KU Bike Plan

The University of Kansas

KU Bike Plan

Executive Summary and Recommendations

LAWRENCE CAMPUS

EXECUTIVE SUMMARY

Compact, sustainable, and good for your health, bicycles provide benefits that greatly exceed the cost of the infrastructure they require. As space becomes limited and traffic increases on and around campus, bicycles may become a more frequently chosen mode of transportation for many people commuting to and traveling on campus.

The *KU Campus Master Plan* and *Campus Sustainability Plan* have acknowledged that providing a comfortable and convenient bicycling environment is desirable and essential for the future of transportation at KU. Bicycling is no longer a purely recreational activity chosen only by the dedicated, competitive cyclist.

Bicycling is for the student who wants to live on campus without the hassle and expense of car ownership. It is for the student living off campus who slowly circles the parking lot, hunting for a spot while a fellow student glides into the bike parking racks near the front door of Budig Hall. It is for the employee who lives close to campus and uses his or her commute to get their daily exercise. It is for the family that wants to see the big game on a beautiful fall day, but does not want to be stuck in traffic.

Those who are not able, or choose not to bike also reap benefits. More bicyclists means less noise, less traffic, and less parking congestion on nearby neighborhood streets. It means less pollution and lower demand for surface parking lots.

With these benefits in mind, the *KU Bike Plan* addresses the following goals:

- **Enhance the bikeway network linking residential, academic, and recreational destinations on campus and in the community**
- **Promote a safe, healthy campus environment**
- **Increase the percentage of bicycle and pedestrian users on campus through the implementation of new policies, programs, and infrastructure**
- **Improve coordination with the City of Lawrence and create seamless transitions between university and city bike infrastructure and routes**
- **Create movement uphill by identifying policy, program, and infrastructure solutions that encourage people to overcome the real and perceived barrier of steep routes to campus**

This plan assesses the strengths and challenges of current bicycling conditions on and around campus and evaluates potential tools that KU could use to achieve its goals for improving bicycling conditions at KU. With a toolbox of policy, program, and infrastructure ideas, feasible steps the university could take to improve the bicycling environment at KU are identified.

The plan details potential sources of funding for listed recommendations, including alumni donations, student fees, state alternative transportation grants, and corporate sponsorships.

Implementation of these recommendations will allow any student, faculty, staff, or campus visitor to comfortably make it to the top of Mount Oread through thoughtful route finding. It will provide education that helps both novice and experienced cyclists to feel comfortable and confident navigating the route to their classroom or workplace. It will help provide realistic travel options for those who cannot afford or choose not to have a car. Even the administrator will be able to bike while still maintaining his or her professional attire.

Real change can be achieved for cyclists at KU with collective vision, creativity, and diverse funding. This plan provides the framework and flexibility for leaders at the university to make pragmatic progress, starting today. It sets the stage for a new opportunity to rise far above and make KU a premier university for bicycling.

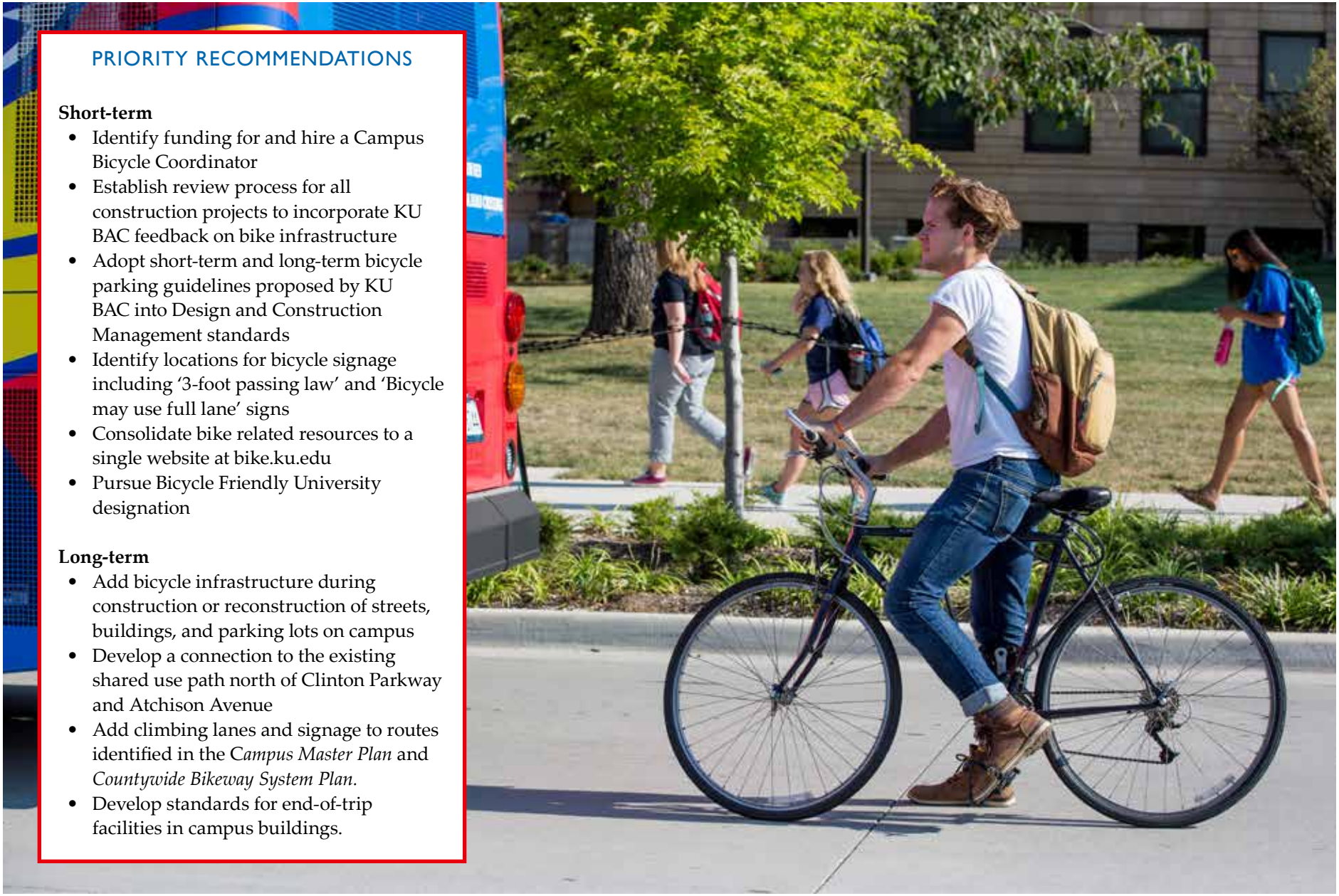
PRIORITY RECOMMENDATIONS

Short-term

- Identify funding for and hire a Campus Bicycle Coordinator
- Establish review process for all construction projects to incorporate KU BAC feedback on bike infrastructure
- Adopt short-term and long-term bicycle parking guidelines proposed by KU BAC into Design and Construction Management standards
- Identify locations for bicycle signage including '3-foot passing law' and 'Bicycle may use full lane' signs
- Consolidate bike related resources to a single website at bike.ku.edu
- Pursue Bicycle Friendly University designation

Long-term

- Add bicycle infrastructure during construction or reconstruction of streets, buildings, and parking lots on campus
- Develop a connection to the existing shared use path north of Clinton Parkway and Atchison Avenue
- Add climbing lanes and signage to routes identified in the C*ampus Master Plan* and *Countywide Bikeway System Plan.*
- Develop standards for end-of-trip facilities in campus buildings.



RECOMMENDATIONS

This plan seeks to address 5 goals:

1. Enhance the multimodal network linking residential, academic, and recreational destinations on campus and in the community

2. Promote a safe, healthy campus environment

3. Increase bicycle and pedestrian mode share through the implementation of new policies, programs, and infrastructure

4. Improve coordination with the City of Lawrence and create seamless transitions between university and city bike routes and infrastructure

5. Improve movement uphill by identifying policy, program, and infrastructure solutions that encourage people to overcome the real and perceived barrier of steep routes to campus

Each of the following recommendations addresses at least one of those goals through the 5 E's of bicycling: Education, Encouragement, Enforcement, Engineering, and Evaluation.

In both short-and long-term recommendations, the key priorities are been identified.

Engineering refers to physical infrastructure. This category is typically thought of when people think about "plans." Engineering recommendations are typically prioritized based on cost and ease of implementation and may include:

- On-street facilities such as bike lanes, sharrows, and traffic calming
- Off-street paths
- Directional and wayfinding signage
- Bicycle and pedestrian bridges and tunnels
- Bike parking facilities
- Anything physical in nature that facilitates bicycle travel

Education efforts typically focus on educating people about the rules of the road. It may focus on teaching cyclists how to properly interact with motorists and how to avoid the most common dangerous situations that occur for cyclists. Education may also focus on awareness that cyclists must follow the same rules of the road as motorists. Motorist education typically focuses on reminding motorists of the rules of the road, and how to properly interact with bicyclists and pedestrians. Education efforts may include:

- Bike rodeos and helmet fairs
- Public service announcements
- Workshops for planners, engineers, and law enforcement officials
- Driver education and safe cycling classes

Encouragement activites focus on increasing bicycling and walking through fun and interesting activities. These activities may include:

- Bike to Work Week activities
- Bike and Walk to School Days
- Workplace wellness programs
- Open streets events (Example: Ciclovias)
- Community bike rides
- Bicycle maps
- Bike share systems

Enforcement activities focus on enforcing the rules of the road for all users including motorists, bicyclists, and pedestrians. Enforcement also prioritizes having and improving links between the law enforcement and bicycling communities. Activities may include efforts to:

- Reduce speeding
- Increase motorists yielding to pedestrians and bicyclists when appropriate
- Reduce bicycle theft

Evaluation efforts seek to quantify the impacts of the other E's and may include:

- Measuring the growth of bicycle and pedestrian facilities in a region
- Measuring the rate of bicycling in an area or the number of users on a specific facility
- Evaluating crash data for patterns and/or frequency

SHORT TERM RECOMMENDATIONS (1-3 YEARS)

Identify funding and hire a Campus Bicycle Coordinator

PRIORTY

The peer review process illuminated the importance of university staff dedicated to improving the bicycling environment. A campus bike coordinator could help inform land development decisions, provide education and encouragement for students, faculty, and staff, and implement recommendations from the *KU Bike Plan*. This position could allow for the KU BAC to become the body that guides the coordinator's work, much like the Lawrence-Douglas County BAC does for City-County transportation planners. A campus bike coordinator would also provide a clear point of contact for the public to engage the university on bicycling issues and concerns.

Establish a review process for all construction projects to allow the KU BAC to provide feedback on bike infrastructure.

PRIORTY

Inclusion of an appointed member of the KU BAC or the Campus Bicycle Coordinator in design review is important to enhancing reasonable multimodal travel options on and around campus. To prevent the need for retrofitting and provide thoughtful execution of new bicycle infrastructure, it is important that bicycles be considered in the early stages of campus development or redevelopment.

Identify locations for bicycle signage including '3-foot passing law' and 'Bicycle may use full lane' signs.

PRIORTY

The Lawrence-Douglas County Bicycle Advisory Committee recommends locations for each of these sign types throughout the Lawrence community. The Douglas County BAC suggested '3-foot passing law' signs be used as motorists enter Lawrence city limits. 'Bicycle may use full lane' signs are suggested where streets become more narrow, typically at locations of traffic calming such as roundabouts and pedestrian islands or at the entrances to campus.

Adopt proposed short- and long-term bicycle parking guidelines into campus Design and Construction Standards.

PRIORTY

Short term parking is designed for people visiting a location for no more than 2 hours. This type of parking should be visible and easy to access from the front door of the building. The guidelines developed by KU BAC in 2015 recommend providing bicycle parking for a minimum of 2.5% regular building occupants and visitors.

Long term parking places higher value on security and weather protection and is often designed for residents, employees, transit users, and others who may need to leave their bicycle parked in one location for several hours or all day.

The KU BAC guidelines include a 30% bike parking to bed ratio for all existing and newly constructed residence halls, with 50% of bike parking to be covered. This design guideline was developed to ensure that on-campus students have secure, convenient, and protected parking for their bicycle. These amenities could lead to more students choosing to bring a bike to campus instead of a car, reducing the high automobile parking demand found near most university residence halls.

Develop standards to accommodate biking during construction.

On campus construction can sometimes prevent cyclists from accessing parking or discourage those who use only familiar routes to campus. Bicycle detours should be provided with improved signage to allow access where possible and direct cyclists to alternative routes or parking if necessary.

OLIVER RESIDENCE HALL, 2016

SHORT TERM RECOMMENDATIONS (1-3 YEARS)

Install sharrow markings along bike routes identified in the *Campus Master Plan* and *Douglas County Bikeway System Plan*.

A prioritized list of locations is:

1. Mississippi Street from Fambrough Drive to Jayhawk Boulevard
2. Memorial Drive from Mississippi Street to West Campus Road
3. Constant Avenue from 21st Street to 19th Street.

Identify key locations throughout campus to install bike maintenance facilities.

KU currently has two bike repair stands: one on the south side of the student recreation center and one at the Kansas Union. However, if a cyclist encounters a flat tire on Jayhawk Boulevard, it would be time consuming and inconvenient to walk his or her bike down the hill to make the needed repairs. Work should be done to identify locations for repair stands throughout campus that allow cyclists to conveniently make small repairs and tune-ups as necessary without having to travel great distances.

Consolidate bike related resources to a single website at bike.ku.edu.

PRIORTY

For those looking for bicycling resources, it is most convenient to compile health, environmental, safety, route-finding, and technical information in one location.

Links to bike.ku.edu could be provided on the websites of Parking & Transit, Public Safety, Recreation Services, and the Center for Sustainability to direct those seeking bicycle related information to a central source.

Establish an annual education, encouragement, and enforcement campaign.

An annual campaign could include the following: Bike tours, safety information, maintenance demonstrations, cycling skills classes, inclusion of bike routes on Parking and Transit maps, bike info on bus advertisement rails, wayfinding information for surrounding neighborhoods, biannual news articles in the UDK with information on motorist and bicycle safety, etc. Students could also be informed about local bicycle shops and co-ops, social bicycle clubs, and student organizations.

Enforcement campaigns that also educate motorists and bicyclists about the rules of the road have proven to be very effective at changing behavior.

KU Public Safety could dispense bicycling rules of the road information during annual enforcement of yielding, speeding, and 3-foot passing laws at certain campus locations.

Incoming students of all levels are usually unfamiliar with existing programs. It is important to educate them students as early as possible in order to influence future habits.

Provide Share the Road educational materials to pedestrians, bicyclists, motorists, police officers, and campus neighbors.

Information can be distributed with parking permit materials, future bicycle registration, and at student information fairs.

SHORT TERM RECOMMENDATIONS (1-3 YEARS)

Pursue Bicycle Friendly University designation.

PRIORTY

KU submitted an application for BFU designation in August 2016. Regardless of achieving a platinum, gold, silver, or bronze designation, another benefit of applying for BFU designation is the feedback received from the application process. While KU's 2012 application did not result in a designation, The League of American Bicyclists included a list of suggested improvements for KU to consider before its next application. These suggestions have led to the creation of the KU Bicycle Advisory Committee and the development of this *KU Bike Plan*. The 2016 application should reflect progress and will also be an opportunity to learn what else KU can do to become more bicycle friendly.

Improve visibility of bicycle amenities near the KU Visitor Center.

The Visitor Center welcomes many prospective students and families to the University of Kansas campus. This makes it a great place to send the message that KU is a bike-friendly campus and Lawrence a bike-friendly city. The current lack of bicycle infrastructure and information does not take advantage of conveying this message to new Jayhawks.

Bicycle parking, a bike repair stand, or educational materials within the building would help make visitors and prospective students aware of the bicycle amenities and programs on campus.

Promote annual participation in the National Bike Challenge through social media tools.

Encouragement from the official KU Twitter and Facebook pages to participate in the National Bike Challenge would be the most effective way to reach all current and former Jayhawks who are interested in competing with other universities to log bike miles throughout the year. Apps that automatically log daily miles make it easy to participate and represent cycling at KU.

Provide bicycle registration through the Parking & Transit website.

Bicycle registration helps to prevent stolen bicycles by linking bikes with owners through a serial number or tagging process. An additional benefit to registration is the ability to contact bike owners prior to the removal of abandoned bicycles from racks at the end of each semester. The current process for bike removal requires cyclists to label their bikes with "Do Not Remove" tags at the end of the school year. If bike owners fail to do this, they may have to reclaim their bike from KU at a later date, with no way of verifying that they are the owner.

GSP RESIDENCE HALL, 2016

SHORT TERM RECOMMENDATIONS (1-3 YEARS)

Continue annual bicycle and pedestrian counts at key campus locations and conduct routine bicycle parking capacity and usage counts.

Count locations should be chosen to provide information on where bicyclists access campus. Knowing the top entry points for cyclists will help determine where infrastructure is most needed.

Annual bicycle parking counts allow evaluation of areas with high and low utilization, helping to prioritize areas of campus in need of additional parking facilities. These counts also provide the opportunity to report damaged bicycle racks in need of repair or overgrown vegetation that prevents easy access to parking. These counts should be standardized to a certain time of year.

Identify high-risk crash locations on campus and develop plan for mitigation.

The map on page 30 identifies locations on and around campus that have seen bicycle crashes in the last five years. Safety issues are likely different at each location and require a different set of education and infrastructure tools to address them. Historical crash locations and perceived high-risk locations should be analyzed to better understand how to improve safety.

Explore development of a bike share program to provide access to bikes on campus and connections to key points in the community.

In 2016 the Lawrence-Douglas County Metropolitan Planning Organization (MPO) engaged the Toole Design Group to assist with a feasibility study to examine options for a bike share program in the community. The report recommends including the University of Kansas Lawrence Campus and connections to downtown in the first phase of implementation, and identifies the university as a key partner in establishing a program[1].

The group also conducted a survey of KU students to determine interest in such a program. Out of 693 students surveyed:

- 81% indicated support for a campus bike share
- 70% indicated support for using student fees to pay for a bike share system if the fees guaranteed free use of the bikes for a period of time each day
- 87% would be more likely to use bike share if their KU Card could be used to check out a bike

Additional study is needed to determine how such a program would be operated on campus in coordination with off-campus stations, and how to best fund both capital and operational costs.

WESCOE HALL, 2016

[1] Full report is available at http://lawrenceks.org/mpo/bikeshare/

LONG TERM RECOMMENDATIONS (4-10 YEARS)

Add bicycle infrastructure during construction or reconstruction of streets, buildings, and parking lots on campus.

PRIORTY

The ideal time to add new bicycle infrastructure is during already planned construction or reconstruction projects. For example, planned reconstruction of campus parking lots presents an opportunity to add bike parking in areas of campus where it is currently inadequate.

Also, anytime bus shelters are constructed or reconstructed, the addition of bicycle parking near the shelter would encourage multimodal trips for bicyclists connecting with transit.

BUS SHELTER WITH BICYCLE PARKING, IRVING HILL RD

Develop a connection to the existing shared use path north of Clinton Parkway and Atchison Avenue.

PRIORTY

Figure 18 shows that this trail terminates at the corner of W. 19th Street and Heatherwood Drive, approximately 1,000 feet west of KU property. If connected, bicyclists would be able to bike along Westbrooke Road to reach existing shared use path along Bob Billings Parkway. Alternatively, cyclists could use Petefish Drive to reach The Lied Center, connecting them with Daisy Hill and the rest of campus. A short connection here could help bicyclists southwest of campus avoid the heavy traffic of 23rd Street and Iowa Street while commuting to Mouth Oread.

Figure 18: Shared use path connection to campus

Add climbing lanes and signage to routes identified in the *Campus Master Plan* and the *Countywide Bikeway System Plan*.

PRIORTY

These routes include:

1. Sunflower Road between Sunnyside Avenue and Jayhawk Boulevard
2. 11th Street from Maine Street to West Campus Road
3. Irving Hill Road from Naismith Drive to Engel Road

CLIMBING LANES OFTEN PAIR A BIKE LANE GOING UPHILL FOR SLOWER CYCLISTS WITH A SHARED LANE MARKING FOR DOWNHILL CYCLISTS WHO CAN MORE CLOSELY MATCH VEHICLE SPEED.

LONG TERM RECOMMENDATIONS (4-10 YEARS)

Develop standards for end-of-trip facilities in campus buildings.

PRIORTY

Similar to bicycle parking guidelines developed by KU BAC, consistent standards should be required for end-of-trip facilities such as lockers and showers in new campus buildings.

Biking in extreme heat, cold, or over long distances can make it difficult for cyclists to arrive to work or class in clean, professional clothing. End-of-trip facilities can help commuters choose to bike while still arriving presentably at their destination.

Make continuous connections to the Jayhawk Trail as redevelopment occurs.

The Jayhawk Trail is a concept to connect all three districts of campus with a single shared use walking and biking trail. While the final alignment is still evolving, connections should be ensured from 19th & Iowa Streets to 15th Street & Naismith Drive, as well as a connection from 15th Street & Naismith Drive to Jayhawk Boulevard.

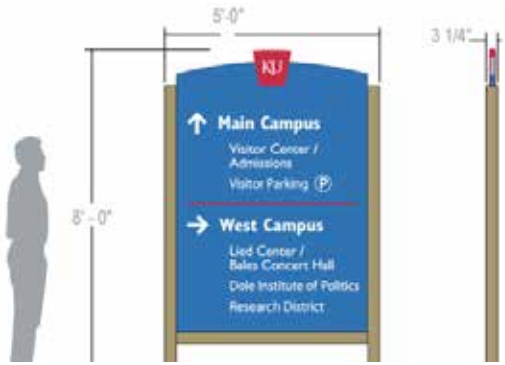
Amend wayfinding signage standards to include guidelines for directing bicyclists to routes and/or depicting time and distance information.

Wayfinding signage can be used as a tool for encouragement as it clarifies the time, distance, or direction of routes for current and prospective bicyclists.

KU developed consistent wayfinding signage standards in 2009[1] that do not include information for bicycles. The university should consider amending these standards to include information helpful to bicyclists.

Figure 19 shows current DCM standards for one wayfinding sign type.

Figure 19: KU Wayfinding - Sign Type C



Install on- or off-street bikeway facilities along high traffic campus corridors.

On-street facilities may include shared-use lanes with sharrows, bicycle lanes, or cycle tracks. Off-street facilities often include shared-use paths for bicyclists and pedestrians. Further descriptions of bicycle facility types can be found in Appendix C. Design of facilities should meet AASHTO[2] or NACTO[3] guidelines.

These routes have been identified in the *Countywide Bikeway Plan* to have future bike facilities:

1. Jayhawk Boulevard from West Campus Road to 12th Street
2. Naismith Drive from 19th Street to Sunnyside Avenue
3. Irving Hill Road from Engel Road to Naismith Drive
4. West 15th Street from Engel Road to Naismith Drive

[1] https://dcm.ku.edu/sites/dcm.drupal.ku.edu/files/docs/Standards/KUEWsummary.pdf
[2] https://bookstore.transportation.org/collection_detail.aspx?ID=116
[3] http://nacto.org/publication/urban-bikeway-design-guide/

LONG TERM RECOMMENDATIONS (4-10 YEARS)

Explore solutions for improving bicycling along Sunnyside Avenue.

While this road has not had a reported bicycling crash in the last five years, it is perceived as a dangerous route for cyclists. Cars sometimes speed on the long, straight road, and cyclists must watch out for cars reversing from angled parking spots or entering the roadway from the one of the many driveways on this street.

Potential treatments could include reverse angled parking , traffic calming speed humps, installing bike lanes, or adding a two-way cycle track on the north side of the street.

REVERSE ANGLE PARKING ALLOWS DRIVERS TO EASILY SEE APPROACHING BICYCLISTS WHEN EXITING THE STALL

Identify locations for central bike parking hubs at key intersections with other modes of transportation.

The City of Lawrence and the University of Kansas submitted a joint application for a TIGER grant to fund a multimodal transit facility in Lot 90 (near the student recreation center) that could have included significant space dedicated to bicycle facilities. Unfortunately, the grant was not awarded.

Nonetheless, the university should continue to work to identify key locations on campus for consolidated bicycle amenities, including but not limited to covered parking, secure bicycle lockers, and bicycle repair stations.

Perform walking and biking safety corridor analyses for major streets on campus.

In 2015, a Road Safety Assessment (RSA) was conducted for the 19th Street Corridor from Barker Avenue to Iowa Street. The RSA is part of a U.S. DOT initiative to reduce bicycle & pedestrian injuries by helping communities build streets that are safer for pedestrians, bicyclists, and transit riders.

Similar assessments should be conducted on other major streets on campus, including but not limited to:

- Naismith Drive from 19th Street to Crescent Road
- 15th Street from Iowa Street to Naismith Drive
- Sunnyside Avenue from Naismith Drive to Sunflower Road
- Jayhawk Boulevard from Naismith Drive to West 13th Street
- West Campus Road from West 11th Street to Jayhawk Boulevard

Following these assessments, it may make sense to install traffic calming devices in some locations to improve pedestrian safety and comfort.

RECOMMENDATIONS - CONNECTIVITY WITH THE CITY

Campus boundaries are invisible to the cyclist who travels to and from Mount Oread. Bicycle connections between city and KU property should be seamless and coordinated, leading cyclists along desired routes.

Campus is bordered by several arterial streets that are part of the city's principal road network. These high-traffic streets are a necessary component of moving people efficiently through Lawrence. Although the movement of cars along these routes is essential, consideration of bicycle travel across and along these streets is necessary to ensure that long-term barriers do not develop that limit direct route options for bicyclists.

This plan highlights certain corridors and gateways that students use to access campus. As streets near these corridors and gateways are maintained or rebuilt, consideration should be given to roadway treatements that align with City and KU plans and improve the safety and comfort for bicyclists.

The City of Lawrence and the University of Kansas should develop a consistent and coordinated design review process for projects that impact both entities.

This process should allow all appropriate staff and advisory boards at KU and the City to review and comment on projects that may affect bicyclists. One example of successful coordination is through the Bike Share Feasibility Study in 2016. Representatives from the Lawrence-Douglas County MPO, Lawrence Transit, KU Parking & Transit, and KU Student Senate, among others, were all involved in discussions throughout the study and had several opportunities to voice concerns.

RECOMMENDATIONS - CONNECTING IMPLEMENTATION TO GOAL-SETTING

The following table demonstrates how each recommendation in this plan addresses one of the five overarching goals through the five E's of bicycling. Through engineering, education, encouragement, enforcement, and evaluation, KU can begin to achieve the goals of this plan in both the short-term and the long-term.

		5 E's					Plan Goals				
		Engineering	Education	Encouragement	Enforcement	Evaluation	Enhance Bikeway Network	Promote Safety and Health	Increase % Bicyclists	Improve Coordination	Create Movement Uphill
Short-Term Recommendations	Identify funding and hire Bicycle Campus Coordinator.	x	x	x	x	x	x	x	x	x	
	Establish review process for all construction projects to allow the KU BAC to provide feedback on bike infrastructure.	x					x		x	x	
	Identify locations for bicycle signage including '3-foot passing law' and 'Bicycle may use full lane' signs.	x	x					x	x	x	
	Adopt short- and long-term bicycle parking guidelines proposed by KU BAC into Design and Construction Standards.	x							x		
	Develop standards to accommodate biking during construction.	x						x		x	
	Install sharrow markings along bike routes identified in the *Campus Master Plan* and *Douglas County Bikeway System Plan*.	x		x			x	x	x	x	
	Identify key locations throughout campus to install bike maintenance facilities.	x					x	x	x	x	
	Consolidate bike related resources to a single site at bike.ku.edu.	x		x			x	x	x	x	
	Establish an annual education, encouragement, and enforcement campaign.		x	x				x	x		x
	Provide Share the Road educational materials to pedestrians, bicyclists, motorists, police officers, and campus neighbors.		x	x	x			x	x		
	Pursue Bicycle Friendly University designation.		x		x			x			
	Improve visibility of bicycle amenities nearby the KU Visitor Center.			x				x	x		
	Promote annual participation in the National Bike Challenge through social media tools.				x			x	x	x	
	Provide bicycle registration through the Parking and Transit website.				x			x		x	
	Continue annual bicycle and pedestrian counts at key campus locations and annual bicycle parking capacity and usage counts.					x				x	
	Identify high-risk crash locations on campus and develop plan for mitigation.					x			x	x	
	Explore development of a bike share program to provide access to bikes on campus and connections to key points in the community.	x		x			x		x	x	
Long-Term Recommendations	Add bicycle infrastructure during construction or reconstruction of streets, buildings, and parking lots on campus.	x					x		x		x
	Develop a connection to the existing shared use path north of Clinton Parkway and Atchison Avenue.	x					x		x	x	
	Add climbing lanes and appropriate signage to routes identified in the Campus Master Plan and the Countywide Bikeway System Plan.	x									x
	Develop standards for end-of-trip facilities in campus buildings.	x					x		x		
	Make continuous connections for the Jayhawk Trail as redevelopment occurs.	x					x		x		x
	Amend wayfinding signage standards to include guidelines for directing bicyclists to routes and/or depicting time and distance information.	x		x			x	x	x		
	Install on- or off-street bicycle facilities along high traffic campus corridors.	x									
	Explore solutions for improving bicycling along Sunnyside Avenue.	x					x	x	x		x
	Identify locations for central bike parking hubs at key intersections with other modes of transportation.	x					x		x	x	x
	Perform walking and biking safety corridor analyses for major streets on campus.					x		x			