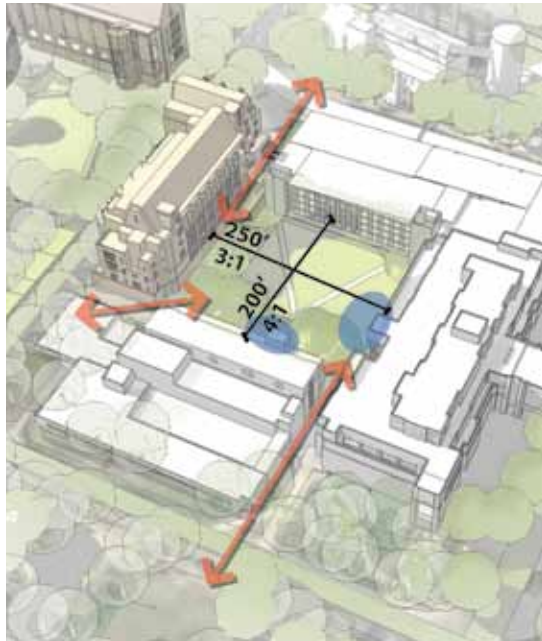


The design of future outdoor spaces should model the principles of spatial enclosure, proportion, and materiality derived from the positive attributes of existing quality spaces on campus. The successful quads and courtyards, such as Collins and Wells Quads, share common attributes, including:

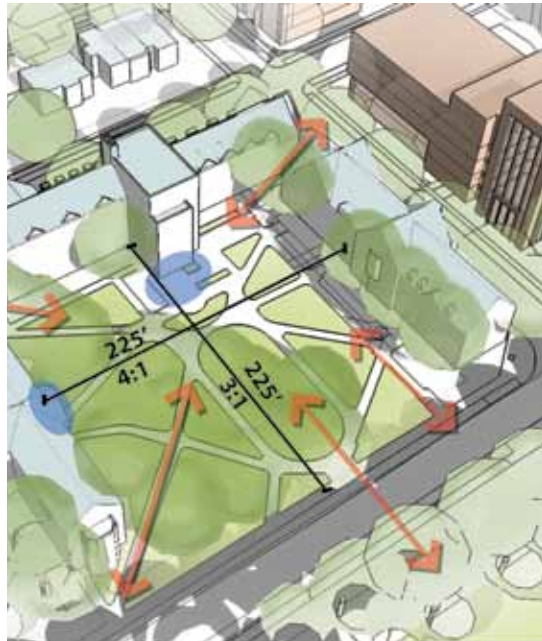
- Semi-enclosed space (enclosed on at least three sides), but with many entry points.
 - Subtly dramatic entry sequences and change in scale, where one enters through a narrow portal into a broad open space.
 - Strong sense of spatial definition (typically a range of 1:2 to 1:4 proportion of architectural height to horizontal width of the space).
 - The use of topographic relief to break up views and create a series of smaller terraces within the bigger space.
 - Orientation of major building entrances toward the quad.
 - Consistent use of stone and hardscape compatible with the surrounding architectural design and use of limestone.
- A mature and simple landscape palette of canopy trees, native understory trees, and a restrained use of shrubs and ground cover, planted in a naturalistic pattern.

NEW MEMORABLE SPACE RECOMMENDATIONS

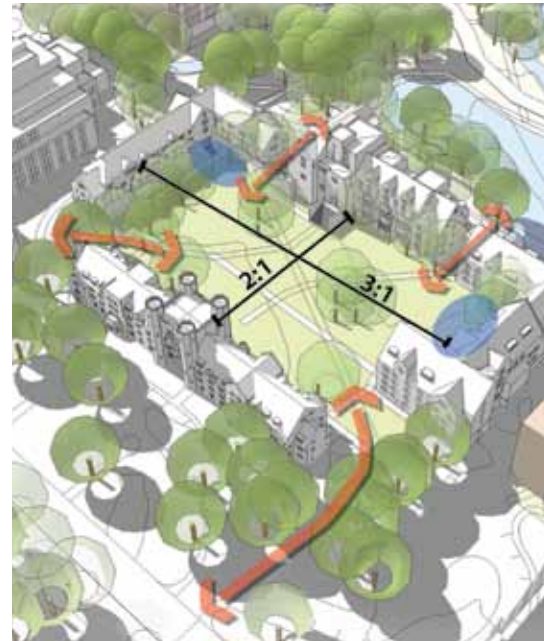
- Consider the scale and proportion of the space in relation to adjacent architectural development.
- Provide changes in scale to emphasize passage between different spaces on campus.
- Use topography, stone, native deciduous trees, and plant material as the basic landscape palette.
- Create reflections of architectural character in the design of landscaped spaces (including art, materials, and form).
- Maintain clear views and visual connectivity for security and ease of navigation.



Godfrey Graduate and Executive Education Center Quad



Collins Quad



Wells Quad



Godfrey Graduate and Executive Education Center



Collins Quad



Wells Quad

CAMPUS EDGES AND SETBACKS

Much of the perceived character of the IUB campus is derived from the quality of its landscape setbacks and edges. To maintain and improve the aesthetic value of outer parts of campus, consistent landscape setbacks or build-to lines should be established.

CAMPUS EDGES AND SETBACK DESIGN PRINCIPLES

- Establish consistent setbacks and landscape treatment for all major vehicular corridors and campus edges.
- Choose a majority of native, deciduous trees and plant material to maintain the sense of a “campus in the woods” for landscape setbacks.
- Use conifers sparingly, in informal groups, and to screen service or loading areas from view.
- Preserve an informal, park-like landscape along North Jordan Avenue to maintain views to focal points and cultural facilities.

CAMPUS EDGES AND SETBACK RECOMMENDATIONS

- East Third Street: Match the existing setback west of North Jordan Avenue (90 feet) for new development east of North Jordan Avenue on East Third Street.
- North Indiana Avenue: For blocks between East Third and East Seventh Streets, establish a common build-to line on the west side of North Indiana Avenue matching the block between East Fourth Street and East Kirkwood Avenue.

- North Indiana Avenue and East Seventeenth Street: Establish a consistent landscape setback of 25 feet back of curb, bounded by a low, dry laid stone wall on the west and north sides of Woodlawn Arboretum.
- East Seventeenth Street: Preserve the street’s wooded landscape character.
- North Dunn Street and the SR 45/46 Bypass: Establish a consistent landscape setback with a natural landscape character incorporating vegetated swales as needed to screen parking around athletics facilities.
- North Fee Lane: Enhance the existing setback with a stronger landscape definition and design on North Fee Lane.
- SR 45/46 Bypass: Maintain a wooded landscape setback with filtered views along the bypass.
- East Tenth Street, North Indiana Avenue to North Jordan Avenue: Maintain the existing setback (from North Woodlawn Avenue to North Walnut Grove) north of East Tenth Street, and the existing setback and stone wall south of North Tenth Street.
- East Tenth Street, North Jordan to North Union Street: Narrow the setback north of East Tenth Street at North Union Street for an urban build-to line.
- East Tenth Street east of the SR 45/46 Bypass: Maintain a 125-foot landscape setback measured from back of curb from North Range Road to the bypass. Provide screening for service areas or surface parking.

- North Jordan Avenue: Follow the proposed landscape setback dimensions shown for North Jordan Avenue south of East Tenth Street.
- North Jordan Avenue: Improve the landscape setback on North Jordan Avenue north of East Law Lane, and remove angled parking.
- East Seventh Street west of North Jordan Avenue: Maintain a setback of 75 feet from the curb, from the IMU to the Fine Arts Plaza. Reduce the setback across from Ernie Pyle Hall for a sense of gateway.
- Union Street: Provide landscape setback and screening for parking lots at the perimeter.



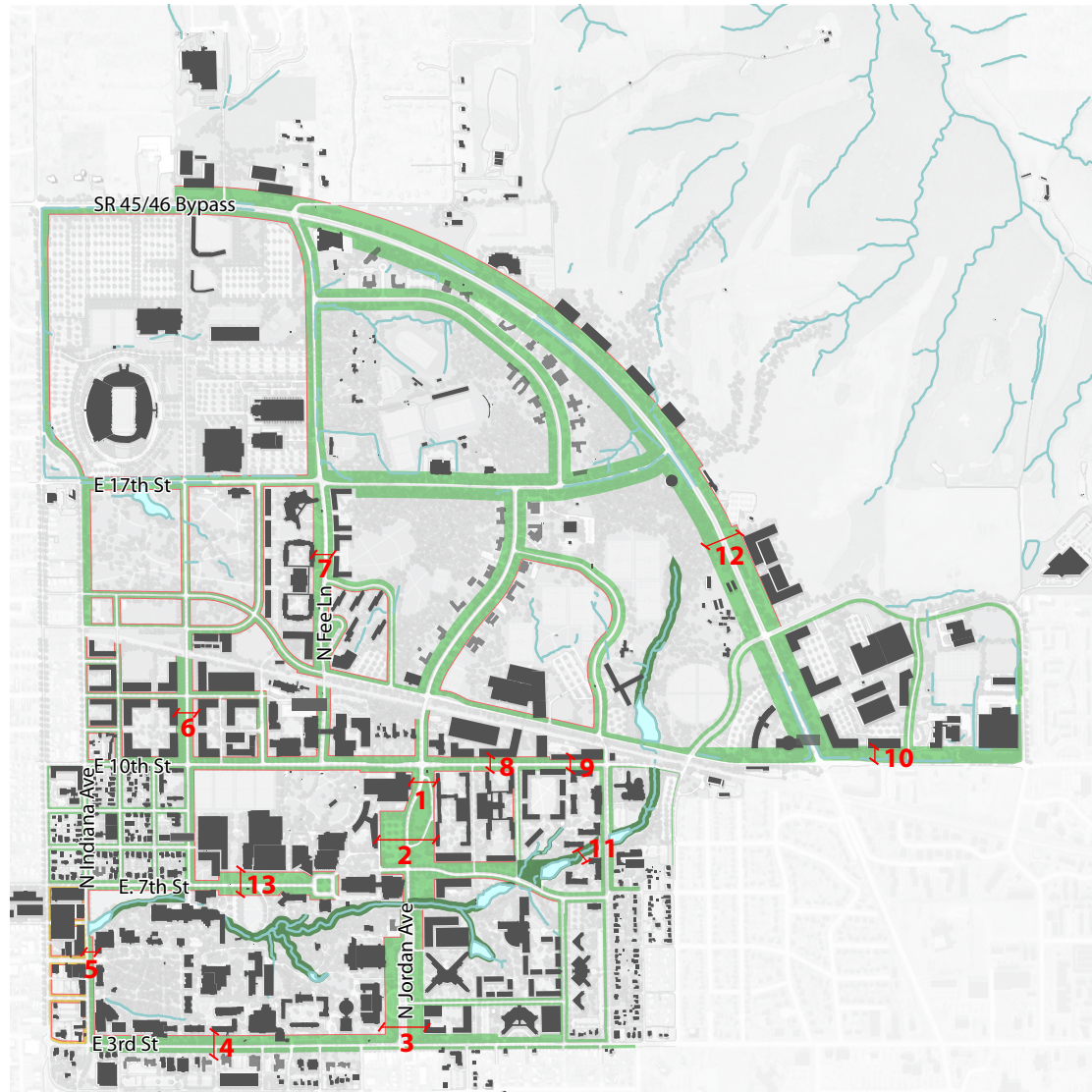
East Third Street Looking East



North Indiana Avenue Looking North

CAMPUS EDGES AND SETBACKS

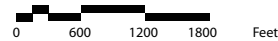
1. North Jordan Avenue
Building Face to Building Face - 250'
2. North Jordan Avenue
Building Face to Building Face - 550'
3. North Jordan Avenue
Building Face to Building Face - 450'
4. East Third Street
North Setback from Curb - 90'
5. North Indiana Avenue
Urban Setback from Curb - 15'
Campus Setback from Curb - 25'
6. North Woodlawn Avenue
East Setback from Curb - 70'
West Setback from Curb - 90'
7. North Fee Lane
Building Face to Building Face - 175'
Campus Setback from Curb - 45'
8. East Tenth Street
Campus Setback from Curb - 50'
9. East Tenth Street
Urban Setback from Curb - 25'
10. East Tenth Street
North Side of East Tenth Street at Bypass - 125'
11. Jordan River
Corridor Setback - 50' (Each Side)
12. SR 45/46 Bypass
Corridor Setback - 300'
13. East Seventh Street
Campus Setback from the Curb - 75'



CAMPUS EDGES AND SETBACKS

LEGEND

- Corridor Dimensions
- Building Setback Lines
- Urban Build-To Lines
- Stream Setbacks



CAMPUS GATEWAYS

Campus gateways are the primary routes into and out of campus, and should enhance the arrival experience. Visitors, students, and staff should be directed to parking, drop-offs, and/or destinations through a straightforward wayfinding and signage system. Multiple campus gateways are proposed at a hierarchy of scale to serve vehicular, combined, and pedestrian arrivals.

GATEWAY DESIGN PRINCIPLES

- Develop a consistent palette of lighting, signage, and landscape materials that reflect the character of the campus.
- Design gateways in scale with their surrounding context and their function as either vehicular, combined, or pedestrian gateways.
- Develop pedestrian-scaled gateways using a consistent material palette of limestone as established on campus.
- Keep the landscape for gateways simple, appropriate, and compatible with the larger, surrounding landscape context.

GATEWAY RECOMMENDATIONS

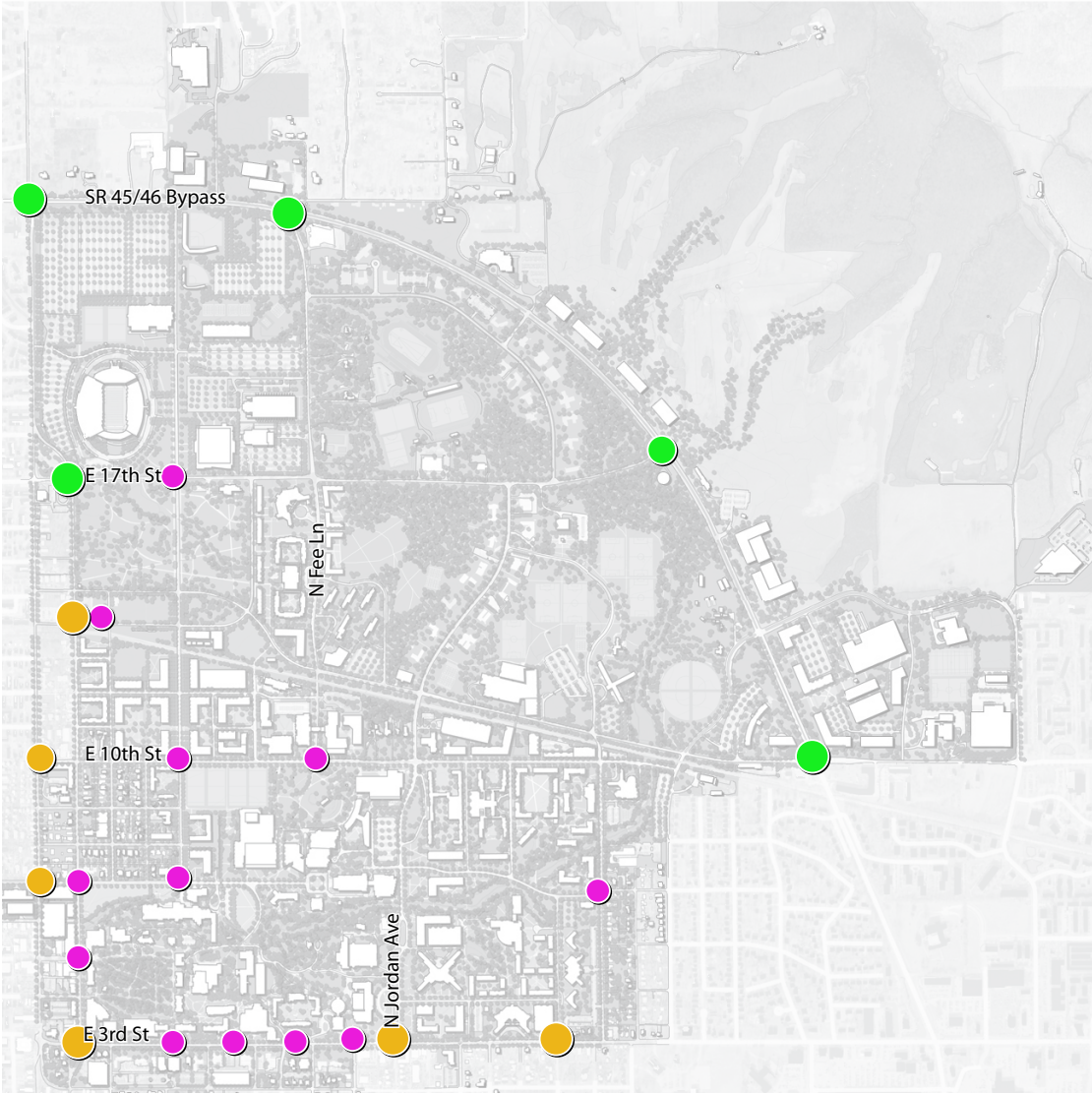
- Develop vehicular-scaled entrances on the SR 45/46 Bypass at East Tenth Street, East Seventeenth Street, North Fee Lane, and North Dunn Street; and on East Seventeenth Street at North Dunn Street.
- Develop combined vehicular and pedestrian arrival gateways for East Third Street at North Union Avenue, North Jordan Avenue, and North Indiana Avenue; for North Indiana Avenue at East Seventh Street and East Fourteenth Street; and North Dunn Street at East Tenth Street.
- Develop pedestrian-scaled gateways at key areas of pedestrian arrivals onto and within campus.



Vehicular Gateway, Marquette University



Pedestrian Gateway at East Kirkwood Avenue



CAMPUS GATEWAYS

- VEHICULAR ENTRANCES
- COMBINED ENTRANCES
- PEDESTRIAN ENTRANCES



PEDESTRIAN REALM

The Campus Master Plan seeks to improve the overall walkability and pedestrian connectivity of the campus. Future pedestrian walks are proposed to enhance and expand the network of pedestrian routes already present in the academic core. New pedestrian routes, an improved streetscape character, and a pedestrian realm with updated campus lighting will enrich the pedestrian experience. New outdoor public spaces are proposed along major walks, located at important pedestrian crossroads, to help activate the campus. The “100 percent corner” of campus, on East Seventh Street at North Forrest Avenue, is re-imagined as a major campus green and open space, activated by the flow of students passing through this space. Among many walk improvements proposed, “The March,” a popular walk from east residential dorms into the core of campus, will be aligned to follow the Jordan River and its enhanced natural environment.

Campus Crosswalks

Several pedestrian routes require crossing campus or city streets. Not all are at signalized intersections. The Campus Master Plan recommends a number of new pedestrian intersections and mid-block crossings to improve pedestrian safety. New intersections and mid-block crossings should include clearly marked and consistent designs to alert motorists to yield to pedestrians. More detailed traffic studies should be conducted for certain corridors, including East

Third Street, East Tenth Street, and North Jordan Avenue. Traffic calming on certain roadways, such as North Jordan Avenue, should also be considered.

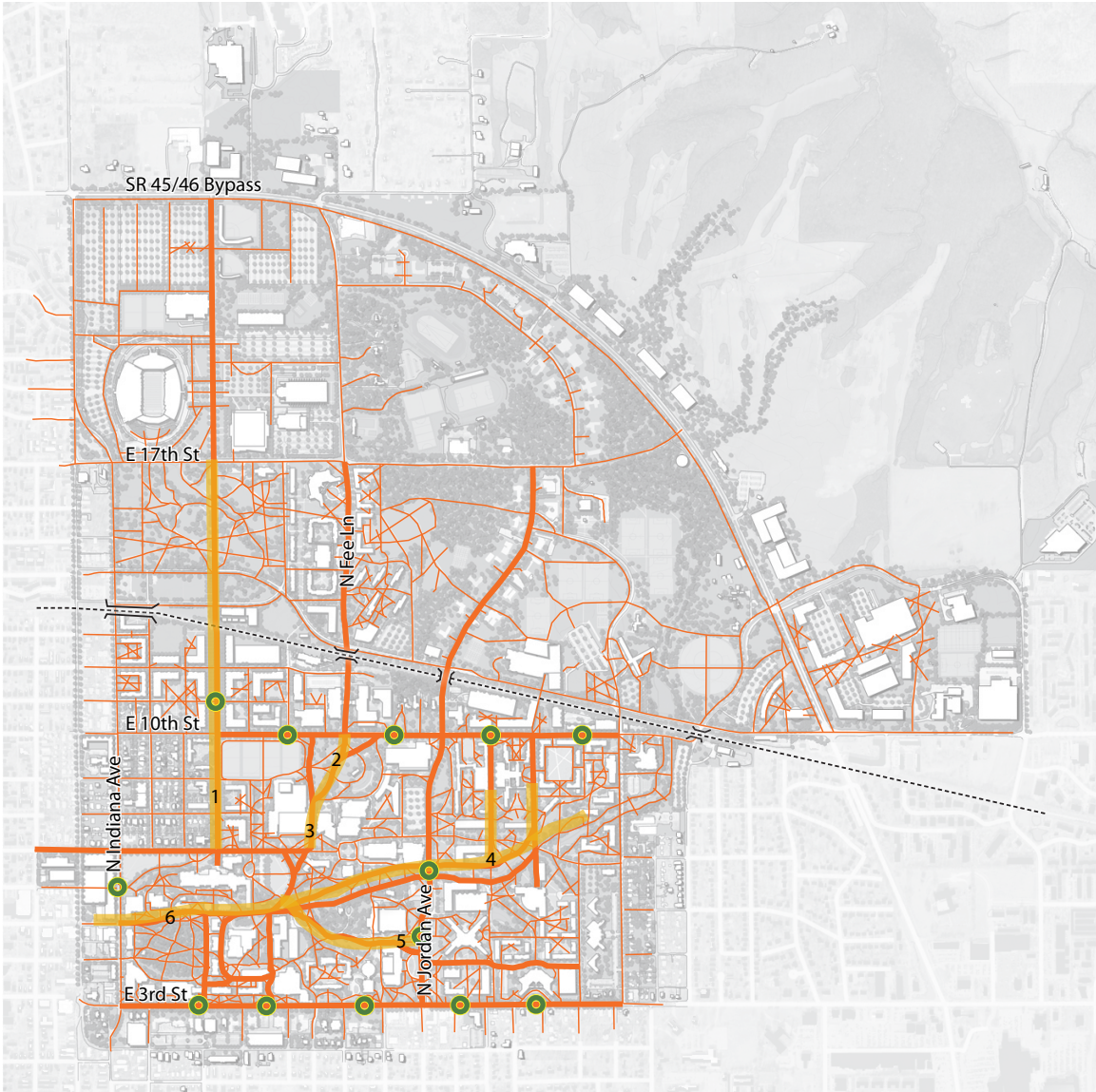
PEDESTRIAN REALM RECOMMENDATIONS

- Realign The March to follow the Jordan River corridor into the academic core.
- Enhance other pedestrian routes along the Jordan River corridor.
- Improve the service drive between the Wildermuth Intramural Center and the Art Museum as a major pedestrian walk that can also accommodate service vehicles.
- Create a new Campus Green at the campus 100 percent corner with pedestrian walks, amenities, and active and passive spaces on the existing parking lot adjacent to the IMU.
- Provide a grade-separated and protected pedestrian crossing from the Student Recreational Sports Center to proposed development on the south side of the railroad tracks.
- Enhance the pedestrian walks along North Woodlawn Avenue from East Seventh Street to East Seventeenth Street, including a new “Alumni Walk” to connect academic expansion north of East Tenth Street along North Woodlawn Avenue to the historic core.
- Develop a pedestrian spine and transit link along North Woodlawn Avenue through the Athletics campus.

- Develop a network of paths to serve the new campus park and arboretum on North Woodlawn Avenue between East Thirteenth and East Seventeenth Streets.
- Provide traffic calming and clearly defined pedestrian mid-block crossings on East Third Street, East Tenth Street, North Jordan Avenue, North Fee Lane, and other locations identified on the Future Pedestrian Circulation plan on page 153.
- Develop safe pedestrian crossings to access the Research Park across the bypass at controlled, signalized intersections.
- Develop a multi-use recreational trail for pedestrian use along the bypass.
- Eliminate unsafe at-grade pedestrian crossings at the railroad.
- Provide pedestrian paths on East Seventeenth Street and from the North Fee Lane neighborhood east to the proposed recreational sports complex.

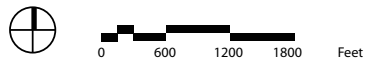


Bryan Hollow



FUTURE PEDESTRIAN CIRCULATION

- Pedestrian Circulation
- Mid-Block Crossings



- Key Pedestrian Routes
- 1. Alumni Walk
- 2. Arboretum Walk
- 3. Wildermuth Walk
- 4. The March
- 5. Bryan Hollow Walk
- 6. Kirkwood Walk

STREETSCAPE CHARACTER

The streetscape character for the IUB campus follows the same history as its development. Streets and sidewalks in the more historic part of campus are planted with a lawn panel and street trees behind the curb, with the sidewalk set back behind the lawn panel. A low, dry laid or mortared stone wall frequently edges the sidewalk on the campus property side of the street, such as on East Third Street, East Seventh Street, and North Indiana Avenue.

As the campus expanded after World War II, the nomenclature for campus walks and streetscapes changed. New roads and development created sidewalks immediately adjacent to the curb, with a landscape buffer behind the walk to the building edge. This has resulted in a more utilitarian quality to the pedestrian environment, with fewer street trees and pedestrians exposed to the street traffic. The majority of streetscapes on campus are of this prototype.

The Campus Master Plan recommends that as campus roadways and infrastructure are re-built,

a prototype based on the historic streetscape qualities be implemented, with sidewalks set back from the roadway and buffered by a landscape zone with street trees. This will provide a more inviting pedestrian experience on campus, buffer pedestrians from adjacent traffic, and increase the tree canopy.

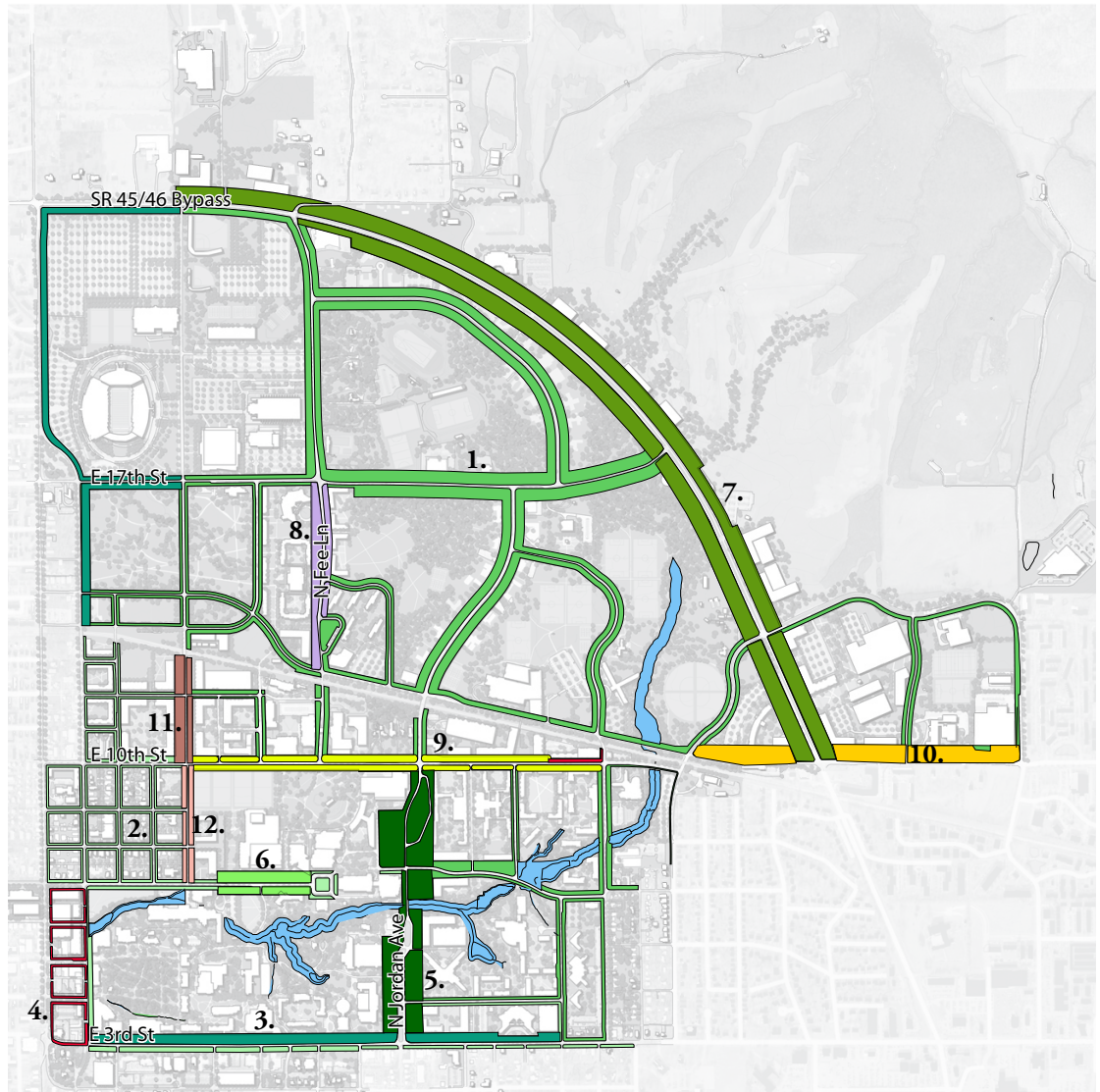
The width of the landscape zone behind the curb varies as a function of the total width of the landscape setback. It should be a minimum of 6 feet in width. Sidewalks along streets should be a minimum of 8 feet in width. Drought-tolerant, native deciduous tree species should be used for street trees. In more urban streetscapes (such as those fronting proposed mixed-use developments on North Indiana Avenue), street trees can be placed in individual tree planters or in tree grates to provide more circulation space for pedestrians. As much as possible, porous paving should be used on all campus sidewalks and streetscapes.

The conceptual cross-sections on the following pages describe the proposed typical streetscape character and minimum dimensions for local

campus streets. They include two 10- to 12-foot-wide travel lanes and a minimum 6-foot-wide landscape edge to plant trees and create separation for the sidewalk. Sidewalks should be a minimum of 8 feet wide, but can be wider depending on pedestrian volumes. A setback/landscape zone between a sidewalk and building should feature primarily herbaceous planting, canopy trees, understory trees, and shrubs.



East Third Street



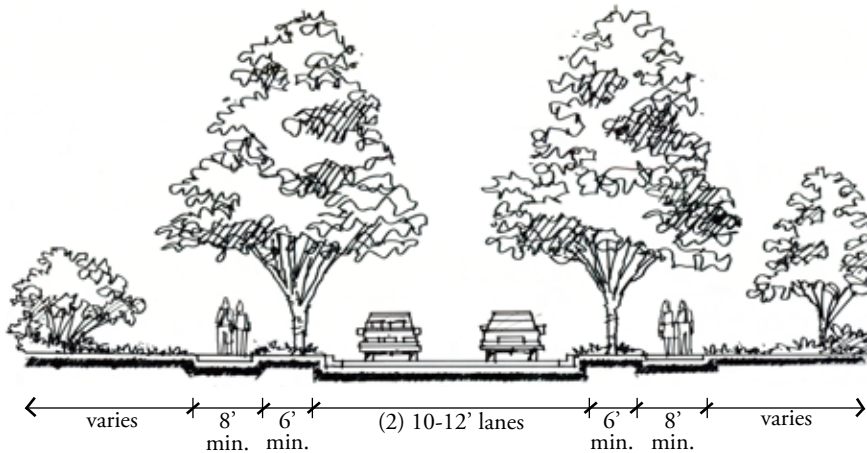
STREETSCAPE CHARACTER

- 1. Campus Typical
- 2. Residential Typical
- 3. Campus Edge
- 4. Urban Edge Street
- 5. Jordan Avenue
- 6. Seventh Street
- 7. Bypass
- 8. Fee Lane
- 9. Tenth Street A
- 10. Tenth Street B
- 11. Woodlawn A
- 12. Woodlawn B



STREETSCAPE CHARACTER

1. CAMPUS TYPICAL



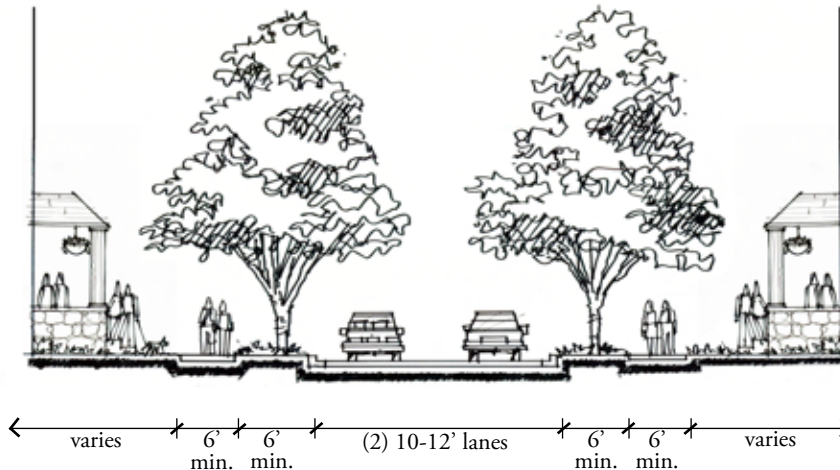
The following conceptual sections describe preferred streetscape elements and proportions for campus streetscapes as outlined in the streetscape character diagram on the previous page.

Campus Typical

- Two 10- to 12-foot-wide travel lanes
- Minimum 6-foot landscape edge to plant trees and create separation for the sidewalk
- Sidewalks 8 feet wide minimum, but can be wider depending on pedestrian volume
- Setback/landscape zone between the sidewalk and building features primarily herbaceous planting, canopy trees, understory trees, and shrubs

STREETSCAPE CHARACTER

2. RESIDENTIAL TYPICAL

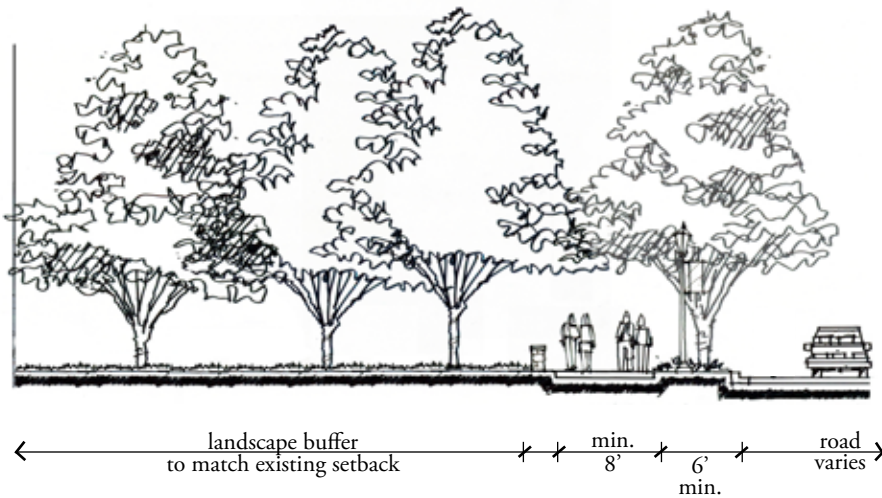


Residential Typical

- Two 10- to 12-foot-wide travel lanes
- On-street parking where road dimensions allow
- Minimum 6-foot landscape edge to plant trees and create separation for the sidewalk
- Sidewalks 6 feet wide minimum
- Setback/landscape zone between the sidewalk and building façade/front porch shall be uniform in dimension

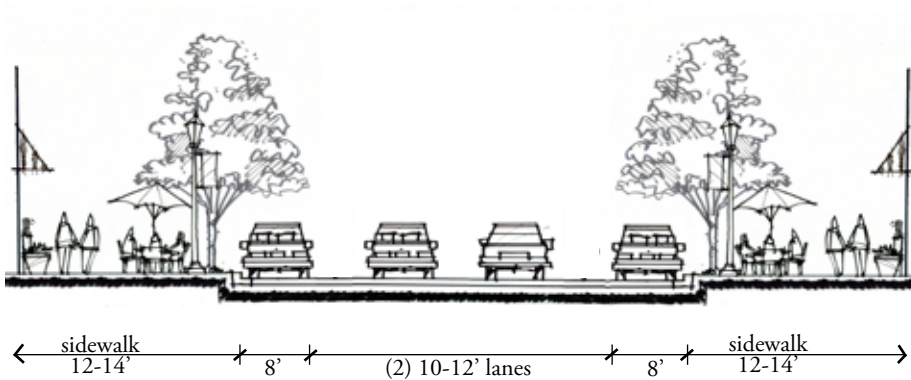
STREETSCAPE CHARACTER

3. CAMPUS EDGE



STREETSCAPE CHARACTER

4. URBAN EDGE STREET



Campus Edge

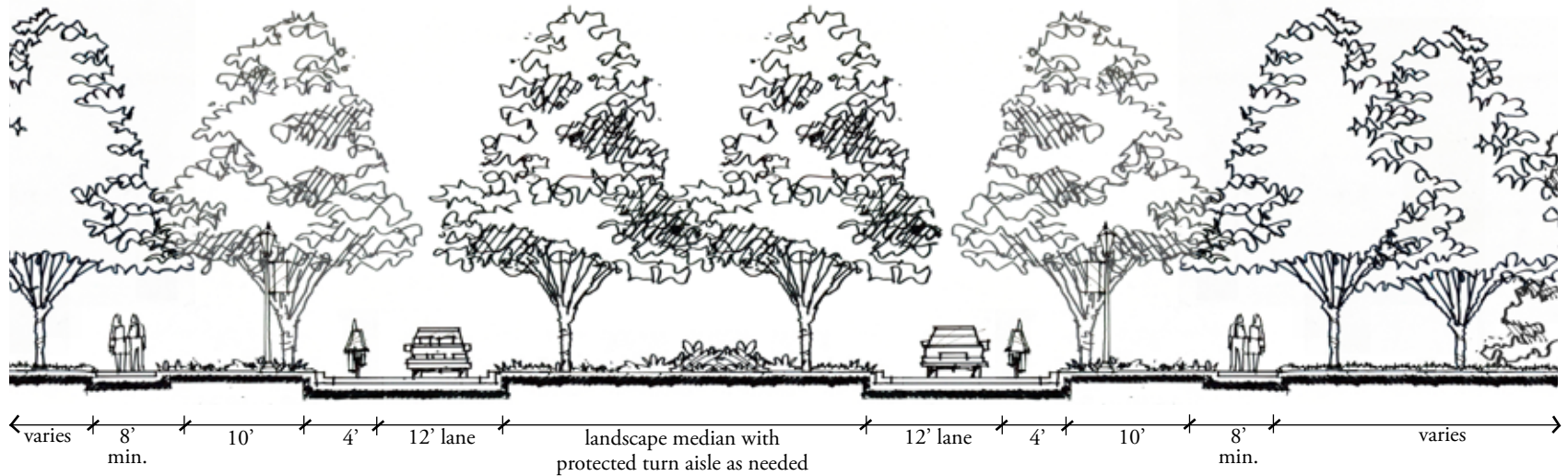
- Streetscape character shall build upon the existing streetscape condition along East Third Street
- Minimum 6-foot landscape edge to plant trees, allow for lighting, signage, and banners, and create separation for the sidewalk
- Sidewalks 8 feet wide minimum, but can be wider depending on pedestrian volume
- Low stone wall to provide unifying element along sidewalk
- Setback/landscape zone between the sidewalk and building shall match existing setback
- Landscape setback features primarily herbaceous planting, canopy trees, understory trees, and shrubs

Urban Edge Street

- Streetscape character shall build upon the existing urban streetscape condition along North Indiana Avenue
- 8-foot-wide on-street parallel parking where road dimensions allow
- Urban sidewalk 12 to 14 feet wide minimum, to allow for in-grate tree planting, street lights, banners, seating, planters, and accessible retail frontage

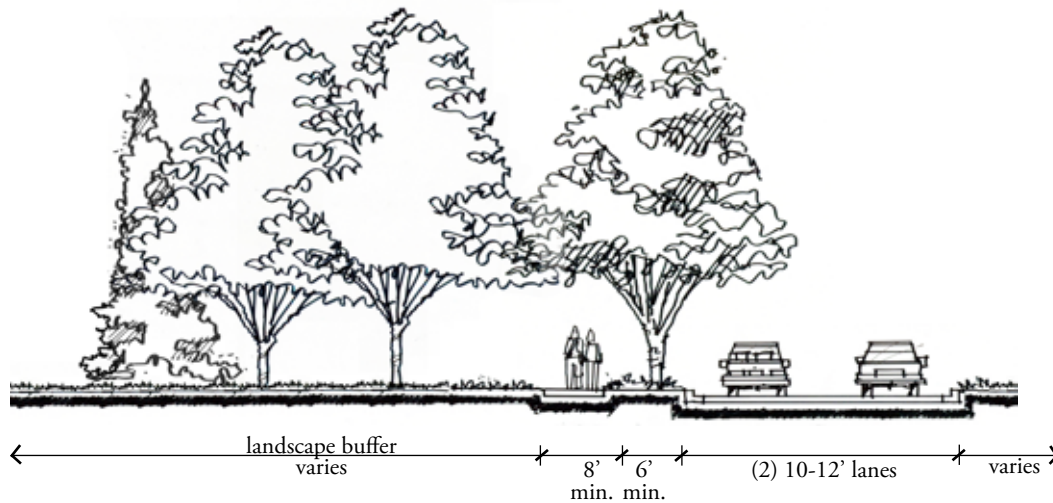
STREETSCAPE CHARACTER

5. JORDAN AVENUE



STREETSCAPE CHARACTER

6. SEVENTH STREET



Jordan Avenue

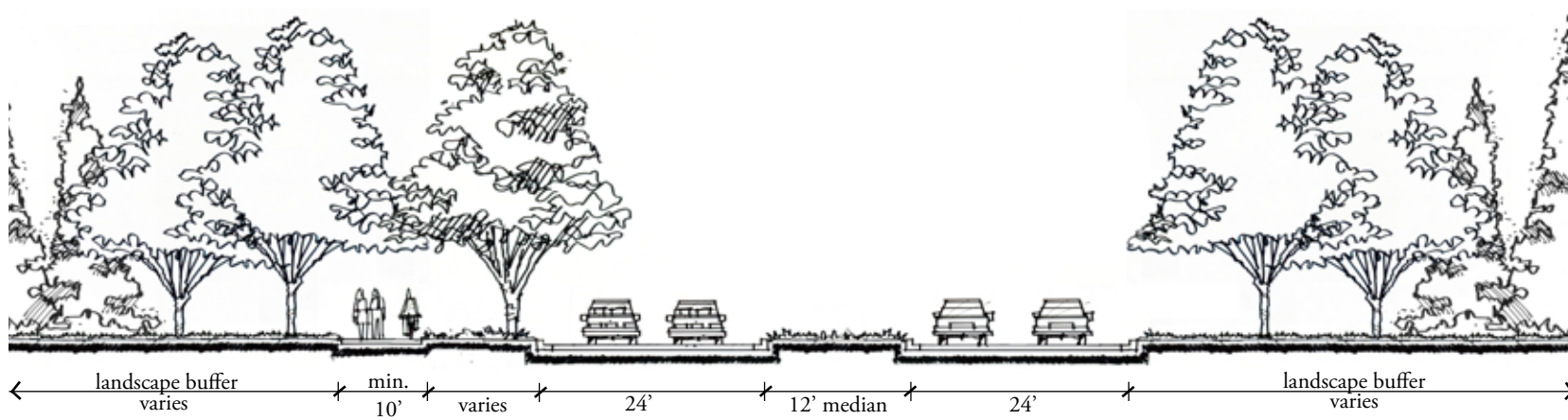
- One to two travel lanes and bike lane in each direction; a final design to be determined
- Minimum 10-foot landscape edge for trees and other plant materials
- Sidewalks 8 feet wide minimum, but can be wider depending on pedestrian volume
- Minimum 4-foot-wide on-street bike lane

Seventh Street

- Minimum 6-foot landscape edge to plant trees and create separation for the sidewalk
- Sidewalks 8 feet wide minimum, but can be wider depending on pedestrian volume

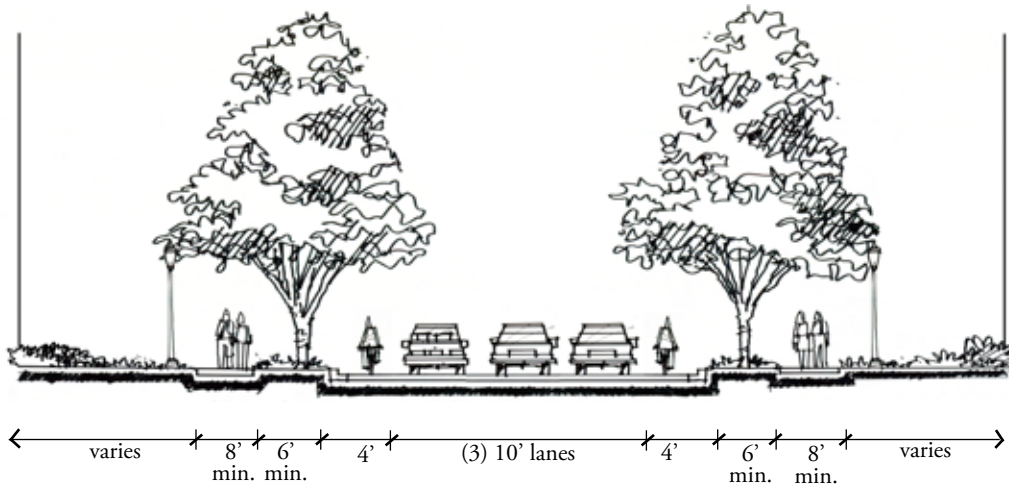
STREETSCAPE CHARACTER

7. BYPASS



STREETSCAPE CHARACTER

8. FEE LANE



Bypass

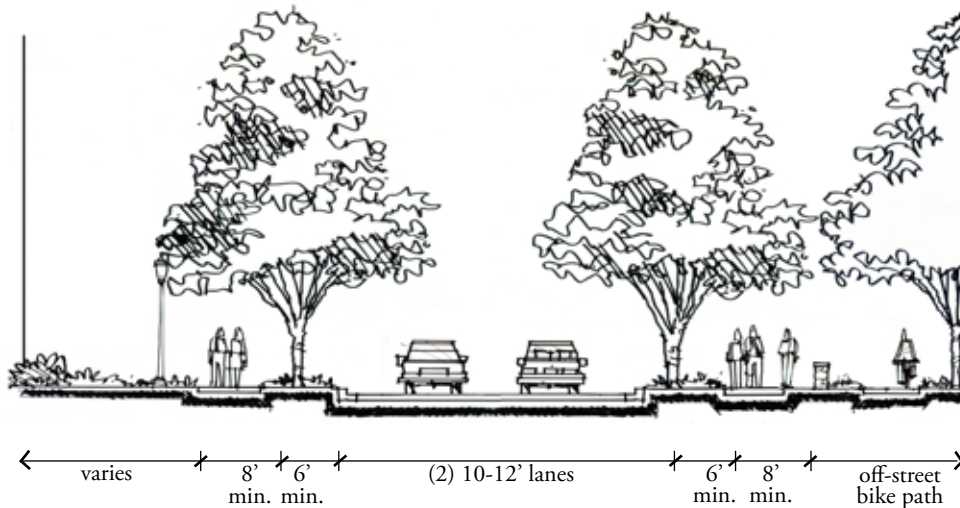
- Two 12-foot-wide travel lanes in each direction, separated by a landscape median
- Generous landscape edge to plant trees and other plant materials
- Multi-use bike/walking path 10 feet wide minimum, but can be wider depending on volume, for campus side of bypass
- Setback/landscape zone on either side of the road and within the landscape median features primarily herbaceous planting, and canopy trees that create a natural setting

Fee Lane

- Minimum 6-foot landscape edge to plant trees
- Sidewalks 8 feet wide minimum
- Minimum 4-foot-wide on-street bike lanes

STREETSCAPE CHARACTER

9. TENTH STREET A, WEST OF THE RAILROAD TRACKS

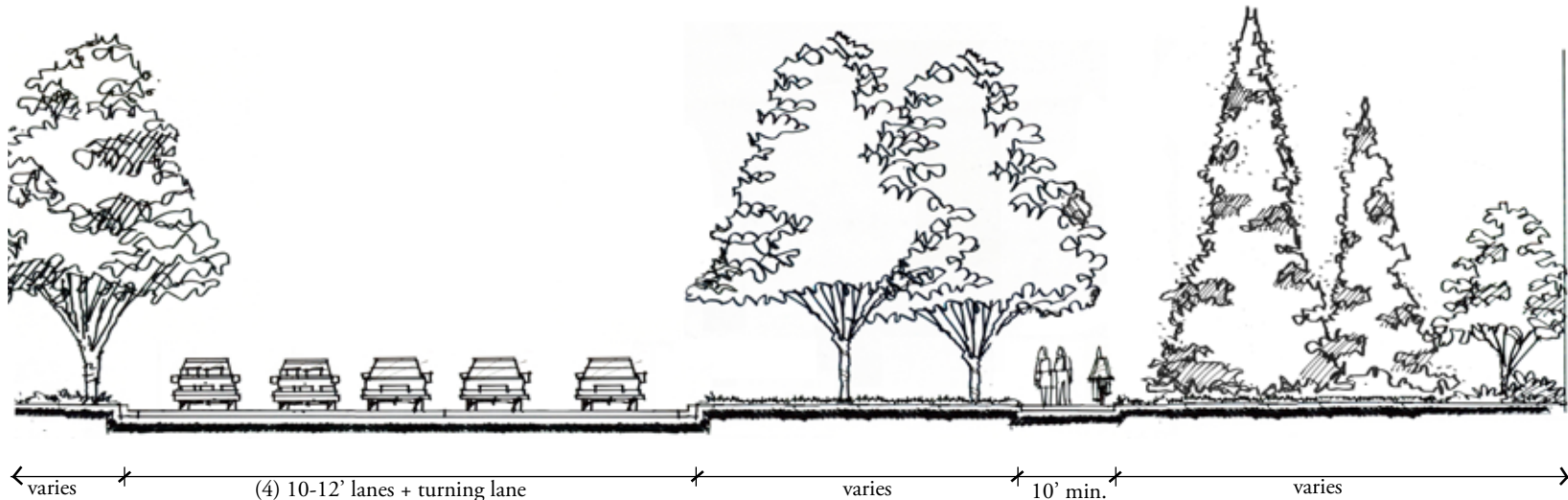


Tenth Street

- Minimum 6-foot landscape edge to plant trees, allow for lighting, signage, and banners, and to separate sidewalk from road
- Landscape edge varies to create a more natural setting east of the railroad tracks
- Sidewalks 8 to 10 feet minimum, but can be wider depending on pedestrian volume
- Maintain low stone wall as unifying element
- Two-way bike path on south side of East Tenth Street west of the railroad tracks
- Setback/landscape zone between the sidewalk and building to feature canopy trees, understory trees, and shrubs
- Selective groupings of conifers for screening
- Combined pedestrian walk and bike path on the north side of East Tenth Street east of the railroad tracks

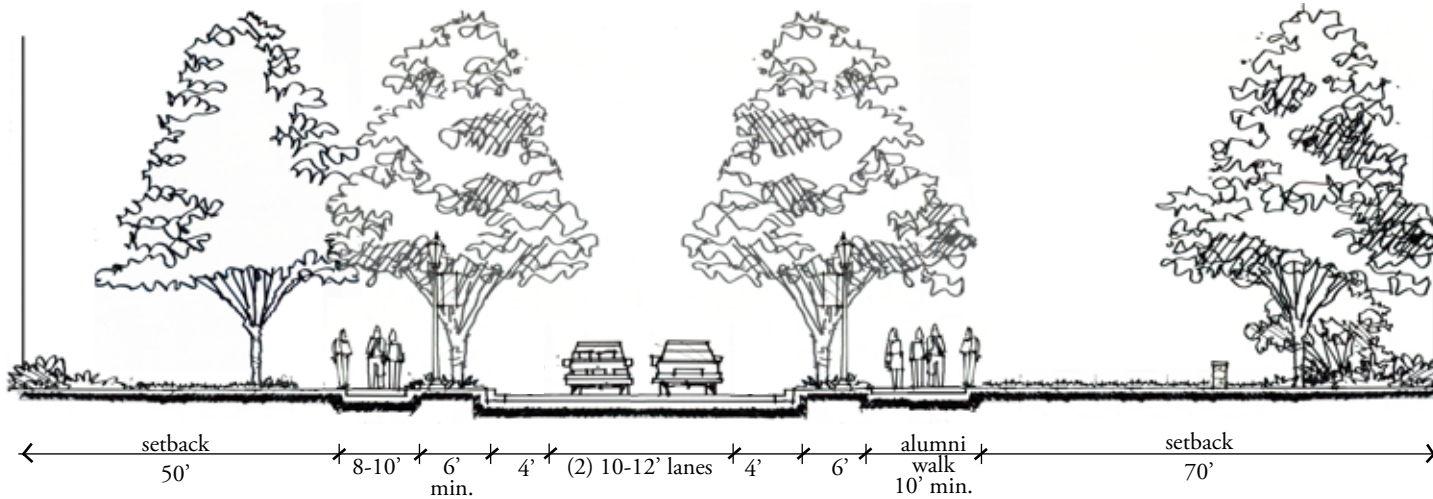
STREETSCAPE CHARACTER

10. TENTH STREET B, EAST OF THE RAILROAD TRACKS



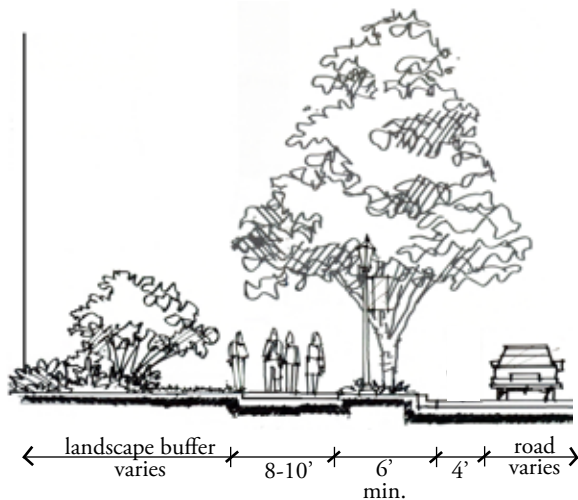
STREETSCAPE CHARACTER

11. WOODLAWN A, NORTH OF TENTH STREET



STREETSCAPE CHARACTER

12. WOODLAWN B, SOUTH OF TENTH STREET



Woodlawn

- Minimum 6-foot landscape edge to plant trees, allow for lighting, signage, and banners, and create separation for the sidewalk
- Alumni Walk 10 feet wide minimum, but can be wider depending on pedestrian volume
- Uniform setback to be 70 feet from back of curb to building façade along the Alumni Walk on the east side of North Woodlawn Avenue, and 50 feet on the west side of North Woodlawn Avenue
- Sidewalks 8 to 10 feet minimum on the west side of North Woodlawn Avenue
- Low stone wall to provide unifying element within setback
- Setback/landscape zone between the sidewalk and building features primarily herbaceous planting, canopy trees, understory trees, and shrubs

CAMPUS LIGHTING

There are several types of site and roadway lighting on campus, ranging from a retro-historic pedestrian-scale fixture in Dunn's Woods to a more "Modern" mid to late 20th century light fixture on other parts of campus. The type of light source varies as well. A consistent design and hierarchy of pedestrian and street lighting should be developed and implemented over time to achieve a more unified and safe campus. As the University pursues implementation of the Campus Master Plan, a detailed campus lighting and wayfinding study should be conducted.

CAMPUS LIGHTING DESIGN PRINCIPLES

- Campus lighting should be part of a unified family of site elements that visually organize the campus setting and improve its function, visibility, safety, and security.

CAMPUS LIGHTING RECOMMENDATIONS

- Install pedestrian lighting of a different style and scale from roadway and parking lot lighting.
- Design campus lighting so that the illumination, intensity, quality, and distribution of light responds to the site characteristics and patterns of use.
- Use fixtures that direct light downward and minimize light pollution.
- Utilize light sources for energy efficiency, color rendition, and visibility of pedestrians on campus.
- Conceal the source of illumination on pedestrian fixtures.



Typical Campus Lighting Fixtures on the Indiana University Bloomington Campus

CIRCULATION AND PARKING

ROADS AND VEHICULAR TRAFFIC

The Campus Master Plan updates the campus transportation network through a multi-modal approach that encourages walking and biking while improving vehicular and transit movement. Improvements to the campus road network aim to create a connected, hierarchical system to accommodate a variety of modes of travel, ease congestion, and facilitate cross-campus connections. The Campus Master Plan proposes new east-west connections along an expanded East Law Lane to East Fourteenth Street to ease traffic congestion on East Tenth Street. New north-south connections on campus will also facilitate movement and increase options for drivers. North Woodlawn Avenue is proposed as a new street and a transit-oriented roadway connecting the IMU with the Athletics campus and remote parking via a new crossing proposed at the railroad.

ROADS AND VEHICULAR TRAFFIC DESIGN PRINCIPLES

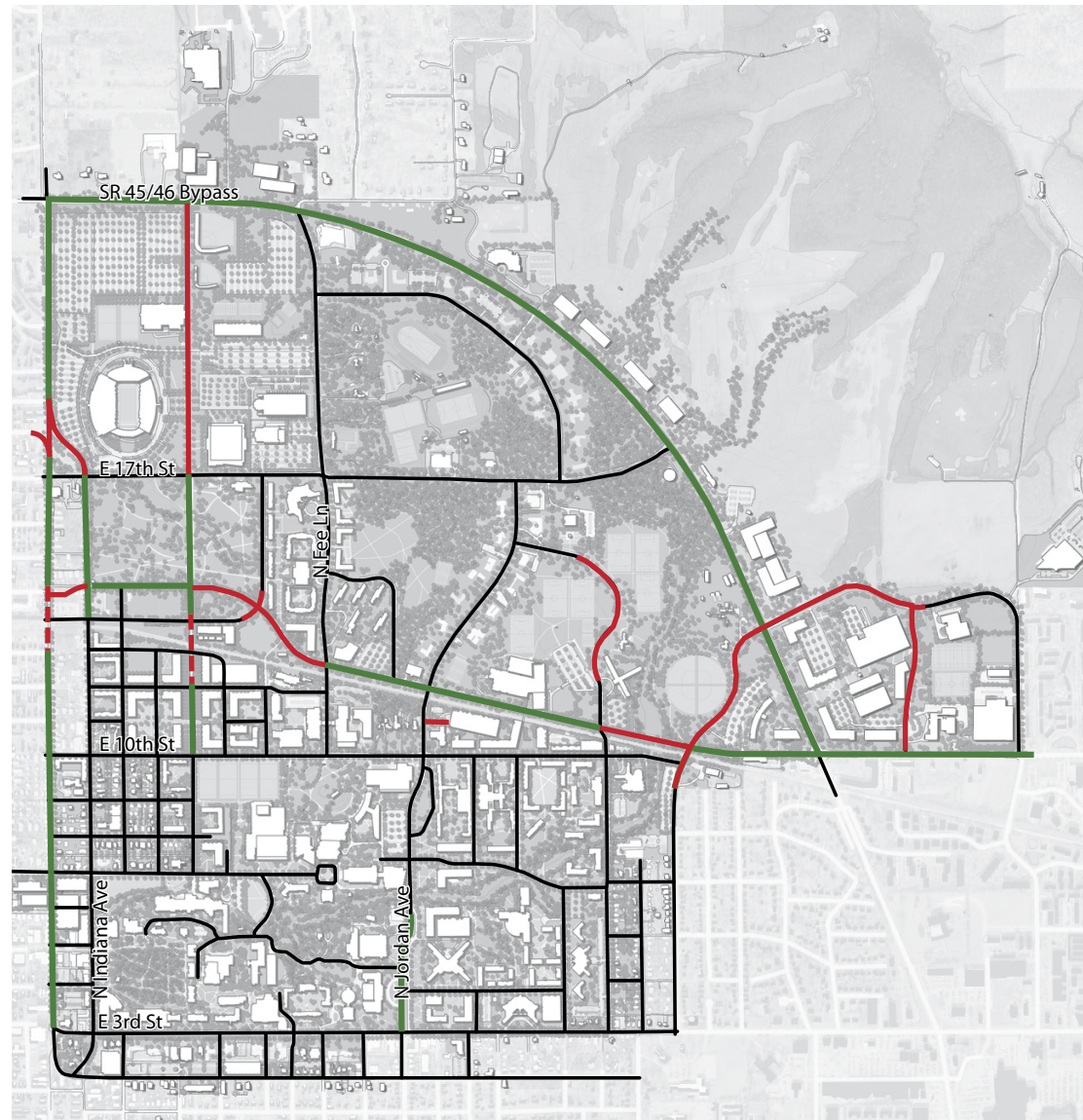
- Improve campus circulation for better mobility for all modes.
- Create a hierarchy of access and circulation.
- Provide alternative east-west routes through campus to reduce congestion on campus streets.
- Simplify north-south movement on campus.

ROADS AND VEHICULAR TRAFFIC RECOMMENDATIONS

- Complete East Law Lane between North Dunn Street and East Tenth Street for a new east-west corridor.
- Align East Law Lane with East Fourteenth Street past North Fee Lane for connection to North College Avenue and North Walnut Street.
- Reduce automobile traffic and congestion, and enhance transit on East Tenth Street.
- Supply a new, controlled at-grade railroad crossing on North Woodlawn Avenue for direct vehicular and transit access between the academic core and the Athletics campus.

- Replace the at-grade crossing at North Walnut Grove with the crossing at North Woodlawn Avenue.
- Realign sections of North Walnut Grove, East Thirteenth Street, and East Fourteenth Street north of the railroad to improve intersection design.
- Realign North Dunn Street and North Indiana Avenue at East Seventeenth Street for better connection to the North Indiana Avenue underpass at the railroad.
- Explore the feasibility of a new railroad crossing at North Dunn Street.
- Extend North Range Road north of the Research Park to a signaled intersection at the SR 45/46 Bypass, and connect with East Tenth Street.
- Reconfigure and/or remove internal streets within the Research Park and add a new north-south street from East Tenth Street to North Range Road.
- Reconfigure the East Tenth Street intersections with East Law Lane and North Jefferson Street to improve the underpass at the railroad.

- Explore the feasibility of a new underpass for East Tenth Street and re-use of the existing underpass for pedestrian and bike only use.
- Realign North Union Street north of the railroad to allow for future recreational sports fields and expansion.
- Eliminate East Lingelbach Lane's direct connection to East Seventeenth Street to preserve the woodland area.
- Reconfigure and/or remove parts of East Twelfth Street at North Woodlawn and North Walnut Grove to create larger development parcels.
- Create a boulevard on North Jordan Avenue south of the Jordan River to East Third Street.



ROADWAYS

- Future Road Improvements
- Proposed Roads
- - - Future Railroad Crossing
- Existing Campus Roads
- Existing Road Network



PARKING

Little change is expected in the campus population over the time frame of the Campus Master Plan, and parking demands are not expected to change significantly. Implementation of the Campus Master Plan, the location of future facilities, and the relocation of new housing will displace some existing parking lots and garages. New development and changes in campus population will also shift and redistribute parking demand in the future.

The recommendations regarding parking in the Campus Master Plan focus on locations for replacing parking facilities that are displaced by development. Proposed parking, primarily in decks, is located to continue serving the density of the academic core, for both the daily campus population and campus visitors. One or two new parking decks south of the railroad will accommodate additional density proposed for the areas around the campus core and replace parking displaced by new development. Additional future deck locations are shown as part of the long-term planning in the Campus Master Plan.

These locations should only be considered after implementation of Transportation Demand Management strategies and as demand justifies their construction.

The Athletics Master Plan, conducted separately, recommended the addition of over 1,500 spaces to the Athletics campus. Improved transit connections, bike paths, and pedestrian walks are proposed to better utilize the supply of remote parking in the Athletics campus.

West of the SR 45/46 Bypass

| <u>Parking</u> | <u>Existing</u> | <u>Proposed</u> |
|----------------|-----------------|-----------------|
| Surface Lots | 10,116 | 7,171 |
| Decks | 3,023 | 2,590 |
| <u>Totals</u> | <u>13,139</u> | <u>9,427</u> |
| Net Reduction | | 3,378 |

East of Bypass

| <u>Parking</u> | <u>Existing</u> | <u>Proposed</u> |
|----------------|-----------------|-----------------|
| Surface Lots | 1,000 | 750 |
| Decks | 0 | 718 |
| <u>Totals</u> | <u>1,000</u> | <u>1,468</u> |
| Net Gain | | 468 |

Athletics Parking

| <u>Parking</u> | <u>Existing</u> | <u>Proposed</u> |
|----------------|-----------------|-----------------|
| Surface lots | 6,500 | 8,075 |
| Decks | 0 | 0 |
| <u>Totals</u> | <u>6,500</u> | <u>8,075</u> |
| Net Gain | | 1,575 |

Total All Parking

| | | |
|-----------------|--|---------------|
| Existing | | 20,639 |
| <u>Proposed</u> | | <u>19,304</u> |
| Net Reduction | | 1,335 |

Long-Term Opportunities

| | | |
|---------------|--|-------|
| Campus Decks | | 1,870 |
| Private Decks | | 2,006 |

EXISTING AND PLANNED PARKING STRUCTURES



| | | | |
|-----|-------------------------------|-----|-------|
| 424 | Henderson Garage-constr. 8/07 | 550 | 550 |
| 442 | Atwater Garage | 644 | 644 |
| 458 | Ballantine Garage-Upper | 53 | 0 |
| 459 | Ballantine Garage-Lower | 64 | 0 |
| 255 | 11th & Fee Garage | 635 | 635 |
| 400 | Poplars Garage | 427 | 427 |
| 528 | Jordan Ave. Garage-Upper | 331 | 0 |
| 529 | Jordan Ave. Garage-Lower | 319 | 0 |
| PD1 | | 0 | 1,053 |
| PD2 | | 0 | 991 |
| PD4 | | | 334 |

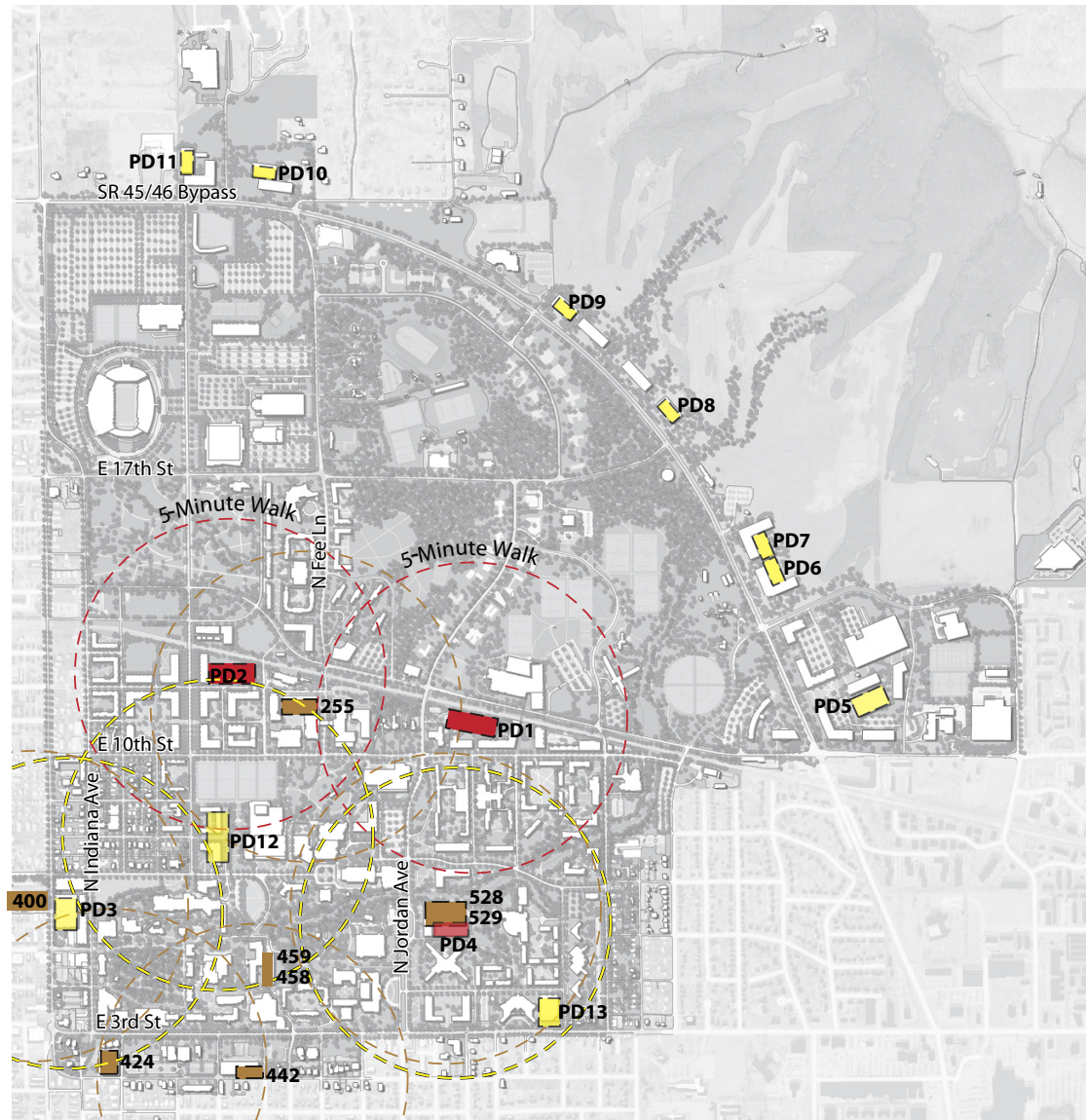
FUTURE PARKING OPPORTUNITIES

| | | | |
|------|--|---|--------------|
| PD3 | | 0 | 334 |
| PD12 | | 0 | 619 |
| PD13 | | 0 | 582 |
| | | | 1,870 |




FUTURE RESEARCH PARK PARKING

| | | | |
|------|--|---|-----|
| PD5 | | 0 | 718 |
| PD6 | | 0 | 334 |
| PD7 | | 0 | 334 |
| PD8 | | 0 | 334 |
| PD9 | | 0 | 334 |
| PD10 | | 0 | 334 |
| PD11 | | 0 | 334 |

| | |
|----------|---|
| Increase |  |
| Decrease |  |



PARKING STRUCTURES

-  Existing Parking Decks
-  Planned Parking Structures
-  Future and Research Park Parking Opportunities



TRANSPORTATION DEMAND MANAGEMENT (TDM)

In order to reduce the need to construct more garages and make parking more readily available, it is recommended that the university implement a Transportation Demand Management (TDM) strategy. This will provide incentives for students, faculty, and staff to use alternative transportation rather than single-occupancy vehicular travel.

TDM strategies include the following:

- Review current parking pricing policies and implement changes that can help reduce demand.
- Establish a bicycle-sharing program.
- Provide subsidies for transit and bicycle usage.
- Increase marketing of the carpooling program, including reserving more spaces in high quality locations and implementing a matching service.
- Increase marketing of the Guaranteed Ride Home Program.
- Establish a car-sharing program on campus.

TDM DESIGN PRINCIPLES

- Distribute parking to serve the majority of campus within a 5-minute walk of campus destinations.
- Develop parking garages rather than surface lots in strategic locations to better utilize land in the academic core.
- Promote better utilization of existing decks south of East Third Street.
- Locate future decks closer to the direction of arrival, to reduce traffic volumes on and across campus.
- Promote better utilization of remote parking for regular campus use.
- Link parking facilities to transit and bicycle facilities.
- Enhance the sustainable design of parking facilities.

TDM RECOMMENDATIONS

- Implement TDM measures.
- Remove the structured parking east of Ballantine Hall for the future academic building site, and reallocate spaces to existing decks south of East Third Street.
- Develop a new parking deck east of North Jordan Avenue between the railroad and East Tenth Street to replace parking from the Wells Library lot. Provide primary ingress and egress off of North Jordan Avenue.
- Remove most of the surface parking at the IMU and the lot north of East Seventh Street at North Woodlawn Avenue for new development and a new Campus Green. Maintain some visitor and ADA parking at the IMU hotel drop-off .
- Develop new underground structured parking to serve the IMU at North Woodlawn Avenue at East Seventh and East Eighth Streets, with a transit stop and bicycle parking.

- Reserve the site on North Dunn Street between East Kirkwood Avenue and East Seventh Street as a future parking deck to serve future mixed-use development, new student services building, conferencing, and events at the IMU.
- Redevelop the 2-story deck on North Jordan Avenue south of East Seventh Street as a smaller footprint with new academic development.
- Provide limited, small-scale surface lots within the academic core to serve short-term parking needs.
- Retrofit surface lots with porous pavement and additional landscape.



North Jordan Avenue

TRANSIT

Transit recommendations within the Campus Master Plan involve simplification of the existing routes combined with altering routes to take advantage of the proposed North Woodlawn Avenue corridor and to serve the east side via the extension of North Range Road across the SR 45/46 Bypass. To improve campus mobility, it is recommended that a number of campus transit routes be simplified to more direct, out and back, east-west, and north-south connectors, with a few transfer stops at key campus locations. Plans also recommend the establishment of a high-quality loop shuttle with multiple transfer options to connect the east-west and north-south routes.

The express shuttle from the remote parking at the Athletics campus is recommended to take advantage of the proposed North Woodlawn Avenue corridor and new railroad crossing. Future underground parking at the intersection of North Woodlawn Avenue and East Seventh Street is proposed as a multi-modal stop at the terminus of the North Woodlawn Avenue express shuttle and other campus routes.

In the long term, if rail passenger service is established, the Campus Master Plan has identified a location near the intersection of North Woodlawn Avenue and the railroad tracks to serve as a the potential site of a future station.

TRANSIT DESIGN PRINCIPLES

- Simplify transit runs to out and back routes.
- Increase connectivity and areas of service.
- Create transfer stops to reduce redundant loop routes.
- Connect transit stops to parking reserves, decks, and major campus destinations.
- Integrate bike parking, transit stops, and parking garages where possible to encourage ridership.

TRANSIT RECOMMENDATIONS

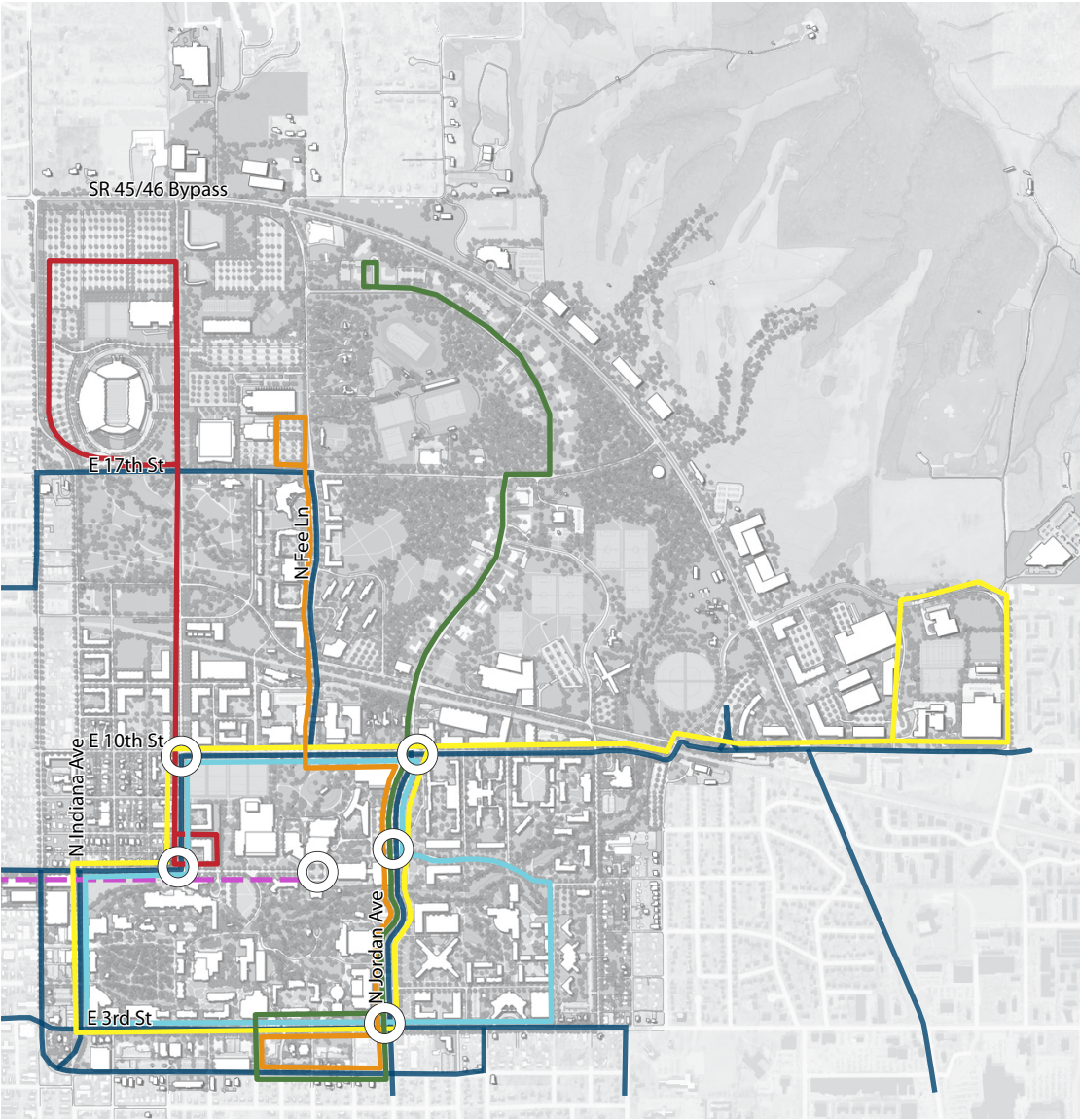
- Create a simple north-south transit run on North Woodlawn Avenue from East Seventh Street to the SR 45/46 Bypass within the Athletics campus, utilizing the proposed rail crossing.
- Create an internal bus transit route within the Athletics campus to serve the commuter

lots and off-campus apartments, utilizing the proposed North Woodlawn Avenue pedestrian mall north of East Seventeenth Street.

- Develop a combined transit stop, varsity team shop, possible bookstore, and coffee shop at the south end of the stadium.
- Create a new east-west bus route that connects the Research Park to the central campus.
- Simplify bus routes to more direct runs and reduce redundant loops around campus.
- Create a series of bus transfer points on campus to facilitate transit links.
- Work with the City to develop a bus transit route on East Seventh Street from downtown to the IMU.



North Indiana Avenue



FUTURE TRANSIT

- Existing Bloomington Transit
- Future IU Transit
- Future IU Transit
- Future IU Transit
- Future Connection to City
- Transfer Points



BICYCLE CIRCULATION

Improvements to bicycle circulation on campus involve strengthening north-south and east-west connections as well as the creation of new bike lanes, off-street paths, and bike-friendly streets. New roadways such as East Law Lane and North Woodlawn Avenue should contain bike lanes. The Campus Master Plan also recommends a bike station on campus and a possible bicycle-sharing program. Bicycle circulation on campus will benefit from general improvements in the transportation network. With traffic refocused on certain routes, streets such as East Tenth Street become friendly to bicyclists and pedestrians.

BICYCLE CIRCULATION DESIGN PRINCIPLES

- Make bicycle transportation easier and more convenient to increase bike use and reduce reliance on automobiles to and around campus.
- Connect the campus bike system to regional resources.
- Design new roadways to encourage on-street bike lanes.

- Utilize off-street paths for mix of bike and pedestrian use.
- Develop multi-modal centers in conjunction with bus transit and parking.

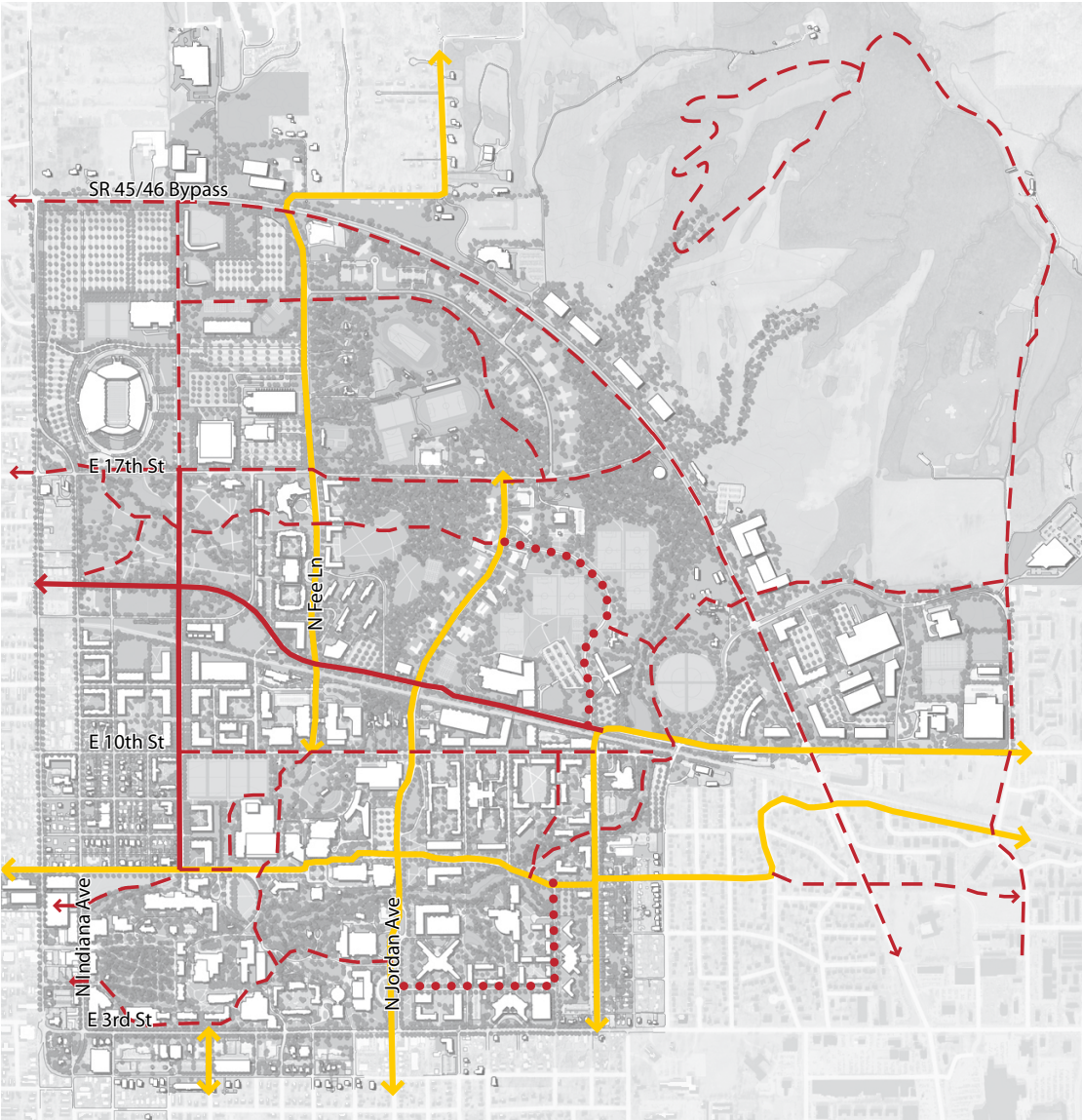
BICYCLE CIRCULATION RECOMMENDATIONS

- Develop designated on-street bike lanes for East Law Lane and North Woodlawn Avenue, a minimum 5-foot width, on both sides of the street.
- Develop connected off-street multi-use bike paths across campus.
- Develop a multi-use recreational trail along the SR 45/46 Bypass, and create bike- and pedestrian-safe crossings at signalized intersections at East Tenth Street and the proposed North Range Road extension.
- Develop bike-friendly streets on campus secondary roads with wide vehicle lanes and traffic calming to accommodate occasional bike use.
- Add more bike parking and storage near major campus classrooms and destinations, including the IMU, dining, and housing locations.

- Where feasible, include covered bike parking within parking decks and major destinations.
- Where feasible, incorporate showers and lockers.
- Explore the development of a bike repair shop on campus.
- Develop a bike-sharing program.

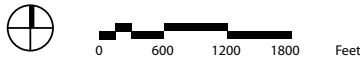


Dunn Meadow



FUTURE BICYCLE CIRCULATION

- Existing Bicycle Circulation
- On-Street Bike Lane
- - - Off-Street Bike Path
- Bike-Friendly Street



CAMPUS INFRASTRUCTURE

CHILLED WATER SYSTEM

The capacity shortfall due to the addition of Multidisciplinary Science Building II will be addressed with the addition of cooling capacity at the Central Chilled Water Plant (CCWP). An addition to the system of 2,500 tons of capacity is planned. The initial project cost for the first chiller addition is \$11.2 million. Including this first 2,500-ton addition, the existing CCWP is capable of accommodating a total expansion capacity of 7,500 tons. The following areas will present future demands for chilled water in support of the Campus Master Plan.

Building construction anticipated by the Campus Master Plan in the historic core are good candidates for connection to the campus chilled water system. There is a limitation in the chilled water system distribution that will require study to determine when an upgrade is necessary. New cooling capacity can be installed to serve new construction in this area at the CCWP, or a satellite chilled water plant can be included with the Ballantine Hall renovation.

The building expansion in the area east of North Jordan Avenue is dominated by residence halls. The campus chilled water system has hydraulic limitations in this area. A feasible solution to the hydraulic limitation is to build in a chilled water loop around the buildings as they are constructed. Additional chiller capacity will be needed by a combination of new CCWP capacity and connection to the Ashton Satellite Chilled Water Facility, which is currently in design.

The existing buildings in the Research Park area have inefficient HVAC systems. A feasible solution would be to serve the planned new buildings with a satellite chilled water plant and to add the existing buildings to the system. Their addition to the system would improve energy efficiency (reduce university operating cost). This area is a viable candidate for a heat recovery chiller application to further reduce operating costs.

The North Fee Lane area has a history of poor chilled water distribution, and future building construction will aggravate the issue. The Briscoe Quad renovation has a new satellite chilled

water plant in the design. The renovation is scheduled for completion in late 2010, and the new chiller plant will have space for additional capacity to serve new buildings on the north side of the neighborhood. In addition, a new 20-inch distribution bridge is necessary from North Woodlawn Avenue to North Fee Lane. It is reasonable to consider connecting this chilled water plant to the campus distribution system. Such a connection to the system should improve conditions and allow new construction in the southern portion of the neighborhood to connect to the CCWP.

New buildings located in the North Jordan Avenue area cannot be served on the campus chilled water system without a chilled water distribution expansion. The chilled water distribution loop can be created by extending the 24-inch mains in the Jacobs School of Music area to Forest Quad. New capacity can be added to the CCWP.

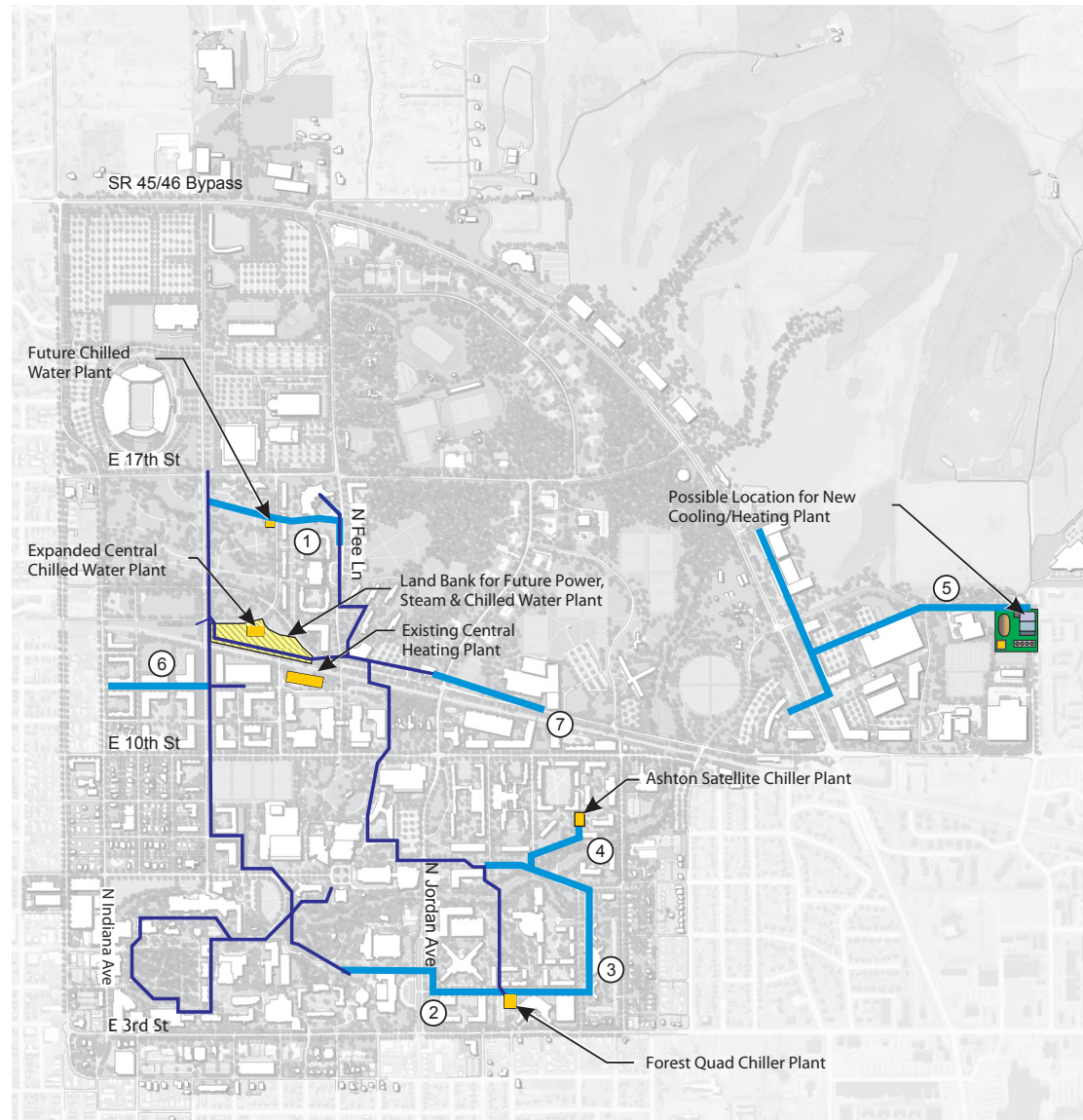
New buildings located in the North Woodlawn Avenue and East Tenth Street area can be served on the campus chilled water system with a

chilled water distribution expansion from North Woodlawn Avenue. New capacity can be added to the CCWP.

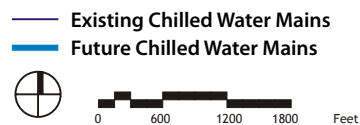
CHILLED WATER UTILITY SERVICE - LEGEND NOTES

General Notes: Existing CCWP is fully utilized. New building construction will require expanded cooling capacity. Satellite chilled water plants provide improved redundancy when connected to campus chilled water (CHW) distribution.

1. A new satellite CHW plant serving Briscoe Quad and surrounding buildings is currently in planning. A new CHW main effectively closing a loop between North Woodlawn Avenue and North Fee Lane will maximize the effectiveness of this plant.
2. Connect historic core to North Jordan Avenue leg of CHW distribution. Improves distribution limitations to support new building growth.
3. Residence CHW loop – supports new building growth east of North Jordan Avenue.
4. Connect Ashton CHW plant to main chilled water loop. Utilize a planned CHW plant capacity on campus system.
5. New CCWP to support the Research Park. Incorporate a more efficient means of cooling the Research Park area.
6. North Woodlawn Avenue and East Tenth Street CHW distribution extension – supports new building growth west of North Woodlawn Avenue.



INFRASTRUCTURE/UTILITIES



STEAM AND CONDENSATE SYSTEM

The existing 8-inch pipe along North Fee Lane will need to be replaced to support the additional heating load for the proposed residence halls for that site.

The new research buildings at the Research Park are currently under construction and will be served by the existing 10-inch 150-psig (pound-force per square inch gauge) steam line. As new buildings are added, steam service to this area will need to be upgraded. Replacement of the existing steam line from the Central Heating Plant may prove to be prohibitively expensive. As an alternative, a stand-alone satellite heating plant to serve this area may be considered.

To support the heating load for the proposed residence halls in the southeast portion of campus, new steam piping will need to be installed. The existing steam line, which is routed along North Campbell Street and is subsequently extended to the south side of campus, is already at capacity. The new piping could be installed alongside the existing pipe. A detailed steam

model is required to determine the best routing and sizing for this new piping.

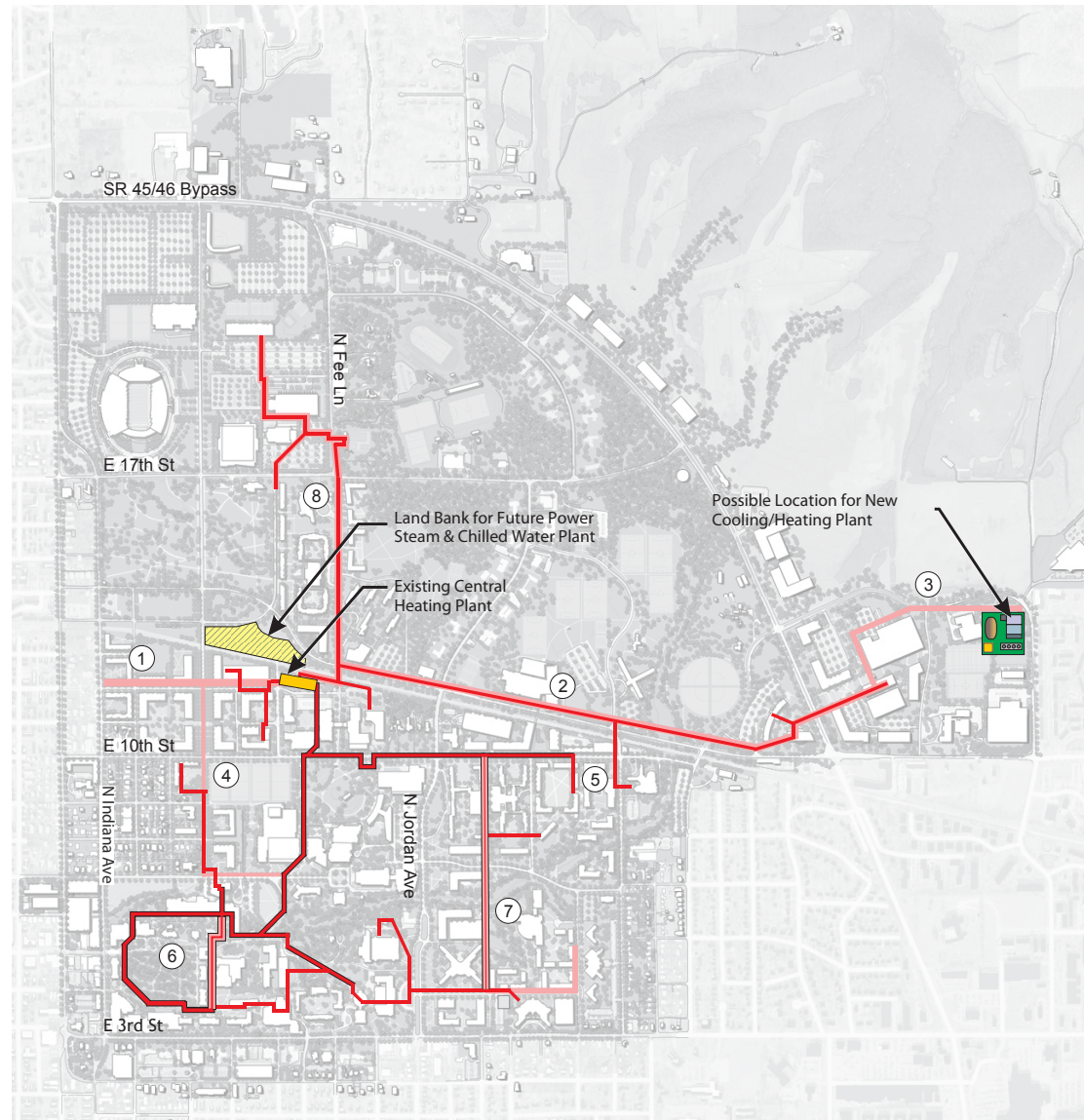
The distribution system has capacity for most of the proposed academic buildings with the exception of the group of buildings located east of North Jordan Avenue between East Third Street and East Tenth Street. This area is currently served by the same distribution piping that would serve the new residence halls running south along North Campbell Street and then extending to the south side of campus. A major upgrade of the service along this corridor will be required to serve all of the proposed buildings in this area. A detailed steam model is required to determine the best solution to serving the needs of these proposed academic buildings as well as the proposed residence halls on the southeast side of campus.

Improvement of the campus condensate return system should remain an important priority. Improvement of this system will result in very substantial energy savings and reduction in the consumption of make-up water.

STEAM UTILITY SERVICE - LEGEND NOTES

1. New piping required to serve the new academic and housing units planned for this area. This would originate at the Central Heating Plant and replace existing piping.
2. The existing 12-inch and 10-inch steam piping that currently feeds the Research Park will eventually need to be replaced as buildings are added in this area. Condensate return should be added as well.
3. A satellite heating plant connected to the Research Park distribution system may prove to be a viable alternative to replacing the steam piping that currently serves the area, as described in #2 above.
4. The new piping that is installed for the academic and housing units planned for the North Woodlawn Avenue area should be connected to form a loop to ease the load on the distribution piping farther east.
5. Eigenmann Hall will be switched from 150-psig steam to 40-psig steam.
6. The existing piping in the historic part of campus is old cast iron piping with screwed fittings. This is a safety concern. This piping

- should be replaced in accordance with current codes (ASME B31.1).
7. The existing piping along this corridor will need extensive work to serve the new buildings proposed for this area. This piping can be replaced with larger piping, or new piping can be added along this corridor.
 8. The distribution piping serving the North Fee Lane area should be replaced and extended to serve the new buildings.



INFRASTRUCTURE/UTILITIES

- Existing Steam Mains
- Future Steam Mains and Tunnels
- Future Steam Mains



ELECTRICAL SYSTEM

Space planning must account for the Switching Center to physically double the present quantity of distribution circuit switches in the next 5 years in order to accommodate the projected long-term future loads. Each individual switch will be added as needed to support growth over the next 5 to 10 years. The Distribution Center will not be considered a feasible source of power for future growth. New circuits from the Switching Center should be installed to Substation C and Substation D to increase loop redundancy. In order to meet the projected site loads, the Switching Center growth must be a priority to complete first.

The 12.47kV switchgear at Substation D should be expanded to include double-ended 12.47kV gear. The 5kV switchgear at Substation D should be phased out as buildings are demolished.

All new development along the University Edge area shall be served from Duke Energy. Duke Energy will play a major role in feeding new development to areas west of North Woodlawn Avenue and East Tenth Street and at the intercollegiate athletics area.

Much planning will be needed to ensure growth along and parallel to the railroad in the northeast area and the east of North Jordan Avenue area to meet requirements for proximity to live overhead wires. Relocation of the overhead

lines to underground routes is an option to be considered; however, this option carries a substantial cost.

The CCWP must have additional service from Duke Energy to allow for the planned chilled water capacity increases. The addition of satellite chilled water plants, needed to increase capacity and flow throughout the campus, should be anticipated as new 15kV circuits are routed throughout the campus.

Many new duct banks will be needed to support future growth and improve existing capacity. Most of the new duct banks will be in the North Fee Lane area, North Woodlawn Avenue and East Tenth Street area, and the North Jordan Avenue area. There are duct banks in the East Seventh Street area that may need to be relocated in order to support new growth. There are existing duct banks in the Historic Core area that must be replaced due to physical size and age of conductors.

Duke Energy circuits from the Meadow Park substation are not reliable for consideration of academic and research expansion along the SR 45/46 Bypass and at the Research Park area. The new Data Center located at the Research Park area has the potential to be the largest single point of electrical power consumption growth at IUB. Duke Energy is installing a new 12.47kV feed (Circuit 1230) from the North Dunn Street

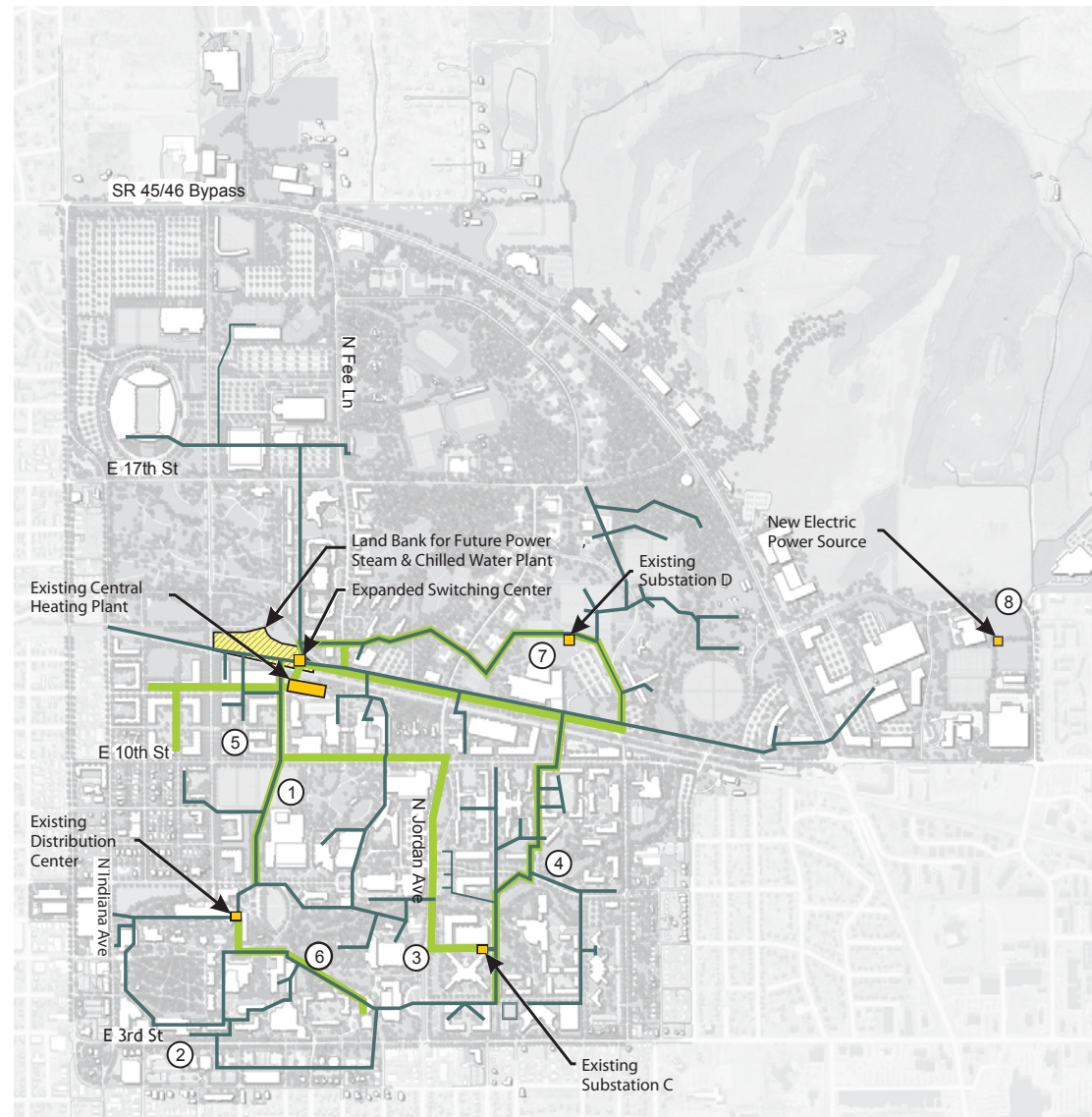
substation to support the new Data Center. A second source of power to the new Data Center is desired to ensure a full capacity redundant source. The second source could be the new 69kV substation or a new co-generation plant. Duke Energy estimates the cost of a new 69kV substation and 12.47kV circuits located near the Research Park area to be \$2.5 million. This cost does not include the cost of land for the substation or easement required for the tower structures and distribution from the substations to the loads.

ELECTRIC UTILITY SERVICE - LEGEND NOTES

1. Existing duct banks may require relocation to support new structures. Add new 15kV circuits from Switching Center to serve new structures east of North Woodlawn Avenue. Structures west of North Woodlawn Avenue will be served by Duke Energy.
2. New development along the University Edge will be served by Duke Energy.
3. Substation C will power the North Jordan Avenue area. Existing Substation C may require relocation to support new structures. Add new 15kV circuits to Substation C from Substation D and the Switching Center to improve system reliability and support future growth.
4. Add new 15kV circuits from the Switching Center and Substation C to serve new growth in the East of North Jordan area. Proposed new structures located parallel to

the railroad may impact the clearances on the existing 69kV and 15kV circuits.

5. North Woodlawn Avenue and East Tenth Street area growth will require adding new 15kV circuits from the Switching Center. Growth of the CCWP will require additional service from Duke Energy.
6. New duct bank cable will replace existing circuit from the Distribution Center to Morrison Hall.
7. Substation D will feed Northeast Area growth. Expand Substation D 15kV switchgear to main tie-main. Migrate away from 5kV distribution from Substation D. Proposed new pedestrian railroad crossing may impact the clearances on the existing 69kV and 15kV circuits located parallel to the railroad.
8. Existing service to the Research Park is adequate. Data Center expansion requires full redundancy. New circuits will be required for this redundancy, which may include a large on-site standby generation capacity. Coordination with Duke Energy will be necessary.



INFRASTRUCTURE/UTILITIES

- Existing Electrical Service
- Future Electrical Service



TELECOMMUNICATIONS SYSTEM

Future telecommunication to new facilities will exclusively consist of fiber optic cabling for voice and data communication with a small 50- to 100-pair copper voice cable for emergency phone services. The IUB network architecture is currently being redistributed in a redundant ring design. This configuration provides redundancy to each building's network system by connecting each building to both network nodes. Strategically located duct bank expansions are required in order to provide these fiber optic loops throughout the campus.

There are four phases of expansion planned to complete the telecom fiber infrastructure construction. Phase I includes placing a 432-strand SM fiber cable between the School of Health, Physical Education and Recreation (HPER) building and the new Data Center, and dropping off 24 fibers to large campus buildings in the area bounded by North Jordan Avenue, East Third Street, North Indiana Avenue, and East Tenth Street (excluding Wells Library). These buildings then have 12 new fibers running

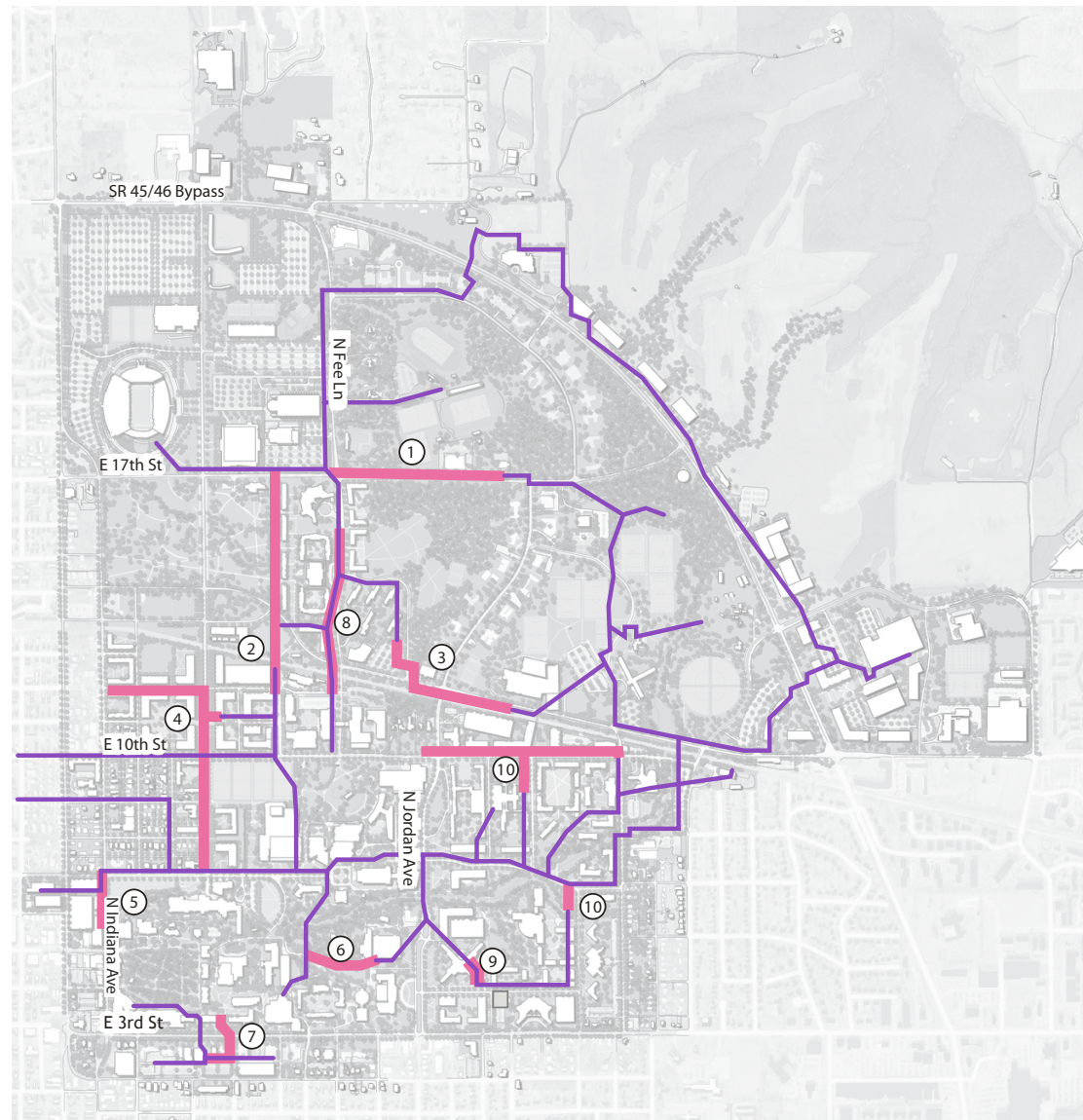
to HPER and 12 new fibers running to the Data Center through separate outside routes to provide diversity to key buildings in the core. This phase is currently in construction. Phase II uses diverse routes from the HPER building and the new Data Center, adding new fiber capacity to non-Greek buildings north of East Tenth Street including the Wells Library. Phase III uses diverse routes from the HPER building and the new Data Center, adding new fiber capacity to the residence hall buildings south of East Tenth Street. Phase IV will add fiber to Greek housing. To minimize cost, diverse routing is generally not planned.

TELECOMMUNICATIONS UTILITY SERVICE - LEGEND NOTES

General Notes: With the neighborhood concept as it relates to the Campus Master Plan for new facilities, there will be collateral modifications to each neighborhood's telecom infrastructure to accommodate new buildings. The looping concept will require some modification along with the possible replacement of specific maintenance structures and duct bank systems being rerouted.

1. (6) 4-inch conduit duct bank to be routed down East Seventeenth Street from North Jordan Avenue maintenance structure to maintenance structure BR-5 on North Fee Lane.
2. (6) 4-inch conduit duct bank to be routed down North Walnut Grove from maintenance structure BR-5-1 at East Seventeenth Street and North Walnut Grove to maintenance structure HN-2-1-10-5 on North Walnut Grove.
3. (6) 4-inch conduit duct bank to be routed down East Law Lane from maintenance structure BR-2-3 on North Foster Drive to

- maintenance structure CV-2-3 on East Law Lane.
4. (6) 4-inch conduit duct bank to be routed from maintenance structure HN-2-2 on Cottage Grove Avenue down North Woodlawn Avenue to maintenance structure HW-3 at East Seventh Street.
 5. (6) 4-inch conduit duct bank to be routed down North Indiana Avenue from maintenance structure HW-4-1 at East Seventh Street and North Indiana Avenue to south of East Sixth Street.
 6. (6) 4-inch conduit duct bank to be routed from maintenance structure HE-2-4-1 near Ballantine Hall to maintenance structure RE-6 just south of Musical Arts.
 7. (6) 4-inch conduit duct bank to be extended from tunnel between Rawles and Myers Halls to maintenance structure RA-1 south of East Third Street.
 8. (6) 4-inch conduit added to existing duct bank from BR-1 to HN-3-1.
 9. (6) 4-inch conduit duct to be added to existing duct bank.
 10. Add (6) 4-inch duct bank.



INFRASTRUCTURE/UTILITIES

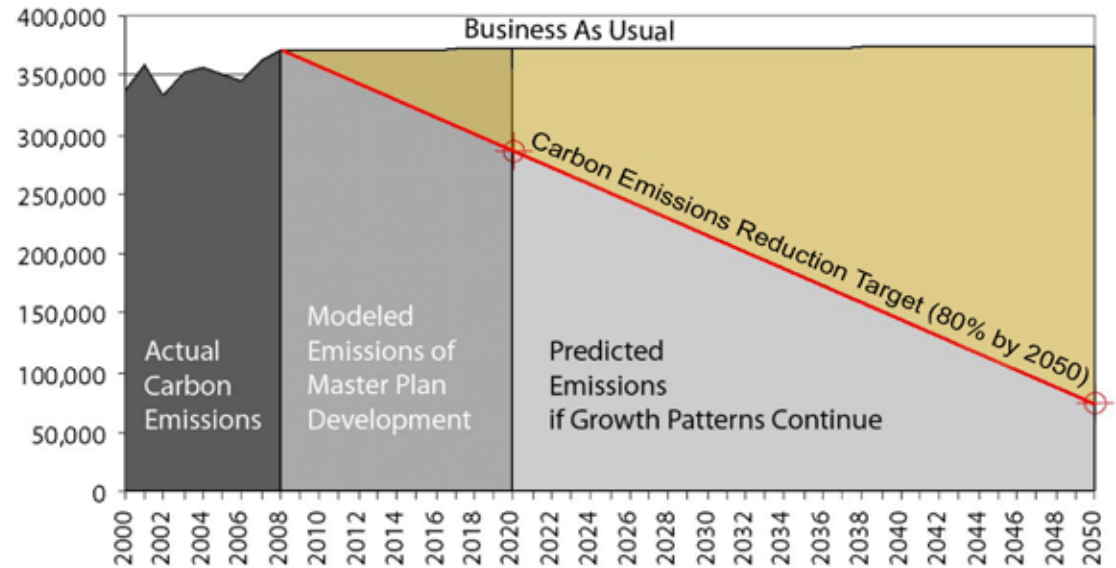
- Existing Telecom Service
- Future Telecom Service



ENERGY AND WATER USE

Over the next 10 years, the IUB campus will add and replace nearly 4.2 million square feet of building. This growth could increase the campus greenhouse gas emissions (GHG) and potable water consumption. By embracing sustainable design strategies, the campus can grow while reducing its resource impacts. The Energy and Water Use section of the Campus Master Plan estimates the GHG emissions and potable water consumption associated with the existing IUB campus and predicts the energy and water use of the proposed development based on current campus building standards. It also demonstrates how sustainable design strategies can be applied to all new development, as well as how sustainable renovation, retrofit, and improvements to the existing building stock can significantly reduce the carbon footprint and water consumption of the IUB campus.

The American College and University Presidents Climate Commitment (ACUPCC) establishes a goal of reducing campus GHG emissions by 80 percent by the year 2050, which equates to a 23 percent reduction target by the year 2020. Similarly, the Association for the Advancement of Sustainability in Higher Education's (AASHE) Sustainability Tracking Assessment and Rating System (STARS) establishes campus water conservation goals reducing potable non-irrigation water consumption by 10 percent, 25 percent, and 50 percent, using water



Future Greenhouse Gas Emissions and Reduction Targets

consumption per square foot of building as the unit for comparison. While Indiana University has not committed to the ACUPCC goal, a series of sustainable design practices have been proposed for both the planned and existing building stock in order to demonstrate a path towards meeting similar targets to the ACUPCC and STARS goals.

Carbon Emission Reduction

Recommendations

The colored wedges in the chart on the facing page represent the emissions reduction potential associated with a series of strategies proposed to reduce the predicted campus carbon emissions from buildings. No one strategy or “wedge” alone

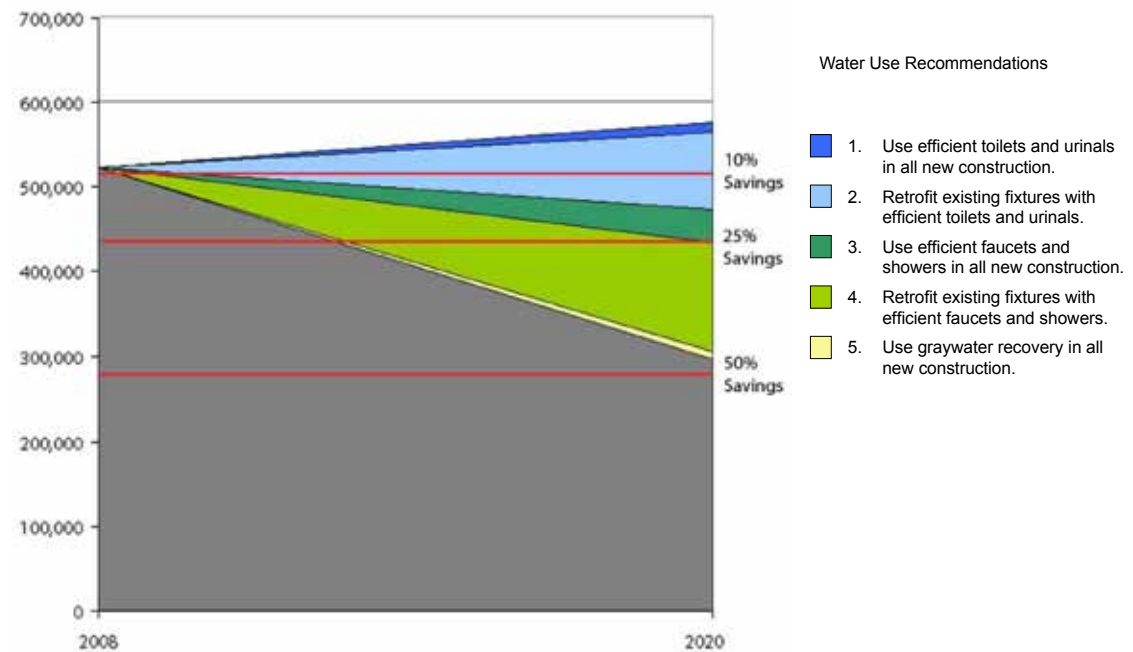
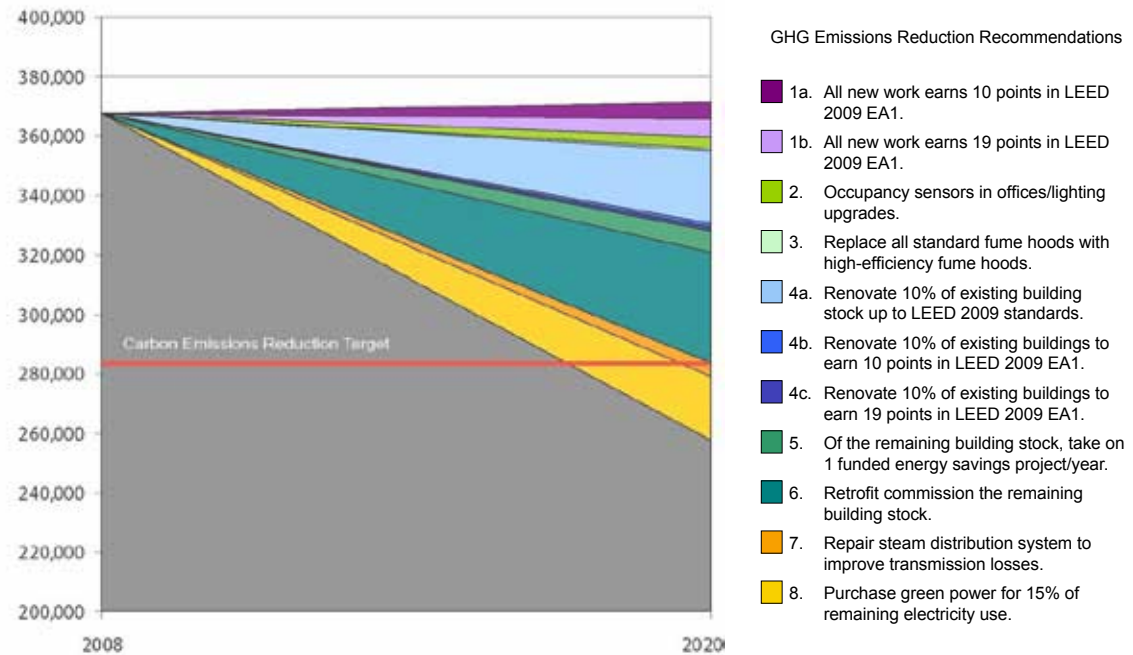
can reach this reduction, but the cumulative effect of combined strategies can reach and even exceed the target amount.

Wedges 1a and 1b demonstrate the impact from requiring all new construction to meet energy use reduction thresholds prescribed in the United States Green Building Council's Leadership in Energy and Environmental Design (LEED®) Green Building Rating System™. Wedges 2-6 demonstrate the impacts from retrofitting existing campus buildings to embrace more sustainable design practices. Wedges 7 and 8 examine the impacts of improving the campus energy distribution system. If all of the measures from wedges 1-8 are implemented, the strategies

combined will result in a GHG emissions reduction of 113,980 MtCO₂e (metric tons carbon dioxide equivalent). IUB can grow by over 25 percent while reducing its GHG emissions by over 30 percent. This 30 percent reduction would put the campus well on track to reach a goal of an 80 percent reduction of GHG emissions by the year 2050.

Water Use Reduction Recommendations

Using wedge analyses like those discussed in the previous paragraph, the chart to the right represents the water use reduction potential associated with a series of proposed strategies. Wedges 1, 3, and 5 examine the impacts of conservation measures applied to new campus buildings, while wedges 2 and 4 demonstrate the impacts from retrofitting existing campus buildings to embrace water conservation. If all of these measures are implemented, the strategies combined will result in a potable water savings of 277.8 million gallons a year. The strategies result in a 48.3 percent reduction in water use from the baseline master planned campus.



STORMWATER

Campuses across the country are creatively incorporating stormwater management techniques into traditional campus environments. According to staff in the IUB Utilities Division, all campus design guidelines comply with Indiana Department of Environmental Management (IDEM) Rule 5 for stormwater quality. IUB has no formal stormwater quantity regulations; it is understood that any proposed project cannot increase the amount of stormwater runoff that currently drains to a water course. This section will outline the steps that were taken to develop the sizing criteria for both stormwater quality events and stormwater quantity events to accomplish these goals.

Rainfall data was obtained from the Utah Climate Center (UCC) for the city of Bloomington for the years 1900 to 2005. From this data, it was determined that the average annual rainfall is 43.72 inches. Runoff coefficients were calculated for the Jordan River and Cascade Creek watersheds. Each watershed was divided into categories based on surface

| Condition | Total Drainage Area (ac) | Existing Building (ac) | Proposed Building (ac) | Existing Parking (ac) | Proposed Parking (ac) | Misc. Paved (ac) | Lawn/Woods (ac) | C | Average Annual Runoff (gal) |
|-------------------------|--------------------------|------------------------|------------------------|-----------------------|-----------------------|------------------|-----------------|------|-----------------------------|
| | | C = 0.90 | | C = 0.85 | | C = 0.30 | | | |
| Jordan River Watershed | | | | | | | | | |
| Pre-developed | 582.6 | - | - | - | - | - | 582.6 | 0.30 | 207,481,850 |
| Existing | 582.6 | 75.8 | - | 66.2 | - | 95.3 | 345.3 | 0.50 | 366,915,709 |
| Proposed | 582.6 | 66.3 | 34.1 | 26.4 | 11.2 | 82.8 | 361.8 | 0.49 | 357,602,886 |
| Sustainable Proposed | 437.1 | 16.4 | 3.4 | 0.0 | 0.0 | 55.5 | 361.8 | 0.40 | 207,481,850 |
| Cascade Creek Watershed | | | | | | | | | |
| Pre-developed | 358.3 | - | - | - | - | - | 358.3 | 0.25 | 127,601,694 |
| Existing | 358.3 | 25.6 | - | 61.3 | - | 42.1 | 229.3 | 0.47 | 213,346,138 |
| Proposed | 358.3 | 25.6 | 6.8 | 17.7 | 37.7 | 41.2 | 229.3 | 0.47 | 213,749,753 |
| Sustainable Proposed | 273.1 | 12.8 | 3.4 | 0.0 | 0.0 | 27.6 | 229.3 | 0.39 | 127,601,694 |

Table 1: Runoff Coefficients for Jordan River and Cascade Creek Watersheds

type: existing and proposed buildings, existing and proposed parking lots, other paved areas (roads, walks, drives, etc.), and lawn/woods. Each of these categories was then assigned a specific runoff coefficient according to its use. The weighted average was then determined for each watershed (see Table 1). As the areas change from the existing to proposed conditions, the runoff coefficients are updated. When the average annual rainfall is multiplied by the runoff coefficient and the watershed area, the Average Annual Runoff (AAR) is calculated.

The quality of stormwater leaving a watershed is at its highest when the land is in its pre-developed state. Treating stormwater to bring it back to pre-development runoff levels and quality is an important action for the long term health of regional streams and rivers. IUB should strive to reduce future average annual runoff rates back to that of the pre-developed condition. In order to accomplish this goal, water quality facilities will need to be incorporated into existing and proposed parking lots, proposed buildings, existing buildings, and existing roads on campus.

These facilities will take runoff “off line” by allowing it to infiltrate. By sizing these facilities to treat a 1-year, 24-hour storm event, 99.1 percent of all storm events will be treated with only a slight increase in infrastructure, and the AAR will be reduced to that of the pre-developed condition.

Additional stormwater management techniques recommended in the Campus Master Plan attempt to slow down stormwater runoff from large rainfall events, mimic pre-development runoff conditions by managing small stormwater events at or close to where rain falls, and minimize impervious surfaces. In order to do this, several strategies, described below, are woven into the Campus Master Plan to improve stormwater treatment at IUB.

Detention Basins

Detention basins help to manage large storm events by providing added capacity to a drainage system. Underground chambers are effective under large open areas such as parking lots or recreation fields, while aboveground basins can be a visual amenity to the campus while still

solving the stormwater needs. A detention basin works by creating a restriction to stormwater flows. The restriction creates the need for an area to store the water that is being detained, but the benefit is realized downstream from the basin by the reduction in the flow rate of the stormwater runoff. Since space is very limited on campus, locations and volumes of stormwater detention will be determined according to what is feasible and calculations regarding rainfall events that would occur without creating flooding.

Rain Gardens

Rain gardens, infiltration planters, bioswales, and constructed wetlands are examples of infiltration facilities that help to filter stormwater from small rainfall events. By encouraging and assisting infiltration, these facilities enhance water quality, reduce runoff rates, recharge the groundwater system, and create habitat. If there are existing impervious soils, the stormwater will still flow into the storm sewer conveyance system; however, there will still be a benefit from the infiltration facility, since the runoff will be slowed down and cleaned.

Pervious Pavements

Pervious pavements allow the infiltration of stormwater in areas that would normally be impervious. They also enhance groundwater recharge through increased percolation of rain water into the soil underneath paved areas. Pervious pavements can be applied to walks, parking lots, roads, and driveways in the form of pervious asphalt, pervious concrete, or pervious pavers. Similarly to rain gardens, if local soils are not sufficient to infiltrate the stormwater into the ground water system, underdrains can be included to take the stormwater to the storm sewer system after it has been cleaned and delayed.

Green Roofs

Green roofs, while relatively new to the United States, have proven effective at managing small rain events while slowing runoff for large rain events. Including natural surfaces to what would normally be impervious allows stormwater from small rain events to be absorbed and used by plants rather than running into the stormwater system. This scenario more accurately mimics the

conditions that would have occurred prior to the development of the site.

STORMWATER RECOMMENDATIONS

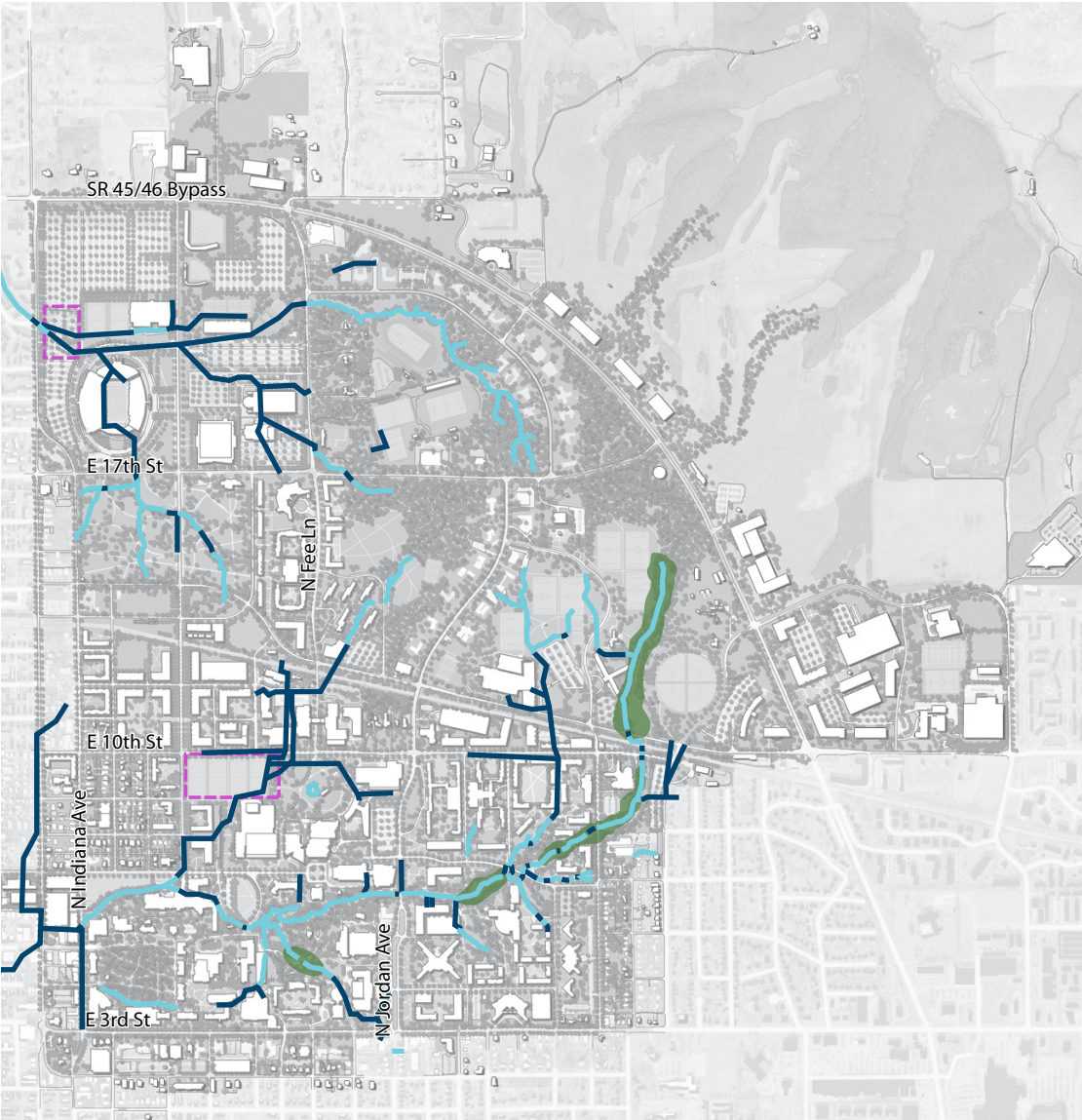
Stormwater Quality

- Design treatment facilities to treat the 1-year, 24-hour storm, accounting for 99.1 percent of all rainfall events, which will reduce the AAR for the proposed condition back to that of the pre-developed condition by doing the following:
 - Utilize pervious paving or infiltration trenches for all existing and proposed parking lots (upgrade existing lots as useful life ends).
 - Design 90 percent of proposed buildings in the Jordan River watershed and 50 percent of proposed buildings in the Cascade Creek watershed to include infiltration facilities.
 - Retrofit 75 percent of the existing buildings in the Jordan River watershed and 50 percent of the existing buildings in the Cascade Creek watershed with infiltration facilities.

- Treat stormwater quality for existing roads. Target 33 percent of all existing roads in both watersheds for infiltration facilities, in the form of pervious paving when roadway pavement is in need of replacement or infiltration trenches if right-of-way is available.

Stormwater Quantity

- Due to limited space on campus, eight feasible locations for stormwater detention have been located to detain the 25-year, 24-hour rainfall event.
- Implement stream bank stabilization measures by planting native, wood vegetation along the banks to restore stream quality.
- Plant in-line detention basins with wetland species in order to act as natural buffer zones. The buffer zones should not be maintained (no mowing or chemical application) in order to filter the water and provide wildlife habitat.
- Springs within the system should be protected to prevent pollution inputs in their recharge areas.



STORMWATER MANAGEMENT SOLUTIONS

- Stream
- Major Existing Storm Sewer
- Detention Area
- Underground Detention



SANITARY SEWER SYSTEM

The sanitary sewer system of the University and Bloomington is a gravity-fed system that roughly follows the same drainage patterns as the stormwater. The City maintains the sewer lines within the street rights-of-way and the University maintains the sewers from the buildings connecting to the city’s sewer system. The north portion of campus drains north and eventually ends at the Blucher Poole Waste Water Treatment Facility, which is located approximately 5 miles north of campus. The south portion of campus drains south to be treated at the Dillman Waste Water Treatment Facility, which is located approximately 5 miles south of campus. There are three main lines that exit campus to tie into the city’s sanitary sewer system (Outlets 1, 2, and 3).

Outlet 1

Outlet 1 is a 24-inch main that exits campus to the southwest between East Kirkwood Avenue and East Sixth street and eventually drains to the Dillman Waste Water Treatment Facility. The sewer lines that drain to this outlet roughly follow the Jordan River watershed drainage pattern.

Outlet 2

Outlet 2 is a 12-inch main that exits campus to the northwest at North Dunn Street and eventually drains to the Blucher Poole Waste Water Treatment Facility. The sewer lines that drain to this outlet roughly follow the Cascade Creek watershed drainage pattern.

Table 1: Projected Sanitary Sewer Demand

| Outlet | Academic | | Research | | Residential | | Miscellaneous | | Total | |
|---|------------|------------|------------|------------|-------------|------------|---------------|------------|------------|------------|
| | Area (GSF) | Flow (gpd) | Area (GSF) | Flow (gpd) | Area (GSF) | Flow (gpd) | Area (GSF) | Flow (gpd) | Area (GSF) | Flow (gpd) |
| Demolition | | | | | | | | | | |
| 1 | 457,599 | 34,887 | 0 | 0 | 650,006 | 167,793 | 0 | 0 | 1,107,605 | 202,680 |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | 213,323 | 87,567 | 0 | 0 | 0 | 0 | 0 | 0 | 213,323 | 87,567 |
| Total | 670,922 | 122,454 | 0 | 0 | 650,006 | 167,793 | 0 | 0 | 1,320,928 | 290,247 |
| Phase 1 - 10-Year Build Out | | | | | | | | | | |
| 1 | 3,335,058 | 273,475 | 67,146 | 20,144 | 880,470 | 198,106 | 0 | 0 | 4,282,674 | 491,725 |
| 2 | 3,000,000 | 24,600 | 0 | 0 | 341,250 | 76,781 | 0 | 0 | 641,250 | 101,381 |
| 3 | 0 | 0 | 230,000 | 69,000 | 0 | 0 | 0 | 0 | 230,000 | 69,000 |
| Total | 6,335,058 | 298,075 | 297,146 | 89,144 | 1,221,720 | 274,887 | 0 | 0 | 7,853,924 | 662,106 |
| Phase 2 - 20-Year Build Out | | | | | | | | | | |
| 1 | 1,562,500 | 128,125 | 0 | 0 | 615,000 | 138,375 | 50,000 | 45,000 | 2,227,500 | 311,500 |
| 2 | 25,000 | 2,050 | 0 | 0 | 176,250 | 39,656 | 0 | 0 | 201,250 | 41,706 |
| 3 | 0 | 0 | 1,470,000 | 441,000 | 0 | 0 | 0 | 0 | 1,470,000 | 441,000 |
| Total | 1,587,500 | 130,175 | 1,470,000 | 441,000 | 791,250 | 178,031 | 50,000 | 45,000 | 3,898,750 | 794,206 |
| Grand Total | 7,251,636 | 305,796 | 1,767,146 | 530,144 | 1,362,964 | 285,125 | 50,000 | 45,000 | 10,431,746 | 1,166,065 |
| Note: Academic Buildings 82 gpd/1,000 sf; Research Buildings 300 gpd/1,000 sf; Residential Buildings 225 gpd/1,000 sf (gpd = gallons per day) | | | | | | | | | | |

Outlet 3

Outlet 3 is a 10-inch main that exits campus to the east at East Tenth Street. This outlet also drains to the Dillman Waste Water Treatment Facility. The sewer lines that drain to this outlet roughly follow the Jackson Creek drainage pattern. According to IUB Utilities Division staff, Outlet 3 currently experiences capacity challenges.

OVERALL SANITARY SEWER RECOMMENDATIONS

- Reroute sewers that currently interfere with the stream channel.
- Schedule major underground infrastructure projects in conjunction with one another to avoid repeat work.

- Establish a sanitary sewer infrastructure maintenance program in order to monitor all drainage systems and plan for future development.
- Communicate and coordinate between the City and the University to ensure a consistent quality of maintenance and monitoring of the drainage system.

The Campus Master Plan includes plans to construct several new buildings as well as to demolish several existing buildings. The expansion of campus will be completed in 10-year and 20-year build-out phases. The addition of building area will correspondingly

result in increases to the sanitary sewer system. The following recommendations outline the increases that will occur in each of the three main sewer lines.

OUTLET 1: RECOMMENDATIONS

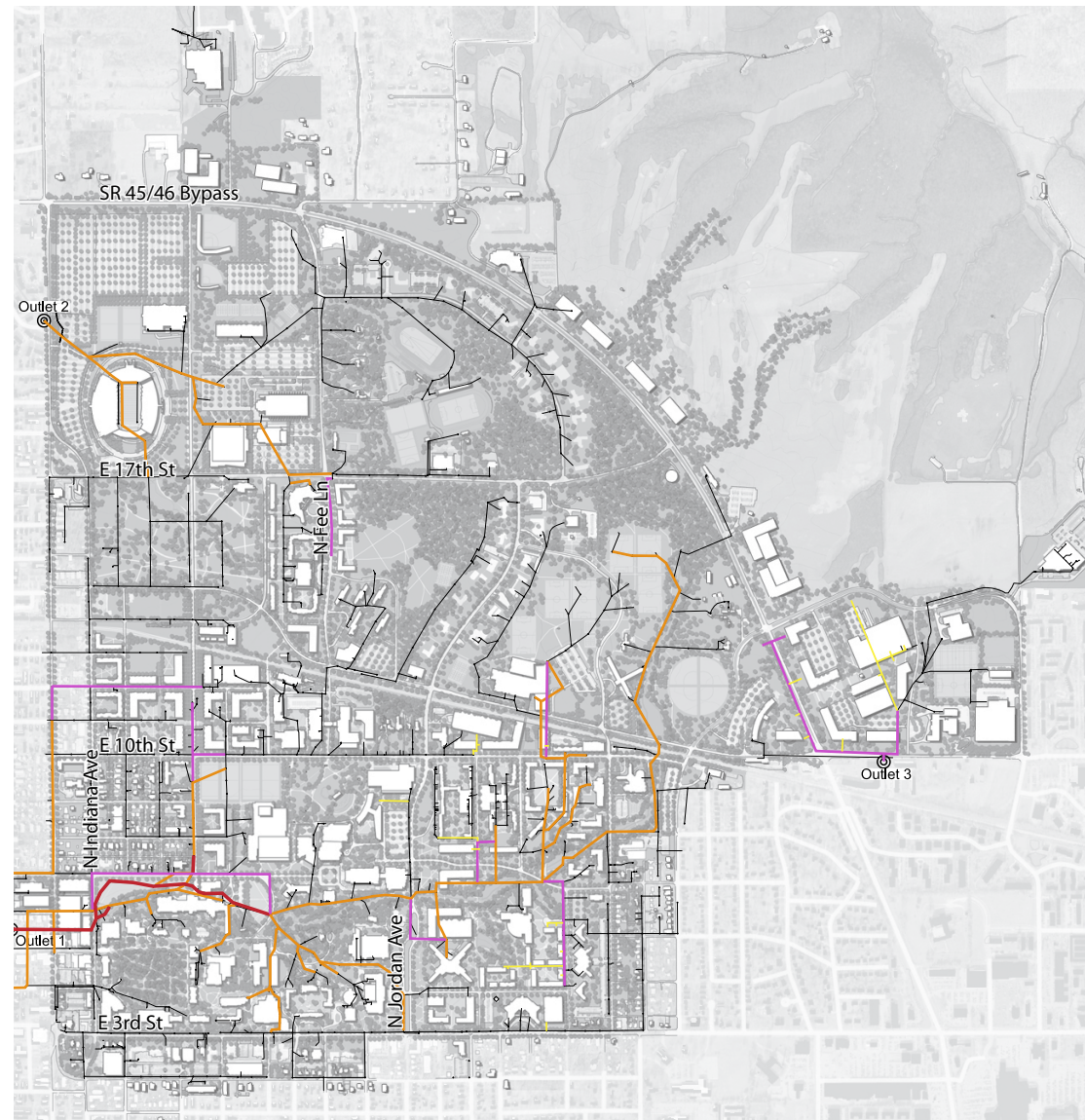
- Twenty-nine buildings planned for demolition will be disconnected from the drainage system (202,680 gpd decrease in sanitary load).
- Fifty-eight buildings and a net gain of an estimated 600,544 gpd (0.93 cfs) of sewage will be added to Outlet 1 at full build-out.

OUTLET 2: RECOMMENDATIONS

- No buildings will be disconnected from the drainage system contributing to Outlet 2 due to demolition.
- Ten buildings and a net gain of an estimated 143,087 gpd (0.22 cfs) of sewage will be added to Outlet 2 at full build-out.

OUTLET 3: RECOMMENDATIONS

- Seven buildings planned for demolition will be disconnected from the drainage system (87,567 gpd decrease in sanitary load).
- Twelve buildings and a net gain of an estimated 422,433 gpd (0.65 cfs) of sewage will be added to Outlet 3 at full build-out.



SANITARY SEWER SYSTEM

- Proposed Main
- Proposed Secondary Line
- Existing 20"-24" Main
- Existing 12"-18" Main
- Existing Sanitary Line (<12")



ARCHITECTURAL GUIDELINES

The architectural guidelines comprise both broad design initiatives applicable to the IUB campus as a whole, as well as specific formal and functional objectives adapted to each neighborhood of the campus. The guidelines reinforce the IUB planning principles, which include:

- Respect the character of the historic core.
- Restore the Jordan River corridor.
- Define and enhance neighborhood edges.
- Create a compact, walkable campus.
- Increase and enhance gathering spaces.
- Introduce vertical integration.
- Preserve natural features and memorable open spaces.
- Sustainably manage physical and natural resources.
- Provide the infrastructure necessary to support campus growth and change.

The guidelines reflect the primary goal of reinforcing the tradition of academic excellence in Bloomington by guiding the construction of distinctive, quality structures that embody the elegance and monumentality of the existing context.

The campus is comprised of a network of distinctive neighborhoods anchored by the historic core. Each neighborhood is defined by distinguishable places, function, character, and activity. The physical nature and architectural character of each neighborhood is unique and identifiable. Uniqueness is to be leveraged and strengthened as new structures are developed and added to the building inventory. Differences between neighborhoods should be accentuated while maintaining a consistent unified image for the Bloomington campus. This deliberate distinctiveness is meant to augment the effectiveness of the historic core, not dilute it with new designs conceived as stylistic reproductions of the original structures. Implementing derivations of the original designs would undermine the significance and poignancy of the originals. While the architectural character of each neighborhood is meant to be distinct, many of the planning principles, attitudes toward landscape, topography, fenestration, and materiality will remain consistent across all neighborhoods.



Auditorium - WPA Moderne

The historic core possesses a memorable collection of distinguished iconic structures organized by the mature woodland quad of Dunn's Woods. This distinctive area blends romantic architecture styles with picturesque landscape topography in a manner that is to be emulated in developing parts of the campus. The structures of this neighborhood vary stylistically and include exceptional examples of Victorian, Romanesque, Collegiate Gothic, Greco Deco, WPA Moderne, and Brutalist Modern. The strong lasting impression created by the neighborhood's powerful imagery provides a clear and unique identity that has come to represent the enduring values of Indiana University. The outlying neighborhoods radiating from the historic core contain varying collections of traditional and non-traditional academic and infrastructure buildings. The quality and elegance of the building inventory across these neighborhoods varies widely, further accentuating the distinguished architectural presence of the historic core.

The architectural guidelines facilitate the development and implementation of new structures to enhance the existing campus context by sympathetically embracing established design principles. While the general perception is that the Bloomington campus uniformly exemplifies the Collegiate Gothic architectural style, many architectural styles are also prominent. The variety found in the historic core represents

numerous significant periods of American architectural history, with each design embodying a spirit and stylistic character of its time. Continuing this tradition, new structures on the Bloomington campus need not be stylistically specific, but rather intellectually informed by current cultural, technological, and architectural aesthetic paradigms. This “*au courant*” approach is not intended to give license to designs that disregard or compete with the established aesthetic context. Rather, it is intended to encourage designs that are unique and forward thinking while also stylistically harmonizing with the rich architectural setting. Nowhere is this stylistic harmonization more important than in and around the historic core.

Reflecting on hiring Eggers & Higgins as the University architects/planners in 1939, Herman B Wells later said, “It was our plan from the start to try to preserve the traditional style of architecture on the old campus with as little modification as possible but, as we moved outward, to allow the buildings to conform with architectural styles currently in vogue.”

—*Being Lucky;*

The autobiography of Herman B Wells, Indiana University President 1937-1962



Student Building and Maxwell Hall - Romanesque



Rawles Hall - Collegiate Gothic

The campus development methodology encourages diversity amongst its districts and programs. While each building should reflect its own time and place, it should also reflect the enduring values of Indiana University: quality, durability, elegance, and commitment to academic excellence. Each building design should contribute to the identity of the campus while enhancing the architectural and landscape pattern of its individual neighborhood.

Campus Edges

The edges that define the limits of campus and the city of Bloomington must present the impression of a dignified world-class institution. The established North Indiana Avenue and East Third Street edges that define the boundary of the historic core are the most powerful and effective to this end. All new edge-of-campus structures must possess a compatible coherent memorable impression of the University. Gateway buildings must further reinforce this ideal and provide significant architectural features that respond to primary campus circulation paths, nodes, and

open spaces. Architectural features that enhance and support wayfinding are encouraged.

Materiality

The IUB campus has a rich tradition of building materials that is critical to the effectiveness of its lasting memorable impression. The quality, durability, and timelessness of these materials express Indiana University's distinguished heritage and commitment to excellence. The predominant façade building material on campus is variegated Indiana limestone in either random ashlar or panelized form. Sloped roofs are Vermont slate with a minimum slope of 1:1. New structures within the historic core must utilize variegated Indiana limestone and Vermont slate if sloped roofs are deemed appropriate.

Limestone façades are encouraged outside of the historic core, but limestone need not be the predominant building material. Façades may include combinations of precast concrete and veneer brick. If limestone is not the primary building material, limestone accents must be



Campus Edges - Sample Gates



Materiality - Maxwell Hall



Indiana University Auditorium

incorporated around or near main entrances and important building features including site walls.

Building façades must demonstrate a coherent architectural composition that assimilates into the established campus context. Designs must have a single unifying vocabulary of forms, details, and materials. New building façades should maintain the general neutral color of the historic core's material palette and emulate its attention to detail.

Scale

Large buildings should incorporate design features to reduce their perceived mass, promoting a human scale for the campus. Such features may include changes in the plane of façades, changes in vertical height, and/or incorporating a variety of materials.

Entrances

Building entrances must be monumental and considered a major design feature emblematic of the building's occupants. Entrances must be located along prominent open spaces or primary

pedestrian and vehicular circulation paths and sited to maximize visibility and identity. Entrances must be designed to create a place of interaction directly adjacent to their location to encourage casual gathering.

Ground Levels

Building development will both enhance established campus spaces and maximize opportunities to create new active campus spaces. Building forms must be configured to define appropriately-scaled campus spaces as defined in the Campus Master Plan. Ground level interiors facing a campus space or street should house functions with a high degree of activity and should be transparent and visually accessible. Canopies, colonnades, and other ground level articulations, such as projecting or recessed entryways, are encouraged. Ground level spaces in designated districts should include predetermined high-quality retail establishments.

Height/Density

Opportunities for integration of functions should be taken full advantage of, mixing



Entrances - Kirkwood Hall

academic programs with retail space, research functions, and housing. Vertical mixing of these components can be considered as well as horizontal. Specific guidelines for building heights are included for each neighborhood in the Neighborhoods section of this report. To ensure adequate height for both present and future programmatic uses, floor-to-floor heights should be approximately 17 feet at ground level and no less than 15 feet above ground level. Building widths should be limited to 70 feet where permanent staff or faculty work spaces are located to maximize access to daylight and views.

Orientation/Topography

Indiana University's rich tradition of architectural engagement with the landscape must be embraced and emulated in all new structures. Existing site topography must be carefully preserved and left in its natural state as much as possible without radical regrading or earth retention. Building orientations and development densities must be sensitive to both topographic features and environmental orientation. Buildings should be oriented and designed in response

to solar angles and wind direction to reduce energy consumption. Appropriate shading options should be incorporated including architectural and landscape elements. Measures to optimize natural airflow and ventilation must be considered.



Orientation - Franklin Hall



Jordan River and the IMU

Program

Campus buildings regularly outlive their initial programmed uses and occupants. Building designs must provide for flexibility as programs and program requirements change while maintaining the outward visual expression of the University's ideals and values. Fixed elements must be minimized, and internal partitions should be easily changed. Floor-to-floor heights should anticipate a range of present and future infrastructure requirements. Net building area to gross building area ratios must be carefully established to ensure that adequate unprogrammed casual/communal spaces are conducive to informal, unstructured interaction.

Service Points

Building service points and discrete connections to utilities must be carefully integrated into a building's design without compromising visual integrity. Loading docks must be fully enclosed or visually screened and accessible from predefined service corridors. Exterior rooftop equipment must be fully concealed with integral

architectural building elements. Pad-mounted equipment at grade must be similarly screened

All exterior equipment on grade must be located in a designated service yard area and must be visually screened architecturally or with landscaping. Screening must be continuous on all sides and extend to the top of the equipment. Alternate screening configurations that include landscape and/or topography may be considered.

Sustainability

All new building and renovation projects must embrace sustainable design and building practices. Indiana University is committed to achieving LEED® Silver certification for all projects as defined by the United States Green Building Council.

6 | NEIGHBORHOODS



INTRODUCTION



Pathway in the Old Crescent

Indiana University's Bloomington campus is organized by an array of unique academic, residential, and mixed-use campus neighborhoods that are unified by a tradition of insightful planning, creative design, lush landscapes, and quality construction. Campus neighborhoods break down the scale of the 1,900-acre campus into identifiable pedestrian environments that support the primary activities of living, learning, teaching, and research.

Many of these established neighborhoods are fully defined and conceptually complete, while others are emerging or fragmented. The Campus Master Plan recommendations are intended to guide the development of all campus neighborhoods such that the effective and successful qualities of the established districts are celebrated and reinforced while encouraging the development of innovative and comparable qualities in underdeveloped areas.

The Bloomington campus is anchored by a historic academic core with overlapping campus neighborhoods radiating to the north and east.

The Bloomington campus neighborhoods include:

1. Historic Core
2. Seventh Street - Cultural District
3. University Edge
4. Jordan Avenue Corridor
5. East of Jordan
6. Woodlawn and Tenth Street
7. Fee Lane Area
8. Northeast Area

9. Research Park
10. Intercollegiate Athletics

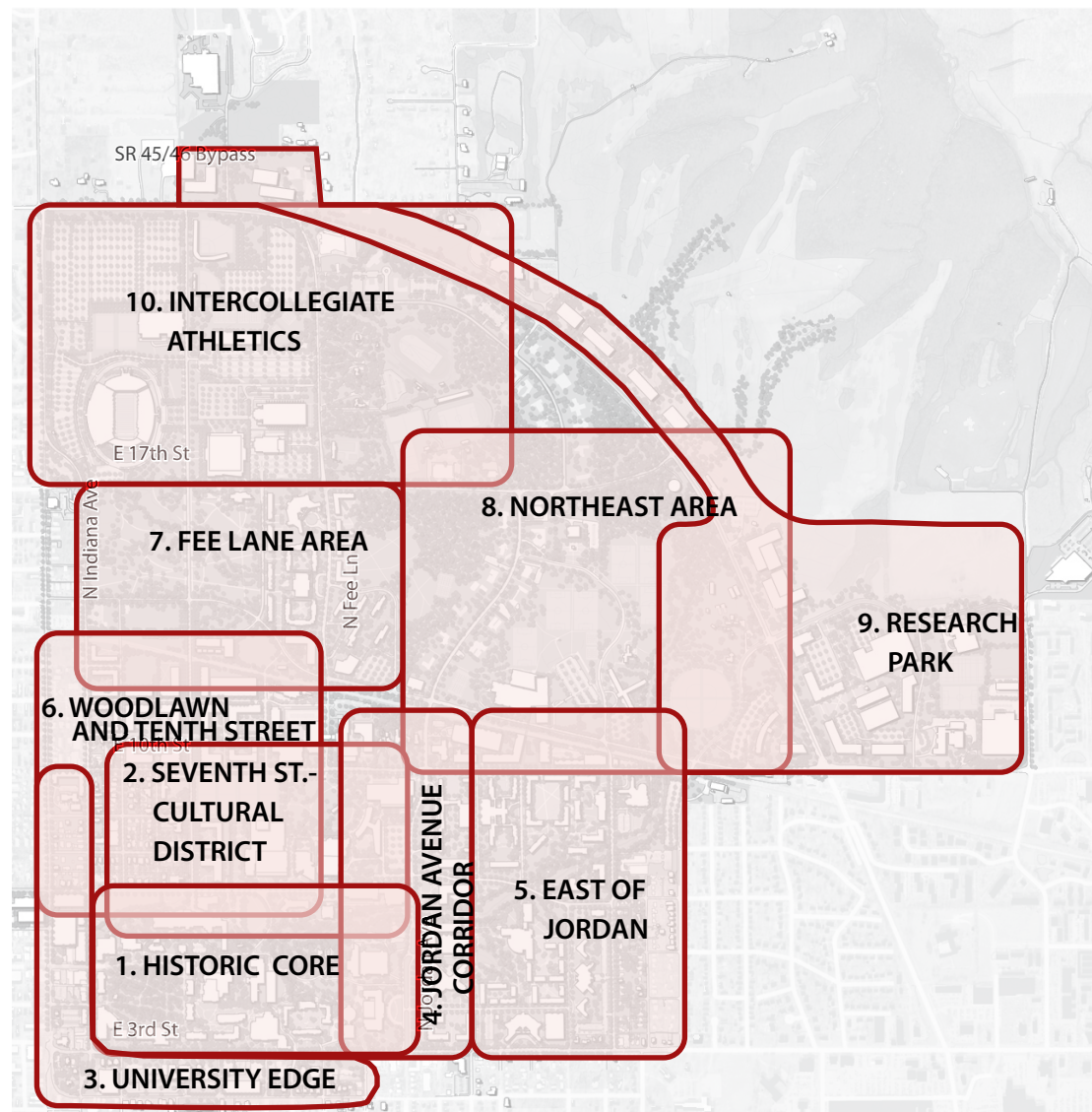
The Historic Core is the formal and ceremonial heart of the Bloomington campus and the Indiana University system as a whole. Defined on its western and eastern edges by commercial and residential districts, the Historic Core presents the dignified civic presence of a world class academic institution.

Immediately north of the Historic Core, the Seventh Street - Cultural District defines a vital core of cultural, academic, and student life facilities. The Jordan Avenue Corridor to the east completes the boundary around the Historic Core and serves as a primary pedestrian and vehicular north-south accessway. Beyond North Jordan Avenue resides the East of Jordan neighborhood, which is primarily a residential district with very few interspersed academic facilities.

North of the Seventh Street - Cultural District and south of the railroad tracks is an underdeveloped area that is envisioned to become a new academic, research, and housing district focused around North Woodlawn Avenue and East Tenth Street.

Four neighborhoods comprise the Bloomington campus north of the railroad tracks. The Fee Lane Area is primarily a residential student housing district with a large tract of undeveloped property. North of the Fee Lane Area and south of the SR 45/46 Bypass is the Intercollegiate Athletics area, which is dominated by large-scale sports venues and surface parking lots.

The Northeast Area is immediately east of the Fee Lane Area and is comprised of a diverse mix of very large- and very small-scale housing facilities intermingled amongst athletic fields and undeveloped property. Sited east of the SR 45/46 Bypass is an emerging research and technology district referred to as the Research Park.



University of Bloomington Neighborhoods

NEIGHBORHOOD 1: HISTORIC CORE



Dunn's Woods and the Old Crescent



Jordan River and Dunn Meadow



Wells Plaza

EXISTING CHARACTER

The Historic Core is the most distinguished, coherent, and complete of the Bloomington neighborhoods. Its distinctive blend of architectural styles and mature landscape define a memorable iconic quality that sets the standard for developing neighborhoods elsewhere on campus.

Much of the Historic Core exemplifies the picturesque landscape planning ideals popular in the early 20th century. The tree cover, subtle topography, and architectural infrastructure are carefully woven together to convey a powerful academic and institutional image accentuated by a scenic landscape tapestry. Much of the original natural systems have been left in their original state with minimal reconfigurations to accommodate academic structures. Within the neighborhood is an eclectic mix of “one-of-a-kind” places, preservation areas, memorable quads, and intimate gathering places.

Specific spaces of note within the Historic Core include the following:

- Dunn's Woods
- Dunn Meadow
- Bryan Hollow
- Wells Quad
- Wells Plaza
- Beck Chapel and Dunn Cemetery
- Rose Well House, Dunn's Woods
- Sunken Garden at the Indiana Memorial Union
- Beech Grove
- Kirkwood Observatory

EXISTING QUALITIES

- Naturalistic land planning and scenic imagery
- Memorable iconic spaces and structures
- Respectful approach to natural resources and conditions
- Careful integration of landscape and architectural infrastructure
- Solid durable structures with elegant and monumental vertical proportions



Historic Core Area Map



Dunn Cemetery



Sample Gates



Franklin Hall



Chemistry Building



Wells Quad, Memorial Hall



Pathways in Dunn's Woods



Wells Quad, Morrison Hall



Kirkwood Hall

DEVELOPMENT OPPORTUNITIES

Since very few new structures are planned for the Historic Core, new initiatives should be carefully conceived to ensure appropriateness and assimilation with the established context. New projects must sympathetically reinforce the traditional aspects of the existing environment without undermining its prominence or integrity.

New development within the Historic Core neighborhood will be limited to the construction of a few building additions, several renovations of existing structures, and the implementation of selective sustainable environmental initiatives.

New building projects will address identified programmatic needs and supplement established law, music, and research facilities. All new construction should respectfully address the existing architectural context and landscape environment while maintaining the established picturesque planning principles. Renovation efforts will focus on key structures around Dunn's Woods and Wells Quad to ensure the



Rose Well House, Dunn's Woods



Herman B Wells Statue



Swain East Hall



Cyclists at the Sample Gates



Jordan River Walk

continued vitality and relevance of the Historic Core. Opportunities to develop new exterior spaces or improve existing spaces associated with these building projects must support Indiana University's expressed need for additional informal gathering and casual interaction spaces.

All development opportunities will address broad sustainable environmental objectives. Specific sustainable initiatives will promote the health and vitality of the localized environmental condition and inform specific building projects.

DEVELOPMENT OBJECTIVES

- Preserve and complement the established campus character.
- Renovate and repurpose underutilized existing structures.
- Supplement existing law, music, and research infrastructure with new facilities.
- Develop informal interaction spaces.
- Engage sustainable environmental initiatives.



Gathering Space at Ballantine Hall



Ballantine Hall



Ballantine Hall Corridor

BUILDING INITIATIVES

New development within the Historic Core neighborhood will be highly selective and minimally invasive. Large building additions are planned for research laboratories, the Maurer School of Law, and the Jacobs School of Music. Initial siting for both the law and music school additions have been identified and both conceptually support the established land planning principles of the Historic Core. The recognized need for new research and laboratory space within the Historic Core poses a significant challenge. Open land area near the existing science district is limited and not capable of readily supporting a new laboratory and research facility.

Ballantine Hall

Ballantine Hall is immediately adjacent to the science district and is commonly considered functionally ineffective and aesthetically disharmonious with the Historic Core. Repurposing Ballantine Hall as a research, science, and office facility can provide the needed laboratory infrastructure, and generate a means to re-establish this building's campus presence and re-envision its aesthetic image. A complete renovation and laboratory addition can dramatically improve how Ballantine Hall engages its immediate context and the Historic Core neighborhood. A building addition can take the place of the existing parking structure and provide much needed laboratory space.

A new public corridor addition to the upper tower can support office and laboratory spaces while providing casual interaction spaces and facilitating the delivery of upgraded HVAC services. The lower level classroom spaces should remain and be renovated in their current configuration. Opportunities can be identified to provide new casual interaction spaces within the public corridors adjacent to the classrooms.

An addition to Ballantine Hall can also provide an opportunity to reconceptualize the service functions that currently front its north façade, allowing for a more accessible and pleasant pedestrian-oriented experience along North Forrest Avenue. Providing a more open and approachable base to the building can dramatically improve the structure's first impression and strengthen its connection back to its immediate neighborhood context.

Decommissioning the existing Ballantine Garage to make way for a building addition will present challenges to the established parking infrastructure. The current Ballantine Hall parking load can be shifted to parking facilities with excess capacity south of East Third Street.

Maurer School of Law

An addition to the Maurer School of Law can be located on the existing fraternity house site between the Maurer School of Law and Swain Hall. The addition can have substantial frontage



Ballantine Garage



Circulation Corridor Adjacent to Ballantine Hall

along East Third Street and should maintain the established setbacks, preserving the East Third Street landscape transition to the adjacent neighborhood.

Jacobs School of Music

New academic, practice, and rehearsal space is proposed to complement the existing Jacobs School of Music facilities. An addition to the west face of the Musical Arts Center will create more rehearsal space and technical support. A new Studio Building across North Jordan Avenue from the Simon Music Center will provide new classrooms, practice rooms, and studios. A full description is provided in Neighborhood 4, page 246.

RENOVATION INITIATIVES

Much of the original building infrastructure adjacent to Dunn's Woods is in need of renovation and revitalization. Repurposing of these structures with active programs will ensure the future vitality and relevance of this part of campus and maintain critical activities in and around the ceremonial heart of the campus.

Arts and Sciences at Dunn's Woods

The conversion of Ballantine Hall to a science building will prompt the need for office and classroom space for its current College of Arts and Sciences occupants. Owen, Kirkwood, Lindley, and Swain Halls can be renovated to accommodate these programs, creating an arts

and sciences precinct at the southeast quadrant of Dunn's Woods. The current occupants of these structures—Department of Mathematics, Department of Computer Science, and the School of Informatics can be moved to one of the new classroom and office facilities planned along North Woodlawn Avenue.

Bryan House

Bryan House is underutilized and not currently used as a residence. Its prominent location amongst the mature trees of Bryan Hollow warrant reconsideration of its function and relationship to the University. Suggested adaptive reuse options include repurposing Bryan House into a University or faculty club. Careful evaluation of the existing structure's capacity and flexibility will be necessary to confirm the viability of these options.

Wells Quad

Construction of the new International Studies Building will generate vacancies in the buildings around Wells Quad. This will create a unique opportunity to convert these historic structures back to student housing. While renovations may be substantial to bring these structures up to current student housing expectations, the lively activity and vitality the renovations will bring back to the campus core will justify the investment.



Maurer School of Law



Jacobs School of Music



Pedestrian Environment in the Historic Core



Owen Hall



Bryan House



Wells Quad

New Gathering Spaces

All major renovation initiatives should incorporate informal social spaces that support spontaneous interaction between faculty, students, and staff. These spaces should be complemented with comfortable seating and views to the exterior whenever possible. Small food service venues or vendor carts may be incorporated to further activate these spaces. Where feasible, interior social spaces can extend to the exterior environment.

OPEN SPACE INITIATIVES

Indiana University is considering a comprehensive energy and water use conservation initiative that will guide new construction and renovation projects. Additional improved forest management practice measures will reduce invasive species and enhance the picturesque quality of the Historic Core. Supplemental lighting in densely wooded areas is recommended to improve nighttime visibility and pedestrian safety.

New Historic Core open spaces must embrace the established planning principles of existing memorable open spaces while promoting innovative and unique academic social settings. New quads should be proportioned to a comfortable human scale, and primary building setbacks should be respected and reinforced.

Initiatives to improve stormwater management in the Historic Core include restoring natural stream quality and increasing water detention and stream bank stabilization along the Jordan River. Two in-line detention basins at Dunn

Meadow and Bryan Hollow are recommended with native plant materials to improve water filtration and promote wildlife habitats.



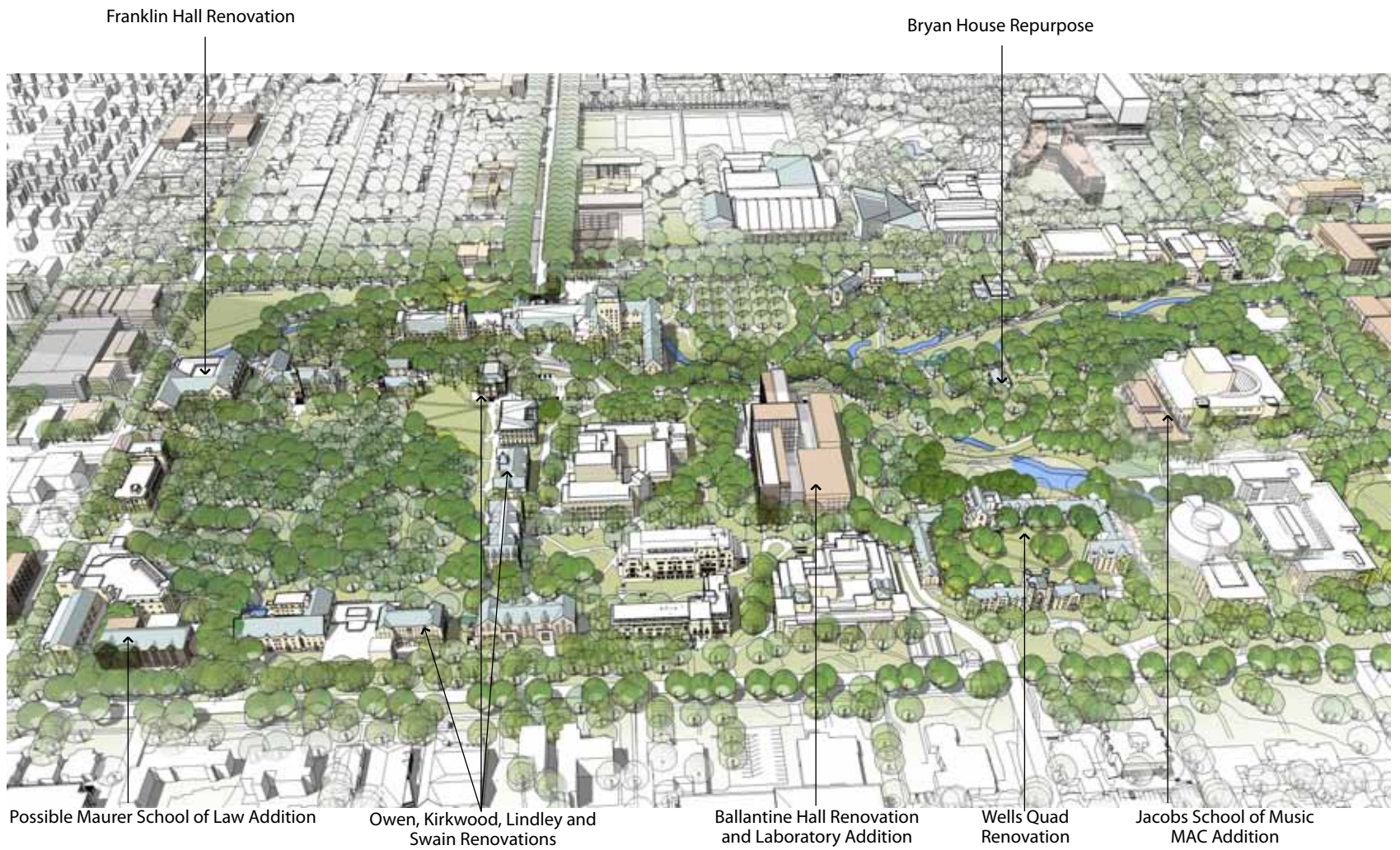
Jordan River



Maxwell Hall and Student Building



Pathways in Dunn's Woods



Proposed Historic Core View

STREETSCAPE INITIATIVES

Preserve and maintain the streetscape character on East Third Street and North Indiana Avenue that form the boundary of the Historic Core. Streetscape elements include the perimeter limestone walls, lawn panel and street trees behind the curb, sidewalks, campus lighting and banners, and landscape setback of deciduous canopy trees, understory trees, shrubs, lawn, and ground covers.

INFRASTRUCTURE INITIATIVES

Chilled Water System

Hydraulic and Central Chilled Water Plant (CCWP) limitations will prevent adequate service to this neighborhood without upgrades to the chilled water supply and return piping, and the construction of a satellite chilled water production facility along the south edge of campus. Hydraulic analyses are needed before the proposed additions to the Ballantine Hall, Musical Arts Center, and Maurer School of Law are constructed. A satellite chilled water facility as part of the Ballantine Hall renovation should be considered. The section of 14-inch chilled water piping at the Chemistry Building may be a hydraulic limitation to serve the Old Crescent and needs to be analyzed. If this is a problem, the restriction should be removed or interconnected east of Simon Hall toward Jordan Hall.

Steam and Condensate System

Capacity is adequate to current and future loads. Steam piping in several locations in the tunnel system around the Old Crescent buildings is cast iron with screwed fittings. This is original piping that requires a neighborhood-wide outage for safe and proper maintenance. This steam and condensate piping must be replaced to improve the safety of the system in this area. Steam and condensate in the Wells Quad is also original cast iron and needs to be replaced.

Electrical System

The 5kV circuits serving this neighborhood from the Distribution Center need to be replaced. Transformer and circuit breaker equipment in the Distribution Center and Swain West also need replacing.

Telecommunications System

New telecommunications duct banks are required for additional capacity and data systems back-up routing. Complete the loop for redundancy.

Water System

Potable water supply is adequate to serve new facilities, although the results of flow and pressure tests may require distribution system upgrades for fire protection. Analysis is needed once the design of new buildings begins.

Stormwater System

Infiltration facilities should be incorporated into this neighborhood wherever possible. Given the historic nature of this area, new infiltration facilities will need to be carefully configured to fit within the framework of the existing buildings.

Even though this neighborhood exists at the downstream point of the Jordan River and would therefore be the most opportune location for quantity control detention, the historic nature and existing features make it extremely difficult to incorporate this type of facility. An in-line detention basin should be constructed northwest of the proposed Jacobs School of Music Addition. This detention basin will help to control the quantity of flow from the neighborhood south of campus, since this flow is one of the main contributors to the flooding that is often experienced on campus.

ARCHITECTURAL GUIDELINES

New building projects in the Historic Core neighborhood must sympathetically assimilate into the established context without undermining the neighborhood's character or quality. Architecture and landscape topography must be holistically conceived as unified designs that embrace the established picturesque landscape planning principles.

Building designs must be intellectually informed and embody the spirit and character of their time. Façades must express a coherent architectural expression that aesthetically relates to the diverse stylistic context without imitating it.

Building configurations and massing should be mutually developed to ensure balanced designs that express dignity and elegance while conveying monumentality and concealing bulk. Building façades will be limestone and should celebrate the weight and massiveness of the material, contrasted with bold fenestration accentuated by delicate and subtle details.

Renovations must respect the integrity of the original structures and promote vitality and renewal without diminishing character. Existing façades and building features must be preserved and restored without major reconfigurations. Monumental interior spaces, like Alumni Hall and the reading room in Franklin Hall, should be maintained and adaptively leveraged for new uses. New functions must be carefully configured and tailored to fit existing structures to ensure effectiveness without programmatic compromise.



Maxwell Hall



Student Building

Objectives

- Selectively insert new structures that support the established picturesque planning principles.
- Respect and relate to the diverse aesthetic context.
- Maintain the established durable materials palette.
- Revitalize underutilized structures through renovation and adaptive re-use.
- Promote environmentally sustainable design principles.

Primary Materials

- Façades: Variegated Indiana limestone random ashlar, panelized, and cubic
- Roof Shapes: Sloped roofs with Vermont slate – minimum 1:1 slope
- Glazing: Clear low E glazing with aluminum framing and divided lites
- Site Walls: Dry laid limestone



Franklin Hall



Bryan Hall



Maxwell Hall



Datestone



Proposed View of Ballantine Hall Laboratory Addition



Proposed View of Jacobs School of Music MAC Addition



Proposed View of Maurer School of Law Addition

BUILDING INITIATIVES

- 01 Ballantine Hall Renovation and Laboratory Addition
- 02 Jacobs School of Music Additions
- 03 Potential Maurer School of Law Addition

RENOVATION INITIATIVES

- 04 Franklin Hall, Owen Hall, Kirkwood Hall and Swain Hall
- 05 Adaption of Lindley Hall for College of Arts and Sciences Use
- 06 Wells Quad Housing Conversion
- 07 Bryan House University Club Conversion
- 08 New Gathering Space

OPEN SPACE INITIATIVES

- 09 Dunn's Woods Ecological and Walkway Enhancements
- 10 New Jacobs School of Music Courtyard
- 11 Bryan Hollow Ecological Enhancements
- 12 Jordan River Restoration and Riverbank Stabilization

STREETScape INITIATIVES

- 13 Maintain East Third Street Streetscape Character
- 14 Maintain North Indiana Avenue Streetscape Character

INFRASTRUCTURE INITIATIVES

- 15 Upgraded Chilled Water Service
- 16 Steam Piping Replacement
- 17 Reroute Sanitary Sewer to East Seventh Street
- 18 New Chilled Water Capacity Required
- 19 Upgrade to Existing Distribution Center and Circuit Replacement
- 20 New Telecom Duct Bank and Completion of Loop

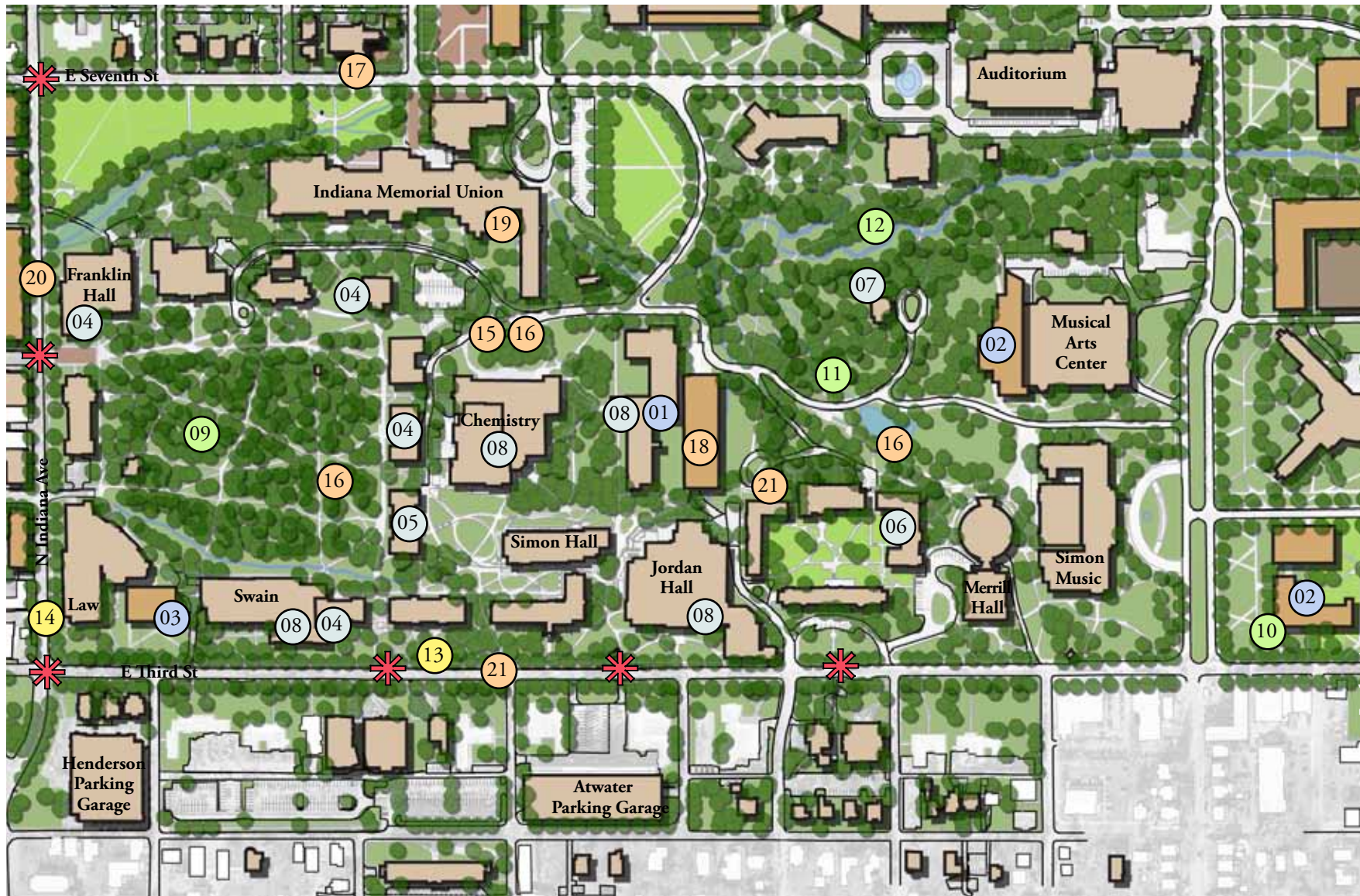


Historic Core Recommended Demolition Plan

■ Buildings Recommended for Demolition

KEY

- Existing Building
- Building Opportunity
- Parking Opportunity
- ✳ Gateway Opportunity



Historic Core Plan

NEIGHBORHOOD 2: SEVENTH STREET - CULTURAL DISTRICT



East Seventh Street and Fine Arts Plaza



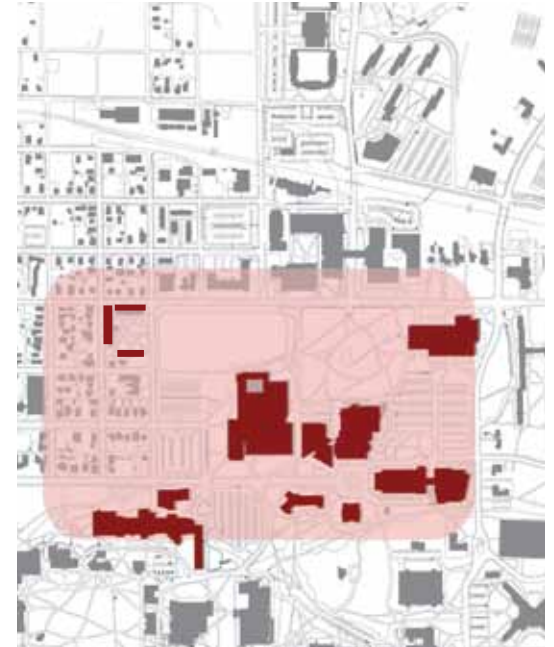
Indiana University Art Museum



Showalter Fountain



Cox Arboretum



Seventh Street - Cultural District Area Map

EXISTING CHARACTER

The Seventh Street - Cultural District borders the Historic Core and shares several of its distinguished structures. Many consider this area to be the functional heart of campus because of its high level of activity and central location. The intersection of North Woodlawn Avenue and East Seventh Street serves as a primary gateway for students and faculty as well as campus visitors. The high daily volume of pass-through traffic combined with the draw of the Indiana Memorial Union; the School of Health, Physical Education, and Recreation (HPER)/Wildermuth Intramural Center; and Wells Library create a density of foot traffic unparalleled elsewhere on campus. The academic and student life functions on East Seventh Street are further activated by regular daytime and evening events at the Indiana University Art Museum, Auditorium, and Lee Norvelle Theatre and Drama Center/ Neal-Marshall Black Culture Center.

The pedestrian realm in this neighborhood is dominated by vehicular accessways and surface parking lots. This vehicular support infrastructure compromises natural pedestrian circulation paths and limits landscaping and planting opportunities. The large, paved surfaces negatively influence the perceived quality of this part of campus and undermine the effectiveness of East Seventh Street as a primary campus gateway.

The architectural character of this neighborhood embodies a stylistic range that includes 1930s Collegiate Gothic, WPA Moderne, and Brutalist Modern. Most of the structures are large and express a monumental scale and mass appropriate for their functions.

Similar to the Historic Core, the Seventh Street - Cultural District possesses an eclectic mix of unique one-of-a-kind places that define the character and image of the neighborhood. Specific one-of-a-kind places of note include the following:

- Fine Arts Plaza
- Cox Arboretum
- Wildermuth Walk
- Woodlawn Field
- Collins Quad

EXISTING QUALITIES

- Monumental civic proportions
- Overlapping vehicular and pedestrian traffic patterns
- Formal, classical landscapes mixed with romantic picturesque landscapes
- Open space and landscaping at Woodlawn Field and Cox Arboretum
- Large building footprints with symmetrically balanced façade elements
- Prominent surface parking lots



Cox Arboretum

DEVELOPMENT OPPORTUNITIES

The Seventh Street - Cultural District's role as a primary gateway and campus main street imparts heightened emphasis on development opportunities to ensure that campus image, access, and functionality support these essential purposes. It is imperative that new spaces and structures promote academic, civic, and student life interests without overwhelming or undermining the established milieu.

New development opportunities will focus on reinforcing East Seventh Street's primary gateway function, enhancing the pedestrian realm, revitalizing student life and recreational facilities, and improving environmental quality. Building initiatives will selectively insert new structures into established precincts and complete the building framework for this neighborhood. Renovations and additions to existing buildings will address underutilized structures and focus on improving amenities, increasing pedestrian access, and enhancing campus image. Pedestrian realm initiatives will de-emphasize vehicular infrastructure and promote improved

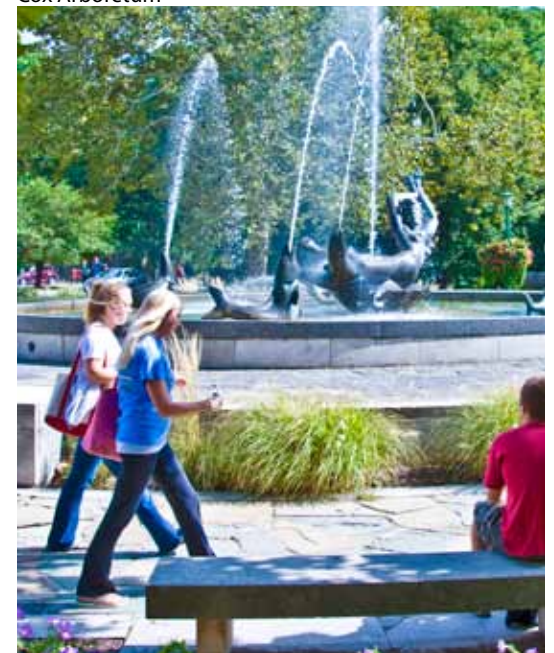
streetscapes, new green spaces, and public gathering places. Environmental improvements will address deficiencies in Cox Arboretum.

DEVELOPMENT OBJECTIVES

- Reinforce the primary campus gateway.
- Improve the pedestrian realm along East Seventh Street.
- Strategically implement new buildings and renovations.
- Develop high-quality open spaces and gathering places.
- Enhance student life and recreational facilities.
- Supplement existing cultural infrastructure.
- Improve environmental quality.



Cox Arboretum



Showalter Fountain



Bryan Hollow and Woodburn Hall



Cox Arboretum and Wells Library



Showalter Fountain and Auditorium



East Seventh Street Intersection

BUILDING INITIATIVES

Indiana Memorial Union

The Indiana Memorial Union (IMU) dominates this part of campus with its sprawling Collegiate Gothic wings and iconic vertical towers. The IMU has historically symbolized the center of student life on the Bloomington campus while serving as an emblematic anchor to the storied campus. Renovating the IMU and redeveloping the area immediately adjacent to it will enhance this neighborhood's coherence and solidify it as a formal gateway. Adding critical retail amenities and improving IMU's internal and external circulation will better serve its many patrons and ensure its future relevance.

Academic Office and Classroom Building

Decommissioning the parking lot at North Woodlawn Avenue and East Seventh Street will provide a site for a multi-story academic office and classroom building, possibly accommodating Informatics, Mathematics, Computer Science, general administrative offices, or liberal arts programs.

A building at this location can frame a ceremonial plaza opening onto East Seventh Street and reinforce the campus gateway experience by providing a formal gathering and meeting place adjacent to the highly active East Seventh Street corridor. The architectural composition of the framing building can further enhance the gateway definition by formally complementing the monumental scale and presence of the IMU. Any new structure in this prominent location must present a powerful, dignified image that is both progressive and emblematic of the core values of Indiana University. Its composition must carefully relate to the established aesthetic character of the neighborhood without diluting the presence or integrity of the existing structures. The lower levels of the structure can be configured to actively engage the plaza and adjacent streetscape. Highly transparent porous façades can connect interior public spaces to the plaza and provide venues for high-quality retail and dining establishments. The upper levels can be reserved for office space with small seminar spaces, and the lower levels can be dedicated to

overflow parking for the IMU. This structure can serve as the terminus to the proposed North Woodlawn Avenue “Alumni Walk” and incorporate a bus transit station in the lower level parking area.

International Studies Building

Site selection and conceptual planning for the new International Studies Building (ISB) is complete. The new structure will occupy the southeast corner of Cox Arboretum on an existing surface parking lot between the Radio/Television Center and the Wells Library. A new addition to the Wells Library and Cox Arboretum will bracket the new structure to the north and west.

East Eighth and Ninth Streets at North Woodlawn Avenue

A new student residence hall quad will occupy the site north of the proposed classroom office building along North Woodlawn Avenue. Residence halls at this location are envisioned to be low-rise structures comparable in character and scale to the collection of buildings that form



Proposed East Seventh Street Gateway and Plaza



Proposed International Studies Building



Collins Quad



Indiana Memorial Union



Indiana Memorial Union Lounge

Collins Quad. Locating student housing in this area can dramatically enhance student housing options and promote a dynamic mixed-use environment for the neighborhood.

University Courts Neighborhood

The established 9-square-block neighborhood defined by North Indiana Avenue, East Seventh Street, North Woodlawn Avenue, and East Tenth Street is envisioned as an enhanced residential neighborhood, complete with front porches, stoops, brick-lined streets, and gas lamps. This area is set amongst large street trees that convey a timeless quality and create a sense of enclosure. This neighborhood can be developed as a residential district for faculty and visiting professors. A new structure west of North Woodlawn Avenue and north of East Eighth Street is proposed to complete the residential-scale neighborhood fabric along the campus edge. This structure can be occupied by small programs or administrative functions and should be similar in scale and character to the recently completed Hutton Honors College. Building design for this structure

should conform to the proportions and setbacks of the established residential neighborhood and reinforce the campus boundary by not competing in size, scale, or monumentally with buildings on the main campus.

RENOVATION INITIATIVES

Indiana Memorial Union Renovation

Beyond the new building initiatives in the Seventh Street - Cultural District, several significant renovations are envisioned. The most critical is the renovation of the IMU. Serving as a beacon within the campus and the city of Bloomington, the IMU is the one structure that best represents the image and values important to Indiana University. Its outward impression is that of a dignified academic institution grounded with a rich historic tradition. The facility's interior, however, lacks the clarity and stateliness of its exterior.

The IMU has never had a significant overall renovation. Over the years, portions of the facility have been incrementally renovated with minimal unifying coordination. As a result,

the current facility lacks the coherence and functionality found in more contemporary student union facilities. The renovation will endeavor to repurpose the IMU to be more effective and relevant to current student needs while re-establishing its interior hierarchy to align with its distinguished iconic exterior. Renovation efforts within the IMU will focus on supporting large group meeting facilities and providing new high-quality student life amenities.

A careful study of the internal and external service functions and circulation should be conducted. As the visual terminus of the North Woodlawn Avenue corridor, the IMU service area at a minimum should be screened with high masonry walls and operable gates, in a style consistent with the IMU's architectural design. The service drive should be redesigned as a combined service and pedestrian space with lighting, landscaping, and special paving that can better accommodate pedestrian circulation and occasional truck access. The IMU's north face should engage the street with new

pedestrian walks and outdoor terraces fronting East Seventh Street and the Jordan River.

Ernie Pyle Hall

Another significant renovation is the proposed conversion of Ernie Pyle Hall to a new Indiana University Visitor's Center and bookstore. The structure's prominent location along the East Seventh Street corridor demands a more engaging and interactive use. Renovation of this structure can also include new high-quality retail and dining venues. Relocating the School of Journalism to another facility can allow for a radical conversion of Ernie Pyle Hall into an accessible and open structure that will anchor this primary campus gateway. An addition at the western end of the building will create a new monumental entry at the terminus of the new North Woodlawn Avenue corridor. Ernie Pyle Hall's limestone façades can be modified to improve the building's street-level interactivity by retrofitting large glass openings between the existing limestone piers.



Ernie Pyle Hall



Indiana Arc and Wildermuth Intramural Center



Proposed East Seventh Street View Looking Toward North Woodlawn Avenue

Wildermuth Intramural Center

A planned exercise facility addition to the Wildermuth Intramural Center will further activate the street-level experience in this area by adding a new transparent façade to the south face of the structure. This addition is planned to provide aerobics and strength training facilities behind large bay windows that overlook the East Seventh Street corridor. The large windows will allow borrowed light to pass through the exercise space into the existing intramural activity spaces through new large interior openings.

New Fine Arts Plaza Café

Explore the feasibility of adding a café/bistro to the Fine Arts Plaza area (possibly as an addition to the north façade of the Auditorium) to add a high quality restaurant venue that will enhance the cultural experience.

OPEN SPACE INITIATIVES

Open space improvements for the Seventh Street - Cultural District focus on the creation and renovation of a series of carefully proportioned streetscapes and open spaces.

Alumni Plaza

The most significant of the proposed open spaces is the new plaza at the intersection of North Woodlawn Avenue and East Seventh Street. Mass transit and high pedestrian and vehicular traffic will activate this space and make the plaza a natural meeting place. The plaza should convey an open and welcoming gesture and function as a primary orientation point on campus. It should be gracious and comfortable, and support both large group gatherings as well as casual intimate interactions.

New Campus Green

In addition to the proposed plaza, a new signature green space will replace the existing surface parking lot between the IMU and Woodburn Hall. A new landscaped green space near the highest volume corner of pedestrian traffic on campus can provide a much needed exterior environment that will promote gathering opportunities and enhance the pedestrian experience. The new Campus Green can be configured to provide more convenient direct access to the IMU from the heavily used pedestrian paths to the east. The displaced parking spaces can be reallocated beneath the new classroom office building planned at North Woodlawn Avenue and East Seventh Street. This structured parking can take advantage of the grade difference west of HPER, entering at grade on East Seventh Street and tuck into the hillside south of the recreational fields at East Ninth



Wildermuth Walk Prototype



East Seventh Street

Street. Future parking facilities east of North Jordan Avenue and along the railroad corridor will augment the existing surface parking spaces that remain within the district.

STREETSCAPE INITIATIVES

Enhancing the streetscape along North Woodlawn Avenue and East Seventh Street is a top priority. Reinforcing the pedestrian link between the new plaza and new Campus Green can include outdoor seating, improved street lighting, comfortable walking surfaces, and shading street trees. Additional streetscape amenities can be focused around the intersection of North Woodlawn Avenue and East Seventh Street to supplement wayfinding and orientation at the gateway threshold.

Wildermuth Walk

Cox Arboretum warrants additional streetscape improvements between its location and the East Seventh Street corridor to link the cultural hub of campus with this natural amenity. Enhancing the pedestrian walkway between the Wildermuth Intramural Center and the

Indiana University Art Museum can provide this connection.

Though not originally intended as a campus walk, there is significant pedestrian traffic on the service drive between the Wildermuth Intramural Center and the Indiana University Art Museum. This route should be re-designed as a primary pedestrian corridor, with improved paving, lighting, and site furniture, while providing limited access for service vehicles and accessible parking north of the museum. The modest addition to the Wildermuth Intramural Center should be visible and accessible to this walkway.

INFRASTRUCTURE INITIATIVES

Chilled Water System

New chilled water production capacity will be needed at the CCWP to accommodate the proposed new structures in this neighborhood.

Steam and Condensate System

Capacity at the Central Heating Plant (CHP) is adequate to accommodate the proposed

new structures, but steam and condensate distribution piping improvements will be required to serve the new buildings.

Electrical System

New circuits from the Switching Center are required to serve structures east of North Woodlawn Avenue. Structures west of North Woodlawn Avenue will be served by Duke Energy.

Telecommunications System

New duct bank will be required for additional capacity on North Woodlawn Avenue. Otherwise, existing telecommunications duct bank trunks are adequate to support the plan.

Water System

Water distribution is adequate for domestic uses; analysis is needed to understand capacity for fire protection. Water service to the structures east of North Woodlawn Avenue will be served from the University's system. Structures west of North Woodlawn Avenue will be served by City utilities.

Stormwater System

As new buildings are developed, infiltration facilities should be incorporated to increase the quality of the stormwater flowing further downstream. Existing buildings and parking lots should be analyzed to determine whether infiltration facilities can also be incorporated as development occurs.

A large stormwater retention box lies under the area proposed for the below-grade parking structure. Further analysis is needed to determine whether the lowest floor elevation of the proposed parking structure conflicts with this device.

A large underground detention facility is proposed beneath the athletic fields east of North Woodlawn Avenue and south of East Tenth Street. This detention facility will help control the quantity of stormwater heading to the Jordan River from the neighborhoods to the north and east.

Sanitary Sewer System

Several existing sanitary sewer lines cross the Jordan River in this neighborhood. Many of these crossings are above grade and have contributed to the erosion of the stream banks. A major relocation of the sanitary sewer in this neighborhood will serve to enhance the sanitary sewer system as well as the river corridor. This relocation can occur just east of the new Campus Green, run north to East Seventh Street, and continue west to North Indiana Avenue where it will turn south and tie into the existing sanitary sewer system.

Proposed Below-Grade Parking Structure

Depending on its design and floor elevation, the proposed below-grade parking structure at East Seventh Street and North Woodlawn Avenue may impact chilled water, steam and condensate, sanitary sewers, storm sewers, electrical, water, and telecommunications systems in the immediate area. Further study will be required.



Wildermuth Intramural
Center Addition

Campus Green

Indiana Memorial Union
Renovation

New Residence Halls

New Academic/
Classroom Building

Alumni Plaza

Ernie Pyle Addition
and Renovation

Hutton Honors
College

Proposed Aerial View Looking Southeast Over North Woodlawn Avenue at East Seventh Street



Woodburn Hall



Indiana University Art Museum



Indiana Memorial Union

ARCHITECTURAL GUIDELINES

New building projects in the Seventh Street - Cultural District must reinforce the neighborhood's gateway and main street functions while respecting and complementing the established architectural context.

On-campus structures must promote a monumental civic image emblematic of Indiana University and embrace the landscaping and land planning principles of the Historic Core. Off-campus structures must conform to the established scale, density, and materiality of the surrounding residential neighborhood and respect defined campus boundaries.

Similar to the Historic Core neighborhood, new designs must embody a spirit and character of their time and not imitate established architectural styles. Façades must express a coherent architectural expression that respectfully relates to the diverse stylistic context.

Limited designated building areas and large building programs necessitate a delicate approach to the immediate context around

new structures. New designs must respectfully engage existing buildings without undermining the established aesthetic character or quality. Building massing must promote balanced configurations that express monumentality, dignity, and elegance while minimizing perceived bulk. Building façades will be limestone and celebrate the weight and massiveness of the material with bold fenestration accentuated by delicate subtle details.

All new development must support and enhance the pedestrian experience by activating public space with ground level accessibility and transparency. Highly active programmatic functions, retail venues, and dining establishments should be located to stimulate the streetscape and adjacent gathering spaces.

Renovations to the IMU and Ernie Pyle Hall must respect the integrity of the original structures and promote the development objectives of the neighborhood. The renovations should promote a new vitality that supports student life initiatives and adaptively reinvents existing spaces and façades.

Objectives

- Reinforce primary campus gateways.
- Complement established architectural context.
- Support and engage the pedestrian realm.
- Maintain and promote a monumental civic gesture.
- Extend the land planning principles of the Historic Core.
- Maintain the established durable materials palette.
- Revitalize underutilized structures through renovation and adaptive re-use.
- Promote environmental sustainable design principles.

Primary Materials

- Façades: Variegated Indiana limestone – random ashlar, panelized, and cubic
- Roof Shapes: Sloped roofs with Vermont slate – minimum 1:1 slope
- Glazing: Clear low E glazing with aluminum framing and divided lites
- Site Walls: Dry laid or mortared limestone



Lilly Library



Wildermuth Intramural Center



Auditorium



New Campus Green

BUILDING AND RENOVATION INITIATIVES

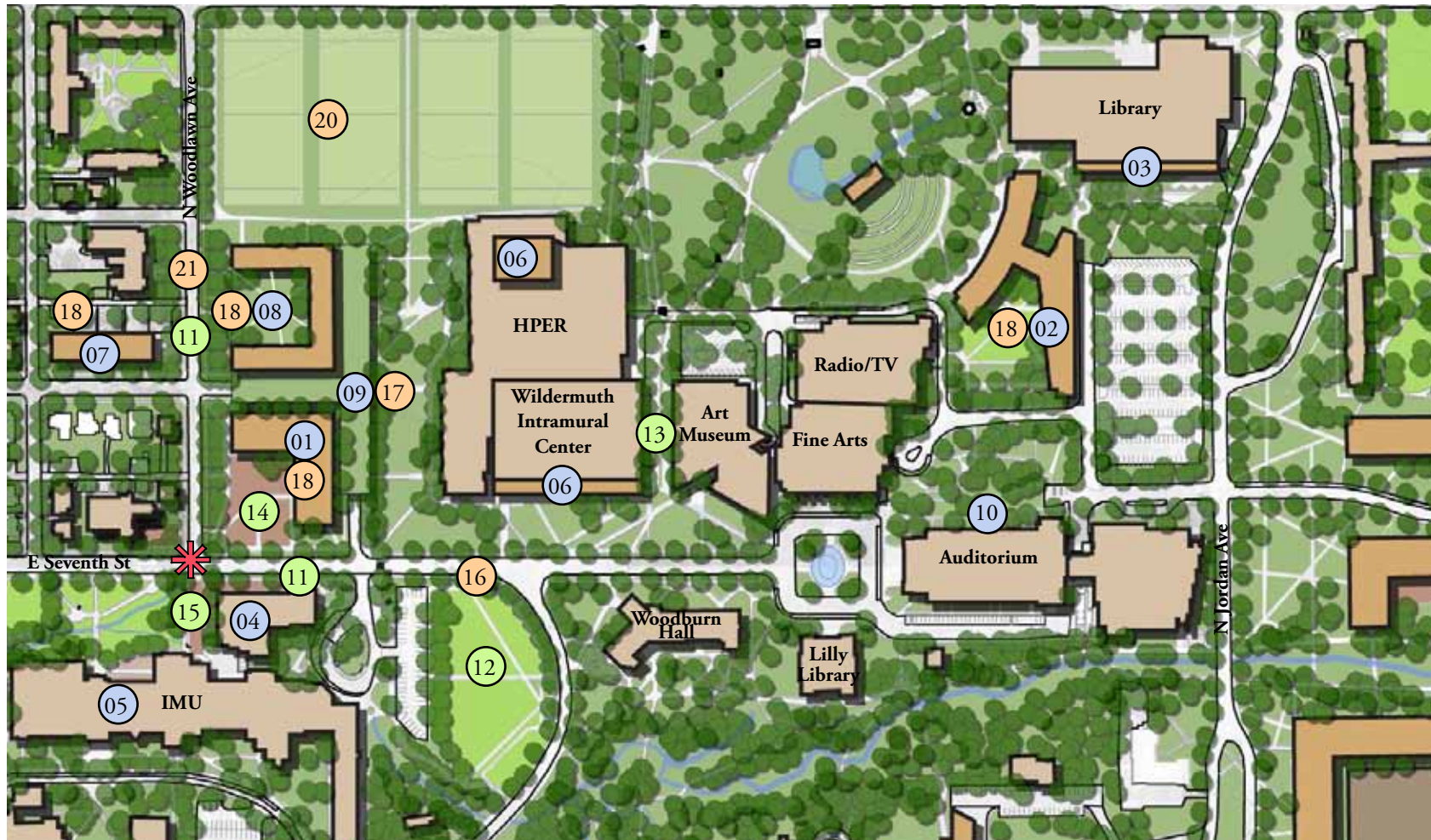
- 01 Academic Office and Classroom Building
- 02 International Studies Building
- 03 Wells Library Addition
- 04 Ernie Pyle Hall Repurpose, Addition, and Renovation
- 05 Indiana Memorial Union Renovation
- 06 Wildermuth Intramural Center Addition
- 07 University Courts Infill Building
- 08 Student Housing Quad
- 09 Below-Grade Parking Structure
- 10 Explore Potential for New Café/Bistro

OPEN SPACE INITIATIVES

- 11 East Seventh Street and North Woodlawn Avenue Enhanced Streetscape
- 12 New Campus Green
- 13 Wildermuth Walk
- 14 Alumni Plaza
- 15 New Public Space



INFRASTRUCTURE INITIATIVES

- 16 Reroute Sanitary Sewer to East Seventh Street
- 17 Potential Construction Impact on Multiple Services
- 18 New Chilled Water and Steam Capacity
- 19 New Circuits Required for All New Buildings from Existing Switching Center
- 20 New Stormwater Retention Vault
- 21 New Duct Bank



Seventh Street - Cultural District Plan

KEY

-  Existing Building
-  Building Opportunity
-  Parking Opportunity
-  Gateway Opportunity

NEIGHBORHOOD 3: UNIVERSITY EDGE



Aerial View of North Indiana Avenue

EXISTING CHARACTER

The University Edge neighborhood represents the primary town/gown interface between the campus and the city of Bloomington, and functions as a transitional zone between the traditional academic campus and the distinctly different commercial/retail and residential districts of the surrounding city neighborhoods. North Indiana Avenue and East Third Street create a seam between the campus on one side and the community opposite, and are characterized by two land use and architectural conditions: the boundary of the academic campus and the retail/commercial edge on North Indiana Avenue, and the academic boundary and largely residential edge on East Third Street. The campus perimeter along North Indiana Avenue and East Third Street maintains an exemplary and coherent campus edge; however, the community edges vary in their quality and character.

North Indiana Avenue

The campus's western boundary is defined by the area between North Indiana Avenue

and North Dunn Street. This campus edge is primarily characterized by high traffic volume and 2- to 3-story commercial/retail establishments surrounded by surface parking lots. Bloomington's primary commercial and social corridor, East Kirkwood Avenue, extends westward from this edge, providing the primary link between traditional downtown Bloomington and the University.

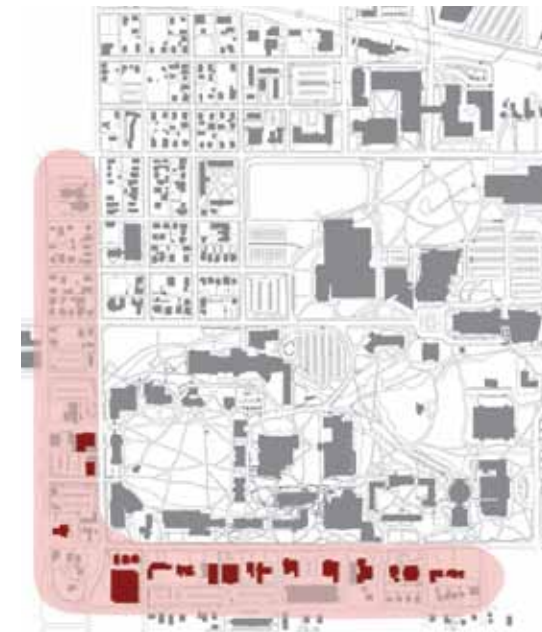
South of East Kirkwood Avenue, mixed-use commercial and retail structures form a pleasant urban streetwall, fronting directly onto the pedestrian right-of-way. Directly north of East Kirkwood Avenue, North Indiana Avenue is a fragmented zone of surface parking lots and a few poorly maintained residential structures, up to East Seventh Street. This 2-block frontage is directly opposite Dunn Meadow and misses an important opportunity to frame this significant open space as a complement to the University's academic setting. Redevelopment of the blocks between North Dunn Street, North Indiana Avenue, East Kirkwood and East Seventh Street would strengthen the University Edge identity, better link campus to the Poplars Building west of North Dunn Street, and provide another gateway opportunity.

North of East Seventh Street, the neighborhood transitions to traditional 2- and 3-story detached homes occupied primarily by university students and faculty.

The University buildings that front North Indiana Avenue are large, dignified limestone structures that maintain a modest street setback. Their monumental scale and distinguished landscape setting establish a dominant academic presence in the neighborhood. Framed within this academic edge is a primary pedestrian gateway that aligns with the East Kirkwood Avenue corridor. This gateway is formally celebrated by the Sample Gates and offers views into the core of campus that are among the most scenic and picturesque in Bloomington. It is appropriate that this gateway often serves as the first impression of Indiana University to visitors.

East Third Street

The southern boundary of campus is defined by the area between East Third Street and East Atwater Avenue. This edge is distinctly different from the western edge of campus and is characterized by generous building setbacks and open, mature landscapes on both sides of East Third Street. The street character along this corridor is reasonably complete with minimal gaps in the neighborhood fabric. The broad



University Edge Area Map



Retail Along North Indiana Avenue



Sample Gates

setbacks complement the academic structures and amplify Indiana University's civic presence within the community. Large fraternity and sorority houses formally address the campus and make up the majority of the structures along the southern face of East Third Street. A few small academic buildings reside between the fraternity and sorority houses in this area. Parking structures and surface parking lots that serve students, faculty, and staff occupy most of the area south of the Greek housing along East Atwater Avenue. These parking facilities support the academic core and generate significant pedestrian traffic along and across East Third Street.

A small commercial area at the intersection of East Third Street and South Jordan Avenue is a mix of 1- to 2- story buildings. The lack of a consistent streetwall (such as on North Indiana Avenue) dilutes the poignancy of the East Third Street corridor and compromises the quality of an important southern gateway to campus. This 2-block area could present an opportunity in the long term for



North Indiana Avenue



East Third Street



North Indiana Avenue



North Indiana Avenue

redevelopment of retail and residential mixed-use in a more compact and urban form.

EXISTING QUALITIES

- Primary interface between campus and the city of Bloomington
- Clearly established streetscapes and setbacks
- Well-defined mature landscape setbacks

- Small-scale 2- to 3-story commercial/retail and residential structures
- Diverse material palette including limestone, brick, concrete, stucco, and wood siding
- High volume pedestrian and vehicular corridors

DEVELOPMENT OPPORTUNITIES

Development in the University Edge neighborhood should maintain the existing street character by reinforcing the scale, formal composition, and materiality found within the established context. New initiatives should complement the University edges by promoting existing conditions and closing gaps in the neighborhood fabric. New development should assimilate into the neighborhood's vernacular aesthetic and not compete in scale, quality, or sophistication with the traditional campus buildings or landscape settings. Promoting the established neighborhood character will maintain the strength of the campus edges and enduring first impressions of Indiana University.

Development along the western edge of campus should continue the established urban commercial/retail corridors by decommissioning the surface parking lots and encouraging the construction of replacement parking structures. New development should be oriented toward students and campus visitors and provide quality amenities that are not currently available in this area. New structures should promote active streetscapes with ground-level retail and dining. Building configurations should emulate the scale, massing, and vernacular aesthetic found on North Indiana and East Kirkwood Avenues.

New parking structures should be carefully configured and screened with occupied buildings whenever possible to maintain neighborhood character and active street life.

Since minimal development is envisioned for the southern edge of campus, the East Third Street corridor should remain essentially unchanged. Construction of new academic buildings should be focused in the academic core and discouraged along the southern edge of East Third Street.



Proposed North Indiana Avenue and East Seventh Street View

Improvements and expansion of the parking infrastructure may be warranted as development occurs within the academic core.

DEVELOPMENT OBJECTIVES

- Maintain and reinforce the established neighborhood fabric.
- Supplement retail and commercial amenities.
- Promote mixed-use development where appropriate.
- Improve parking resources adjacent to campus.
- Enhance commercial and retail amenities.

BUILDING INITIATIVES

North Indiana Avenue Frontage

New mixed-use infill development on North Indiana Avenue can replace surface parking, creating a more urban edge with ground level retail, across from campus. The northwest corner of North Indiana and East Kirkwood Avenues, across from the Sample Gates, could accommodate a new Student Welcome Center,

providing an orientation point for prospective students and parents to learn about academic programs, student life, and admissions policies. Guided tours could be initiated from this location, starting at the Sample Gates and into the Old Crescent and historic core. Convenient parking could be provided via a new parking deck on 6th Street and North Dunn, minimizing traffic coming into the core of campus.

North Indiana Avenue and East Seventh Street

Redevelopment of this critical corner across from Dunn Meadow can provide another significant gateway and mixed use opportunity for the University. This site could cater to smaller conferencing and social functions as an overflow venue to the IMU, serving both the University community and town. Its prime location and views to Dunn Meadow make this a desirable location for a higher and better use than the few worn residential structures that currently exist. Redevelopment of this block would also create a stronger pedestrian and visual linkage to the Poplars Building on East Seventh Street. Close to the campus core, the Poplars Building could be renovated as new office space for administrative functions.

McCalla School - Graduate Fine Arts Studio

The McCalla School provides studio space for sculpture within the School of Fine Arts. The open lot on the north end of the block at East

Tenth Street and North Indiana Avenue provides an opportunity to construct a new Graduate Fine Arts Studio and student lofts, expanding the arts focus of this site. This new facility could also consolidate functions currently housed in structures that will be affected by future development north of East Tenth Street, such as the Graduate Printmaking building and the Fine Arts Annex. Along with potential faculty offices, artist studios, and graduate student lofts, the new facility could include street level amenities such as a high quality coffee/food establishment, and a faculty- and student-run commercial art gallery, helping to activate the block and create a social focus in the neighborhood.

Parking Structure

As the surface parking lots along the North Indiana Avenue edge are developed, a new parking structure may be necessary to serve existing demand along with the new conference facility and anticipated IMU parking needs. The parking structure could also serve student admissions and the Visitor's Center and provide easily accessible parking adjacent to the campus core.

STREETSCAPE INITIATIVES

As new development fills in gaps along North Indiana and East Kirkwood Avenues, care must be taken to ensure that active urban streetscapes are promoted and maintained. In addition to activating street life with ground-level retail

and food establishments, appropriately-scaled plantings, lighting, and street furniture will be needed to enhance the street environment. Unique paving materials will also be encouraged.

INFRASTRUCTURE INITIATIVES

None of the proposed structures for this neighborhood are likely to connect to any Indiana University utility systems except telecommunications. All of these new facilities are on the perimeter of campus and represent opportunities for service from Duke Energy (power), Vectren Corporation (natural gas), AT&T (fiber optics), and the City utilities (water, sanitary, and storm).

Stormwater System

As new buildings are developed, infiltration facilities should be incorporated to increase the quality of the stormwater flowing further downstream. The existing buildings and parking lots should be analyzed to determine whether infiltration facilities can be incorporated as surrounding development occurs.



Atwater Parking Garage

ARCHITECTURAL GUIDELINES

New construction in the University Edge neighborhood will continue the existing diverse aesthetic context and promote variety and individual architectural expression. New buildings must assimilate into the urban or residential context of their particular site and respect established neighborhood conditions and setbacks. New designs should complement established academic structures along North Indiana Avenue and East Third Street while not competing with them in scale, expression, or sophistication.

North Indiana Avenue

New structures along the North Indiana Avenue corridor must support mixed-use commercial office and retail programs, and focus highly active public functions along street-level façades. Streetscape design must promote ground-level interaction and provide public spaces and amenities that support social interaction.

Building designs should emulate the scale, proportions, and configurations of existing

commercial and retail buildings along North Indiana Avenue and East Kirkwood Avenue, and around the Courthouse Square.

East Third Street

New structures along the East Third Street corridor must continue the established scale and character, and promote the distinctly residential quality of the architectural context. New building programs must support small-scale building massing and minimize the need for large, bulky structures. Established setbacks must be respected and enhanced with appropriate landscaping and social spaces.

Parking Structures

New parking structures must minimize their impact in the neighborhood context and promote interactive street life whenever possible. Commercial/retail structures can be integrated into parking facilities to screen views and provide a more dynamic and appropriate interface along public corridors.



Sample Gates



East Third Street

Objectives

- Continue existing diverse architectural character and scale.
- Accentuate the difference from academic core structures.
- Complete contextual neighborhood gaps.
- Encourage various building materials and aesthetic expressions.
- Promote ground-level transparency and street-level engagement.
- Minimize prominence of structure parking.

Primary Materials

- Façades: Various façades of limestone, brick, stucco, and wood siding, as appropriate
- Roof Shapes: Flat roofs with minimal architectural expression
- Glazing: Clear low E glazing with aluminum framing
- Streetscape: Street furniture and amenities in urban areas



East Third Street



Proposed North Indiana Avenue and East Third Street View



Recommended University Edge Demolition Plan

■ Buildings Recommended for Demolition

BUILDING AND RENOVATION INITIATIVES

- 01 Mixed-Use Commercial/Retail
- 02 Student Welcome Center
- 03 Potential Dunn Meadows Gateway Site
- 04 McCalla School (Fine Arts Annex)
- 05 Parking Structure

STREETScape INITIATIVES

- 06 Streetscape Enhancements Along North Indiana Avenue and East Third Street

INFRASTRUCTURE INITIATIVES

- 07 Public Utilities Service for All New Buildings



- KEY**
- Existing Building
 - Building Opportunity
 - Parking Opportunity

University Edge Plan

NEIGHBORHOOD 4: JORDAN AVENUE CORRIDOR



Aerial View of Jordan Avenue Corridor



Jordan Avenue Corridor Area Map

EXISTING CHARACTER

The Jordan Avenue Corridor is the portion of North Jordan Avenue that extends north from East Third Street to East Tenth Street. This corridor defines the primary transitional area between the academic core of campus and the East of Jordan neighborhood. Large monumental structures, broad setbacks, and varied streetscape conditions characterize this area and convey an openness and spatial distinction unique to this part of campus.

The corridor is a high volume vehicular and pedestrian passageway that provides a vital link north and south across campus. At the southern end of the corridor, the intersection of East

Third Street and North Jordan Avenue functions as a primary campus gateway for both vehicular and pedestrian access. Pedestrian circulation paths between the residential areas to the west and the academic facilities to the east conflict with the north-south circulation pattern, creating unsafe conditions at regular east-west pedestrian traffic crossings. Cultural and performance venues located in the area generate additional traffic volume during regular events and evening performances.

The east and west faces of the corridor possess distinctly different architectural and landscape characters that are representative of the neighborhoods they delineate. The western face is comprised of large monolithic structures with expansive landscaped openings between buildings. The openings frame scenic views into the academic core and offer glimpses of Bryan Hollow, Cox Arboretum, and the Jordan River. The structures vary stylistically and are emblematic of the unique programs they contain. The architecture ranges from the subtle Art Deco/Neoclassical façades exemplified by the

Simon Music Center to the Brutalist Modern of the Musical Arts Center and Wells Library.

The eastern face is defined by a few modestly designed post World War II student housing facilities, a parking structure, and a few small, detached residences remaining from the neighborhood that once occupied this area. Stylistically, the eastern face is dominated by a restrained form of utilitarian modernism common to late 1940s housing construction.

EXISTING QUALITIES

- High volume vehicular and pedestrian circulation corridor
- Large structures with civic proportions that frame views into the campus core
- Broad building setbacks with loosely-defined landscape character
- Open landscape areas with minimal planted density
- Varied streetscape



Herman B Wells Library



Musical Arts Center



Simon Music Center



Theatre - Neal-Marshall Plaza



North Jordan Avenue Landscape Setback



Herman B Wells Library



McKinney Fountain

DEVELOPMENT OPPORTUNITIES

New development along the Jordan Avenue Corridor should maintain established building patterns, promote a safer pedestrian environment, and develop a denser, more engaging landscape setting.

New structures along the west face of the corridor should continue the established monumental scale and maintain the broad setbacks and framed views into the campus core. The architectural character should continue to represent the traditional qualities of the core campus while assimilating into the established modern context of the corridor.

New structures along the east face of the corridor should accentuate differences with the west face and convey an architectural character representative of the emerging East of Jordan mixed-use neighborhood. This character should be unique and derived from the traditional qualities of the academic core combined with the established modern building context. Building scales and massings should be distinctly



Proposed View of North Jordan Avenue at East Third street

less monumental than the west face and facilitate a transition to the lower scale residential development planned to the east. Broad setbacks should continue with new emphasis on improved landscape development based on the University's general landscape planning principles.

A consistent North Jordan Avenue streetscape pattern should be established that runs the length of the corridor and celebrates its unique conditions. The streetscape pattern should engage improved landscapes, enhance the pedestrian experience, and facilitate vehicular circulation and pedestrian safety.

DEVELOPMENT OBJECTIVES

- Maintain established setbacks and framed views into campus.
- Accentuate distinctly different characteristics between the east and west corridor faces.
- Establish a consistent and improved streetscape condition.

- Improve vehicular circulation and pedestrian safety.
- Promote a more sophisticated landscape environment.

BUILDING INITIATIVES

Development opportunities along the Jordan Avenue Corridor are limited to sites along the east face. Possible building initiatives include mixed-use academic/classroom functions in new buildings north and south of the East Seventh Street intersection, along the south bank of the Jordan River, and at the East Third Street intersection. All of these development opportunities straddle both the Jordan Avenue Corridor and the East of Jordan neighborhood. East of Jordan development objectives supplement those identified here and should equally inform any initiative.

East Seventh Street Sites

The two building sites at the East Seventh Street intersection offer a unique opportunity to incorporate academic facilities along the east face of the corridor. These structures will frame

east-west vehicular and pedestrian circulation paths and provide an opportunity to represent the unique character of the East of Jordan neighborhood. The setback established by Wright Quad will define the setback for these new structures and allow adequate space to develop a sophisticated landscape setting.

Third and Jordan Gateway

The intersection of North Jordan Avenue and East Third Street supports a high volume of vehicular and pedestrian traffic and anchors a primary gateway into campus. Demolishing the University Apartments will provide an excellent opportunity to reinvent this gateway and establish a stronger campus edge and threshold. A new Studio Building for the Jacobs School of Music is proposed for this site. Paired with the existing Simon Music Center across North Jordan Avenue, it will create a new gateway to the University's music and performing arts district. The Studio Building will contain new practice and rehearsal rooms, classrooms, faculty studios, and administrative offices, and future expansion for a new 750-seat auditorium.



North Jordan Avenue and East Tenth Street



McKinney Fountain



Jacobs School of Music



Read Hall

Parking

The existing parking structure south of the Jordan River degrades the aesthetic quality of the Jordan Avenue Corridor and compromises river quality. Demolition of this structure will provide a site for a reconfigured parking structure and a new mixed-use academic/classroom building. Siting a new parking structure further south and east will allow a new mixed-use academic/classroom building to front along North Jordan Avenue and the Jordan River, effectively screening the parking structure from these primary corridors.

Decommissioning surface parking along the corridor and replacing it with green space and landscape treatments is encouraged.

OPEN SPACE INITIATIVES

It will be important to establish a cohesive landscape treatment along the monumental setbacks on North Jordan Avenue. The landscape should be in character with the informal landscape principles of the Historic Core, utilizing native species in groupings of canopy

and understory trees, and informal shrub masses at building edges.

STREETSCAPE INITIATIVES

North Jordan Avenue

Streetscapes, vehicular circulation, and pedestrian safety will be greatly improved by constructing a divided boulevard along the southern half of the Jordan Avenue Corridor. A boulevard can provide a more gracious and comfortable pedestrian environment with enhanced landscaping opportunities and increased sidewalk widths and setbacks. The center median can calm vehicular traffic and improve pedestrian safety with mid-block crosswalks.



Proposed North Jordan Avenue Boulevard

INFRASTRUCTURE INITIATIVES

Chilled Water System

Hydraulic and CCWP capacity limitations prevent this neighborhood from being adequately served from the CCWP. The International Studies Building will be served by a heat recovery chiller. The proposed mixed-use academic/classroom buildings in this neighborhood may be served by the Forest Dormitory satellite chilled water facility that has room for the addition of another 500-ton chiller. A second satellite plant currently in design to serve the new housing project at East Tenth and North Union Streets will also have room for an additional 750-ton chiller, but the distribution piping is not in place to serve adjacent structures.

Steam and Condensate System

Steam and condensate capacity is adequate to serve the International Studies Building, but a major extension is required to serve the proposed mixed-use academic/classroom buildings. Steam and condensate piping replacement will be required on Jones Avenue with construction

of new facilities along East Third Street. The reconstruction of the Jordan Avenue Garage may impact steam and condensate service along the east side of the proposed location.

Electrical System

Power distribution to this neighborhood will continue from Substation C, currently located in the Jordan Avenue Garage. If this garage is replaced, Substation C must be rebuilt in a new location while keeping the existing substation operational. Future loads to Substation C may require new circuits from the north and the Switching Center.

Telecommunications System

The telecommunications duct bank southeast of Read Hall needs additional duct added to the existing system. Otherwise, telecommunications duct bank trunks are adequate to support the plan.

Water System

Water service is adequate for domestic and fire service; analysis is needed to determine if

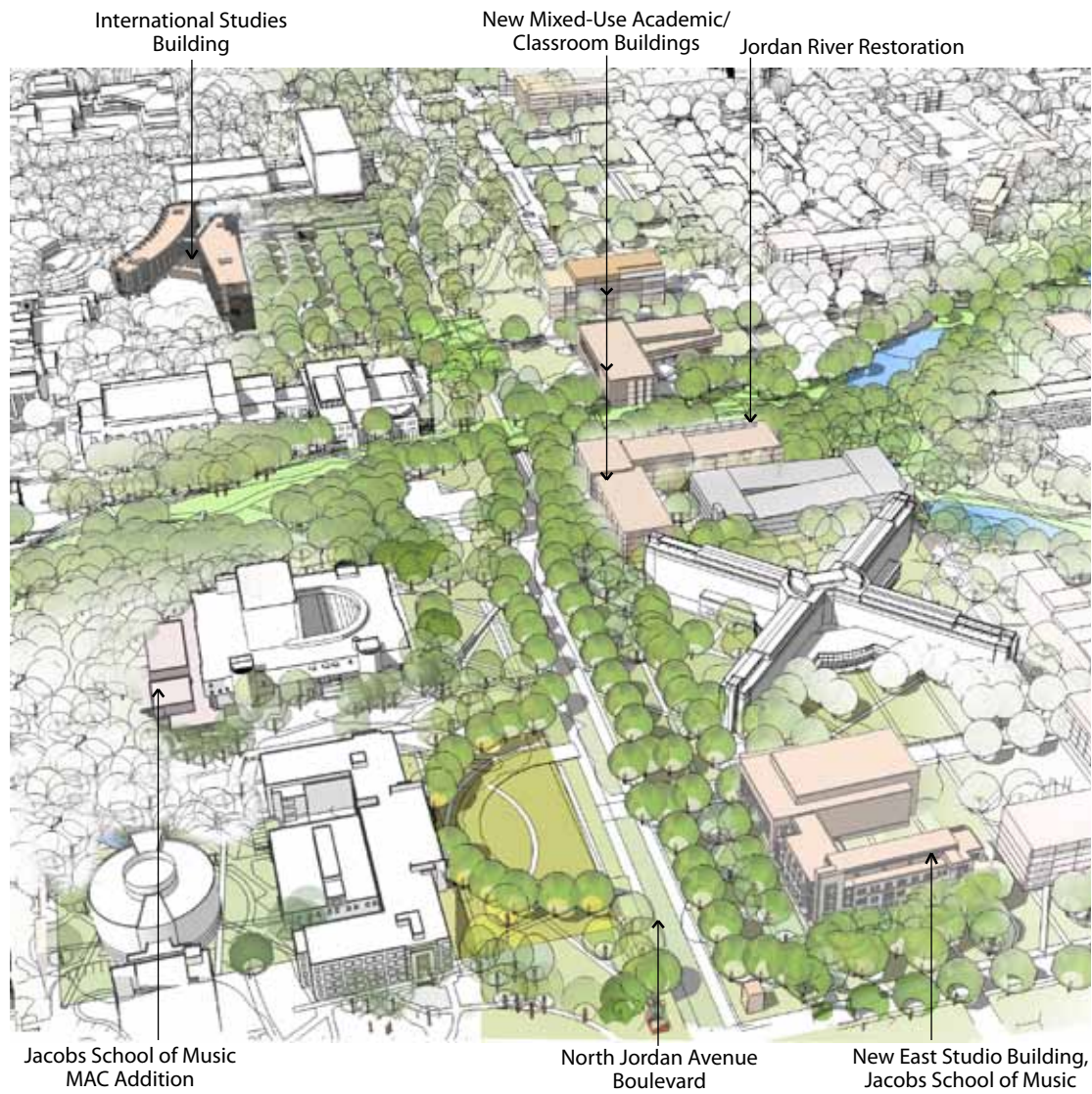
fire protection service is available without the extension of new water mains.

Stormwater System

As new buildings are developed, infiltration facilities should be incorporated to increase the quality of the stormwater flowing further downstream. The existing buildings and parking lots should be analyzed to determine whether infiltration facilities can also be incorporated as surrounding development occurs. Detention will not occur in this neighborhood due to space constraints.

Sanitary Sewer System

The existing sanitary sewer will need to be rerouted to accommodate the proposed mixed-use academic/classroom buildings and reconstructed Jordan Avenue Garage north of Read Hall. A new lead should be constructed to serve the International Studies Building.



Proposed North Jordan Avenue View



Recommended Jordan Avenue Corridor Demolition Plan

■ Buildings Recommended for Demolition



Lee Norvelle Theatre and Drama Center/
Neal-Marshall Black Culture Center

ARCHITECTURAL GUIDELINES

New construction along the Jordan Avenue Corridor will reinforce the established building patterns and accentuate the architectural contrast between the east and west faces.

West Face

New structures along the west face of North Jordan Avenue will embody a consistent monumental and civic quality and embrace the bold architectural character of the existing structures. Designs must be emblematic of the programs they contain and convey a consistent, large monolithic quality. Building massing must be configured to conceal bulk with façades that express refined fenestration. Building entries must present a grand, dignified expression and support large, social spaces that promote interaction. Buildings can be 4 to 5 stories and range from 50 to 85 feet in height.

East Face

New structures along the east face of North Jordan Avenue will express the unique architectural character of the East of Jordan

neighborhood. This emerging character will be based on the existing modern building context and express a sophisticated new campus aesthetic that represents the dynamic mixed-use neighborhood. New structures along the east face will be significantly smaller and less monumental than the west face. Buildings can be 3 or 4 stories and range from 40 to 60 feet in height. Ground levels must engage the surrounding environment and streetscape, and promote interactive social settings, especially along the Jordan River.

Parking Structures

The visual impact of new parking structures must be minimized along the corridor. Future mixed-use academic buildings lining parking structures can screen views of the garage and provide a more dynamic and appropriate interface along primary campus corridors.

Objectives

- Promote architectural character differences between east and west faces of the corridor.
- Reinforce monumental, civic proportions along the west face.
- Develop a unique architectural character for the east face.
- Respect established setbacks and building patterns.
- Promote ground-level transparency and street-level engagement.
- Minimize the prominence of structure parking.

Primary Materials

- Façades: West face – limestone
East face – limestone and neutral brick masonry
- Roof Shapes: Flat roofs with appropriate architectural roof shapes
- Glazing: Clear low E glazing with aluminum framing; operable sashes at student housing



Musical Arts Center

BUILDING AND RENOVATION INITIATIVES

- 01 Mixed-Use Academic/Classroom Building
- 02 New Studio Building, Jacobs School of Music
- 03 Residential/Student Life Building
- 04 International Studies Building
- 05 Wells Library Entrance
- 06 Reconstructed Jordan Avenue Garage

OPEN SPACE INITIATIVES

- 07 Jordan River Riparian Restoration
- 08 New Quad

STREETSCAPE INITIATIVES

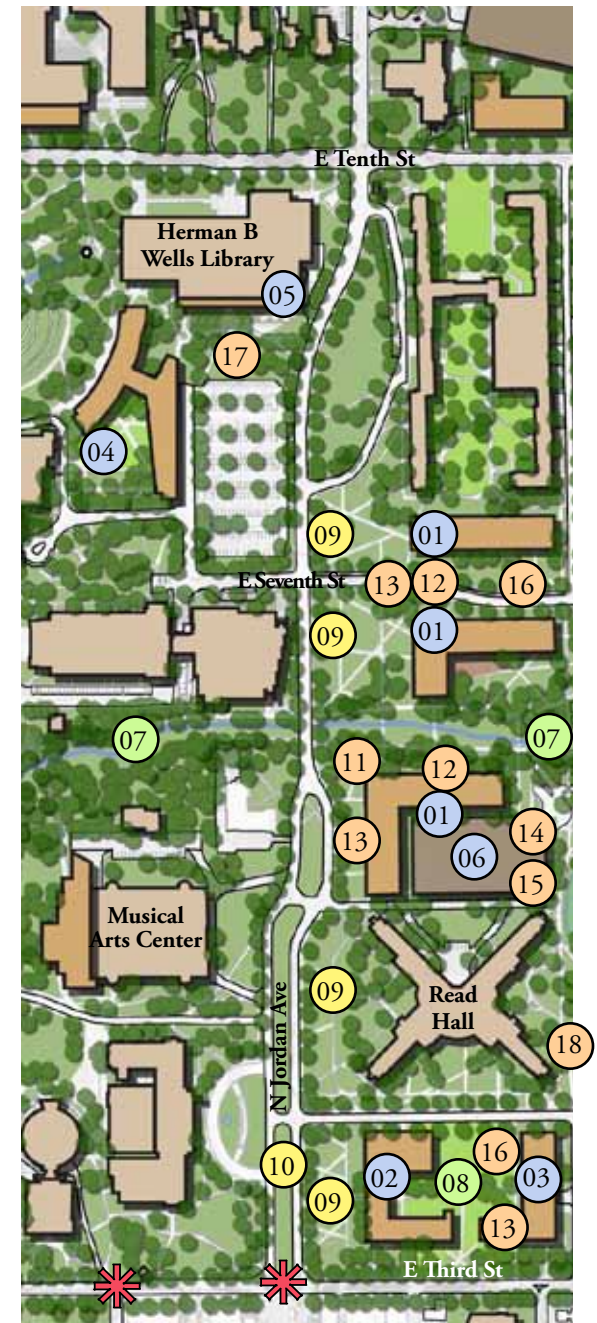
- 09 Cohesive Landscape Treatment
- 10 Jordan Avenue Boulevard

KEY

-  Existing Building
-  Building Opportunity
-  Parking Opportunity
-  Gateway Opportunity

INFRASTRUCTURE INITIATIVES

- 11 Sanitary Sewer Rerouting Required
- 12 Chilled Water from Expanded Forest Quad Facility
- 13 Steam Service Extension or Replacement Required
- 14 Substation C Replacement Required with Reconstruction of Parking Deck
- 15 New Circuits from the Existing Switching Center to Improve Reliability
- 16 Electrical Service from Substation C
- 17 Sanitary Sewer Extension
- 18 Additional Telecom Duct Bank Capacity



Jordan Avenue Corridor Plan

NEIGHBORHOOD 5: EAST OF JORDAN

EXISTING CHARACTER

East of Jordan is defined as the residential neighborhood east of North Jordan Avenue and south of the railroad tracks. This area of campus developed after World War II and represents a dramatically different planning methodology when compared to the University's core campus. The majority of the neighborhood is characterized by vast, undefined open space populated with low-density residential development. Contrary to the naturalistic approach employed in the campus core, the original natural features of East of Jordan were not integral to the planning approach, and very few fragments of the original natural environment remain.

Residential structures vary in height from 2- and 3-story apartments to 12-story high-rise dormitories. Building massings tend to be narrow, attenuated and remote from each other. Building configurations rarely work together to define quads or open spaces. A few defined quads exist in this part of campus, but they lack the architectural quality and landscape



East of Jordan Neighborhood



East of Jordan Area Map



Jordan Avenue Garage and Read Hall

character of notable quads in the academic core. Architectural façades tend to be very efficient and utilitarian, with many expressing a restrained modernist style. Most buildings present very solid monolithic façades, modestly fenestrated with punched windows.

The dominance of student housing in this neighborhood has resulted in a restrained social environment that lacks the vitality and energy of vibrant living and working neighborhoods. The neighborhood offers few amenities and student life resources to residents. This encourages students to leave the area to eat, study, and socialize. The commercial area north of East Tenth Street offers some convenient amenities, but quality and appropriateness are marginal.

Pedestrian circulation in this neighborhood is dominated by an east-west corridor that links student housing with the academic core west of North Jordan Avenue. This corridor roughly follows the path of the Jordan River and is affectionately referred to as “The March.”

EXISTING QUALITIES

- Single-use residential neighborhood
- Vast open spaces with limited landscaping and minimal spatial definition
- Narrow attenuated buildings with simple fenestration and solid façades
- Variety of high-rise and low-rise structures with vertical and horizontal proportions
- Minimal engagement with the natural environment

DEVELOPMENT OPPORTUNITIES

Development of the East of Jordan neighborhood will transform this sparsely populated, solely residential area into a denser, more vibrant mixed-use residential, student life, and academic neighborhood. Existing open spaces will be populated with modestly-scaled residential structures that define new quads based on the scale, quality, and character of Wells and Collins Quads. New student life resources, retail amenities, and dining venues will be incorporated into the residential areas at strategic locations to maximize convenience, foster community, and leverage social



Eigenmann Hall



Forest Quad



Read Hall



Wells Quad

interaction. Redevelopment of the crosstown commercial area north of East Tenth Street will offer improved retail amenities and potential future expansion for student health facilities.

New development will accentuate the natural environment and address an improved Jordan River as a positive landscape amenity. Paralleling river restoration efforts with pedestrian circulation improvements and building development will ensure intimate engagement with this natural feature and promote a naturalistic environment similar to the core campus. New academic buildings along the Jordan River corridor will develop ground-level programs that offer public amenities and

promote activity with social interaction spaces. Primary building openings and entries will open toward the river and engage the natural setting.

East-west pedestrian corridors will interactively parallel the river edge and celebrate its natural features. Improvements to the pedestrian experience will appreciably enhance the prominence of The March and promote the tradition and significance of this experience.

DEVELOPMENT OBJECTIVES

- Develop a dense, integrated, academic, student life and residential neighborhood.
- Restore the Jordan River riparian corridor.
- Improve spatial definition and hierarchy.
- Foster a variety of unique social gathering spaces and quads.
- Enhance and celebrate pedestrian circulation along The March.
- Redevelop the commercial area north of East Tenth Street.

BUILDING INITIATIVES

Student Housing

The majority of East of Jordan development will be residential with as many as 20 new structures identified as future student housing. New residential facilities will be informed by contemporary market demands and based on a variety of proven residential prototypes. New structures will range in height from 3 to 4 stories and be configured to define intimate quads with unique landscape characteristics and identifiable personalities. Specific developments will focus on special interest housing and offer communal living arrangements for defined student groups.

Existing Student Housing Renovations

Forest Quad, Teter Quad, and Read Hall will be renovated as part of Residential Programs and Services' ongoing actions to improve housing conditions and choice on campus.



Willow Street Residence Hall, Tulane University



Mixed-Use Commercial/Retail, The Ohio State University



Proposed View of East of Jordan Neighborhood

New Mixed-Use Academic Buildings

Four new mixed-use academic and retail buildings are identified for development in the East of Jordan neighborhood. With the exception of the School of Education addition, specific programs have not yet been identified for these structures. The identified building sites are oriented along the Jordan River and East Seventh Street and offer the development potential to actively engage the Jordan River and primary pedestrian circulation paths. New academic buildings in this neighborhood should assimilate with the anticipated residential fabric and limit building heights to 3 or 4 stories.

East Tenth Street Commercial Redevelopment

Redevelopment of the crosstown commercial area and surface parking lot north of East Tenth Street offers an excellent opportunity to improve retail amenities, enhance student life facilities, and develop commercial office space adjacent to campus. New structures in this area should evoke an urban quality and maximize ground-level interaction and street character. Building massings should hold the street edge in contrast

to the residential area south of East Tenth Street, and range from 4 to 6 stories. A moderately-scaled public open space near the intersection of East Tenth Street and North Sunrise Drive can provide an urban social setting unique to Indiana University. The space can be activated by the existing pedestrian railroad track crossing linked to the Student Recreational Sports Center (SRSC).

RENOVATION INITIATIVES

Eigenmann Hall Renovation

As new, more popular housing types are constructed in the East of Jordan neighborhood, Eigenmann Hall will be converted to academic offices and research space.

Parking Structures

One new parking structure is recommended in East of Jordan within the near-term planning horizon. Redevelopment of the commercial area north of East Tenth Street combined with the loss of surface parking at the International Studies Building site justifies a new parking

structure north of East Tenth Street and east of North Jordan Avenue.

The proximity of the Jordan Avenue Garage to the Jordan River compromises the riparian restoration effort and mixed-use academic development plans for East of Jordan. The structure's poor aesthetic quality is also inappropriate for its prominent location. Reconstruction of the Jordan Avenue Garage is encouraged to improve its efficiency and to move it further south from its current location. The new garage setback should be adequate to accommodate a new mixed-use academic building that fronts onto North Jordan Avenue and the Jordan River.

Depending on the success of Transportation Demand Management measures and long-term parking demands on campus, an additional parking structure may be necessary. A site is reserved for a future parking structure at the southeast entrance to campus on East Third Street.



Jordan River Restoration and "River Terrace" Along "The March"

OPEN SPACE INITIATIVES

Enhanced Landscape

The success of a revitalized East of Jordan neighborhood depends on a number of landscape enhancements, including: restoration of the Jordan River's riparian corridor; increased tree canopy; improved quality of the landscape; and the renovation and definition of new residential quads.

The restored natural condition of the Jordan River will provide a unique environmental feature that can be leveraged for its scenic quality. A balance of open space and increased

tree cover will blend the natural character of Bryan Hollow with defined settings for informal student activity and recreation. Renovation and construction of new quads will break down large undefined open spaces and create comfortable human-scaled environments.

New outdoor gathering spaces will help activate the East of Jordan neighborhood. A proposed new "River Terrace" and outdoor space along the Jordan River will bring proposed retail and dining opportunities out into the landscape and create a neighborhood social space.

STREETSCAPE INITIATIVES

As development of the East of Jordan neighborhood is implemented, streetscape character improvements should be incorporated. Residential area streetscapes should be reconstructed to adopt the Residential Typical streetscape prototype with all other areas developed with the Campus Typical prototype. The Campus Edge prototype should be implemented along the East Third Street corridor, and the East Tenth Street A prototype along the neighborhood's northern edge.

INFRASTRUCTURE INITIATIVES

Chilled Water System

By the end of 2010, there will be two satellite chilled water facilities in this neighborhood serving residential and academic buildings. Both facilities have space available for a total of 1,250 tons of new chilled water production equipment to serve the proposed new academic and housing structures. Distribution piping will be required to serve the proposed housing. Depending on the size and location of the proposed structures, an additional satellite chilled water facility may

be necessary. The proposed redevelopment of the crosstown area may be served by a stand-alone plant utilizing heat recovery chillers.

Steam and Condensate System

Steam and condensate capacity is adequate to serve all proposed structures, but steam and condensate piping replacement will be necessary to improve performance and reduce energy losses.

Electrical System

Power distribution to serve these new buildings will be generated by new circuits added to the Switching Center and Substation C at either 5kV or 15kV service. The proposed parking structure may impact the clearances on the 69kV and 15kV circuits that are located parallel to the railroad.

Telecommunications System

New telecommunications duct banks are required for additional capacity and data systems back-up routing. Complete the loop for redundancy.

Stormwater System

As new buildings are developed, infiltration facilities should be incorporated to increase the quality of the stormwater flowing further downstream. The existing buildings and parking lots should be analyzed to determine whether infiltration facilities can also be incorporated as surrounding development occurs.

Due to the availability of space, a large amount of stormwater detention can occur in this neighborhood. Three in-line detention facilities will be located along the Jordan River. In addition to providing flood relief during large storm events, these detention facilities will enhance the river corridor and provide habitat.

Sanitary Sewer System

The existing sanitary sewer near the intersection of East Seventh Street and North Campbell Street will need to be rerouted around the new social spaces. Similarly, new student housing south of the Wright Education Building will require new sanitary sewer leads and upsizing of existing mains.



Proposed View of East of Jordan Neighborhood from South Rose Avenue



Jordan River



Willow Street Housing at Tulane University
Designed by Mack Scogin Merrill Elam Architects

ARCHITECTURAL GUIDELINES

New construction in the East of Jordan neighborhood will transform the existing infrastructure into a more dense, livelier, and more diverse community. New building designs will define a reinvented identity for the area that supports a sophisticated, vibrant, and interactive pedestrian-oriented natural environment.

East of Jordan's new identity will be derived from the established architectural context and imbued with a fresh forward-thinking aesthetic that expresses the youth and vitality of this reinvented area. Designs must respect and sympathetically relate to existing structures while promoting progressive design approaches. The architectural character, material palette, refined detailing, and sophisticated landscaping approach exemplified in the academic core will be a model for redevelopment of this area.

New buildings must embrace the natural setting and support efforts to restore original environmental features. The restoration of the Jordan River corridor will provide valuable

opportunities to define new open spaces that engage the riparian buffer and promote social interaction.

Newly developed areas of East of Jordan will include fully defined residential and academic quads modeled on the Wells and Collins prototypes. The scale and character of the new spaces must promote unique spatial personalities and support social interaction within a comfortable environment.

New structures will support mixed-use programs and incorporate retail and dining venues at the lower levels. These program elements must convey transparency and engage the surrounding environment and streetscape setting. Building configurations must promote outdoor, interactive social settings and embrace the Jordan River riparian corridor.

Objectives

- Develop unique architectural character derived from existing context.
- Define new open spaces and promote social interaction.
- Engage and celebrate environmental features.
- Promote ground-level transparency and street-level engagement.
- Minimize prominence of structure parking.

Primary Materials

- Façades: Limestone and neutral brick masonry, precast concrete
- Roof Shapes: Flat roofs with appropriate architectural roof shapes
- Glazing: Clear low E glazing with aluminum framing
- Streetscape: Dry laid limestone site walls



Southern Gateway, Columbus, Ohio



Public Space, University of Cincinnati



East of Jordan Quads



Jordan River Restoration

OPEN SPACE INITIATIVES

- 10 Jordan River Riparian Restoration
- 11 New External Gathering Space
- 12 New Quad

STREETSCAPE INITIATIVES

- 13 Improved Streetscapes

INFRASTRUCTURE INITIATIVES

- 14 New Chilled Water Capacity Required
- 15 Stand-Alone Chilled Water Service
- 16 Steam Piping Replacement Required
- 17 Stormwater Detention Basins

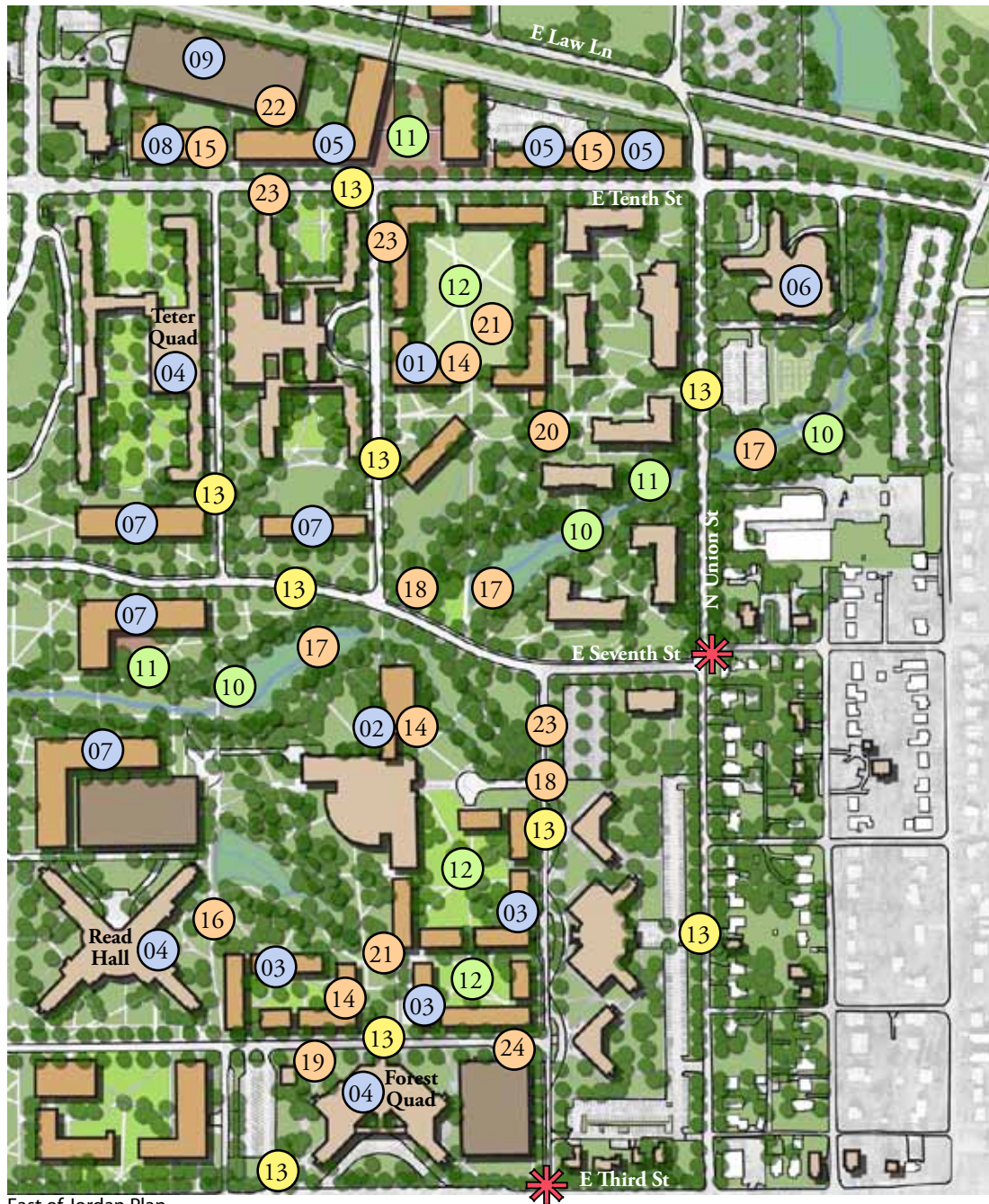
BUILDING AND RENOVATION INITIATIVES

- 01 New Student Housing
- 02 School of Education Addition
- 03 New Special Interest Student Housing
- 04 Existing Student Housing Renovation
- 05 Mixed-Use Commercial/Retail Development
- 06 Eigenmann Hall Renovations
- 07 New Mixed-Use Academic Buildings
- 08 Potential Future Expansion for Student Health Services
- 09 New Parking Structure
- 18 Sanitary Sewer Improvements Required
- 19 Existing Forest Quad Chilled Water Plant
- 20 Planned Ashton Chilled Water Plant
- 21 Electrical Service from Substation C
- 22 Electrical Service from Substation C or Switching Center
- 23 New Telecom Duct Bank and Completion of Loop
- 24 Steam Piping Addition Required



Recommended East of Jordan Demolition Plan

■ Buildings Recommended for Demolition



East of Jordan Plan

- KEY**
-  Existing Building
 -  Building Opportunity
 -  Parking Opportunity
 -  Gateway Opportunity

NEIGHBORHOOD 6: WOODLAWN AND TENTH STREET



Existing Aerial View Looking North



Woodlawn and Tenth Street Area Map

EXISTING CHARACTER

The area north of East Tenth Street and south of the railroad tracks has been identified for significant future campus expansion. This area is currently characterized by a few large academic buildings, a surface parking lot, several blocks of detached single-family homes, and the campus's CCWP and CHP. The Kelley School of Business, Psychology Building, and Geology Building anchor the eastern end of this precinct and establish a coherent street edge on the north face of East Tenth Street. The strength of this street edge weakens west of North Forrest Avenue as the campus limits transition into the adjacent neighborhood.

The architectural character of the existing academic buildings tends to be Modernist in style with a slight Collegiate Gothic influence. The recently constructed Multidisciplinary Science Building II conveys a more faithful, slightly mannerist and contemporary interpretation of Collegiate Gothic.

The area between East Tenth Street and the railroad tracks functions as a transition zone and threshold between the academic core and areas north of the railroad tracks. The two railroad track crossings at North Walnut Grove and North Fee Lane provide primary connections and support significant north-south pedestrian and vehicular circulation.

The CHP anchors a corridor of primary campus utilities that parallel the railroad tracks. The CCWP also resides on this corridor along North Woodlawn Avenue just north of the railroad tracks.

EXISTING QUALITIES

- Large academic buildings and small-scale detached housing
- Clearly defined corridors along East Tenth Street and the railroad tracks
- Fragmented architectural edge along the north side of East Tenth Street
- Primary campus utility corridor
- Threshold to north campus areas



East Tenth Street and North Fee Lane



Kelley School of Business



Cox Arboretum Gateway at East Tenth Street



Rail Corridor at North Walnut Grove



Proposed Academic Office Building



Proposed Parking Adjacent to Rail New Mixed-Use Academic Buildings New Residential
Proposed Aerial View of North Woodlawn Avenue and East Tenth Street

DEVELOPMENT OPPORTUNITIES

Development of the Woodlawn and Tenth Street neighborhood will be a substantial endeavor for Indiana University. The new neighborhood will build upon the existing academic infrastructure and significantly increase building density adjacent to the core campus. The resulting development will establish a new, vibrant mixed-use precinct with a unique personality based on the fundamental planning principles and enduring qualities of the core campus.

The new neighborhood will define several new campus edges that will embody the unified monumental qualities exemplified along the North Indiana Avenue and East Third Street corridors. A significant portion of the proposed North Woodlawn Avenue corridor will pass through this neighborhood and rely on its structures and landscape to define much of its character. The established East Tenth Street edge will be maintained and extended west to North Fess Avenue. A new campus edge along North Indiana Avenue with moderately-scaled student housing quads will ease the transition to the adjacent residential neighborhood.

Development of this neighborhood should emulate the memorable spaces, architectural character, and design sensibilities of the core campus. A mix of academic, residential, and student life functions will commingle to promote interaction, a sense of community, and neighborhood vitality. New memorable spaces will complement the structured environment and encourage both interaction and reflection.

DEVELOPMENT OBJECTIVES

- Establish a new vibrant mixed-use academic residential neighborhood.
- Increase development density adjacent to the core campus.
- Emphasize North Woodlawn Avenue as a primary ceremonial circulation corridor.
- Continue a strong campus edge along East Tenth Street.
- Emulate proportions, scale, and character of the core campus.
- Define a unique neighborhood personality compatible with the core campus.
- Leverage the railroad corridor for future campus utility improvements and commuter rail service.



Proposed View of North Woodlawn Avenue and the Alumni Walk



Proposed North Woodlawn Avenue Corridor

BUILDING INITIATIVES

New Mixed-Use Academic Buildings

Many new mixed-use academic buildings are envisioned for the Woodlawn and Tenth Street neighborhood. New academic structures will reflect the height, proportions, and density defined by the Kelley School of Business, Multidisciplinary Science Building II, and the Geology Building. Building configurations must support fundamental open space initiatives and facilitate social interaction. Ground levels should open onto new quads and the North Woodlawn Avenue corridor.

Kelley School of Business Addition

An addition to the Kelley School of Business along East Tenth Street will enhance the existing street character and provide a new front door to the business school.

RENOVATION INITIATIVES

Geology Building Renovation

The Geology Building on East Tenth Street needs major renovation. It is recommended that the building be renovated and updated for continued academic use.



Proposed View of the Kelley School of Business Expansion



Woodlawn Field



Cox Arboretum Gateway

Student Housing

Several new student housing quads will define the western edge of the new neighborhood. These facilities will be based on the formal composition and character of Collins Quad and offer a diverse, unique student living environment. Student life resources and retail venues will be integrated into the quads to promote a sense of community and social interaction.

Parking Facilities

The site directly west of the existing steam plant will be reserved for a potential long-term parking structure. A new parking structure at this location can serve the parking needs of the new academic expansion along North Woodlawn Avenue, Multidisciplinary Science Building II, and the proposed academic office building at North Walnut Grove and East Eleventh Street. Access to this garage is envisioned to be off of North Woodlawn Avenue and East Twelfth Street, capturing much of the traffic from the north and west without causing additional congestion along East Tenth

Street. If commuter rail service is established in Bloomington, this parking facility can support that function as well.

OPEN SPACE INITIATIVES

New Academic Quads

The academic expansion north of the Woodlawn and Tenth Street neighborhood will define a new quad that will serve as a vibrant and active home to several primary University programs. Building uses will include a mix of academic, support, research, and residential. A large, central quad will be the heart of this neighborhood, and it will serve as the primary ceremonial outdoor space for the adjacent development.

Woodlawn Field

Woodlawn Field currently serves as a scenic gateway and internal campus edge at the corner of the Woodlawn and Tenth Street neighborhood. Its adjacency to the Wildermuth Intramural Center and HPER allows it to support both recreational and educational activities. Unfortunately, the current field arrangement does not fully utilize the potential

of the site. Woodlawn Field is envisioned to be retrofitted with a series of lighted field turf playing surfaces to improve durability and facilitate more class activities, recreation, and intramural sports. A new playing surface and additional lighting will extend the hours of operation and reduce maintenance costs.

STREETSCAPE INITIATIVES

North Woodlawn Avenue and Alumni Walk

North Woodlawn Avenue will become a ceremonial north-south circulation corridor that will establish a front door to the new Woodlawn and Tenth Street neighborhood. Setbacks, pedestrian scale, and streetscape character along this corridor will be based on the East Third Street edge along the southern boundary of campus. The new corridor will support pedestrian circulation and provide a transit route linking the parking resources of Intercollegiate Athletics with the Historic Core. The streetscape will be memorable and feature special paving, shade and flowering trees, pedestrian-scale lighting, site furniture, and other amenities that create a unique identity. Donor opportunities

will be included such as small-scale plazas, masonry seat walls, columns, public art, specialty site furnishings, and engraved paving along the walkway.



Proposed Pedestrian Corridor to Multidisciplinary Science Building II

INFRASTRUCTURE INITIATIVES

Chilled Water System

Chiller capacity from the CCWP is insufficient to serve any of the new facilities in this neighborhood. Because the piping infrastructure to serve the proposed buildings does not currently exist, planning and analysis is required to determine the proper size of the piping. A satellite chilled water production facility may be needed. The McCalla School (Fine Arts Annex) will stand alone and will not be supported by Indiana University utilities.

Steam and Condensate System

Capacity from the CHP is adequate, but new steam and condensate infrastructure is required to serve the proposed buildings in this neighborhood. Analysis is required to ensure that piping is sized correctly to serve this neighborhood.

Electrical System

Power distribution to serve the new buildings in this neighborhood will be generated by new circuits added to the Switching Center.

Telecommunications System

All new structures west of North Walnut Grove will require new underground telecommunications infrastructure.

Water System

Water mains are old and undersized for the new loads that will come from the new buildings in this neighborhood. Analysis is required to ensure that piping is sized correctly to serve this neighborhood.

Stormwater System

Storm sewer mains are old and undersized for the new loads that will come from the new buildings in this neighborhood. Analysis is required to ensure that piping is sized correctly to serve this neighborhood. In addition, the storm sewer mains downstream of this neighborhood may also be undersized. Close coordination with the City Utilities Department is required once this area undergoes transformation. As new buildings are developed, infiltration facilities should be incorporated to increase the quality of the stormwater flowing further downstream.

The existing buildings should also be analyzed to determine whether infiltration facilities can be incorporated as surrounding development occurs.

Detention from this neighborhood can be handled in the underground facility proposed in the Jordan Avenue Corridor.

Sanitary Sewer System

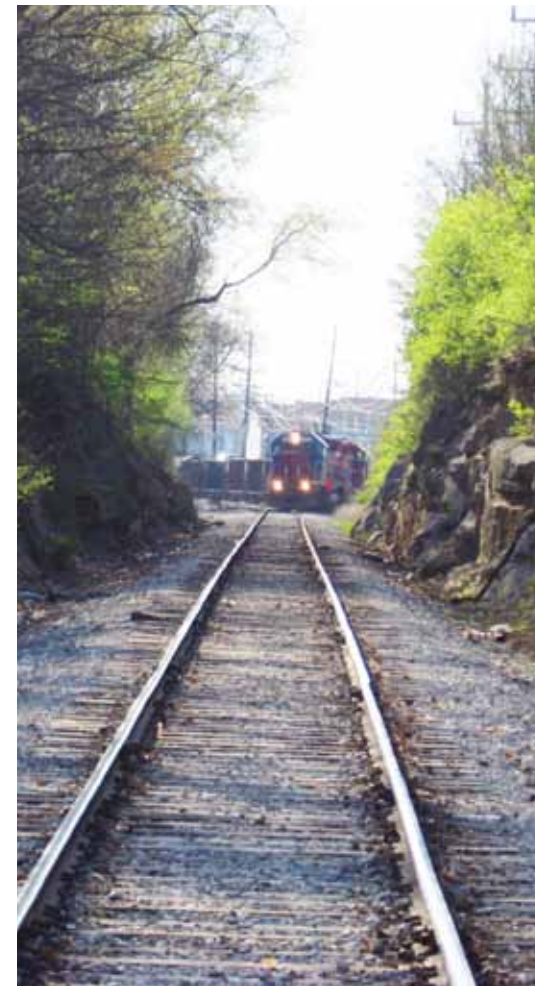
Sanitary sewer mains are old and undersized for the new loads that will come from the new buildings in this neighborhood. Analysis is required to ensure that piping is sized correctly to serve this neighborhood. In addition, the sanitary sewer mains downstream of this neighborhood may also be undersized. A significant increase in sanitary sewer flows will occur in this neighborhood due to the increase in building area. Consequently, the existing mains will need to be upsized and may need to be relocated to accommodate the footprints of the proposed buildings. The existing sewer that cuts across Woodlawn Field will be rerouted to North Woodlawn Avenue to allow for the

construction of the proposed underground detention facility. Close coordination with the City Utilities Department is required once this area undergoes transformation.

Railroad and Infrastructure Corridor

The railroad corridor will continue to support primary campus utilities and service-oriented structures. The existing steam plant will stay in operation at its current location for at least 23 years, based on existing service agreements. Land banks will be established for future power/steam and chilled water plants north of the railroad corridor west of North Walnut Grove.

The rail corridor has great potential as a future front door to the University as the likelihood of commuter rail service increases. A new rail station can be located near North Woodlawn Avenue and support the new ceremonial circulation corridor. Any new commuter rail service infrastructure and associated facilities will need to be carefully coordinated and must not undermine the utility infrastructure.



Existing Railroad Corridor

ARCHITECTURAL GUIDELINES

New construction in the Woodlawn and Tenth Street neighborhood will define a new mixed-use academic and residential precinct for Indiana University. This new precinct must represent the core principles and enduring values of the University while projecting a forward-thinking and progressive image of the University's future. Architectural designs must assimilate the sophisticated character and durable qualities of the academic core with bold aesthetic ideas that embody new spirit and academic vision. Building façades should convey unique identities that are emblematic of the programs they contain and distinguish Woodlawn and Tenth Street from other University neighborhoods.

The architectural character, material palette, refined detailing, and sophisticated landscaping approach exemplified in the academic core will be a model for redevelopment of this area. Buildings will be configured to fully define new quads and open spaces while conveying elegant proportions and architectural complexity consistent with the core campus. New quads

must support a sophisticated, vibrant, and interactive pedestrian-oriented environment modeled on the Wells and Collins prototypes. The scale and character of new spaces must promote unique spatial personalities and support social interaction within a comfortable environment.

New structures will support mixed-use programs and incorporate retail and dining venues at the lower levels. These program elements must convey transparency and engage the surrounding environment and streetscape setting. Building configurations must be carefully defined to promote outdoor spaces and interactive social settings.

Objectives

- Establish a new progressive architectural character based on core campus values.
- Respect and reinforce new neighborhood edges.
- Define new open spaces and promote social interaction.
- Promote ground-level transparency and street-level engagement.

Primary Materials

- Façades: Variegated limestone – panelized or random ashlar
- Roof Shapes: Flat roofs with appropriate architectural roof shapes
- Glazing: Clear low E glazing with aluminum framing; operable sashes at student housing
- Streetscape: Dry laid limestone site walls



Multidisciplinary Science Building II



View of the Woodlawn and Tenth Street Neighborhood



Recommended Woodlawn and Tenth Street Demolition Plan

■ Buildings Recommended for Demolition

BUILDING AND RENOVATION INITIATIVES

- 01 New Mixed-Use Academic Building
- 02 Graduate Fine Arts Studios at McCalla School
- 03 New Student Housing
- 04 Kelley School of Business Addition
- 05 Geology Building Renovation
- 06 New Parking Structure
- 07 Central Chilled Water Plant Expansion
- 08 Utility Expansion Land Bank
- 09 New Gathering Space

OPEN SPACE INITIATIVES

- 10 Woodlawn Field Improvements
- 11 New Academic and Residential Quad
- 12 New Pedestrian Underpass

STREETScape INITIATIVES

- 13 North Woodlawn Avenue Corridor - Alumni Walk
- 14 East Tenth Street Streetscape Enhancements

INFRASTRUCTURE INITIATIVES

- 15 New Chiller Capacity and Piping Required for All New Buildings
- 16 New Steam and Water Piping Required for Neighborhood
- 17 Double Existing Circuits
- 18 New Service from Duke Energy to Support CCWP
- 19 Existing Duke Energy Dunn Street Substation
- 20 New Telecom Duct Bank Conduit Capacity
- 21 Sanitary Sewer Improvements Required

KEY

- Existing Building
- Building Opportunity
- Parking Opportunity
- ✳ Gateway Opportunity



Woodlawn and Tenth Street Plan

E Seventh St

NEIGHBORHOOD 7: FEE LANE AREA



Fee Lane Area Map



Aerial View of Briscoe and McNutt Dormitories



Briscoe Dormitory

EXISTING CHARACTER

The Fee Lane Area neighborhood is primarily a single-use residential district that is home to several large-scale, predominantly freshman-oriented housing facilities. The area is characterized by a few athletic fields and large, undeveloped open space that once supported a neighborhood of single-family, detached residences. The student housing located in this neighborhood is geographically remote from the core campus and relatively isolated. North Fee Lane serves as the neighborhood's front door, providing access north to Intercollegiate Athletics and south to East Tenth Street.

The existing student housing structures were built in the mid 1960s and represent a simplistic Modernist style popular in housing construction at that time. The building façades are composed primarily of limestone, brick, and concrete. Fenestration is dominated by vertically organized punched windows.

Open spaces around the student housing are dominated by surface parking with a few

modestly landscaped green spaces. The former residential neighborhood east of North Walnut Grove is a unique and beautiful landscape with rolling topography and mature residential street trees. It is currently underutilized and is regularly used by tailgaters during football season.

The existing intercollegiate baseball and softball fields, located east of North Fee Lane, will be relocated to the Intercollegiate Athletics neighborhood north of East Seventeenth Street.

EXISTING QUALITIES

- Single-use residential neighborhood
- Large, undeveloped open spaces
- Utilitarian modern buildings with simplistic architectural expressions



McNutt Quad



Hoosier Tailgating



Wells Quad



Atwater Commons, Middlebury College



Boldt Hall, Cornell University

DEVELOPMENT OPPORTUNITIES

The Fee Lane Area will be transformed from a traditionally single-use freshman-oriented residential neighborhood to a vibrant and diverse mixed-use community. The neighborhood will combine new housing facilities with academic, commercial, and recreational uses. Adding student life amenities and academic programs to the Fee Lane Area will broaden its mix of activities and encourage a more diverse demographic blend of students. This diversity will promote a more lively neighborhood and develop a greater sense of community and place.

New student housing will be configured to create well-defined quads patterned after successful collegiate residential prototypes. New buildings are envisioned to replace existing open spaces, athletic fields, and parking areas adjacent to the existing dormitories. The new structures will be limited in height and in stark contrast to the existing residential towers. This lower-scale development will present a more intimate relationship to the open space and

streetscape environment and provide a better transition to the new mix of academic facilities and retail/dining amenities. The new housing will be designed to attract a diverse age group and offer a variety of unique housing choices. Housing units will be organized around indoor and outdoor neighborhood commons that will promote unique neighborhood personalities and identities. The resulting community will reinvent the Fee Lane Area and promote it as a new model of residential life on campus

The open space west of North Walnut Grove is envisioned to become a new central park and arboretum. This new amenity will be referred to as Woodlawn Arboretum and is intended to promote new environmental resources and expand the campus arboretum program.

DEVELOPMENT OBJECTIVES

- Promote a denser, more vibrant mixed-use residential community.
- Encourage greater age diversity.
- Increase housing variety and options.
- Define a stronger neighborhood identity.

- Engage and support Woodlawn Arboretum as a campus center.
- Develop active pedestrian-friendly streetscapes that promote traffic calming and bicycle lanes.

BUILDING INITIATIVES

New Student Housing

New student housing facilities are envisioned along North Fee Lane and North Walnut Grove. The new 4- to 5-story structures will occupy the existing parking lots and open space directly adjacent to Briscoe and McNutt Quads. These facilities will be modeled on the scale and character of Wells and Collins Quads and will encourage active pedestrian street life. The facilities will include provisions for academic teaching space and a mix of small retail and food service venues.

RENOVATION INITIATIVES

Existing Student Housing Renovations

Briscoe Quad is planned for renovation to improve student housing quality and choice on campus.

Neighborhood Commons

Neighborhood commons with unique identities will anchor each of the existing and proposed residential developments. These commons will bring together diverse student groups and encourage social interaction.

Academic Building

The new academic building planned for this neighborhood will be located south of McNutt Quad and west of North Fee Lane. Its primary frontage will be oriented along North Fee Lane and the proposed East Law Lane extension. The new facility will attract a high volume of students to the neighborhood, promoting an active living and learning environment.

Parking

The development of the western edge of the Fee Lane Area along North Walnut Grove will displace existing surface parking lots immediately west of Briscoe and McNutt Quads. The displaced parking will be redistributed to surface parking in the Intercollegiate Athletics neighborhood.



Proposed View of Fee Lane Area Neighborhood

OPEN SPACE INITIATIVES

East Law Lane Extension and Streetscape

The extension to East Law Lane will traverse through the southern edge of the Fee Lane Area neighborhood, creating a much needed vehicular-oriented east-west connection. This new passageway will help ease congestion on East Tenth Street. The new roadway should include bike lanes and off-street pedestrian sidewalks to encourage all modes of transportation.

Woodlawn Arboretum

The defining element to the Fee Lane Area will be its interface with the proposed Woodlawn Arboretum along its western edge. This large-scale park envisioned between East Fourteenth and East Seventeenth Streets will be a major open space preserve filled with rolling topography, winding paths, open lawns, and Cascade Lake, a water feature reminiscent of Mirror Lake Hollow at The Ohio State University. The proposed Alumni Walk along North Woodlawn Avenue will bisect the park, creating a unique environment and celebrated

approach to the Intercollegiate Athletics neighborhood and its stadia to the north.

STREETSCAPE INITIATIVES

As development of the Fee Lane Area neighborhood is implemented, streetscape character improvements should be incorporated. Residential area streetscapes should be reconstructed to adopt the appropriate Fee Lane, Campus Typical, or Residential Typical streetscape character.

INFRASTRUCTURE INITIATIVES

Chilled Water System

A satellite chilled water facility will be installed to serve Briscoe Quad as part of a major renovation and will be operational by late 2010. This facility will be sized to add chillers to serve the proposed residential buildings in this neighborhood. The proposed academic building will be served by the existing CCWP, but chiller capacity must be added prior to occupancy.

Steam and Condensate System

Capacity is available from the CHP, but steam and condensate piping distribution systems must be replaced and extended to serve the proposed buildings in this neighborhood. Analysis is required to ensure that piping is sized correctly to serve this neighborhood.

Electrical System

Power distribution to serve the new buildings in this neighborhood will be generated by new circuits added to the Switching Center.

Telecommunications System

A new telecommunications route on North Walnut Grove will be required from East Thirteenth Street to East Seventeenth Street to serve new buildings along North Walnut Grove. Loop construction is required. Telecommunications conduits along North Fee Lane need repair or replacement.

Water System

Water mains are old and undersized for the new loads that will come from the proposed

buildings in this neighborhood. Analysis is required to ensure that piping is sized correctly to serve this neighborhood.

Stormwater System

Storm sewer mains are old and undersized for the new loads that will come from the new buildings in this neighborhood. Analysis is required to ensure that piping is sized correctly to serve this neighborhood. The storm sewer mains downstream of this neighborhood may also require upgrading to accommodate development. Close coordination with the City Utilities Department is required. As new buildings are developed, infiltration facilities should be incorporated to increase the quality of the stormwater flowing further downstream. The existing buildings should also be analyzed to determine whether infiltration facilities can be incorporated as surrounding development occurs. Detention from this neighborhood is proposed to be handled in the underground facility located in the Intercollegiate Athletics neighborhood.

Sanitary Sewer System

A new sanitary sewer will be needed to accommodate the residential commons and student housing proposed along the east side of North Fee Lane south of East Seventeenth Street.

Sanitary sewer mains are old and undersized for the new loads that will come from the proposed residential buildings in this neighborhood. Analysis is required to ensure that piping is sized correctly to serve this neighborhood. The sanitary sewer mains downstream of this neighborhood may also be undersized and may require upgrading to accommodate the development of this neighborhood. Close coordination with the City Utilities Department is required.

ARCHITECTURAL GUIDELINES

New construction in the Fee Lane Area will be focused on residential and student life facilities and build upon the existing housing infrastructure to define a more dense, livelier, and more diverse community.

New housing will line the primary circulation corridors and establish a new identity for the area. Building façades along Woodlawn Arboretum and North Fee Lane must delineate coherent neighborhood edges and celebrate the thresholds they define.

New buildings will complement existing structures while conveying a scale, quality, and aesthetic more consistent with traditional residential areas. The architectural character, material palette, refined detailing, and sophisticated landscaping approach exemplified in Collins Quad will be a model for redevelopment of this area. New structures will present unique architectural personalities and define new open spaces that promote a sophisticated, vibrant, and interactive

community. The scale and character of the new spaces must be distinct and support social interaction within a comfortable environment.

New structures will support mixed-use programs and incorporate student life and retail/dining venues at lower levels. These program elements must convey transparency and engage the surrounding environment and streetscape. Building configurations must promote outdoor, interactive social settings.



Whitman College, Princeton University

Objectives

- Develop a unique traditional architectural character derived from existing context.
- Define new open spaces and promote social interaction.
- Promote ground-level transparency and street-level engagement.
- Celebrate the Woodlawn Arboretum frontage.

Primary Materials

- Façades: Limestone and neutral brick masonry, precast concrete
- Roof Shapes: Sloped roofs with slate shingles
- Glazing: Clear low E glazing with aluminum framing; operable sashes at student housing
- Streetscape: Dry laid limestone site walls



St. Mary's College of Maryland



View of Woodlawn Arboretum and Cascade Lake



Recommended Fee Lane Area Demolition Plan

■ Buildings Recommended for Demolition

BUILDING AND RENOVATION INITIATIVES

- 01 New Neighborhood Commons
- 02 New Student Housing
- 03 Existing Student Housing Renovations
- 04 Academic Building

OPEN SPACE INITIATIVES

- 05 Woodlawn Arboretum
- 06 Cascade Lake
- 07 Residential Quad

STREETSCAPE INITIATIVES

- 08 East Law Lane Extension and Streetscape
- 09 Streetscape Enhancements

INFRASTRUCTURE INITIATIVES

- 10 New Chilled Water Service from Briscoe Quad Satellite Facility
- 11 Steam Piping Extension Required
- 12 Replacement and Extension Required for Water, Sewer, and Storm Piping
- 13 Electrical Service from Switching Center
- 14 Future Briscoe Chilled Water Plant
- 15 Sanitary Sewer Improvements Required
- 16 New Telecom Duct Bank Required

KEY

- Existing Building
- Building Opportunity
- Parking Opportunity
- ✱ Gateway Opportunity



Mirror Lake Hollow, The Ohio State University



Fee Lane Area Plan

NEIGHBORHOOD 8: NORTHEAST AREA



Aerial View of Northeast Area



Carillon Tower



Northeast Area Map

EXISTING CHARACTER

The Northeast Area is characterized by a mix of low-rise graduate housing, mid-rise apartment buildings, Greek housing, open space, and recreational amenities. Much of the housing located in this area is antiquated and lacks a convenient connection to the core campus. A few residential structures in this area, including the newly renovated Campus View Apartments, maintain student demand and long-term viability.



Campus View Apartments



Student Recreational Sports Center



Jordan River Headwaters

The Student Recreational Sports Center (SRSC) anchors the southern border of the Northeast Area, just north of the railroad tracks. The building opened in 1992 and is a heavily used, recreational asset to students, faculty, and staff. Unfortunately, its isolated location greatly limits access and frustrates regular patrons.

Fraternity and sorority houses form the western edge of the neighborhood, defining an active, socially-oriented district along North Jordan Avenue.

The Hilltop Garden and Nature Center is a cherished open space that occupies over 5 acres on the eastern edge of the Northeast Area. Its value to the University and Bloomington community extends far beyond its cultivated gardens and open space. The facility includes several distinct gardens, greenhouses, and an activity center that provides classes, workshops,

and volunteer opportunities. It provides hands-on education in gardening and horticulture and promotes positive interaction between the University and community members. It is considered a wonderful asset to both the University and the greater Bloomington community.

EXISTING QUALITIES

- Low density residential area
- Isolated from the core campus
- Large open spaces with recreational fields

DEVELOPMENT OPPORTUNITIES

The long-term vision for the Northeast Area neighborhood is a multi-use recreational district that is centrally located for all students and builds upon the SRSC. Most of the student housing in the Northeast Area will be decommissioned as new housing is developed closer to the campus core. This will transform the character of the Northeast Area from a primarily residential enclave into a more naturalized area with consolidated recreation facilities.

Development and promotion of Hilltop Garden and Nature Center also plays into the long-term vision for the area. A continued emphasis on engaging the Bloomington campus student body and outreach programs that encourage interaction with the greater city of Bloomington community will remain a priority. These

initiatives will help expand environmental education, foster land stewardship, and promote the center as a cultural resource. Student-managed initiatives related to environmental sustainability on campus and local food cultivation will be encouraged. Future growth of the center's organic farming initiatives could lead to greater local food security, improved nutrition, and revenue generation through local produce distribution.

DEVELOPMENT OBJECTIVES

- Gradually redistribute student housing from this area to other neighborhoods.
- Strengthen the SRSC as a recreational commons and gathering space.
- Consolidate recreational sports into a new park complex adjacent to the SRSC and convenient to all students.
- Enhance and restore the headwaters of the Jordan River.
- Preserve and promote the Hilltop Garden and Nature Center.
- Expand and preserve campus woodlands with connections to Griffy Reservoir.

BUILDING INITIATIVES

SRSC Expansion

As the existing residential facilities along North Union Street are decommissioned and demolished, most of the Northeast Area will be converted to open space and recreational uses. The lone building initiative in this neighborhood

is an expansion of recreational sports at the SRSC. In order to maintain strategic growth and enhance student amenities, the center will develop additional fitness, wellness, and natatorium facilities. Improved food service and gathering spaces will also be developed to enhance student life and encourage interaction.

OPEN SPACE INITIATIVES

Recreational Sports Fields

With its adjacencies to the SRSC, and its relatively flat land, the Northeast Area is a prime location for a central recreation and intramural sports park. The area is within walking distance of nearly 14,000 students and can serve as a gateway between the core campus, Research Park, Indiana University Golf Course, and Griffy Reservoir.

A first priority recreation expansion initiative will be the development of a four- or five-field softball complex on open land directly adjacent to Tulip Tree Apartments. Additional multi-use recreation and intramural field initiatives can be pursued with the demolition of Banta, Bicknell, Hepburn and Nutt Apartments, and the realignment of North Union Street.

Jordan River Headwaters

As part of the reclamation of the Northeast Area for open space, the headwaters of the Jordan River should be preserved and returned to a more natural state. Riparian and stream bank



Hilltop Garden and Nature Center - Garden Center



Hilltop Garden and Nature Center



Redbud Hill Apartments



Evermann Apartments



Tulip Tree Apartments

restoration, and the re-introduction of native species can highlight the renovations to the river corridor and engage the surrounding recreation facilities. A retention system at the headwaters of the river will allow for temporary stormwater storage during large storm events. Stormwater retention and control is essential to the overall health of the Jordan River and the downstream corridor that winds through campus.

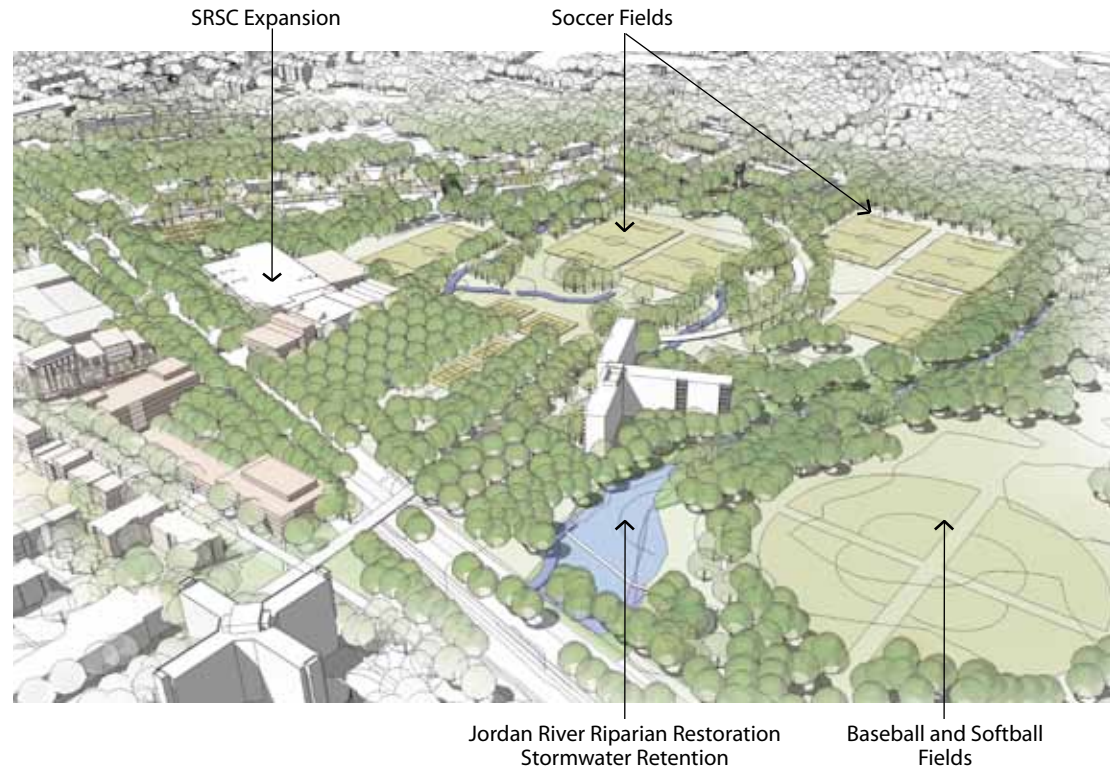
Hilltop Garden and Nature Center

Hilltop Garden and Nature Center is a model of agricultural education and a sustainable

food production asset to the campus and the surrounding community. The center and associated programs are envisioned for long-term development, enhancement, and expansion.

East Seventeenth Street Woods

The existing East Seventeenth Street woods are a regional asset and habitat link to the woodlands surrounding Griffy Reservoir. The woods will be maintained and enhanced with additional wildlife and habitat corridors between the headwaters of the Jordan River, the East Seventeenth Street woods, and Griffy Reservoir.



Proposed View of Future Recreation Fields Looking Northwest

STREETSCAPE INITIATIVES

As development of the Northeast Area is implemented, streetscape character improvements should be incorporated. Residential area streetscapes should be reconstructed to adopt the Residential Typical streetscape prototype with all other areas developed with the Campus Typical prototype.

INFRASTRUCTURE INITIATIVES

Chilled Water System

The SRSC expansion will be served by the existing heat recovery chiller (HRC) or an additional HRC in the SRSC.

Electrical System

If power distribution is required for field lighting for new playing fields, service is likely to be generated from Substation D located north of the SRSC. Substation D is original 40-year-old equipment and has reached the end of its useful life. Substation D will need replacement in the next 5 to 10 years.

There are five high voltage overhead circuits parallel to the railroad. There are 69kV and 15kV circuits on the south side of the railroad, and 3-15kV circuits on the north side. Duke Energy owns three circuits, and the University owns two. The 69kV circuit can be buried, but that will be very costly. Duke Energy is installing circuit 1230 (15kV) on poles along the north side of the railroad during the summer of 2009 to serve the new electric load created by the Data Center. Indiana University is designing the relocation of circuit 211, placing it underground to provide additional protection to the power distribution to the Data Center.

Telecommunications System

New telecommunications duct bank is needed on East Law Lane.

Water System

Water for irrigation and restrooms associated with the recreational fields must be extended from CBU mains located in North Jordan Avenue, East Lingelbach Lane, and East Law Lane.

Stormwater System

As proposed buildings are developed, infiltration facilities should be incorporated to increase the quality of the stormwater flowing further downstream. The existing buildings should also be analyzed to determine whether infiltration facilities can be incorporated as surrounding development occurs.

Detention from the proposed buildings will be accounted by the in-line detention facilities located in the East of Jordan neighborhood. Another large in-line detention facility will be constructed north of East Law Lane in the Jordan River basin. This detention facility will help to control the quantity of flow heading downstream during large rainfall events.

Sanitary Sewer System

The SRSC expansion will require an upsizing of the sewer heading south out of the building towards East Law Lane. Sanitary sewers for restrooms associated with the recreational fields must be extended from gravity mains located in

or near North Jordan Avenue, East Lingelbach Lane, and East Law Lane. A lift station may be required, and planning should determine the optimum location to serve all future facilities.

ARCHITECTURAL GUIDELINES

Anticipated new construction and renovations in the Northeast Area will be limited to the expansion of the SRSC and selective minor renovations to existing housing facilities that are intended to remain long term.

Expansion of the SRSC will require careful planning to ensure that new construction is appropriately configured to not undermine the existing building's design aesthetic and functionality. Designed by noted architect Edward Larrabee Barnes, the SRSC is an elegant structure that expresses a simplicity and clarity consistent with much of Barnes' work. The building's design is highly appropriate for its use and represents a rational contemporary design approach and modern efficiency. The building's exterior is simply fenestrated and embellished

with sophisticated modern details. Its scale and materiality are expressive of its internal function and appropriate for its remote campus setting.

Additions to the SRSC must promote the spirit of the original design while maintaining the facility's coherent circulation pattern and functional layout. Development initiatives must efficiently assimilate with the existing plan and emulate the existing structure's clarity and simplicity. New construction must be scaled appropriately for its programmed use and be externally expressive of its interior function. New designs must respectfully embrace the established aesthetic but are not required to repeat existing configurations or assemblies. New structures should leverage opportunities to provide internal and external social gathering spaces that complement both new and existing recreational components.

Objectives

- Expand the SRSC respectful of the original design.

- Maintain the rational planning and clear layouts.
- Provide new internal and external social spaces.

Primary Materials

- Façades: Precast concrete or limestone
- Glazing: Clear low E with aluminum framing
- Site Walls: Loose laid limestone



Proposed View of Northeast Area



Northeast Area Demolition Plan

■ Buildings Recommended for Demolition

BUILDING INITIATIVES

01 SRSC Expansion

OPEN SPACE INITIATIVES

02 Baseball and Softball Fields

03 Soccer Fields

04 Jordan River Riparian Restoration/Stormwater Detention

05 East Seventeenth Street Woods Habitat Improvement

06 Hilltop Garden and Nature Center Expansion

07 Pedestrian Railroad Crossing

STREETSCAPE INITIATIVES

08 East Law Lane Extension and Streetscape Enhancements

09 Street Extension and Streetscape Enhancements

INFRASTRUCTURE INITIATIVES

10 Lighting Power Distribution from Substation D

11 Water and Sewer Extensions Required for Fields

12 Replacement for Substation D

13 New Telecom Duct Bank Conduit Capacity

KEY

■ Existing Building

■ Building Opportunity

■ Parking Opportunity



Northeast Area Plan

NEIGHBORHOOD 9: RESEARCH PARK



2007 Aerial View of the Research Park



Research Park Area Map

EXISTING CHARACTER

The Research Park neighborhood is a quickly emerging district along the outer periphery of the campus. The existing neighborhood infrastructure includes a combination of former K-12 educational buildings, University storage warehouses, athletic fields, support facilities, and the newly constructed Indiana University Data Center. The K-12 education buildings are single-story structures that were originally constructed in the mid 1960s and are now occupied by the University's information technology organization. The configuration of these structures does not adequately support the needs of the information technology organization, and the overall poor building conditions exacerbate this dysfunction.

The Research Park neighborhood is bounded by the SR 45/46 Bypass which further accentuates the Research Park's disconnection from the core campus. These high volume vehicular corridors segregate this area from the main campus and promote a sense of isolation and remoteness. Very few pedestrian connections exist across the SR 45/46 Bypass, further promoting this area's isolation.

EXISTING QUALITIES

- Low-rise 1-story structures surrounded by surface parking
- Many campus support and storage facilities and athletic fields
- Gently rolling topography that increases in steepness toward the northeast
- Antiquated building inventory of poor quality not suited for current uses



M. H. Wrubel Computing Center



Auxiliary Library Facility

DEVELOPMENT OPPORTUNITIES

The primary objective of this neighborhood is to house key facilities for the University's information technology organization and central infrastructure as well as facilities to support technology transfer and economic development.

The newly constructed Indiana University Data Center will anchor this neighborhood and provide a valuable technology resource for both public and private research efforts. New office and research structures are envisioned to surround the Data Center and define a public-private academic research community unique to the campus. Partnerships will be established with private technology organizations to leverage resources and foster the development of innovative new technologies.

The image of this new neighborhood is to be forward-thinking and representative of the cutting edge technology embodied in the Data Center and the groundbreaking research it enables. Buildings will be progressive and contemporary in style, but not faddish. Characteristics from the core campus will

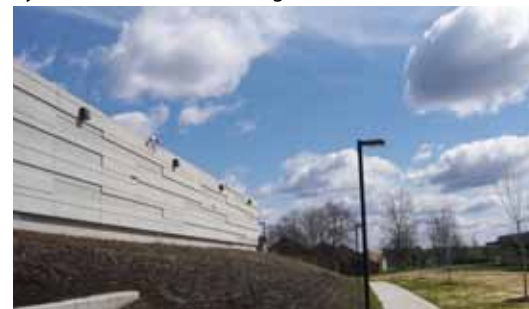
be emulated and inform the qualities of new structures and open spaces. These characteristics will include sustainably-focused landscape settings, sophisticated architectural compositions, and refined neutral color and material palettes.

New structures must establish a strong presence along the SR 45/46 Bypass and promote the unique identity of this neighborhood. Technology and building infrastructure will bridge across the SR 45/46 Bypass and develop the underutilized land adjacent to Tulip Tree Apartments. Delineation of a new campus edge along this primary vehicular corridor will define a new image for Indiana University and reinvent the gateway to the main campus along East Tenth Street. A renovation and repurposing of Tulip Tree Apartments to offices and research facilities will further reinforce the mission of this neighborhood.

The research and support infrastructure intended for the Research Park neighborhood should be innovative and unique, and promote academic



Cyber Infrastructure Building



Data Center



Proposed View of the Research Park

intellect and creative thought. The new community will be enhanced by new memorable open spaces, recreational opportunities, retail and dining amenities, and improved vehicular and pedestrian connections to the main campus. Public areas will be carefully configured to promote both social interaction spaces and individual reflection areas. Retail and dining amenities will be strategically located to maximize convenience and activate public space.

As the neighborhood evolves, future growth will continue north along the SR 45/46 Bypass. Building sites along this corridor will be developed as public-private partnerships and establish a new Indiana University Technology Corridor. Each of the partnership developments will likely require significant parking resources to support employees and staff. Efforts to utilize public transportation and minimize new parking facilities will be encouraged.

DEVELOPMENT OBJECTIVES

- Establish a vibrant new academic and research community.
- Define a strong presence and identity along the SR 45/46 Bypass.
- Anchor the eastern edge of campus and develop a new campus gateway.
- Foster innovation with public-private partnerships.
- Improve visual and physical connections to campus.

- Promote a technology corridor along the SR 45/46 Bypass.

BUILDING INITIATIVES

Cyber Infrastructure Building (CIB)

The CIB is an information technology office building planned for the prominent corner of the SR 45/45 Bypass and East Tenth Street. Construction of this building will establish the material palette and aesthetic sensibility intended for the Research Park neighborhood. This structure is a critical first step in the development of the neighborhood, as it will facilitate demolition of many of the existing structures and allow major development to progress.

Indiana University Innovation Center

The Indiana University Innovation Center is a flexible research laboratory facility currently under construction along East Tenth Street. This structure is a companion building to the CIB, and its design and character will also set the standard for future development.

Private Partner Buildings

Multiple new private partner buildings are identified for development. These structures will most likely house research and office functions for private organizations and may be constructed by independent developers. Development guidelines and design parameters must be carefully scrutinized for these projects to ensure quality design and appropriateness.

Gateway Building

The prominent open site in front of the Tulip Tree Apartments will be developed as a Research Park administrative building and visitor center. A prominent structure at this location will relate to both the existing Tulip Tree Apartments and the planned CIB and will define the eastern gateway to campus along East Tenth Street.

Tulip Tree Apartments Repurpose

Tulip Tree Apartments are currently undergoing moderate renovations. As the Research Park continues to develop, the Tulip Tree Apartments should be repurposed in the long term for office and mixed uses in support of the Research Park.

OPEN SPACE INITIATIVES

Open Spaces

New buildings will be organized along a central landscaped green that will define a recognizable open space hierarchy for the neighborhood. Building locations will be configured along the SR 45/46 Bypass to frame views into the neighborhood and feature the open spaces. Parking resources will be located adjacent to and behind structures to limit their presence and visibility from the bypass. The existing athletic fields will remain and continue to support intercollegiate and recreational activities.

The landscape character will support more forward-thinking environmentally sustainable strategies and include innovative stormwater management, porous pavement, and use of native plant material and stone. Mown turf grass should be minimized in favor of more sustainable native grasses, shrubs, and trees that are indigenous to the region's ecosystem.

Campus Connections

Establishing physical connections back to the main campus is a primary objective as the Research Park neighborhood develops. Pedestrian and bicycle connections will follow the proposed North Range Road extension north of East Tenth Street and cross the SR 45/46 Bypass at a controlled signalized street crossing. Reconfigured transit links will provide a more direct connection between the Research Park neighborhood and the core campus via East Tenth Street.

STREETSCAPE INITIATIVES

Enhancing the streetscape to create a better gateway and campus edge along East Tenth

Street at the SR 45/46 Bypass is a priority. Pedestrian links between the Research Park and the main academic campus should be reinforced through signalized crossings at the SR 45/56 Bypass. An enhanced pedestrian character can be expressed with streetscape elements, including street trees, sidewalks, campus lighting and banners, and landscape setbacks of deciduous trees, understory trees, shrubs, perennials and grasses.

INFRASTRUCTURE INITIATIVES

The Campus Master Plan proposes a major redevelopment of this neighborhood. Existing structures will be removed, and new facilities will be constructed over time. As such, the routing and relocation of existing infrastructure corridors will need to be evaluated and coordinated with future development.

Chilled Water System

Existing buildings in this neighborhood all have stand-alone cooling equipment. A satellite chilled plant capable of producing and distributing chilled water to this neighborhood

is the more efficient method to provide cooling energy. The proposed research buildings and expanded Data Center should incorporate heat recovery chillers.

Steam and Condensate System

Capacity and piping of the existing steam and condensate system is adequate. Piping replacements from the CHP to this neighborhood may become prohibitively expensive, making it more economical to construct a satellite heating plant to serve new buildings.

Electrical System

Indiana University circuits 203 and 211, and Duke Energy circuit 1230 are adequate to serve this neighborhood, including the Data Center expansion as designed. However, these circuits will not provide redundancy for the Data Center expansion. New circuits will be required for a large on-site standby generation capacity, and close coordination with Duke Energy will be necessary.

A land bank will be established for a future electric power and chilled water source that can potentially utilize heat from the Data Center and function as a sustainably-focused tri-generation plant.

Telecommunications System

The existing telecommunications system serves existing buildings that will be demolished over time. As a graphic, the illustrative plan for this neighborhood depicts the general placement and scale of future development; however, final building locations need to be coordinated with existing and future telecommunications service. A more detailed analysis will be required to determine the feasibility and potential relocation of existing telecommunications routing in conjunction with new construction. At all times, telecommunications and intra-network connectivity between this neighborhood and the main campus must be maintained.

Water System

The topography of this neighborhood is such that static water pressure is marginal at best. A

satellite pressure zone fed from two directions to provide adequate domestic and fire water pressure should be considered as development progresses.

Storm Sewer System

Storm sewer mains are old and undersized for anticipated future loads. Analysis is required to ensure that piping is sized correctly to serve this neighborhood. The storm sewer mains downstream of this neighborhood may also be undersized. Close coordination with the City Utilities Department is required prior to development. Infiltration facilities should be incorporated to increase the quality of the stormwater flowing further downstream. The existing buildings should also be analyzed to determine whether infiltration facilities can be incorporated as development around them occurs. Detention is not proposed due to constraints in available space.

Sanitary Sewer System

Sanitary sewer mains are old and undersized for anticipated future loads. Analysis is required

to ensure that piping is sized correctly to serve this neighborhood. The sanitary sewer mains downstream of this neighborhood are also undersized. Close coordination with the City Utilities Department is required once this area undergoes this transformation. Due to the significant reconfiguration of buildings, reconstruction of the sanitary system may be required.

ARCHITECTURAL GUIDELINES

The architecture of the Research Park must embody a contemporary spirit and promote an aesthetic that represents the innovative and creative research initiatives envisioned for this precinct. New structures must be progressive and forward thinking while emulating the elegant designs, material palette, and land planning principles exemplified in the core campus. Designs must embrace a sophisticated modern aesthetic that is emblematic of Indiana University's commitment to cutting edge research. The recently completed Indiana University Data Center and Innovation Center, and the yet to be constructed CIB set the standard for new construction and quality for this emerging neighborhood.

Construction of new facilities will define a new campus environment that must accommodate a diverse community comprised of university researchers, staff, and a private corporate workforce. Building designs must be configured to support a variety of large and intimate social spaces that encourage interaction and build community amongst these disparate groups. These spaces may be interior or exterior and may be activated by commercial retail establishments or dining facilities.

The Research Park's high visibility along the SR 45/46 Bypass will define a new public face for Indiana University. It is imperative

that the image conveyed by new structures is representative of the University's enduring values and its commitment to high-quality design and construction. Independently funded corporate partner buildings must maintain or exceed Indiana University's quality expectations

The material palette for the Research Park is to be progressive and durable, and derived from the enduring materials and neutral natural colors found on the core campus. Building façades may be rendered in precast concrete, or veneer brick with large expanses of glass or punched windows as appropriate for the building function. Indiana limestone accents and trim should be incorporated into the building design to accent primary building entries, façade embellishments, and site walls. Innovative and environmentally sustainable building materials that are durable and conventionally maintained are encouraged. Façade materials and architectural details should be configured to convey refinement and sophistication similar to the historic structures found on the core campus.



Partner Building Prototype



Pedestrian Corridor Prototype



Community Open Space Prototype



Partner Building Prototype

Objectives

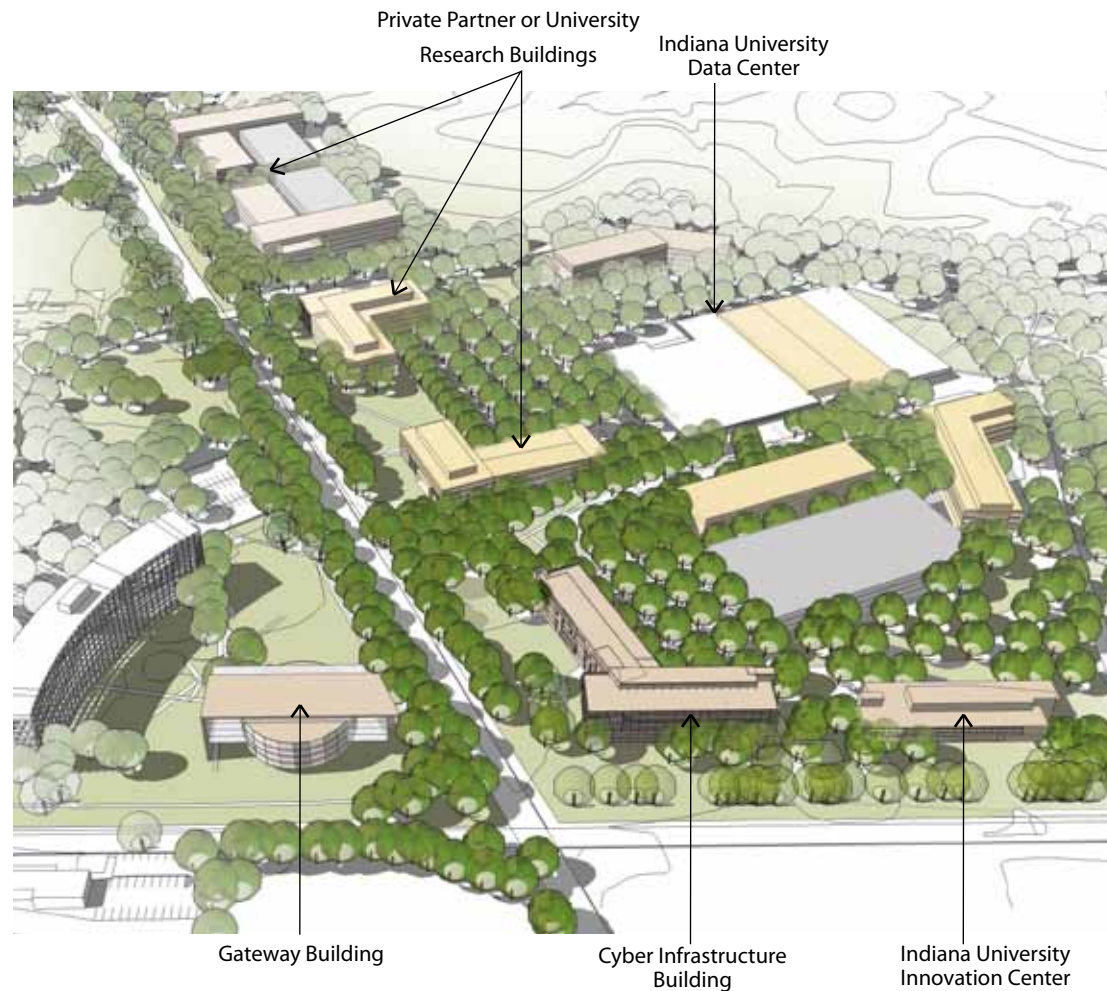
- Embrace a sophisticated aesthetic emblematic of Indiana University's enduring values and its progressive research initiatives.
- Promote an architectural character that conveys innovation and intellectual creativity
- Emulate the land planning principles and architectural design sensibility exemplified on the core campus
- Continue Indiana University's unique landscaping approach

Primary Materials

- Façades: Precast concrete, metal panel, limestone accents
- Roof Shapes: Flat roofs with appropriate architectural roof shapes
- Glazing: Clear low E with aluminum framing



Indiana University Innovation Center



Proposed View of the Research Park



Research Park Demolition Plan

■ Buildings Recommended for Demolition

KEY

- Existing Building
- Building Opportunity
- Parking Opportunity
- ✳ Gateway Opportunity

BUILDING AND RENOVATION INITIATIVES

- 01 Cyber Infrastructure Building
- 02 Innovation Center
- 03 Lilly Auxiliary Library Facility Expansion
- 04 Gateway Building
- 05 Private Partner or University Research Building
- 06 Data Center Expansion
- 07 Tulip Tree Apartments Repurpose
- 08 Gathering Space

OPEN SPACE INITIATIVES

- 09 New Campus Green Space
- 10 Existing Recreation Fields

STREETSCAPE INITIATIVES

- 11 East Tenth Street Streetscape Enhancements
- 12 SR 45/46 Bypass Streetscape Enhancements

INFRASTRUCTURE INITIATIVES

- 13 New Cooling/Heating Service Required
- 14 New Steam and Chilled Water Plant
- 15 Possible New Satellite Water Pressure Zone
- 16 New Storm and Sanitary Lines Required
- 17 New Electrical Utility Source - New Duke Energy Substation or Co-Generation Plant
- 18 Possible Duct Bank Relocation to Serve New Development



Research Park Plan

NEIGHBORHOOD 10: INTERCOLLEGIATE ATHLETICS

EXISTING CHARACTER

The Intercollegiate Athletics neighborhood is generally defined by East Seventeenth Street to the south, North Dunn Street to the west, and the SR 45/46 Bypass to the north and east. The Indiana University Golf Course north of the bypass is the one exception to these limits. Structures in the neighborhood include Memorial Stadium and Mellencamp Pavilion (football), Assembly Hall (basketball), the Tennis Center, and Gladstein Fieldhouse (track and field). The neighborhood is also home to Armstrong Stadium (soccer), Billy Hayes Track, and fields for field hockey and soccer. More than 6,000 parking spaces surround the stadia north of East Seventeenth Street and east of North Fee Lane.

Many daily commuters and first-time visitors pass through the Intercollegiate Athletics area on their way to campus. The minimal signage and expanse of surface parking lots dilute the gateway potential of this area.



Billy Hayes Track and Armstrong Stadium



Memorial Stadium and Assembly Hall



Indiana University Golf Course

EXISTING QUALITIES

- Large athletic facilities generously spaced apart
- Gently rolling topography dominated by surface parking and limited landscaping



Intercollegiate Athletics Area Map



Armstrong Stadium



Assembly Hall

DEVELOPMENT OPPORTUNITIES

The area north of East Seventeenth Street is prime for a consolidated intercollegiate athletics venue, bringing together all athletic programs into the same geographic area. This consolidation will include new intercollegiate baseball and softball fields and a long-term replacement for Assembly Hall.

DEVELOPMENT OBJECTIVES

- Consolidate major athletic facilities into one neighborhood.
- Support the new North Woodlawn Avenue and Alumni Walk corridor.
- Provide siting for new athletic facilities.
- Improve overall identity, landscape, and site character of the neighborhood.

BUILDING INITIATIVES

New Baseball and Softball Facilities

New baseball and softball facilities will be constructed along North Woodlawn Avenue and the SR 45/46 Bypass. The development of these facilities will require relocation of recreation sports fields currently located along North

Fee Lane and the bypass. These fields will be relocated to the Northeast Area.

Memorial Stadium Varsity Shop and Bookstore

A multi-use addition to the south end zone of Memorial Stadium is envisioned to complement the north end zone addition currently under construction. The south end zone addition will include a varsity shop, bookstore, and coffee shop. The addition will also include a transit stop for both game day transportation as well as everyday commuters.

New Assembly Hall

A long-term replacement for Assembly Hall is being considered as the existing facility reaches the end of its functional life. The University is currently evaluating a new arena site directly south of the existing Assembly Hall and adjacent to the new basketball practice facility.

Golf Practice and Field Hockey Facilities

A golf practice facility and field hockey locker room are currently in the planning and development stages.

OPEN SPACE INITIATIVES

Campus Entrance Enhancements

There is an opportunity to reinforce and announce the edge of the Bloomington campus along the SR 45/46 Bypass and better define this area as an entrance to campus. Improved landscape treatments at North Dunn Street and the SR 45/46 Bypass combined with the realignment of the intersections at North Indiana Avenue and North Dunn Street north of East Seventeenth Street will define a more elegant and direct entry sequence to the core campus.

North Woodlawn Avenue Corridor

North Woodlawn Avenue will be the major organizing element through the Intercollegiate Athletics neighborhood. The neighborhood will serve as the northern terminus to Alumni Walk and the redeveloped North Woodlawn Avenue Corridor. With a planned new railroad track crossing, this axis will provide a vital link between Intercollegiate Athletics and other established neighborhoods and serve as a ceremonial pathway to the core campus.

Improved Parking Strategies

The vast amount of existing event parking surrounding the stadia could be better utilized by initiating a multi-use parking strategy that employs existing remote parking lots during off-peak times.

Improving the environmental impact of surface parking conditions should be a priority as

parking lots are reconfigured and renovated. These improvements include the use of pervious pavement, vegetated swales, shade trees, and stormwater infiltration basins. A proposed underground detention facility adjacent to Mellencamp Pavilion will help improve the overall stormwater management and quality.

Transit

Improved shuttle service will provide quick and easy transport between the core of the Indiana University campus and the stadium area along North Woodlawn Avenue. The transit service will have regular stops along North Woodlawn Avenue and in the surface parking lots along North Dunn Street.

INFRASTRUCTURE INITIATIVES

Chilled Water System

Only the East Side of Memorial Stadium and Assembly Hall are connected to the CCWP. New facilities for football and basketball are being designed with stand-alone equipment. Future baseball and softball facilities are also likely to be stand-alone. A future basketball arena will connect to the CCWP, but additional chiller capacity is needed.

Steam and Condensate System

The existing steam and condensate system is adequate to serve current and future needs in this neighborhood. Replacement of existing distribution piping is likely to ensure reliable service in the future.

Electrical System

Replacement of existing circuits will be required in the next 5-10 years. Future baseball and softball facilities will be served from Duke Energy.

Telecommunications System

New telecommunications duct bank is required to complete loop for redundancy.

Water System

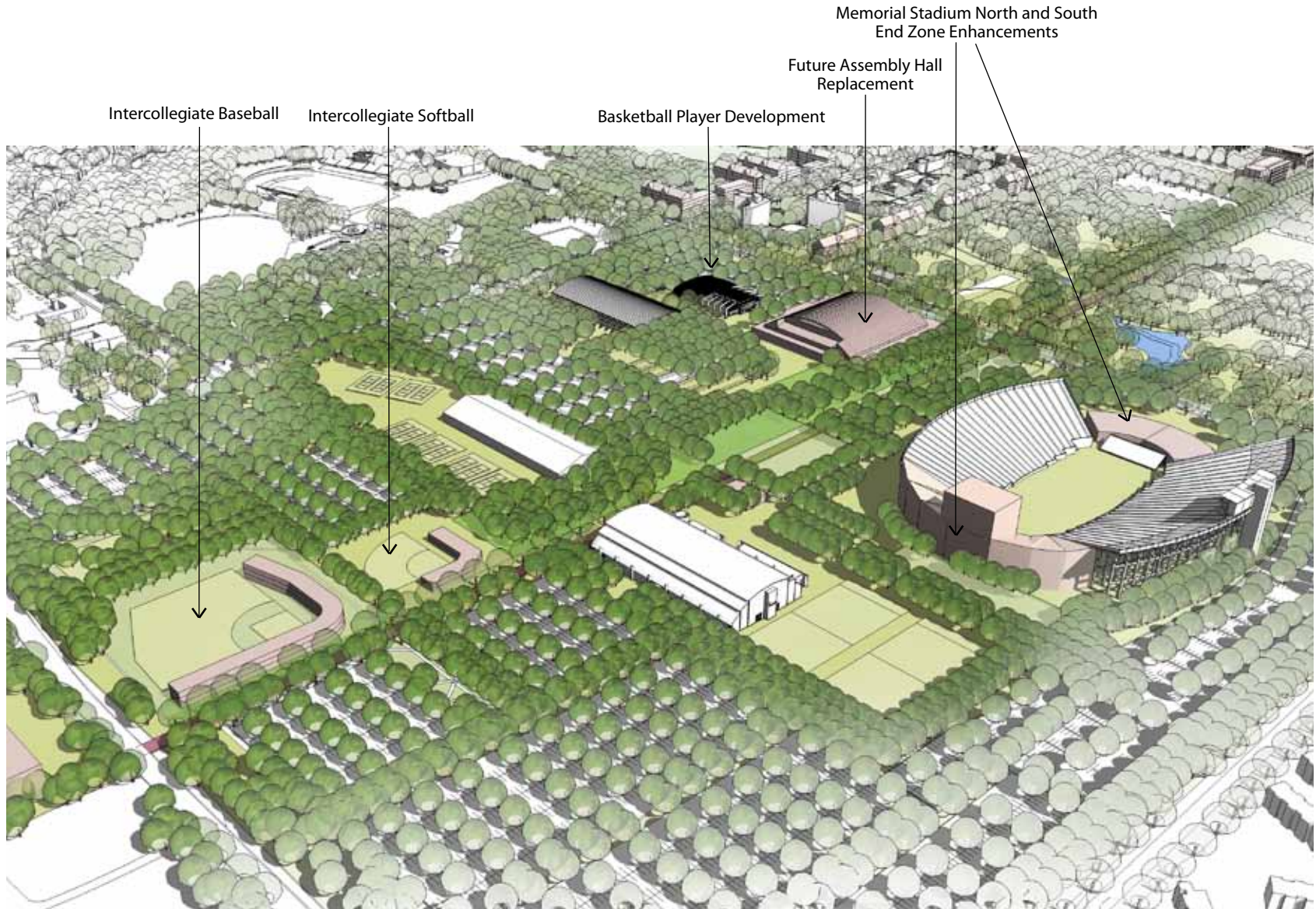
A new, properly sized water main is necessary to serve the existing and new loads in this neighborhood, and to consolidate the many small services that have been installed that serve individual buildings.

Sanitary Sewer System

No problems or initiatives are proposed for the sanitary sewer system in this neighborhood.

Storm Sewer System

As proposed buildings are developed in this neighborhood, infiltration facilities should be incorporated to increase the quality of the stormwater. The existing parking lots should be analyzed to determine whether infiltration facilities can be incorporated as surrounding development occurs. A large, underground detention facility is recommended beneath the proposed parking lot northeast of Memorial Stadium. This detention facility will help to control the quantity of stormwater heading off campus from this neighborhood as well as from the Fee Lane Area and Northeast Area.



Proposed Intercollegiate Athletics Neighborhood Looking Southeast at North Dunn Street and the SR 45/46 Bypass

ARCHITECTURAL GUIDELINES

New facilities in the Intercollegiate Athletics neighborhood must embody an architectural aesthetic that is derived from function and expressive of the purpose of the structure. Nostalgic architectural vocabularies and historical stylistic interpretations that are not integral to the fundamental structure are not necessary or encouraged. Architectural expressions should be derived from construction techniques and celebrate structural technology. Architectural embellishments should reinforce the nature of the structure and not disguise it. New athletics venues should promote an iconic one-of-a-kind image that reinforces Indiana University's enduring values and its commitment to first-rate intercollegiate athletics. Structures should function as beacons for the surrounding area and reinforce the definition of the northern campus edge. The surrounding topographical environment should be embraced and enhanced with large public plazas and social interaction areas that accommodate large spectator crowds and facilitate access to public transit. Buildings must be sited along primary vehicular and

pedestrian and circulation corridors and not surrounded by surface parking. Grade levels should be populated with dynamic uses that promote interaction and street-level activity.



Proposed Aerial View of Intercollegiate Athletics Neighborhood



Memorial Stadium

Objectives

- Encourage functional iconic structures that reinforce the University's commitment to athletics.
- Reinforce and redefine the northern edge of campus.
- Promote street-level activity and interaction.
- Accommodate spectators and facilitate access to transit.

Primary Materials

- Façades: Concrete, limestone, metal panel
- Glazing: Clear low E with aluminum framing
- Site Walls: Loose laid limestone



Proposed Baseball Stadium, HOK Sports



Proposed Baseball Stadium, HOK Sports

BUILDING AND RENOVATION INITIATIVES

- 01 Memorial Stadium South End Zone Addition
- 02 New Baseball and Softball Facilities
- 03 New Assembly Hall
- 04 Private Partner Technology Building
- 05 Men's and Women's Golf Facility
- 06 Basketball Player Development Facility





OPEN SPACE INITIATIVES

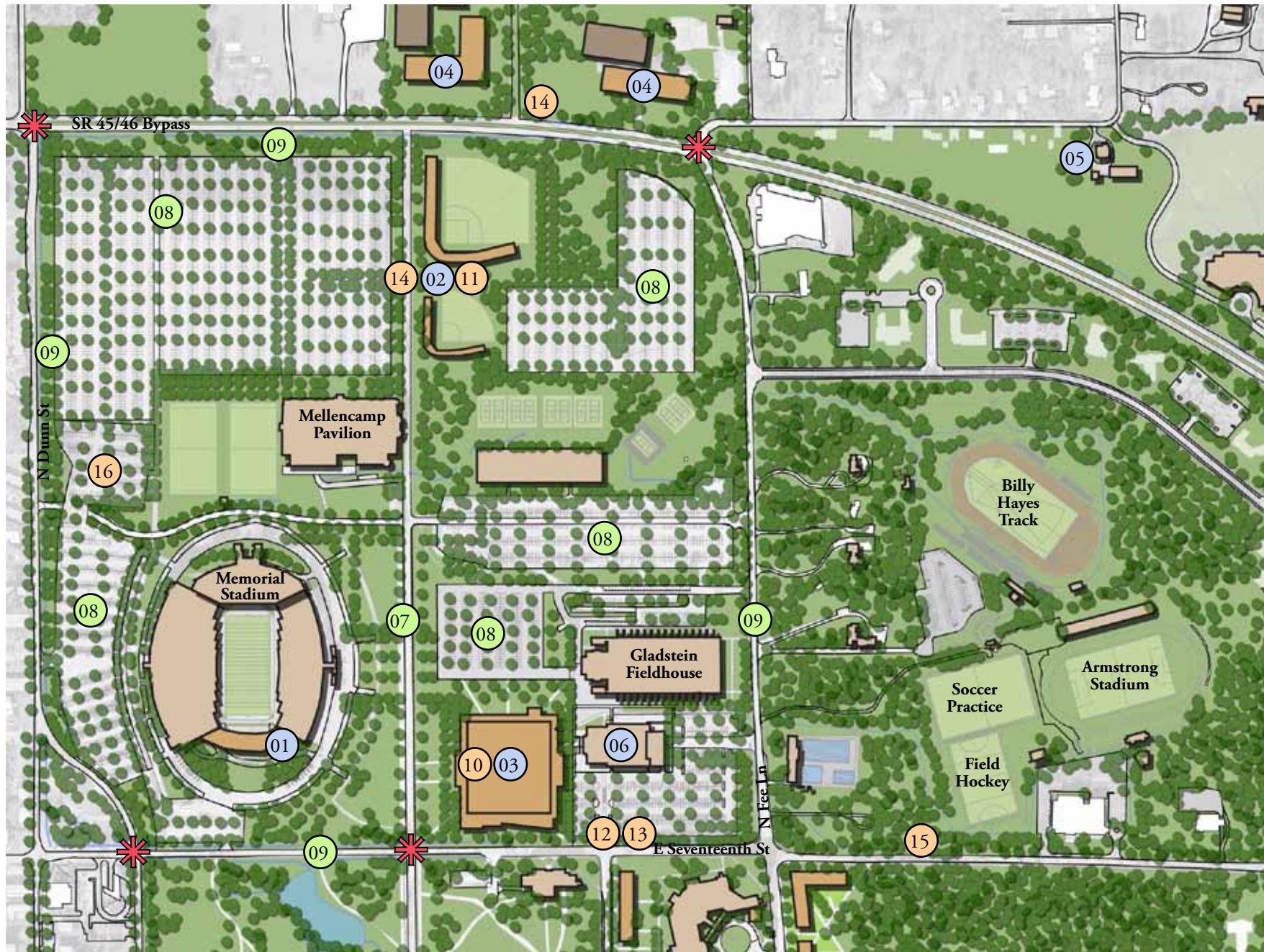
- 07 Woodlawn Avenue Pedestrian Corridor
- 08 "Green" Parking Lot
- 09 Campus Edge and Streetscape Improvements

INFRASTRUCTURE INITIATIVES

- 10 Upgraded Central Chilled Water Capacity Required
- 11 Stand-Alone Chilled Water
- 12 Replacement of Old 15kV Circuits Required
- 13 New Upsized Water Main Required
- 14 Duke Energy to Supply Power to New Buildings
- 15 Telecom Duct Bank Loop Completion
- 16 Underground Detention Facility

KEY

-  Existing Building
-  Building Opportunity
-  Parking Opportunity
-  Gateway Opportunity



Intercollegiate Athletics Plan

7 | ACKNOWLEDGEMENTS



ACKNOWLEDGEMENTS

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Critical components of the planning process also included engagement with the following:

Indiana University Board of Trustees*
 Indiana University Foundation Board of Directors
 Provost and Executive Vice President
 Student VOICE Group
 Open Campus Forums*
 Bloomington Community Groups*

Bloomington Planning Officials and City Council*
 Indiana Minority & Women Business Enterprises
 Director of Residential Programs and Services and Staff
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 Various Department Chairs
 Deans
 Associate Deans
 Health Wellness & Intercollegiate Athletics
 Athletic Director and Staff
 Recreational Sports
 Sustainability Committee
 Auxiliary Services
 University Architects Office
 Physical Plant and Engineering Staff
 Campus Support Staff
 *Events with open public participation

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