Chapter 2
Analysis

THE UNIVERSITY OF KANSAS
2014–2024 CAMPUS MASTER PLAN

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INTRODUCTION

This phase of the planning process added to the design team’s understanding of campus context and existing conditions, as outlined in Chapter 1. Through continued observation, interviews, focus groups, and forums, the planning team analyzed campus systems and their relation to program objectives to identify emergent patterns, limiting physical constraints, and areas of opportunity. Several important themes emerged from this deeper understanding. Framed by the goals outlined in Bold Aspirations, these became “Drivers” for concept development. Concepts then integrated campus analysis with these Drivers to offer potential program and place-making scenarios. The result is a framework for campus growth, from a land use, program, and systems perspective, that is functional and knits the campus together.
PHYSICAL CAMPUS ANALYSIS

NATURAL SYSTEMS

As discussed in the historical overview of Chapter 1, natural history shaped human history in Kansas. The vast inland sea that once existed, and the glaciers that came much later, shaped a ridgeline landscape that is both a majestic setting for a university, yet also challenging when expansion inevitably occurs down slopes. As a result, accessibility and the control of stormwater become planning priorities.

SLOPES
Slopes that are greater than ten percent present an accessibility challenge for pedestrian walkways, trails, and circulation routes. These slopes also affect building siting, access, and service. Yet they are also potentially rich with vegetation, providing an opportunity for campus habitat and species diversity. Figure 2-1 shows the southwest to northeast “flow” of ridgelines, a pattern caused by glaciation and the confluence of two river valleys. As along Mount Oread, the arrival and melting of the glacial lobes sometimes created natural bows. They provide a protective habitat at lower elevations for flora and fauna, and serve as a natural wildlife corridor.
FIGURE 2-2: BLUE SYSTEMS ANALYSIS

- SUB-WATERSHED
- RETENTION POND
- DETENTION POND
- GRASSED SWALE
- PRAIRIE/TALLGRASS
- SURFACE DRAINAGE WAY
- PIPED DRAINAGE
- WATERSHED BOUNDARY
WATERSHEDS AND BLUE SYSTEMS

The campus is divided into six main watershed areas that take on different characters in scale, vegetation, and microclimate, as illustrated in Figure 2-2.

The Jayhawk Watershed flows north, with water collected along 12th and Mississippi streets and some water collected at Potter Lake. To reduce water flow, more water should be intercepted at the top of the hill, as is beginning to happen with the planned verges for Jayhawk Boulevard. Future projects should incorporate specific practices such as green roofs or detention basins. These practices will reduce the quantity and improve the quality of runoff water.

The Burroughs Creek Watershed sheet flows to 13th and 14th streets. There are no detention techniques for stormwater capture in this area. Future building and utility projects should include some type of water treatment and storage approach to reduce peak volumes of stormwater flowing into the city system.

Perhaps the largest watershed on campus, the Naismith Watershed, comprises all of the Central District. Water currently flows to the corner of 19th Street and Naismith Drive. Planning efforts should reduce peak flows and runoff to Lawrence neighborhoods to the south.

The Meadowbrook Watershed on the north side of the West District takes in water from neighborhoods to the north. A few tributaries to the drainage corridors flow to the south and west from the major ridgeline, then flow west toward Yankee Tank Creek. Because half of the Lied Center parking lot is in this watershed, there is significant pollutant loading. Reforestation and new riparian buffers can improve water qualities in the southern side of this watershed and can mitigate some of this runoff pollution.

The Atchison Watershed may be the most critical watershed in the West District, because it ultimately captures the southwestern flow of water from a larger area. One-fourth of the water in this watershed flows to the retention pond south of KU Endowment. This pond should be buffered with tall grasses to reduce pollutant loads. In the southwest corner of the Atchison Watershed, a detention pond near Clinton Parkway collects water from the southern portion of the West District including the Park & Ride facility. This large collection of impervious areas creates significant water level fluctuation in the detention pond. Future development in this campus district will require the additional use of bioswales and infiltration trenches to reduce overloading this detention pond.

Between the ridgelines there are valleys that have created natural drainage channels flowing to the south and west in the West District. Currently, these drainage corridor edges are degraded and should be restored for greater species diversity and water quality. Figure 2-2 also indicates water-holding ponds that can be protected with improved prairies and grass buffers upstream. These buffers will act as a natural filter for sediment loading and other pollutants.

The Quail Creek Watershed is the highest elevation point of the West District. A small volume of water flows to the south and west. Because of its elevation and an impervious road to the west, this watershed is an ideal opportunity to develop athletic fields with detention facilities beneath. The overall benefit will be reduced stormwater volume into the city stormwater conveyance system.
Native plant communities are located where they are primarily because of elevation, slopes, and soil conditions. On campus, ideally they would naturally form a continuum from ridge tops, down side slopes, to open prairie-savanna areas and finally, at the lowest points, floodplain forests and freshwater marshes and prairies. But campus growth has modified much of this natural system over time, and it has been replaced with reinterpreted landscapes, as shown in Figure 2-3.

In the case of the historic district, cultural landscape (defined by the World Heritage Committee as “cultural properties…represent(ing) the combined works of nature and man”) has become a legacy to be protected in its own right. In developed areas of the Central and West districts, very moderate levels of vegetation have been reintroduced. Not surprisingly, areas most newly developed have the least mature vegetation.

When healthy, these vegetation communities act as a system for receiving rainwater and channeling it back into the ground, supporting wildlife and migrations, and regenerating the topsoil. The challenge for campus planning is to build in areas most suitable for development with minimal environmental impact.
Critical open spaces exist mainly in the North District, and most could be characterized as cultural landscapes that have taken on meaning beyond their function and beauty to become integral parts of KU’s institutional identity. Jayhawk Boulevard, Marvin Grove, and Potter Lake are the best examples.

Civic spaces shown in Figure 2-4 are critical open spaces as well, but outdoor civic spaces differ in that they are all heavily used people places for social interaction and informal public gatherings. These key spaces are often associated with important campus buildings, such as Allen Fieldhouse.

Beyond the historic core, the campus is not well connected with quality open spaces. A variety of types of open spaces, from streetscapes to lawns to naturalized slopes to courtyards, appropriately attuned to their context, would add richness and functionality to this system. Combined in a connected network of open spaces, these would create a more ideal pedestrian environment and make the campus easier to navigate.

Naturalized areas are potentially important as reserves and for healthy hydrology and habitat. They can be a model resource management strategy, preserving slope vegetation, managing runoff through natural systems to improve water quality downstream, and making the campus even more pleasant for human inhabitants.
Density is an understanding of building square footage per available land unit and can help to analyze how a campus is using its physical assets. It does not portray a positive or negative characteristic in and of itself; it is a tool for interpreting built environments. One of the defining qualities of a university campus is its balance between buildings and open space. Density can affect both campus function and the qualitative experience. Efficiency and functionality can be analyzed and measured quantitatively through the lens of institutional values and qualities of place.

Figure/ground diagrams portray built patterns (dark, or positive areas), and patterns of contrasting open space (empty or negative areas). They are useful for planning, as clearly identifiable patterns indicate a legible and memorable campus with an identifiable hierarchy. Figure 2-5 is the figure/ground diagram for the North, Central, and West districts.

Functionally, higher density environments are more compact and connected. These provide opportunities for shared program resources and service zones, thereby reducing facility size and number. They also promote community building and opportunities for collaboration. The notion of density, therefore, is a critical factor in how a campus functions and how it is experienced.
Aerial of Jayhawk Boulevard illustrating an area of higher density
FIGURE 2-6: DENSITY COMPARISON

UNIVERSITY OF KANSAS

UNIVERSITY OF COLORADO *

UNIVERSITY OF IOWA *

VIRGINIA TECH

WASHINGTON STATE UNIVERSITY

INDIANA UNIVERSITY *

* KU Peers from Bold Aspirations
Density Comparison
Comparing the campus core areas of peer and similarly sized institutions in Figure 2-6, KU is moderately less dense than the others. This is partially due to the topographical conditions on the Lawrence campus.

The North District is the most dense. This reflects the historic growth of the campus over time. The pattern also reveals the intentional making of “place” that is Jayhawk Boulevard, as well as the dramatic built edge along the Mount Oread ridge. These spaces are defined by the edges of the buildings that frame them.

Building on steep slopes is more difficult and more expensive, but higher densities can help mitigate functional issues of service and pedestrian circulation by providing internal routes between elevations. This is an important issue for campus accessibility. The North District reflects a good balance of buildings and open space, or appropriate density.

However, built patterns in the Central District, and most of West District, are less dense, more suburban and reflect less balance between open space and buildings. There is more open space, yet it is largely of a residual nature as opposed to civic. Exceptions are the lawn within the engineering complex and the West District research area, where there is a clear effort to compose multiple buildings to form a central space.

The Central and West districts would benefit from increased density by better utilizing limited landholdings, creating the opportunity for more shared program resources, and creating more usable and desirable spaces. The impact of a more compact, coherent, and connected campus would help to energize the educational environment, drive discovery and innovation, and responsibly steward fiscal and physical resources.
Floor Area Ratios
Per Figure 2-7, floor area ratios (FAR), the ratio of total building square footage to land area, are significantly higher in the North District than other campus districts. FARs approaching 1.0 are somewhat high for a university campus, especially on a hillside. FAR for the Central District is relatively low and reflects the opportunity for new development. FAR for the West District is very low, reflecting the large amount of undeveloped, naturalized land that should be conserved to the extent possible.

FAR, as a measure of density in and of itself, does not connote a positive or negative utilization of land resources. It must be considered within the context of how the land is being used. For example, the area around Memorial Stadium has a very low FAR because of Potter Lake and Marvin Grove, but it is one of the most important places on the KU campus.

The area around Naismith Drive has a very low FAR because of athletic fields and surface parking. While athletics are an important land use for KU, surface parking could be viewed as underutilizing valuable land assets in light of the need for new facilities. However, this area will see pressure to become more dense, as new facilities are sited to bring more meaningful campus energy and identity through thoughtful planning.
Impervious Coverage

Impervious coverage is high in the developed portions of the North District as shown in Figure 2-8. This would be expected due to the higher FAR and population density. However, the Central District and eastern portion of the West District also have a relatively high percentage of impervious coverage, given the large expanse of surface parking lots.

Impervious percentages and FAR, when evaluated together, reflect the sprawling nature and suppression of natural systems on the Central and West districts. As low as 15 to 30 percent impervious coverage begins to affect a healthy watershed. Most all of the developed land uses exceed this level, but at a regional or watershed level, more sprawling development produces more need for roadways and parking than a compact development, and therefore puts more strain on the watershed.
Classroom Density & Student Circulation

An analysis of classroom locations per Figure 2-9 reveals another interesting form of density. Concentrations of classroom, class lab, and auditorium destinations are incredibly high in the North District, especially along Jayhawk Boulevard. This is reflective of a strong academic core, though issues arise when programs grow and need more teaching and lab spaces. The current building density inhibits growth opportunities along Jayhawk Boulevard, as well as the area between Jayhawk Boulevard and Sunnyside Avenue.

This almost single-use zone on the ridge has implications for student life as well. Housing, parking, and recreation are almost entirely located away from the core, and the range of social, civic, and mentoring spaces are limited. Jayhawk Boulevard is a linear corridor of movement with few outdoor gathering places. This arrangement, coupled with the impact of having to climb the ridge from other parts of campus, causes the historic core to be a bustling mass of students during class times, but relatively unpopulated during the rest of the day. Intra-campus transit serves the need for movement from residence halls to the ridge, but the distance and topography limits multiple daily trips by student pedestrians, limiting life and vitality in other districts.
Infill Sites

As shown in Figure 2-10, analysis of the buildable portions of the North and Central districts indicate both are near capacity, based on existing conditions. The potential for adding several hundred thousand square feet of new science space, as suggested by the Space Needs Analysis, would be difficult to implement without significant demolition. Very few infill sites remain in the North District.

This pressure is not new. For example, the School of Pharmacy moved to the West District to accommodate its growing program. However, growth for academic programs currently housed in the North District will have to be considered carefully relative to existing space, future appropriateness, opportunities for expansion, and opportunities for shared resources with related departments.
ACCESS, CIRCULATION, AND TRANSIT

As a result of city and campus growth to the south and west, primary access points to campus also have shifted, illustrated in Figure 2-11. Suburban growth and access to campus from highways has led to higher speed, heavier flow, and more directed campus gateways, particularly at 15th and Iowa streets and 19th Street and Naismith Drive. Though essentially planned as a throughput arterial, Iowa Street (U.S. 59) has become the critical campus access route, providing direct access to both the West and Central districts. As the campus continues its westward expansion, Iowa Street will increasingly be considered as part of the KU campus between Clinton Parkway and Bob Billings Parkway.

Accessing Campus

Like many universities, the University of Kansas draws employees and students from a wide geographic range. U.S. Census data, for example, shows that while most university employees live in Lawrence, many come from much greater distances. Similarly, while most students at the Lawrence campus live in Lawrence, many travel some distance.
Aerial view of campus from the north end of Jayhawk Boulevard
Transportation Commuting Survey

Primary travel modes are reflective of community context. Based on a 2012 KU Parking & Transit commuter survey, a majority of students drive, but combined, more students typically walk or take the bus. More than 90 percent of employees opt to drive to campus, either in car pools or individually, while the remainder generally walk or take the bus. This is reflective of the relative convenience of driving, the low cost of parking, and the added flexibility of having a car on campus. Few students or employees bike to campus, discouraged by challenging terrain, a lack of bicycle accommodations, and extreme weather conditions.

Although the automobile is the preferred mode of transportation, current trends predict that conditions will change this dynamic in the coming years. Planners with the City of Lawrence and Douglas County predict there will be a substantial increase in delay on city roadways, as vehicle travel continues to outpace roadway capacity. At the same time, they have made a commitment to a local and regional bicycle network, improving the ease and safety of bicycling to campus and throughout the community. KU should continue to coordinate and integrate with this effort.
Campus Circulation
Pedestrian and bicycle circulation on campus were discussed in Chapter 1 relative to existing conditions. There are numerous pedestrian, bicycle, and vehicle conflict areas to be addressed, as well as ways to improve connectivity and circulation throughout campus. In addition, there are opportunities for improved walkability and accessibility per ADA guidelines.

Given the topographic conditions, efforts to mitigate steep slopes by developing new paths, and better utilizing buildings for accessible paths, are vital. The circuitous “Hawk Route” is a great example of one effort to improve accessible circulation across campus; new infill projects can help to make it even more efficient. Improved wayfinding also will help ease current confusion.

One of the campus master plan goals is to integrate accessibility concepts seamlessly within all campus systems. Primary pedestrian circulation paths should be made fully accessible to the extent possible with secondary accessible paths. Alignment of accessible building entries, transit stop locations, and ADA parking spaces will create more efficient paths of travel. Centralization of student services in an easily accessible location will reduce student trips. Online student services also allow more and quicker access for students.
Walking Radius & Key Pedestrian Paths

The five-minute walking radius depicted in Figure 2-12 is an approximate guide based on surrounding slopes. Major existing pathways flow toward the ridge and Jayhawk Boulevard. Creating better connections across all parts of campus is important as new facility growth occurs outside the historic core. Clear, direct, and wide pedestrian routes should be provided from major parking areas to academic and/or student life centers. Pedestrian amenities along these paths, such as benches, recycling bins, and quality lighting are lacking outside of Jayhawk Boulevard.
Streets and Parking
The KU street network, as shown in Figure 2-13, is primarily a series of short, disjointed segments, largely due to topography that interrupts the urban street grid of the city. This characteristic makes for slower traffic conditions due to curves, hills, and turns. The disjointed nature also makes cut-through traffic almost nonexistent.

Jayhawk Boulevard is the iconic campus street. Its streetscape should set the example for other campus streets. Mississippi Street, 15th Street, and Naismith Drive are all important entry roads into campus and should reflect similar treatments, with wide sidewalks rather than city-standard narrow sidewalks, trees, benches, and other amenities.

Improvements will be needed in the Central District street network as future development occurs. There is currently no public access to this district along 19th Street beyond Naismith Drive, or along Iowa Street south of 15th Street. An access point along 19th Street is needed. The district would also benefit from a right-in-right-out access point along Iowa Street, north of 19th Street. A signal at 21st and Iowa streets would improve access to the West District and be critical to the success of the proposed transit center at 21st Street and Stewart Avenue.
Pedestrian & Vehicular Conflicts

The campus generally is safe for vehicles, as speeds are typically low. However, 2012 crash data, as recorded by KU Public Safety, revealed several locations on and adjacent to campus with moderate to high crash incidents. Figure 2-14 shows the nearest intersections of all reported vehicle crashes on the KU campus for 2012. The current volume was not available, so overall crash rates could not be calculated. Given the few number of complaints, most are likely property damage only, although the presence of injury or crash severity was not available.

The largest cluster of crashes on campus is on 15th Street, likely related to the vertical slope, high pedestrian volume, and potential for high vehicle speed differential. Garage entrances also represent clusters of vehicle crashes. Several vehicle crashes occurred on Jayhawk Boulevard, in spite of vehicle restrictions. This indicates a need for close monitoring, further restrictions on access, and continued efforts to improve safety along Jayhawk Boulevard, such as eliminating on-street parking.
Parking
For analysis purposes, parking lots were grouped into 15 sub-zones to explore how parking supply and demand vary across campus. One measure of parking density is spaces per acre, as shown in Figure 2-15. The eastern and western ridges adjacent to West Campus Road and Oread Avenue, respectively, have the highest supply of spaces per acre. Both sub-zones are almost fully developed and contain large amounts of parking.

The western sub-zones have relatively few spaces per acre, reflecting the low intensity of use in these areas. The Central District has relatively high levels of parking per acre, which reflects parking necessary for housing and athletics. The outlier is the top of the ridge along Jayhawk Boulevard, which has a very low level of parking for the size of the sub-zone. Considering the density of buildings, this is not surprising.
Percent of Land Area Devoted to Parking

The total land area of a sub-zone devoted to parking is another measure of the distribution of campus parking, as shown in Figure 2-16. Several sub-zones devote more than 20 percent of available land area to parking, reflecting the overall intensity of development in the districts, and they provide a significant amount of the available campus parking. On the other hand, the small percentage of land devoted to parking along Jayhawk Boulevard reflects the intensity of use, deference for landscape, and practical reality that the slopes preclude large amounts of parking. For all of campus, 10.9 percent of the land area is devoted to parking.
The supply of parking spaces relative to total building gross square feet (GSF), as shown in Figure 2-17, allows a comparison of parking supply to demand. For all of campus, there are 1.2 parking spaces per 1,000 GSF of building space. The core areas of campus, along Jayhawk Boulevard, between Jayhawk Boulevard and Sunnyside Avenue, and adjacent to Engineering have a low supply of parking relative to building space, reflecting the pedestrian nature of the campus core. Western sub-zones have a relative oversupply of parking. This is not to suggest that parking must be added to core sub-zones, but rather that people who cannot be accommodated in the core areas need to be accommodated in more remote parking lots and provided with ways to access the core.
At a broad scale, plan Drivers define the essential challenge of a master plan which is to physically embody the institutional mission in order to affect student success, increase opportunities for research, and grow human and physical resources. Grouped thematically, the Principles of the master plan are shaped into Drivers that promote creative solutions for implementing KU’s strategic plan Bold Aspirations. This ensures that the Drivers relate to the university’s vision and also create continuity between the goals of the strategic plan and the 2014-2024 Campus Master Plan.
Inspired by the education-related goals of *Bold Aspirations:*

**GOAL 1: ENERGIZING THE EDUCATIONAL ENVIRONMENT**

**GOAL 2: ELEVATING DOCTORAL EDUCATION**

These goals challenge KU to “strengthen recruitment, teaching, and mentoring to prepare undergraduate students for lifelong learning, leadership, and success” and to “prepare doctoral students as innovators and leaders who are ready to meet the demands of the academy and our global society.” (*Bold Aspirations*, pg. 16)

Strategies for achieving these goals may have numerous impacts on the physical campus master plan. Recruitment and retention strategies to “strengthen the pipeline” of students to KU will bring the best and brightest to campus. The new core curriculum and enhanced experiential and active learning opportunities will strengthen learning outcomes. Mentoring opportunities for a diverse graduate student body will promote scholarship that is built into the academic experience. First-year experiences will build community and lifelong friendships that bolster retention rates. Strengthening academics and the student life experience requires an investment in new facilities and grounds to enhance the intellectual community.

*Bill Carswell, professor of Architecture Design and Planning, discusses a project with one of his undergraduate students*
ENROLLMENT GROWTH AND SPACE NEEDS
The University of Kansas anticipates a significant enrollment increase over the next ten years: 12 percent undergraduate growth and 22 percent graduate growth. As enrollment grows, additional space will be required to accommodate students and programs.

The Space Needs Analysis prepared during the master plan process derived a current space deficit of 133,069 assignable square feet (ASF). This is the area needed to satisfy current program needs and represents a 4 percent increase in total space. The future space deficit at the ten-year planning horizon is 688,780 ASF, which is a 17 percent increase over existing square footage.

ASF averages 60 percent of gross square feet (GSF), because buildings require spaces such as entry lobbies, corridors, and mechanical rooms. Consequently, at the projected enrollment, and using current standards, there is a need for an additional 1.15 million GSF in academic and student support space. The Space Needs Analysis excluded housing and athletics.

Close to 60 percent of space needs are in research. However, academic support programs, such as teaching labs and offices, show great need. There are similar needs in library, student recreation, and student center space.

The master plan program of all needed space is approximately 2 million GSF. This larger number includes new residence halls and athletics projects, as determined by their respective departments. That is in addition to the approximately 9 million existing GSF.

New science classrooms and class labs, as well as research space, emerge as a top priority of Bold Aspirations to strengthen STEM disciplines. In addition, the university projects growth of 41 percent in research lab and support space. All newly created teaching and research space must promote multidisciplinary collaboration to achieve these goals.

The quality of existing space is also a challenge. Aging and deficient science facilities, primarily Lindley, Haworth, and Malott Halls, have been studied. KU partnered with Cannon Design in 2012 and identified a total need for 900,000 GSF for renovation and/or new construction in the basic sciences.

Haworth Hall, at 270,000 GSF, is believed to have continued value as a science building as long as the use is at the low end of mechanical support. Additional study of this facility is required, as deferred maintenance reports indicate a high level of need. Malott Hall, at 330,000 GSF, is believed to be fatally flawed because of very low floor-to-floor heights, which will not allow for needed ventilation and mechanical equipment, necessary for today’s science labs. It is being considered for other types of occupancy. However, additional study of this facility is required, including an evaluation of the return on investment. This should help determine whether to renovate or demolish part or all of Malott Hall.

The physical implications for the campus master plan are made more complex by the high density that currently exists in the North District. This suggests the plan will have to include creative solutions to link programs across districts, as well as provide additional student recreation and student center space to accommodate the growing need.
The master plan program, as shown in Figure 2-18, was developed from the Space Needs Analysis. The projects identified have been vetted with the university to assure alignment with its strategic initiatives, and includes projects that were previously underway when the master planning process began. The list is not fixed, but will evolve over time.

See Chapter 3 for additional information on each project.
Another way to improve learning outcomes is creating opportunities that facilitate cross-disciplinary interaction. This can be accomplished by considering the proximity of departments to one another, but also the types of space that encourage group work. The creation of informal interactive study areas, including spaces where small groups can meet, will promote multidisciplinary collaboration.

To significantly improve classroom utilization, it is recommended that the practice of “first pass” scheduling be eliminated. The “de facto” departmental scheduling prioritizes the use of individual classrooms for individual departments. Centralized scheduling is more efficient, because any given classroom can be used by any department, resulting in more hours per week of use. Reducing the overutilization of classrooms at peak periods and leveling out their usage over more hours of the day, and days of the week, also will help remove the perception of classroom shortages.

As implementation of new learning modalities is considered, efforts are underway to create spaces to test these methods. For example, part of Anschutz Library has been repurposed into The Learning Studio to develop spaces that use technology for collaboration, as well as rooms for problem-based and project-based learning.

When new buildings and teaching spaces are designed, current pedagogical thinking needs to be incorporated with the latest technologies. For example, 20 years ago, the average student station size in traditional classrooms was 18 assignable square feet (ASF). Today, 22 ASF should be applied when planning for modern teaching spaces, and 30 to 35 ASF is not uncommon for active learning spaces.

“... 20 years ago, the average student station size in traditional classrooms was 18 assignable square feet (ASF). Today, 22 ASF should be applied when planning for modern teaching spaces, and 30 to 35 ASF is not uncommon for active learning spaces.”
MULTIDISCIPLINARY COLLABORATION

Cross-cutting collaborations and conversations inspire new innovations at the intersection of disciplines; they also drive new directions in the core disciplines, contributing to their renewed vitality. As noted above, growth in the STEM disciplines will provide opportunity for rethinking how programs are situated on the KU campus and what potential synergies can be exploited to drive innovation. Bridging physical science, life science, and engineering will promote richer interactions through strategically located resources. Creating coherent and connected science zones will encourage movement between programs. Shared classrooms, labs, and public spaces will create the opportunity to showcase research activities with the campus and broader community.

ENGAGED, INNOVATIVE, MULTIDISCIPLINARY STRUCTURE

Inspired by the scholarship- and engagement-related goals of Bold Aspirations:

GOAL 3: DRIVING DISCOVERY & INNOVATION
GOAL 4: ENGAGING SCHOLARSHIP FOR PUBLIC IMPACT

The aim of these goals is to “Enhance research broadly with special emphasis upon areas of present and emerging strength in order to push the boundaries of knowledge and benefit society” and to “engage local, state, national, and global communities as partners in scholarly activities that have direct public impact.” (Bold Aspirations, pg. 16)

Strategies for achieving these goals will affect the physical campus in a profound way. A dual philosophy of excellence, in multidisciplinary collaboration as well as in the core disciplines, requires careful consideration of departmental synergies and shared resources. Collaboration among undergraduates, graduate students, teachers, and researchers will promote a culture of engaged scholarship. Promoting innovative scholarship and active entrepreneurship with external partners will expand opportunities to serve the state, nation, and world. These goals will require new research facilities, rethinking how existing facilities are inhabited and used, and innovative strategies for bringing partners to KU to advance scholarship.

BASIC SCIENCES, APPLIED SCIENCES, TRANSLATIONAL SCIENCES, AND ENGINEERING

Embedding scholarship at all levels of the academic experience will increase student success, while encouraging a pervasive culture of inquiry and discovery. Having a physical plan to connect teaching to basic research to translational and applied research has real value in strengthening each and the whole simultaneously. Undergraduate student researchers provide labor for the researcher while gaining rich experience. Researchers who also teach, benefit from reframing their knowledge for a new audience, while teachers who research benefit from expanding their knowledge through real world application. The campus will need a strong physical vision in order to enhance KU as an international research university.

Val Stella, University Distinguished Professor of Pharmaceutical Chemistry, collaborates with students
Engaged scholarship that has direct public impact beyond the campus will be enhanced with external partnerships. KU has research strengths to leverage, an entrepreneurial spirit that has spawned many current partnerships, and the physical land assets to promote new partnerships for community engagement and research innovation and commercialization.

Considerable opportunity lies with the continuing utilization of KU Endowment property in the West District, as shown in Figure 2-19, to spur public-private partnerships. Projects could involve real estate strategies to develop individual parcels for KU and private company collaboration. The idea for a partnership area on the southern portion of the West District emerged from this planning process. KU is already making strides in this area by hiring high level administrators to promote innovation and entrepreneurship. The Bioscience & Technology Business Center is a partnership between state government, county government, city government, local chamber of commerce, KU Endowment, and KU itself. Six companies are already doing business in Lawrence since the 2010 opening.

A key to the success of this initiative is to identify projects of mutual benefit to KU Endowment and the City of Lawrence. The viability of a regional conference center is being discussed by both KU and the city. A mutually beneficial location would bolster efforts to promote innovative technology start-ups and other collaborative research ventures.
Inspired by the resource-related goals of *Bold Aspirations*:

**GOAL 5: DEVELOPING EXCELLENCE IN PEOPLE**

**GOAL 6: DEVELOPING INFRASTRUCTURE & RESOURCES**

These goals seek to “recruit, value, develop, and retain an excellent and diverse faculty and staff” and “responsibly steward fiscal and physical resources and energize supporters to expand the resource base.” (*Bold Aspirations*, pg. 16)

The 2014-2024 Campus Master Plan is a direct outcome of the goals of *Bold Aspirations*. It is focused on the stewardship of the many historic, cultural, and natural resources on the Lawrence campus. It also focuses on the appropriate allocation of resources to strategic priorities in both new facilities and their interconnection across campus. KU’s campus is composed of multiple systems, integrated to function cohesively and effectively in order to fulfill the mission and promote faculty and staff excellence.

The physical campus has always transcended function to become an inspiring and rich environment for intellectual pursuit. It is a goal of this plan to add to that legacy by providing a framework for expanding the best qualities of the existing campus to new areas of development, and to support the goals of *Bold Aspirations*. 
FIGURE 2-20: OPPORTUNITY ZONES

- UNDERUTILIZED ZONE
- REDEVELOPMENT ZONE
- GROWTH ZONE
**GROWTH OPPORTUNITIES**

The area of the Central District between Irving Hill Road and 19th Street, occupied by Stouffer Place Apartments, is underutilized. While the terrain slopes significantly, its proximity to the core of campus and the residence halls on Daisy Hill suggest the potential for a use other than low-density apartment housing. A mixed-use development in the Central District would create a dynamic area, as well as a physical and programmatic bridge to the West District. With student housing, student life amenities, retail, and some academic functions, 24/7 activity would energize the campus experience.

The West District contains large areas of developable land atop the ridges occupied by the Dole Institute and Youngberg Hall, adjacent to Kasold Drive, and particularly at the commuter lots and recreation fields south of Becker Drive. The distance from the West District to the North and Central districts is a planning challenge, as is the up-and-down topography west of the band practice field and Youngberg Hall. These challenges, plus the West District areas with high development potential, suggest that West District planning should be executed in an integrated fashion, rather than an ad-hoc basis.

Overall, the campus presents zones of potential infill in the North and Central districts as well as zones of redevelopment and growth in the West District, as illustrated in Figure 2-20.

**HISTORIC PATTERNS / DEVELOPMENT FRAMEWORK**

The historic patterns of campus development follow those of its host community, Lawrence, which began its history along the river and continues to develop to the west and south. KU has matured into a complex institution and a sprawling campus with as much land lying to the west of Iowa Street as to the east.

The North District has begun to reach development limits and as the Central District continues to grow, the “critical mass” center of campus will continue to migrate gradually to the west and south. Strong Hall always will occupy the center position in the heart of the historic campus, but over time, it will no longer be the geographic center of the functional campus. In fact, Anschutz Library, more appropriately, may already be considered the functional heart of campus. This movement is a historically clear pattern and will continue as opportunity to the west and south is more clearly asserted by future generations of growth.

**STEWARDSHIP OF RESOURCES & SUSTAINABLE GROWTH**

In order to be fiscally responsible, the university should invest in and repair aging infrastructure. Moving from carbon-based fuels to a diversified energy portfolio is a long-term commitment to both fiscal and environmental health. New State of Kansas stormwater management regulations will require resource allocation to mitigate the effects of growth. Natural systems are an enviable asset that should be conserved. In addition, KU represents a distinct historic campus, with urban features and concerns, repurposing and renovating its historic resources promotes sustainable resource stewardship.

Redeveloping underutilized areas of campus, especially in the Central District, will maximize land resources and create a connected and compact pedestrian-friendly environment. Maximizing new growth opportunities in the West District, while preserving its natural assets through sustainable planning, will spark entrepreneurial ventures.

Creating strong connections and access to the evolving campus through multi-modal systems will help to manage road congestion and parking demand. A more robust bicycle and pedestrian trail system across the entire campus may reduce the number of vehicles, while creating a more unified campus experience. Continued enhancement and refinement of the transit system will make it increasingly convenient and functional, improving environmental sustainability.
LAND USE

Figure 2-21 illustrates the preferred Long-Range Land Use Plan, depicting the projected functional uses on the KU campus beyond the ten-year horizon. It was developed through analysis of issues and opportunities through the lens of KU’s strategic plan *Bold Aspirations* and conceptually builds a campus-wide framework for growth. The plan physically transforms the strategic plan goals by reserving land development areas for particular functions.

A major concept is to connect the current Main Campus and West Campus into one Lawrence campus by defining the North, Central, and West districts. A new pedestrian and bicycle path is another opportunity to unite the districts. Named the Jayhawk Trail, this shared use path would link the entire campus, from Oread Avenue to the southern portion of the West District along Clinton Parkway. Bike trails in the West District could extend from the trail to Bob Billings Parkway, as well as along Yankee Tank Creek. In addition, the Jayhawk Trail could provide an accessible route and a corridor for utilities.

Another need is available land for expanding academic and research programs, notably in the basic sciences. The Central District has become critical to solving these space needs. This area could also provide the necessary land for apartment-style housing, recreation, and potential mixed-use functions. In regard to the West District, major changes include potential development of a partnership area and research growth. The Central District could then become an important connection for buildings in the North District to those in the West District.

Additional gateway locations along the edge of campus have also been designated per the long-range plan. These points are key moments of campus arrival and require a stronger visual presence, emphasizing a sense of place and welcome for campus visitors. The Chi Omega Fountain is a good example of an existing gateway that fits this description. Two campus entries of growing importance are 19th and Iowa streets and 19th Street and Naismith Drive, particularly given the limitations along 15th Street.
DISTRICT CHANGES
The North District, partly comprised of legacy areas, including the Historic Districts, Marvin Grove, and Potter Lake, should be sheltered against radical change to preserve its distinctive character. Additionally, the academic area surrounding Jayhawk Boulevard is approaching build-out capacity. While renovation and re-use opportunities exist, this area is not expected to see drastic alterations. In contrast, there will be several strategic changes in land use patterns in the Central and West districts.

One large scale change is the activation of the West District to support long-term growth, most particularly expansion of the university’s research capability. Anticipated infill opportunities inside Becker Drive, with a focus on translational research, are important. This focus is paired with the potential development of a new partnership area to the south and west.

The most remote portions of the West District, adjacent to Kasold Drive, are envisioned as potential future housing and recreation areas. The northern portion of West District is currently used for support services and could be repurposed to house university outreach functions. Detailed planning for these areas is outside the planning window of this master plan.

Development has shifted the weight of campus from Jayhawk Boulevard, and this trend will continue as the West District develops. In order to connect the academic community of the North District to the research and potential partnership areas of the West District, the existing Stouffer Place Apartments will need to be razed. This will provide the necessary land to build additional academic and research buildings in a location convenient to the North District.

The removal of Stouffer Place Apartments will also provide space for a potential mixed-use area, located near the intersection of 19th and Iowa streets. This would bridge the Central District, with its academic and residential focus, to the research and outreach activities of the West District, providing a vital social link.

KU Athletics is relocating its varsity softball, soccer, and track and field facilities to Rock Chalk Park, a new development on the west side of the city. This move, along with the Stouffer Place Apartment demolition, would free campus space for development of new recreation fields, conveniently close to the mixed-use and housing areas.
This chapter provides an understanding of the campus context and conditions. It develops that data, in light of physical opportunities and constraints, and academic needs and aspirations, into Drivers that support KU’s strategic plan.

The Lawrence campus is in a transformative period. The current core of campus is nearly built out. Urban systems such as parking, building density, imperviousness, and service capabilities are strained. Available land for infill projects in the North District is extremely limited. Given space needs for growing academic programs and research facilities, a shift to “new ground” for academic uses is needed. The Central and West districts could provide the necessary land area.

Underutilized land at Stouffer Place Apartments provides an ideal location to handle academic and research growth. The West District also has a large land bank to expand the research enterprise.

The changing learning modalities in higher education force rethinking of physical learning spaces. Reinvigorating the undergraduate experience and expanding graduate research, are KU mandates moving forward. New facilities should be required to have collaborative spaces that go beyond functional need and incorporate progressive teaching models.

The long-range land use plan and master plan program provide a flexible framework for future campus growth that supports near-term decision making and enables a long-term vision.

*The 2014-2024 Campus Master Plan* principles and Drivers, through their implementation, will make the most of existing resources while effectively developing new resources through entrepreneurial thinking. The master plan supports strategic plan goals to sustain the planet, promote health and well-being, build communities, and multiply knowledge.