

UNIVERSITY OF KENTUCKY CAMPUS BICYCLE PLAN

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I ~ INTRODUCTION

Bicycling Today

Bicycling is a common mode of transportation at the University of Kentucky. Many students, faculty and staff members travel to and around campus by bicycle to avoid traffic congestion and parking hassles, to save time and money, to exercise, and to reduce air pollution. Portions of campus offer pleasant and comfortable bicycling conditions with wide shared pathways, bike lanes, flat terrain, and streets with low traffic volumes and speeds. Additionally, the campus is in an urban location, less than a mile from the city of Lexington's downtown offering ample commercial and retail destinations within a short biking distance. Residential areas lie adjacent to campus on an easily accessible street grid network.

Yet, the rate of bicycling is low at the University of Kentucky compared to other universities. The 1999 Bicycle Cordon Count *Pilot Study* (Department of Civil Engineering and the Kentucky Transportation Center, University of Kentucky) estimated 1,800 bicyclists commuting into campus. This represents less than 1% of the campus community traveling by bicycle. By comparison, the University town of Madison, Wisconsin has a bicycling rate for the town of 11% and a bicycling rate among students of 27%.



Path adjacent to Memorial Hall

Many aspects of the campus make traveling by bicycle difficult. The campus is dominated by automobile traffic during peak hours of the day, drivers practice unsafe behaviors with regard to bicyclists, and the majority of intersections are not designed to safely accommodate pedestrians or bicyclists. Furthermore, campus bicyclists lack guidance about traveling around campus; there are limited designated bike paths or routes, key areas of the campus prohibit bicycle travel, and many bicyclists fail to follow rules of the road.

Origins and Purpose

The goal of the Campus Bicycle Plan is to significantly increase bicycling on campus as an alternative to automobile travel. The development of this plan evolved from recommendations in the 2002 *Campus Physical Development Plan*. Three principles guided the *Campus Physical Development Plan*: 1) Create academic communities; 2) Create a sustainable pattern of growth; and 3) Create connections to the city. In order to create a sustainable pattern of growth, the final plan recommends the development and implementation of a comprehensive parking and transportation plan, and proposes "street modifications, improvements in alternative modes of transportation and a reduction in campus generated traffic" (p69).

During the *Campus Physical Development Plan* process, a bicycle committee was formed of representatives from the University (staff, faculty and students), Lexington-Fayette Urban County Government (LFUCG), and the Kentucky Transportation Cabinet to address bicycling needs on campus. A Bicycle Planning Committee was convened of many of the same members to play an instrumental role in the process of developing this plan. The Committee helped establish the vision for the Campus Bicycle Plan, reviewed and commented on deliverables, and participated in public meetings.

The purpose of the Campus Bicycle Plan is to increase the safety and mobility of students and employees who bicycle, and to encourage more bicycle travel. The plan is also designed to support the *Campus Physical Development Plan's* principles of creating sustainable growth as well as connections to the city. This plan is a guide to establishing high-quality bicycle facilities and programs at the University. Safe and convenient bicycle transportation supports the University's broader principle to create sustainable growth on campus. This Campus Bicycle Plan includes:

- A report on existing bicycling conditions on campus
- Established vision and milestones
- Policy, program and facility recommendations
- An implementation schedule and a work plan
- A Bicycle Route Network Map

Benefits of Bicycling

Implementation of the Campus Bicycle Plan will help improve conditions for cyclists. Increased bicycle travel by members of the campus community provides many benefits to the University of Kentucky.

Faster, More Efficient Access

An online survey conducted for this plan revealed that for trips to campus of less than five miles, traveling by bicycle is faster than motor vehicle. Students, faculty and staff living within five miles of campus can benefit from more efficient access to destinations on campus by commuting by bicycle.

Traffic Relief

Replacing automobile trips with bicycle trips will reduce the number of motor vehicles on campus roadways. Many roads through and adjacent to campus are congested throughout the day. Increasing bicycling will help alleviate congestion, making it easier for people who do drive to campus and reducing the need to build expensive parking garages.

Reduced Air Pollution

Stop-and-go traffic through the center of campus contributes to air pollution and can create an unhealthy environment for the pedestrians and bicyclists congregated in the area. Substituting bicycle trips for short automobile trips will reduce the amount of pollutants generated by motor vehicles on campus.

Cost Savings

Bicycling is an inexpensive mode of transportation. Students can save on vehicle purchase and maintenance, as well as the cost of parking permits. In addition, an increase in bicycle travel is likely to result in reduced demand for parking. As a result, the University of Kentucky can save the capital costs of constructing additional parking lots and garages as the campus grows.

High Quality of Campus Life

A bicycle and pedestrian friendly campus can help create a more pleasant/enjoyable campus and attract prospective students and employees. Additionally, increased use of bicycle travel can support businesses on, or in close proximity to campus and can help create a closer-knit campus community.

Healthy Living

Diseases associated with obesity are now the second highest cause of death and are likely to contribute to higher health insurance costs for the University of Kentucky. Increasing bicycling among faculty, staff and students will improve their health by enabling them to achieve the Surgeon General's recommended daily allowance of physical activity.



Cyclist riding on Euclid

Background Data Collection

The planning process for the development of the Campus Bicycle Plan involved extensive data collection and review including:

- Reviewing previous campus plans and geographic information systems data
- Reviewing City plans relevant to this effort including road design projects and trails and greenways plans and geographic information systems data
- Conducting fieldwork on the UK campus, including on-bike field surveys
- Holding public forums to present plan progress and gathering input from the UK community
- Conducting an online survey to learn about UK community members' commuting patterns

This background data has been employed in the development of the draft plan and Bicycle Route Network map.

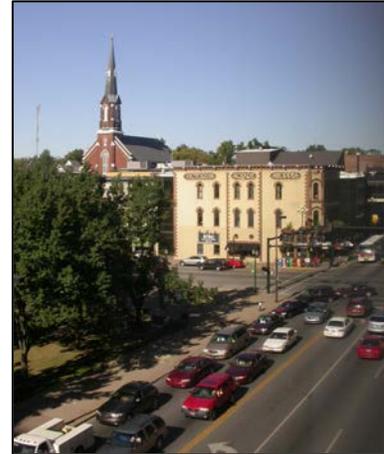
II ~ EXISTING CONDITIONS

Introduction

The University of Kentucky campus presents numerous opportunities to increase bicycling. The campus is located less than a mile from Lexington's downtown, offering a multitude of commercial and retail destinations within a short bicycling distance. Numerous local and state roads pass through or along the campus boundaries offering a high level of connectivity to adjacent neighborhoods. The area is relatively flat, and has weather conditions that are well-suited for bicycling - temperatures that are not dominated by extreme heat or cold.

The campus offers a captive and growing audience for promoting bicycle facilities; in the fall of 2003, UK had 26,260 enrolled students, 9,092 staff members and 1,901 faculty members. Sharing the UK campus is Lexington Community College (LCC). While LCC is a distinct institution, its students share many UK facilities (such as dormitories and libraries) and are eligible to enroll in UK classes. In the fall of 2003 LCC had 8,672 enrolled students, 110 staff members and 157 faculty members. The 1991 Land Use Plan creates distinct geographic sectors on campus, including the academic core, the College of Agriculture, the medical center, housing, and athletics/recreation. Some of the resulting separation of uses across the 687 acres of campus property creates an environment where biking is a very efficient means of travel. Observations of bicyclists and full bicycle racks indicate that students are currently biking on campus.

The present transportation system at the University of Kentucky is primarily oriented for automobile access, and unsafe conditions have long been a deterrent to bicycle travel. Evidence includes heavily congested roads through campus, restrictions to biking in the academic core, high demand for vehicle parking spaces, wide, multilane street crossings, high speeds and/or heavy traffic on key connector routes, lack of designated bicycle paths and routes, and unsafe driver behavior with regard to bicyclists, as well as unsafe bicycling behavior. The existing conditions analysis assessed current commuting patterns and habits, and need for a range of bicycle facilities including bicycle parking, bicycle lanes routes and paths, improved roadway crossings, and traffic - calmed streets. In addition, this analysis assessed the provision of programs such as bike on bus, bicycle sharing, and incentives.



View of Lexington



Avenue of Champions

Campus Commuting Patterns

A web-based survey was developed as a strategy to gain public participation for the Campus Bicycle Plan. The goal of the survey was to measure attitudes, habits and opinions regarding transportation to and from campus, and to identify issues specific to bicycle and car commuters. While the survey was not a random sample (respondents were self-selected), more than five thousand responses from students, faculty and staff were received, representing over ten percent of the University of Kentucky campus community (including Lexington Community College). The survey therefore allows for solid insight into existing transportation patterns and opinions on campus.

A number of survey findings were significant in revealing existing commuting patterns on campus. Employees account for a very small percentage of bicycle commuters (16%) and make up the largest share of car commuters. As to be expected, individuals commuting to campus by car have longer distance commutes than those commuting by bicycle. However, distance does not explain all of the variation in travel time. For commutes of five miles or less, it was found that people traveling by bicycle spend *less time* commuting than those traveling by car. More than a third of car commuter respondents live less than five miles from campus which presents a great opportunity to turn these inefficient car trips into faster bicycle trips.

Car commuters who responded to the survey indicated that they rarely use other modes, traveling by car only to campus five or more times a week. On the other hand, bicycle commuters indicated that they occasionally drive, take the bus or walk during the week instead of biking.

Car and bicycle commuters agreed that dedicated bicycle lanes on campus and city streets, and trails and pathways separated from the road are the critical amenities that would encourage them to bike, or bike more often, to campus. An estimate of 30 to 35% of car commuters from the survey responded that bicycle lanes or trails/pathways would encourage them to bike to campus. Both audiences also perceive bicycling on city and campus streets to be dangerous. Bicycle commuters reported that they bike to campus for convenience and time savings, cost savings and because of lack of parking. Reasons given by car commuters for not biking included: distance, not owning a bicycle, safety and traffic, weather and a need for trip-chaining (i.e. dropping off children at school or daycare before work, grocery shopping on the way home from work). Additional detail regarding the online survey can be found in Appendix A.

"I have actually been hit twice on my bike on campus. Once was at Speedway on Limestone, and resulted in a dislocated shoulder. The other was at rose and Euclid. This resulted in a broken tibia and fibula, from which I am still recovering."

~ Online survey respondent

Bicycle Parking Facilities

The University of Kentucky has made much progress in the provision of bicycle parking. Field work on campus indicates that there are an adequate number of bicycle parking spaces for current levels of bicycling, but that improvements can be made to bicycle rack design and rack placement.



U-racks at Young Library

The 2002 *Campus Physical Development Plan* estimates that the University of Kentucky has 3,935 bicycle parking spaces across campus. It is possible that because of the rack design, many racks are not accommodating as many bicycles as estimated. Racks near Young Library for example (*See photo at left*) have eight parking spaces but can only accommodate five bicycles because of lack of adequate space between the slots. The actual number of usable spaces at the University of Kentucky is more likely to be between 2500 and 3000. This quantity appears to be meeting the current demand for bicycle parking.

Bicycle racks are distributed across campus primarily as larger

“banks” of parking, near key destinations such as classroom buildings, recreation and sports facilities, residence halls, libraries and the student center. Parking and Transportation Services installs and relocates bicycle racks as they are notified of different bicycle parking needs. The placement of the racks near these key destinations varies; some racks are clustered in large banks behind buildings, such as on Patterson Drive behind the academic core, some racks are in smaller groups close to the front or side entrances such as the Kirwan buildings, and some racks share space in parking lots, such as on Funkhouser.

Bicycle parking needs vary depending on the specific campus location. In terms of quantity and placement of racks, a number of racks tend to be filled to capacity while others have been observed empty, and a number of buildings typically have bicycles parked on railings and posts near entrances. For example, the racks in front of the Agricultural Science Center North are often full (*see photo*), as well as racks in front of the Chemistry-Physics building facing Rose Street. Observations of bicycles parked on railings outside of the Oliver H. Raymond Civil Engineering building and the Grehan Journalism building suggest that there is a shortage of parking spaces convenient to buildings in the academic core (*see photo*).



Bicycle racks at the Agricultural Science Center



Bicycles parked on the railing at the Civil Engineering building

A few racks are underutilized in their current location, such as the racks on Hilltop near the Young Library (*see photo*). These are typically empty of bicycles since bicycle parking bays near the entrance of the library are more convenient. In the short term, the current provision of bicycle parking spaces can be maximized by relocating existing bicycle racks to locations observed to have shortages.

There is also a need to improve the quality of bicycle rack design. Many of the UK racks do not meet the standards of the Association of Pedestrian and Bicycle Professionals. The u-shaped and dish-rack bicycle rack designs used most often on campus have the potential to damage bicycle frames and fit fewer bicycles than a better designed rack of the same size. The racks outside of Young Library for example, should be taller to support the bicycle frame and to prevent bicycles from falling over. In addition, the frame supports should be spaced farther apart so that one bicycle can fit into each available slot. The dish-rack style bicycle racks, as seen at the Agricultural Science Center North, support the entire bicycle by the wheel which can result in bent wheel frames. The slots also tend to be too close together, forcing bicyclists to skip a space, reducing the efficiency of the rack. Often, only one wheel can be locked to the dish-rack, increasing the potential for



Empty bicycle racks on Hilltop Avenue

bicycle theft.

On-Street Cycling Conditions

Many roads on campus pose safety concerns for bicyclists due to vehicle speeds and volumes, and lack of space for bicyclists to ride. During the public input process, participants complained of speeding vehicles on several roadways through and adjacent to campus, particularly Limestone Street and University Drive. Rose Street was also cited as a dangerous roadway even though heavy congestion keeps vehicle speeds low throughout the majority of the day.

The Lexington-Fayette Urban County Government conducted a *Bicycle Level of Service Analysis* in 1999 and updated it in 2004, rating roadways in the City on a scale from A to F. Most roadways on campus are rated a “C”, “D”, or “E”. Only two roads rate above a “C”; the portion of Euclid Avenue which includes bicycle lanes, and a segment of Hilltop Avenue are both rated as an “A”. The analysis found Limestone Street (Alumni Drive to Avenue of Champions) and Avenue of Champions (Rose Street to Martin Luther King Boulevard) to have a level of service rating of “E”, the lowest rating of streets in the campus vicinity.

Two roads on or adjacent to the University of Kentucky campus currently have bicycle lanes; Euclid Avenue (Ashland Avenue to Rose Street) and Rose Street (Rose Lane to Washington Street). These bicycle lanes provide access to the northeast side of campus but do not extend through campus or connect to other bicycle facilities or each other. Currently, Euclid Avenue has bicycle route signs (see below), however the signs do not convey directional or destination information. A few *wrong way* signs are posted on Rose Street to direct bicyclists to ride with traffic. Several additional bicycle routes are designated on roadways in neighboring communities. The Bicycle Route Network Map prepared for this plan indicates existing bicycle lanes and designated bicycle routes. Wide curb lanes or shared roadways are not identified on the map as existing facilities.



Bicyclist using bike lanes on Rose Street



Signage design on Euclid



Signs indicating direction of travel on Rose Street

The online survey, public forum and 1999 Bicycle Cordon Count *Pilot Study*, (Department of Civil Engineering and the Kentucky Transportation Center, University of Kentucky) identified a lack of general north-south and east-west routes through campus for bicyclists. Several key destinations such as the Young Library and the Agricultural campus were also identified as having poor bicycle connectivity to the main campus. Streets cited most often as needing bicycle facilities because of the access they could provide to key campus destinations include:

- Limestone Street
- University Drive
- Rose Street
- Cooper Drive



Bicyclist crossing Rose Street at Funkhouser

In the center of campus and along key routes to campus, the majority of roadway crossings have limited bicycle and pedestrian facilities. The lack of accommodations creates significant hazards for bicyclists at a number of intersections. The public forum and online survey yielded concerns about several particularly dangerous crossings including:

- Limestone Street and Scott Street
- Rose Street and Euclid Avenue
- Rose Street and Rose Lane
- Rose Street and Funkhouser Drive
- Rose Street and Limestone Street

- Woodland Avenue and Hilltop Avenue
- University Drive and Cooper Drive
- University Drive and Alumni Drive
- Alumni Drive and Bates Creek Road

In some of these cases, such as at Woodland Avenue and Hilltop Avenue, simple changes or additions such as curb cuts and crosswalks will significantly improve the crossing. In other cases, such as Limestone Street and Scott Street, more substantial changes are needed to make the intersection safe for bicyclists. These changes may include alterations to traffic signals, raised crosswalks, or signage (see *Chapter V, Section 8: Intersection Crossings*).

Campus Pathways and Sidewalks

The campus has one shared-use asphalt path along the north side of Alumni Drive from Bates Creek Road to the Commonwealth Stadium parking lot. The remainder of the pathways on campus are concrete sidewalks. Bicyclists and pedestrians share most sidewalks except for those in the academic core where bicycle restriction symbols are affixed to sidewalks at entrances to the core and at particularly narrow or congested corridors. The public participation process revealed that the academic core is particularly difficult to access on bicycle.



“No bike” symbol in the academic core

Visual cues around campus should welcome cyclists and make it easy for them to find facilities. The bicycle restriction pavement markings in the academic core leave the impression that bicycles are not welcome and fail to offer any guidance such as alternative routes where cyclists are allowed.

In the *2002 Campus Physical Development Plan* the bicycle advisory committee recommends that cyclists be permitted to share pedestrian paths but should yield to pedestrians. Outside of central class hours and outside of the academic core cyclists and pedestrians are typically able to share pathways without difficulty. According to the online survey, 64% of bicyclists do ride on sidewalks. However, in the academic core during peak class times there are high volumes of pedestrians and several paths that narrow to four feet. Under these conditions, it can be very challenging to ride a bicycle and can be unsafe for cyclists and pedestrians.

Additional Services for Bicyclists

Bicycle on Bus

The Campus Area Transit System (CATS) fleet has four routes that serve the campus core. These buses do not offer racks to transport bicycles. Because these buses only serve an area that represents very bikeable distances and focus on transporting people from remote lots, providing bicycle on bus service (i.e. racks on buses) on the CATS system may have limited benefit for bicyclists.



One bicycle in the “Wildcat Wheels” fleet

Bus transportation to the campus from other areas is provided by the City of Lexington on the LexTran system. All of the LexTran buses currently offer bicycle racks to transport cyclists. The online survey revealed that 4% of commuters use the bus most often to get to campus, and a small number use the bus as an alternative to the car or bicycle or in addition to the car or bicycle on occasion. Bike on bus systems at other campuses (such as Arizona State University in Phoenix) have been extremely successful and have not only increased bicycle ridership but have also helped support the transit system.

Bicycle sharing

A bicycle sharing program, “Wildcat Wheels,” was begun in 2004 at

the University of Kentucky. There are currently 17 bicycles available that can be checked out for 2 days at a time for free with a valid student ID. The idea was generated by a member of the student organization Green Thumb. Funds were received from the student government and the Tracy Farmer Center for the Environment, bicycles were donated from the Parking and Transportation Services' pool of recovered bicycles, and labor was provided by several local bicycle shops. Green Thumb reports that about 75% of the bicycles are consistently checked out and plans are in the works to add a second location at the Johnson Recreation Center.

Incentives to Bike

Currently, bicyclists are not given any direct incentives to bike to campus such as free lockers or daily vehicle parking passes. The online survey revealed however, that there is a perception that vehicle parking on campus is expensive. This perception could serve as an incentive to bike rather than drive to campus.

All students are eligible to purchase parking permits at the University of Kentucky for a cost of \$164 per year. Employee parking permits are available for \$270 per year. Comparing the cost of UK parking permits with other institutions reveals that UK permits are relatively low cost and have no restrictions regarding allocation to resident or incoming students.

Permit costs per academic year

Institution	Students	Faculty
Cornell	\$604	Range of no fee (off campus parking served by bus routes) to \$647.34 for lots closest to central campus
Penn State	On campus residents: \$230 - \$540 Off campus residents: \$270 Commuters: \$50	Commuters: \$60 per year
Stanford	\$486 for lots closest to buildings; \$162 for those within walking distance; \$54 for lots accessible by bus or bike	
University of Georgia	\$120 - \$360 based on proximity to campus core	Same
University of Kentucky	\$164	\$270
University of Maryland	Commuters: \$166.00 Campus residents: \$339	\$314 - \$470 scaled by salary
University of North Carolina, Chapel Hill	\$190 - \$332 depending on location/ type (gated) Freshmen not eligible.	\$187 - \$790 based on salary and location/type of lot
University of Virginia	Commuter: \$144/year Resident: \$216/year	\$144 - \$408 per year based on proximity to classroom buildings
University of Wisconsin - Madison	On campus lots: \$425 - \$1015 based on proximity Park & ride lots \$165	

Roadway User Behavior

Institutions with successful bicycle programs tend to go to great lengths to support and educate campus cyclists. Observations during fieldwork as well as input from the online survey suggest that cyclists at The University of Kentucky do not typically follow the rules of the road, often riding against traffic and not yielding to pedestrians. In addition, the survey revealed that 54% of bicyclists do not wear bicycle helmets. Many comments were also made on the survey and during the public forum regarding the need for greater enforcement of drivers that put bicyclists in danger as well as bicyclists taking risks and endangering themselves, other bicyclists and pedestrians. It was also noted that pedestrians practice unsafe behaviors including stepping into bicycle lanes and traffic lanes without looking creating great potential for accidents.

III ~ VISION AND MILESTONES

The vision for the University of Kentucky is a campus where:

- **students, faculty and staff feel comfortable and enjoy traveling to and from their destinations by bike;**
- **support structures are in place to continuously encourage and increase the share of bicycle users; and**
- **the campus culture recognizes bicyclists as valuable contributors to the quality of campus life.**

Currently, bicycling is an underutilized mode of transportation at the University of Kentucky. Some of the challenges the University faces in regard to parking and congestion arise from not having a healthy share of bicycling and walking on campus. A shift in focus from creating a campus that is accessed most easily by car (through wide, multi-lane streets that cross the campus and a liberal parking permit system), to a campus where destinations are most easily accessed by bicycle or on foot will benefit all members of the campus community. Those benefits include more efficient access, traffic relief, reduced pollution, cost savings for the University, students and employees, a higher quality of campus life and more healthy living.

In order to attain UK's vision, the current levels of bicycling must increase. The 1999 Bicycle Cordon Count *Pilot Study* estimated a bicycle mode share of less than 1% of the UK campus community. This cordon count should be used as a baseline estimate of current bicycling levels.

"If we make it easy and safe to bike, more people will choose the bike over the car."

~ Online survey respondent

With modest annual financial investment in a bicycle program (see Recommendation 1.3), a milestone should be established to raise the percentage of bicyclists commuting into campus to 7% of the total campus community over a five-year timeframe - by 2010. This is a very attainable goal for the University of Kentucky with reasonable commitment and investment. The goal of a 7% bicycle mode share is modest in comparison to bicycling rates at other universities and other university towns. Madison, Wisconsin has a bicycling rate for the town of 11% and a bicycling rate among students of 27%. Davis, California has a bicycle commuting rate of 25% of the town's population, and the University of California at Davis has a student bicycling rate of over 50%. Over 9% of the general population of Boulder, Colorado commutes by bicycle and over 20% of the student population at the University of Colorado commutes to class by bicycle.



Bicyclists on Martin Luther King Blvd.

A second cordon count should be taken in 2010 and compared to the baseline count completed in 1999. Over the ten year timeframe - by 2015- a milestone should be to reach an ultimate bike mode share of 15%. This will require more substantial financial investment but has the potential to move the character of the campus in a positive direction.

BICYCLE PROGRAM MILESTONES		
2010	>	rate of bicycling = 7% of campus community
2015	>	rate of bicycling = 15% of campus community

IV ~ BICYCLE PROGRAM AND POLICY RECOMMENDATIONS

Chapter IV presents recommendations with regard to campus programs and policies to increase the rate of bicycling at the University of Kentucky. This chapter is divided into four sections: (1) Bike Program Funding and Coordination, (2) Bike Promotion and Education, (3) Incentives for Bicycling/Disincentives for Driving, and (4) Additional Recommendations. These recommendations are supported by a schedule in the implementation chapter to help prioritize projects and resources.

Section 1: Bike Program Funding and Coordination

Recommendation 1.1: The University of Kentucky should hire a Sustainability Director to manage and advocate for the bike program as well as other campus programs designed to reduce dependence on motor vehicles.

A series of recommendations were made in the 2002 *Campus Physical Development Plan* regarding the provision of bicycle facilities at the University of Kentucky. However, the University faces many challenges in implementing these recommendations. In order to encourage prioritization of bicycle-related projects and the implementation of recommendations, an individual to oversee UK's bike program should be identified.

The Sustainability Director will advocate for bicycling on campus, initiate new programs to encourage bicycling and better serve the bicycling community, and facilitate interdepartmental coordination. The Director will assist individual departments with the challenges of implementing change within their realms that are needed for the good of the wider campus community. The University of Kentucky has an established Sustainability Task Force. The Task Force helps UK address transportation, land use, parking, and traffic control issues with a focus on the impact on the environment and quality of life for the University and neighboring communities. The Task Force will be helpful in familiarizing a Sustainability Director with the key issues at the University.

Recommendation 1.2: Dedicate 15% of the Parking and Transportation Services Associate Director of Transportation Services and Facilities' role to the UK bike program as a Bicycle Program Coordinator.

A coordinator is needed to be responsible for implementing recommendations and responding to day-to-day needs of the campus community with regard to bicycling. Fulfilling the responsibilities of a bike coordinator should be included in the job description of the Associate Director of Transportation Services and Facilities. The position also needs to be provided with the funding (see Recommendation 2.3) and responsibility to effectively manage the details of implementation.

Recommendation 1.3: Establish modest but dedicated funds for the bicycle program each year through 2010. Funds for the first year should equal a minimum of \$50,000 with increases of \$15,000 each year for five years.

As part of the 2002 *Campus Physical Development Plan*, a *Transportation Observations and Recommendations* report demonstrated the substantial savings that could be achieved by funding a comprehensive set of vehicle-reduction strategies in place of constructing parking. The report estimates that investing \$6.25 million (annualized) in vehicle reduction strategies (including increasing transit, committing \$200,000 to a bike program, on campus employee and student housing) would decrease parking demand by 9,000 spaces by the year 2020. In contrast, those 9,000 parking spaces would cost \$16 million to construct.



Limestone Street bicycle-on-bus user

Setting aside a modest budget solely for the bicycle program will help implement many of the low-cost solutions for creating a more bicycle-friendly campus (refer to the implementation plan for recommendations regarding the allocation of these funds). Greater funding levels early in the life of the bicycle program however are encouraged to achieve faster results. After 2010, a

larger investment will need to be made to complete the more intensive facility improvements.

Recommendation 1.4: Seek alternative sources of funding including Transportation Enhancement funds.

The University of Kentucky is eligible for Transportation Enhancement Funds and safety funds (402) and can apply as an independent entity. Additionally, Safe Routes to School funding may be available, as well as partnerships with health organizations.

Recommendation 1.5: Continue and increase coordination with Lexington-Fayette Urban County Government.

Both the University and the city of Lexington will benefit from continued coordination to improve bike facilities on campus and in town. Connections between campus and the surrounding community should be seamless, and students should be able to travel to off-campus destinations (i.e. downtown, surrounding neighborhoods) safely.

Recommendation 1.6: Continue and increase coordination with Lexington area MPO.

The University of Kentucky should designate an official representative to the MPO’s Bicycle and Pedestrian Plan Advisory Committee (BPAC) Subcommittee. The University should work with the MPO and BPAC to develop priorities for public right-of-way projects—projects that are not located on UK property or streets, and are not maintained by UK but improve connectivity to and from the campus. Examples include the intersection of Alumni Drive and University Drive, and the Virginia Avenue Corridor to Red Mile Road.

Section 2: Bike Promotion, Education and Enforcement

Recommendation 2.1: Create a portfolio of marketing materials and a range of distribution channels to promote bicycling on campus and educate the community on UK’s campus bike system.

Promoting bicycling on campus targeted to students, faculty and staff, is a way to increase bicycle trips without substantial financial investment. The current messages sent to potential cyclists are very limited; the UK website hosts a short bicycling section that is challenging to find, focuses on regulations, and contains a map that does not effectively direct cyclists to bike facilities. There are many strategies to promote bicycling on the UK campus and to educate users of the transportation system. It is important to emphasize to the campus community that many people who are currently commuting by car could get to campus faster by bicycle. This can serve as a major incentive for individuals to switch car trips to bicycle trips. The Bicycle Program Coordinator can manage the development of a simple and direct tag line (e.g. “Ride a bike - it’s faster”) and include the tag line in all marketing materials.

Recommendation 2.2: Create a dynamic, stand-alone bicycling section on the UK website with prominent placement that promotes bicycling on campus and informs bicyclists.

A separate link to the bike section should be placed on the prospective student - campus life page, on the current student - campus life page, and in a more prominent location on the parking and transportation page. The bike section should include:

- An introduction describing UK’s support of bicycling on campus and encouraging students to bring bikes to campus
- A circulation map including an explanation of the bike signage and pavement system that can be downloaded for printing
- A description and/or map of bike parking facilities including locking tips
- Listing of resources (bike shops, bike-on-bus)
- Safety and regulations (rules of the road)
- UK programs (Wildcat Wheels, incentives, contests)
- Contacts



Bicyclist riding the wrong way on Rose Street

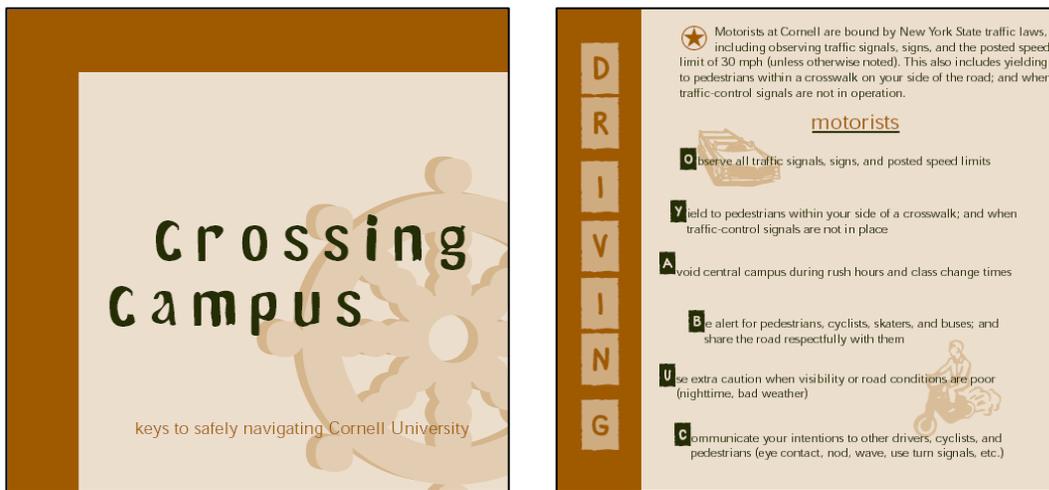
Several other universities and colleges have thorough websites that can be used as models when developing the UK site:

- <http://www.bike.cornell.edu/CAMPUS.htm>
- <http://www.taps.ucdavis.edu/bicycle/>
- http://transportation.stanford.edu/alt_transportation/BicyclingAtStanford.shtml
- <http://www.tps.ucsb.edu/bicycle.html>

Recommendation 2.3: Develop a guide for pedestrians, bicyclists and motorists on how to cross the University of Kentucky campus safely.

Creating a transportation system that bicyclists, pedestrians and motorists can safely share requires education of all the users of the system. The public input process and field observations revealed hazardous behaviors on the part of bicyclists, pedestrians and motorists. These include bicyclists riding the wrong way down the road, pedestrians stepping out into bike lanes and traffic, and motorists failing to yield to or check for pedestrians and bikes. A system that functions safely will require behavioral change for all users.

Following the Cornell model, the University of Kentucky should develop, print and distribute a guide that includes safety rules and precautions for all users of the roadway system including motorists, pedestrians, and bicyclists. The guide should be available online as a pdf, and should be printed and distributed throughout campus, included in packets mailed to incoming students and reviewed during freshman orientation.



Cornell's guide to crossing campus safely

Messages for motorists may include:

- Observe all traffic signals, signs, and posted speed limits
- Yield to pedestrians within a crosswalk and when traffic-control signals are not in place
- Avoid Rose Street during rush hours and class change times
- Be alert for pedestrians, cyclists and buses, and share the road respectfully with them
- Communicate your intentions to other drivers, cyclists, and pedestrians (contact, nod, wave, use turn signals, etc.)

Messages for pedestrians may include:

- Cross the street at marked crosswalks or at intersections
- Make eye contact with oncoming motorists and cyclists, and indicate your intention to cross
- Pay attention to the speed of approaching cars and bikes and give them enough time to stop when using a crosswalk
- Yield to vehicles when you are not within a crosswalk, or crossing at an intersection
- Avoid walking in dedicated bike lanes or paths

Messages for bicyclists may include:

- Wear a helmet; be alert for cars and pedestrians at all times
- Ride on the right side of the street, or shared marked pathways and yield to pedestrians

- Dismount and walk bikes on all other pathways, including pedestrian bridges and at crosswalks
- Wear light colors and use reflective gear out after dark, or in foul weather
- Park at bike racks

Recommendation 2.4: Increase support for the Yellow Bike Program through promotion and coordination.

The Yellow Bike Program, “Wildcat Wheels” is a great tool to encourage bicycling on campus. The bikes are highly visible and send a clear message that the University supports bicyclists. The program is currently coordinated and implemented by a student group with limited resources. Currently, one individual from Green Thumb is painting and maintaining the bikes and coordinating the program.

Increased promotion of the program as well as assistance from the University in coordinating maintenance of the bikes and other ongoing needs can facilitate even greater success of the program. A work-study position should be established within the Physical Plant Division to institutionalize the coordination of the Yellow Bike Program in the future. Information about Wildcat Wheels should also be included on the bicycling website, in packets sent to new students, and during freshman orientation.

Recommendation 2.5: Develop partnerships with local businesses to encourage bicycling.

Local businesses can be a resource for the University of Kentucky in expanding facilities and services to bicyclists. Additionally, local restaurants and retailers, especially bicycle shops, can benefit greatly from increased bicycle use. The University of Kentucky should encourage businesses to offer bicycle parking. While bicycle shops tend to operate on thin profit margins, they may be willing to hold bicycle clinics, post maps, or sponsor student rides in exchange for promotion. These are activities that should be organized and promoted by the Bicycle Program Coordinator.

Recommendation 2.6: Use law enforcement to discourage unsafe and illegal behaviors of motor vehicle drivers and to educate bicyclists regarding the rules of the road.

A discussion should be opened with campus and LFUCG police regarding the focus of enforcement on campus and in surrounding areas. Law enforcement is needed to enforce unsafe driving behaviors such as: not yielding to pedestrians in crosswalks, parking vehicles in bicycle lanes, and using bicycle lanes as right hand turn lanes or passing lanes. Additionally, college and university student bicyclists are known for failing to follow basic rules of the road such as riding with traffic and wearing bike helmets. Hence, law enforcement should be involved in educating bicyclists regarding safe riding practices.

Section 3: Incentives for Bicycling/Disincentives for Driving

Offering students and employees incentives to bike instead of to drive to campus can be a cost-effective strategy for reducing congestion and parking demands at the University of Kentucky. Students are likely to be motivated to bike to campus through simple incentives such as contests, free bike parking facilities, and expensive parking permit fees. Employee incentives may need to be more enticing and could include free parking passes, rides home, locker and shower facilities and cash rewards.



UK Stadium parking lot

Recommendation 3.1: Consider a tiered parking permit fee structure based on distance from the academic core for semester and annual parking permit purchases. *

The goal in changing the current parking permit strategy is to reduce the pressure to construct additional parking facilities, to make parking spaces available for employees and staff that are in close proximity to the academic core and tend to live at greater distances, to improve service by guaranteeing parking availability in certain lots, and to encourage students to use alternative modes of transportation. **This recommendation is critical to meeting the goal of shifting mode share away from motor vehicles.** These new policies should bring the University

of Kentucky in-line with the parking strategies and rates of benchmark universities.

Currently, all students are eligible to purchase parking permits at the University of Kentucky for a cost of \$164 per year (for full-time permit 2004-2005 academic year), and employees can purchase permits for \$288 per year (effective April, 2005. Exceptions include motorcycle, employee/service, carpool). In the recommended system, employees would be given priority in purchasing permits (time advantage) and costs for students and employees would be identical. The new fee structure would be based on three tiers (refer to map at the end of this chapter for an illustration of the tier system):

Tier 1 - Lots and parking structures closest in proximity to the academic core: \$360 per year. Permits sold should be equal to the number of spaces available so permit holders are guaranteed a space. This represents a 25% price increase over 2005-2006 employee parking permit rates yet includes a higher level of service.

Tier 2 - Lots and garages in the middle of campus: \$300 per year. More permits than spaces may be sold for the Tier 2 lots as is the current practice. This represents a 4% price increase over 2005-2006 employee permit rates and an approximate 83% increase over 2004-2005 student rates.

Tier 3 - Lots on periphery of campus: \$200. More permits than spaces may be sold for the Tier 3 lots. These lots are most likely to be occupied by students who have more variable schedules. This represents a decrease over current employee permit rates and a 22% increase over 2004-2005 student rates.

**Disabled parking permits are all Tier 3 rates. Meter, official and service parking remains unchanged.*

Additional analysis will need to be conducted to determine the effect of the new tiered permit structure on the Parking and Transportation Services' total revenue. Permit costs can be adjusted to achieve a revenue-neutral pricing structure. If revenues are expected to decrease, a general transportation fee should be imposed to alleviate the pressure of lost revenue from decreased demand.

Recommendation 3.2 Establish an annual price increase for all parking permits.

Lessons learned from benchmark institutions suggest that a predetermined price increase for parking permits should be applied each year to offset increasing construction costs for parking structures and to continue pressure to encourage use of other modes.

Following the initial price adjustments associated with the tiered parking permit fee structure, parking pass fees should increase by 10% every year.

Recommendation 3.3: Over next 8 years, allow all freshmen students and any student residing on campus only to purchase vehicle parking permits for Tier 3 lots.

It is a very common policy at other universities to prohibit freshmen from bringing vehicles to campus. It is argued that students who are able to leave campus every weekend become less involved on campus, can have lower academic performance, and have a more difficult time integrating into and building a support network within the campus community. Acknowledging that prohibiting parking permits may be an unpopular policy at the University of Kentucky, it is recommended that an interim policy be established to begin weaning students from using vehicles on a daily basis.

Currently students residing on campus (68% are freshmen, 21% are sophomores, 6% juniors, and 2% seniors) are parking in lots closest to the academic core, contributing to congestion with trips that could be taken on foot or bike, and using valuable parking spaces. Students living in buildings on campus should easily be able to rely on alternative modes of transportation. Moving student resident parking to the periphery of campus will encourage use of those alternative modes and has the added benefit of encouraging patronage of establishments within walking and bicycling distance of campus.

Recommendation 3.4: Establish an 8-year goal to prohibit students from bringing vehicles their first year at the University of Kentucky.

The University of Kentucky is expected to realize the same benefits found by many other universities from

prohibiting freshmen from bringing cars to school. These include but are not limited to decreased demand for parking, more cohesive student community, altering the “freshman experience”, greater use of transportation modes that do not cause congestion or pollution, and improved academic performance. There were an estimated 3,987 freshmen enrolled in the fall of 2004 (www.uky.edu/PR/UK_News/Sept_20_2004/enrollment.html) and roughly 97% of those live in campus residence halls. Assuming most students bring vehicles to campus, over 3,000 spaces would be freed, alleviating some pressure on Parking and Transportation Services for creating additional vehicle parking spaces. The lost revenue can be recouped by creating a new permit fee structure as previously described.

Recommendation 3.5: Develop a commuter encouragement program for students to raise awareness and give them incentive to commute by bike rather than motor vehicle.

Students are likely to be encouraged to ride bikes to and around campus by improving the facilities available such a complete bicycle route network, more accessible and greater variety of bike parking, and a map of bike facilities. Encouragement programs and contests have also been used at other universities to provide students with an extra incentive to bike to campus.



Evergreen College's Commuter Contest advertisement

A commuter encouragement program can be open to all students who use alternative modes of transportation to commute to campus. The management of this program would be the responsibility of the Bicycle Program Coordinator. At Evergreen College in Washington, students residing off campus who participate in the school’s encouragement program must fill out and submit a commuter log for one week at the start of each quarter and in turn are provided with free ventilated clothing lockers to use for the quarter. They are also entered into a drawing for prizes such as bike messenger bags, massages and gift certificates to local shops and restaurants. Students who continue to participate in the program for three consecutive quarters are entered into a grand prize drawing for larger gifts such as a bike or laptop. The program has been a successful tool to publicize the campus’ bike system and the benefits of leaving the car at home.

Recommendation 3.6: Initiate a Commute Club or Commute Trip Reduction program for employees to encourage the use of alternative modes of transportation. The program should include benefits such as a free parking passport, guaranteed ride home, showers and lockers and cash rewards.

A number of Universities have successful programs designed to reward employees (including student employees) who use alternative modes of transportation at least 60% of the time. To be eligible for the programs, employees should: live more than ¼ mile of campus, normally need to purchase a parking permit at their principal place of work or study, and be required to work on campus during business hours at least half-time for three consecutive months.

Benefits awarded to employees who join the program typically include:

- A parking passport: a set of daily parking passes (scratch-off tags) allowing the employee to park free 5 to 10 times per semester
- Guaranteed ride home (taxi or rental car transportation) for employees in the event of a qualifying emergency or illness. Up to four rides free per academic year
- Private showers and clothing lockers at no cost

People can often be apprehensive about foregoing an annual parking permit and committing to bicycling to work every day because of anticipated severe weather, family emergencies, illness, and/or personal errands or business that require a car before or after work. A set of daily parking passes can reduce this apprehension by offering employees the opportunity to drive a number of times per semester. In the short-term, before a commute club can be established, the University’s scratch-off hang tags should be more widely promoted. UK currently offers one day parking passes for \$2 each to employees, but awareness of the program is limited. The cost of the scratch-off tags should be maintained at \$2. Additionally, the program should be expanded to include students, and should be promoted on the campus website and in new student orientation packets.

Additionally, employees bicycling to work typically need changing and/or showering facilities and lockers. The University should seek opportunities to add these types of facilities to on-campus buildings.

The guaranteed ride home is another strategy to ensure that employees who use a commute alternative to get to work are not stranded if they have an emergency, become ill, or have to work late without prior notice. Finally, lack of shower and changing facilities can be a major deterrent for employees to bike to work. Offering showers and dedicated lockers can make bicycling to work more convenient.

An additional, more direct incentive includes offering cash rewards or subsidies to employees choosing to bike to work. Eligible employees who participate in the cash rewards program by commuting by bicycle, bus or foot at least 60% of the time are given a reward of \$30 - \$40 per semester in their payroll checks. This type of program emphasizes the benefits to the entire campus community of use of alternative modes of transportation through reduced traffic congestion, improved air quality, reduced parking hassles and commute stress, and of course the cost of accommodating vehicles in parking garages and lots. Precedent for such a program on the UK campus exists in the form of the *Healthtracs Rewards* program.

Section 4: Additional Recommendations

Once the core recommendations have been implemented and the University sees an increase in the bicycling mode share, more far-reaching ideas can be considered:

Recommendation 4.1 Organize a Cyclefest. Host a day-long event at the University of Kentucky to promote bicycling. Activities may include a guided bike ride, bike repair clinics, workshops and discussions on bicycling and transportation, and a children's bicycle rodeo. The College of Charleston hosted its first Cyclefest in the fall of 2004 and has turned it into an annual event (www.charlestoncyclefest.org). LFUCG holds an annual bike rally as part of its *Bike Month* celebrations. This event takes place in May after the regular UK semester has ended which limits student involvement. UK could work with LFUCG to promote a second event at a time more conducive to student participation.



UC-Santa Barbara's Student Bike Shop

Recommendation 4.2 Establish a campus bicycle repair shop.

The University of California at Santa Barbara has an Associated Students Bike Shop serving the students, faculty, staff, and alumni of UCSB since 1974. It is a student-funded non-profit organization dedicated to education, service, and safety. <http://as.ucsb.edu/asbs/>. A work-study position could be established to coordinate and run the repair shop.

Recommendation 4.3 Increase campus security. Many student respondents to the online survey discussed feeling unsafe on campus, particularly at night. Lighting is considered to be poor and many avoid walking alone at night through campus. To encourage more travel on foot and by bicycle, additional measures should be taken to increase lighting levels on campus pathways and streets.

Recommendation 4.4 Expand Yellow Bike program to include long-term bike rental. Use Parking and Transportation Services' fleet of confiscated bikes and coordinate with local bike shops to offer semester-long bike rentals. The rental fee should include labor for basic repairs such as tube replacement. This allows students to try bicycling on campus without the upfront investment of purchasing a bike.

V ~ BICYCLE FACILITY RECOMMENDATIONS

Section 5: Bicycle Signage and Pavement Marking

Recommendation 5.1: Institute a consistent signage system throughout campus that encourages biking and provides cyclists with direction and rules of the road.

The current “no bikes” pavement markings in the academic core send a message that bikes are not welcome on campus and also fail to provide cyclists with information about where they can ride. A consistent, easy-to-follow signage system can help direct bicyclists to bike facilities, can encourage them to yield to pedestrians, can reduce bike-pedestrian conflicts and bike-motor vehicle conflicts, and indicates that bicyclists are viable users of the campus transportation system.

All existing symbols should be removed from the pavement and replaced with a pavement marking and signage system using two colors as follows:

<p>White markings: bikes have the right-of-way Bicyclists have the same rights and responsibilities as motorists. Pedestrians should watch carefully for cyclists.</p>
<p>Yellow markings: shared walks Bicyclists may ride on these paths, but must yield to pedestrians. Bicyclists should also be encouraged to dismount during peak periods of congestion.</p>

White and yellow bicycle symbols and sharrows (see photo below) should be indicated on paths, sidewalks and roadways where appropriate. Informational signs explaining the color system should be installed at key locations on campus, and included on the UK bicycling website, on the campus bicycling map, and in new student information packets.



Bicycle symbol and “sharrow”



Shared path sign with yellow background

In particularly congested areas, such as in the academic core, additional illustrative signs should be added to reinforce the messages of sharing the path (see *Shared Sidewalk* sign).

The network map developed for this plan, indicates specific paths to be designated as yellow or white. General guidelines are as follows:

Yellow zones: shared walks

Shared walks are paths or sidewalks separated from the vehicular roadway that are more than 10’ wide and have a moderate level of activity. Shared walks are found primarily on walkways in the academic core, where special provisions have been made to insure that bicyclists can reach destinations in the core of campus. Bicyclists should be encouraged to use these marked paths for travel, and pedestrians should expect to share the space. Pathways that are not marked with white or yellow markings are not recommended for use by bicycles (due to narrower widths and/or greater levels of pedestrian congestion), but bicycles are not prohibited anywhere on campus.

There should not be major obstructions immediately adjacent (i.e. within 2’ of the edge) to proposed shared paths (such as a retaining wall, fence or building) that could prevent pedestrians and bicyclists from easily exiting the path to avoid a conflict in an emergency. Examples of shared paths include the path along Alumni Drive, and sidewalks around Young Library and the residential areas of Blanding and Kirwin.

White zones: bicycles have the right-of-way

White zones are paths and roadways designated with white bike lanes, white bicycle symbols or sharrow pavement markings that should be avoided by other users, particularly motor vehicles. Most bike lanes will be found on roadways in and around campus such as on Rose Street and University Drive. In some cases lanes where bikes have the right-of-way may be used on paths if there is ample space to designate a bike lane and it improves the safety of pedestrians and bicyclists. See street-by-street recommendations in Section 7 of this chapter.



MUTC# R3-17

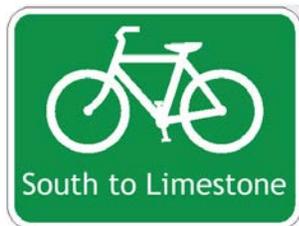


Signs warning pedestrians to look before crossing path used by bicyclists.

Signs to increase pedestrian awareness of bicycles on roadways and pathways should also be considered, particularly if pedestrian and bicycle accidents persist. Many respondents to the online survey mentioned hazards created by pedestrians stepping into bike lanes and failing to check for bicycles.

Recommendation 5.2: Incorporate wayfinding signs to direct cyclists to bike routes and bike parking.

Several standard bike route signs can be found on the existing bike lanes on campus. Additional signs including arrows or destinations to show direction will encourage bicyclists to use the designated lanes and will simplify navigating the campus on bike. The destination sign below should be used.



MUTCD # D11-1 (modified)

Similarly, signage indicating the location of large banks of bicycle racks can encourage bicyclists to use them instead of railings, trees, lampposts or benches. For example, bike racks on Patterson Drive are not visible from the large classroom buildings in the academic core. Several signs near the Patterson Office Tower directing riders down to the racks will help bicyclists find available and safe parking spaces for their bicycles.



Bike parking directional sign

Section 6: Bicycle Parking

Recommendation 6.1: Provide bicycle parking facilities at building entrances (where possible).

Currently, the majority of bike parking is offered in large banks of racks in central locations, such as along the Chemistry-Physics building facing Rose Street. Most of these racks are well-used, but bicycles can still be found locked to railings, trees and lampposts suggesting that existing racks are not convenient to all buildings. Respondents to the survey also noted the lack of convenient and ample bicycle parking at key classroom buildings, particularly in the academic core.

Where possible, bicycle parking should be provided at building entrances to encourage the use of bikes for transportation. It is critical that racks be placed in locations convenient to buildings, but the racks must not impede pedestrian access by blocking pathways or entrances. A number of specific locations have been identified where bike racks should be installed in the academic core to increase convenience to classroom buildings (see Bicycle Route Network Map for locations).

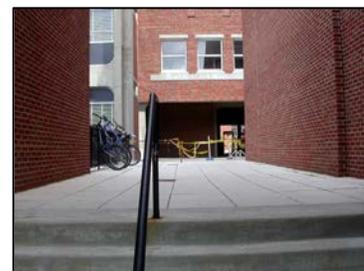
- **White Hall Classroom Building:** add 2 post-style racks on either side of each piling under the overhang to provide covered bicycle parking (see photo). Install 9 post-style racks to the right of the classroom building adjacent to the landscaped square.
- **Ralph G. Anderson building:** on the northeast side of the building in the covered corridor, provide three U-racks per bay in four bays. Replace existing rack type (see photo).
- **Patterson Office Tower.** U-racks should be placed along the southeast wall facing the White Hall Classroom Building.
- **Anderson Hall Tower:** U-racks should be placed at the top of the south-facing stairs against the brick wall, and several post-style racks should be placed at the base of the stairs (see photo).
- **Memorial Hall:** U-racks should be placed on the southwest side of Memorial Hall.
- **Kastle Hall and McVey Hall:** a post-style rack should be placed at each corner of the paths leading into the 2 buildings.
- **Grehan Journalism building:** U-racks should be placed at both the north and south ends of the building.
- **Student Center Addition:** several U-racks should be placed on the southwest side under the building overhang to provide covered bike parking.
- **Between Memorial Hall and Funkhouser:** build covered bicycle parking facility where existing racks are located (see photo).



White Hall Classroom Building



Ralph G. Anderson building



Anderson Hall Tower



Location for covered bike parking southeast of Memorial Hall

Additional locations throughout campus where bike parking needs have been identified either through field work observations or survey respondents include (partial list):

- East side of Patterson Office Tower
- In front of the College of Medicine office building
- Kentucky Clinic entrance on Rose Street
- Young Library
- Front of UK Hospital
- College of Nursing
- College of Medicine (covered parking)
- Engineering campus
- TH Morgan building
- Coliseum
- K-Lair Grill
- Johnson Center
- Business Building

The number of spaces to be provided at each building is based on the estimated 1% of students, faculty and staff who currently commute to campus by bike, and the goal of increasing that percentage to 7% over five years and to 15% within a ten year time frame. Also taken into consideration is the type of building, its use, and the building's capacity. Buildings where bikes are expected to be parked for shorter periods of time (such as a classroom building) may not need as much parking as buildings where bikes will be parked all day or for several days at a time. Additionally, given that a greater percentage of students than staff members commute by bicycle, classroom buildings and student resident halls are likely to need a greater proportion of bike parking. Conversely administrative and staff buildings may need fewer bicycle parking spaces.

General guidelines for the quantity of bike parking needed by users of various building types are as follows:

University Student Housing Facilities:

Building Capacity (# of beds)	Estimated Rate of bike ownership/ commuting	Approximate # of bike parking spaces
1 - 50	20%	10
50 - 100	20%	20
100 - 200	20%	40
500 - 600	20%	120

Administrative buildings

Building Capacity	Estimated Rate of bike ownership/ commuting	Approximate # of bike parking spaces
< 100	5%	5
100 - 250	5%	12
250 - 500	5%	25
500 - 1500	5%	75
1500 - 3500	5%	175

Classroom Buildings

Building Capacity	Estimated Rate of bike ownership/ commuting	Approximate # of bike parking spaces
< 100	15%	15
100 - 250	15%	35
250 - 500	15%	75
500 - 1500	15%	200
1500 - 3000	15%	400

Additional curb ramps are needed throughout campus to ease the transition between streets and bicycle parking areas. The following are examples of curbs that need ramps to accommodate bicycles:

- Rose Street, at pathway leading from W.T. Young Library
- Huguelet Drive, at pathway leading to bicycle racks in front of Hagin Hall
- Patterson Drive, leading to the Administration building
- Path leading from southwest side of Memorial Hall to Funkhouser Drive



Rose Street



Path from Memorial Hall to Funkhouser Drive



Patterson Drive



Huguelet Drive at Hagin Hall

Recommendation 6.2: Replace existing rack design with inverted U-shaped racks with recommended dimensions.

Most racks on campus do not provide adequate stability and are not designed in a way that makes it easy to properly lock bicycles. Bicyclists may be reluctant to use existing racks, particularly the dish-rack style racks, because of potential damage or theft (see photo). Well-designed U-racks should be 35" tall; detailed specifications can be found on the following page. Also included are guidelines for rack placement. Specific recommendations for the location of bike racks can be found on the Bicycle Route Network Map.



"Wheelbender" racks do not support the frame of the bicycle, potentially damaging the front wheel.

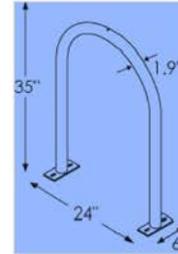
ACCEPTABLE BICYCLE RACK DESIGNS

University of Kentucky

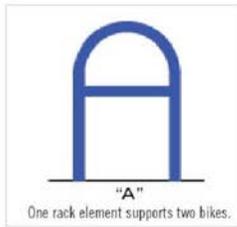
ACCEPTABLE DESIGNS



Minimum distance between U elements: 30"



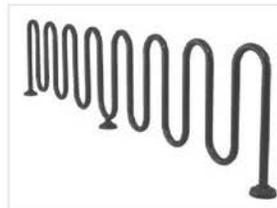
Dimensions vary by manufacturer and model.



UNACCEPTABLE DESIGNS



This type of rack can bend the wheel.



This type of rack does not support the bicycle frame in at least 2 places.

RACK ELEMENTS

The rack must:

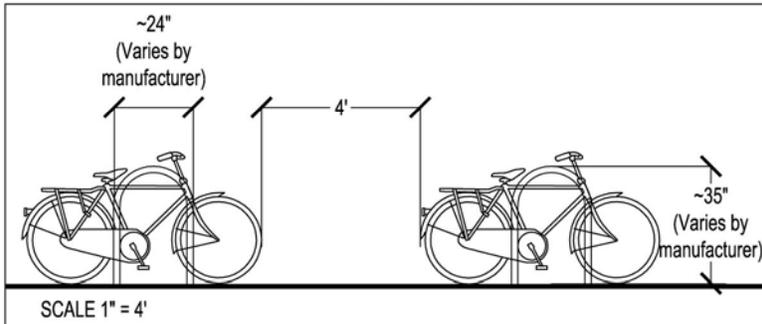
- Support the bicycle frame in at least 2 places, allowing the frame and wheel to be locked using a U-lock or cable lock.
- Height of U rack elements should be 35" to support the frame
- Prevent the wheel of the bicycle from tipping over.
- Not damage the bicycle.
- Be durable and securely anchored.
- Allow front-in or back-in parking.

ACCEPTABLE BICYCLE RACK DESIGNS

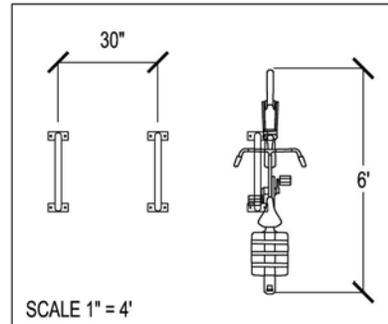
University of Kentucky
Campus Bicycle Plan
June, 2005

PLACEMENT OF BICYCLE PARKING RACKS

SIDE VIEW



SIDE BY SIDE RACKS:



RACK PLACEMENT RULES:

5' from:

Fire hydrant
Crosswalk

4' from:

Loading zone
Bus stop
Bus shelter
Bus bench

Min. 2', Rec. 3' from:

Curb

3' from:

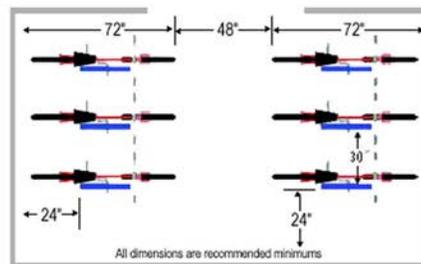
Parking meter
Newspaper rack
US mailbox
Light pole
Sign pole
Driveway
Tree space
Trash can
Other street furniture
Other sidewalk obstructions

Wall Setbacks

For racks set parallel to a wall:
Min. 24", Rec. 36"

For racks set perpendicular to a wall:
Min. 28", Rec. 36"

Bike Rack Area



The rack area is a bicycle parking lot where racks are separated by aisles. The aisle is measured from tip to tip of bike tires across the space between racks. The minimum separation in between aisles should be 48 inches. This provides enough space for one person to walk one bike. In high traffic areas where many users park or retrieve bikes at the same time, such as a classroom building, the recommended minimum aisle width is 72 inches.

Notes:

Bike racks shall not impede pedestrian access to building entrances or block a pedestrian flow area.

PLACEMENT OF BICYCLE PARKING RACKS

University of Kentucky
Campus Bicycle Plan
June, 2005

Recommendation 6.3: Offer a variety of bicycle parking facilities including covered bike parking, bike cages and bike-hanging hooks in dorm rooms.

Covered parking, cages and lockers protect bikes from weather, and cages and lockers can serve as theft-deterrents. Protecting parked bikes, as well as bicyclists from the elements while parking their bikes, can be a critical amenity for encouraging more people to ride. The online survey revealed that about 25% of bicyclists would be encouraged to ride to campus more often if more secure or covered bike parking were available. There are several ways to generate covered bike parking in the short term without the expense of building new structures. Bike racks should be provided inside vehicle parking garages and under some very wide overhangs of buildings, such as the Whitehall Classroom Building. Bicycle racks should only be placed under overhangs where there is ample space for both pedestrians and bicyclists, and where the racks will not impede pedestrian flow into and out of the building entrance.

Bike racks should be installed in each of the three main parking garages on campus (parking structure #1 at Cooper Drive and University Drive, #2 on Rose Street, and #5 on Limestone Street), and any new garages to be constructed. Bike racks should be placed close to manned parking booths or in a keypad-access bike cage to provide a level of security that will increase the attractiveness of the area for parking (see photos below). If there is demand for greater security in the future, additional bike cages and bike lockers should be given consideration.



Examples of bike parking bays in car parking garages.

Longer term parking options that offer more security and protection than a bike rack are particularly important for students who park bicycles at dormitories over an extended weekend or vacation. UC Davis offers bike parking inside a foyer on the first floor of new dormitories and has also installed bike hooks in the ceilings of dorm rooms to allow students to hang bikes in their own rooms for the greatest security. The University should also seek additional locations for installing covered bike parking throughout campus. Several locations were identified in Recommendation 6.1 where there is an opportunity for covered bike parking, such as the Student Center Addition and Patterson Office Tower.



Opportunity for covered bike parking at the Student Center Addition

Recommendation 6.4: Improve lighting around bike parking facilities to increase security for cyclists.

Lighting should be ample around bike parking facilities to increase security while cyclists are mounting and dismounting at night.



Opportunity for covered bike parking at the Patterson Office Tower

Section 7: Bicycle Routes and Lanes

Respondents to the online survey--both car and bike commuters--cited dedicated bike lanes as the critical amenity that would encourage them to bike to campus more often. Developing a designated bicycle route network that provides central North-South and East-West routes and access to key destinations on campus and in neighboring communities will facilitate bike-use by the campus community. Special focus is given to providing access through the academic core, as well as to adjacent neighborhoods with high student and faculty populations such as Aylesford, Ashland Avenue Park, Hollywood-Mount Vernon, and Elizabeth Street.

The proposed Bicycle Route Network specifies bike lanes in a number of locations. On streets where bike access is critical but widths are insufficient for bike lanes, *sharrow* pavement markings are recommended (see diagram). The Network also includes shared paths and signed bike routes for campus streets that are already bike-friendly due to low traffic volumes and speeds. The Bicycle Route Network illustrates the route locations and facility-types (refer to map at the end of this chapter).



Bicycle symbol and "sharrow"

For streets leading out of campus into adjacent neighborhoods, the LFUCG's *Bicycle Level of Service* analysis is used as a reference for determining facility needs. As a general rule, roadways rated as A, B, or C are deemed comfortable for riding in their current condition. Several of these roadways have been recommended to be signed as bike routes.

Later in Section 7, recommendations are made on a street-by-street basis. Roadways with level of service ratings of D, E, or F are in need of improvements (traffic calming, restriping, and/or additional width) in order to be suitable for biking. More detailed level analysis may be needed in the future to determine the best approach to improving bicycling conditions in these corridors.

General recommendations that apply to the campus as a whole to improve conditions for bicyclists include:

Recommendation 7.1 In blocks where bike lanes are not possible or will not be implemented in the short term, provide curb ramps on to sidewalk to allow bikes to exit the street if the need arises.

Recommendation 7.2 Existing drainage grates used throughout campus, for example on Cooper Drive, can be hazardous for cyclists. Many grates are not flush with the roadway surface which can stop or divert a bicyclists' front wheel causing a crash or wheel damage (see right). Additionally, grates with parallel-bars have slots wide enough to swallow some bicycle wheels. The bicycle wheel drops in, trapping the wheel, and the rider can catapult over the handlebars. **All drainage grates on campus should be replaced with bike-safe grates.** There are many models that are appropriate (see below) including "vane" designs, steel grates in a honeycomb pattern (standard in California), and Iron grates with a herringbone pattern of holes (standard in North Carolina). (www.bikewalk.org/bicycling/design_guide/bicycle_tech/pdf/bike_drainage_grates_and_utility_covers.pdf)



Existing hazardous drainage grate

Vane grate design



Honeycomb grate design



Recommendation 7.3 The footprint of many streets on the University of Kentucky campus is very wide, encouraging fast motor vehicle speeds that are counterproductive to creating a campus environment that is attractive, safe, and inviting to students and staff on foot and bike. **Future roadway projects should seek to significantly reduce the roadway footprint by establishing a maximum street width of 40' and ideal street configuration that includes two vehicle travel lanes, two bike lanes, and either a median or on-street parking on one side.** The following cross section should be used as a design guide for all proposed streets on campus.

RECOMMENDED STRIPING FOR 38'-40' ROADWAY

PARKING LANE

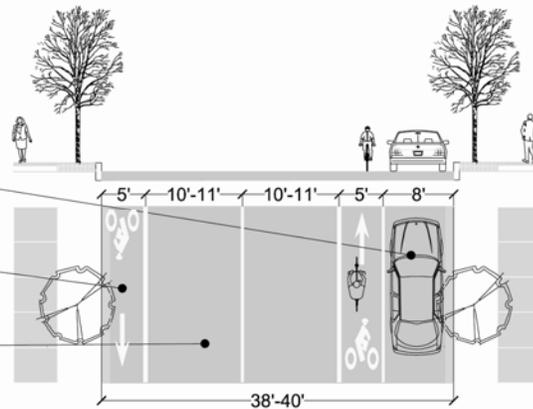
Width may vary between 7'-9'

BIKE LANE STRIPING AND SYMBOL

Recommended size is 4'x6'

TRAVEL OR PARKING LANE

Utilize 10' lanes where trucks and buses are not greater than 2% of daily traffic composition



On-Road Facilities

Euclid Avenue, from Rose Street to High Street

Euclid Avenue from Rose Street to Ashland Avenue has ample bike lanes and is comfortable for riding. Observations reveal however that many drivers use the bike lanes as right turning lanes creating a safety hazard for bicyclists. Instituting “No Turn on Red” at key intersections may decrease this practice. The bike lanes (or sharrows) should be extended one block to High Street.



Recommendations 7.4

- Widen lane striping to discourage motorists from driving in bike lane
- Enlarge bicycle lane symbol in pavement to fill lane
- Dash lane on approach to intersections with heavy right turning motor vehicle movements
- Institute “No Turn on Red” rule at the intersection of Rose Street and Euclid Avenue
- Extend bicycle facilities east to High Street

Avenue of Champions, from Rose Street to Martin Luther King Boulevard

Existing bike lanes on Avenue of Champions should be extended from Rose Street to Martin Luther King Boulevard, as indicated in the region’s long-range transportation plan, to create a complete east-west route on the north end of campus. This current segment of Avenue of Champions is 34’ wide and has parking on the north side of street. The *2004 Bike Lane Study* prepared by HHE included a redesign of Avenue of Champions with bike lanes, and the configurations illustrated in this report should be implemented.



Recommendations 7.5

- To accommodate bike lanes on both sides, the on-street parking spaces should be removed
- Two bike lanes of 5’ each should be added

Avenue of Champions, from Martin Luther King Boulevard to Upper Street

The existing street width of 53.5’ is sufficient to include bike lanes except at the intersection. The *2004 Bike Lane Study* prepared by HHE included a redesign of Avenue of Champions with bike lanes and the configurations illustrated in this report should be implemented.

Recommendations 7.6

- Reconfigure street to add bike lanes

Ashland Avenue from Euclid Avenue to Main Street

A designated bike route and bike lanes on Ashland Avenue will provide access to the campus from points north of campus, including the Ashland Park neighborhood. The LFUCG’s *Bike Level of Service Analysis* rated Ashland Avenue as a “B”; additional on-road facilities are not necessary. However, from High Street to Main Street there is ample space for bike lanes which may also serve to calm traffic.



Recommendations 7.7

- Designate as bike route
- Option to add bike lanes from High Street to Main Street

Martin Luther King Boulevard from Avenue of Champions to Main Street

To create a connection into the downtown area of Lexington, a route should be designated on Martin Luther King Boulevard. Anecdotally, the street is comfortable for riding in its current condition. As construction on Martin Luther King Boulevard is ongoing, a future, more detailed analysis will be needed to accommodate bicyclists.



Recommendations 7.8

- Designate as bike route

Rose Street, from Euclid Avenue to Rose Lane

Existing bike lanes on Rose Street, south of Rose Lane should be extended to Euclid Avenue. The recommendation to add bike lanes to both sides of the street that was developed in the *2004 Bike Lane Study* prepared by HHE should be implemented. Bike lanes will require widening the east side of the road and moving utilities. This project has received funding and should be made a high priority. If the project is several years away from construction, in the interim the segment should be signed as a bike route and the curb cuts at Rose Street Lane improved to allow cyclists to easily mount the sidewalk if they are uncomfortable sharing the road with traffic.



Recommendations 7.9

- Extend bike lanes from Rose Lane to Euclid Avenue

Rose Street, from Washington Avenue to Huguelet Drive

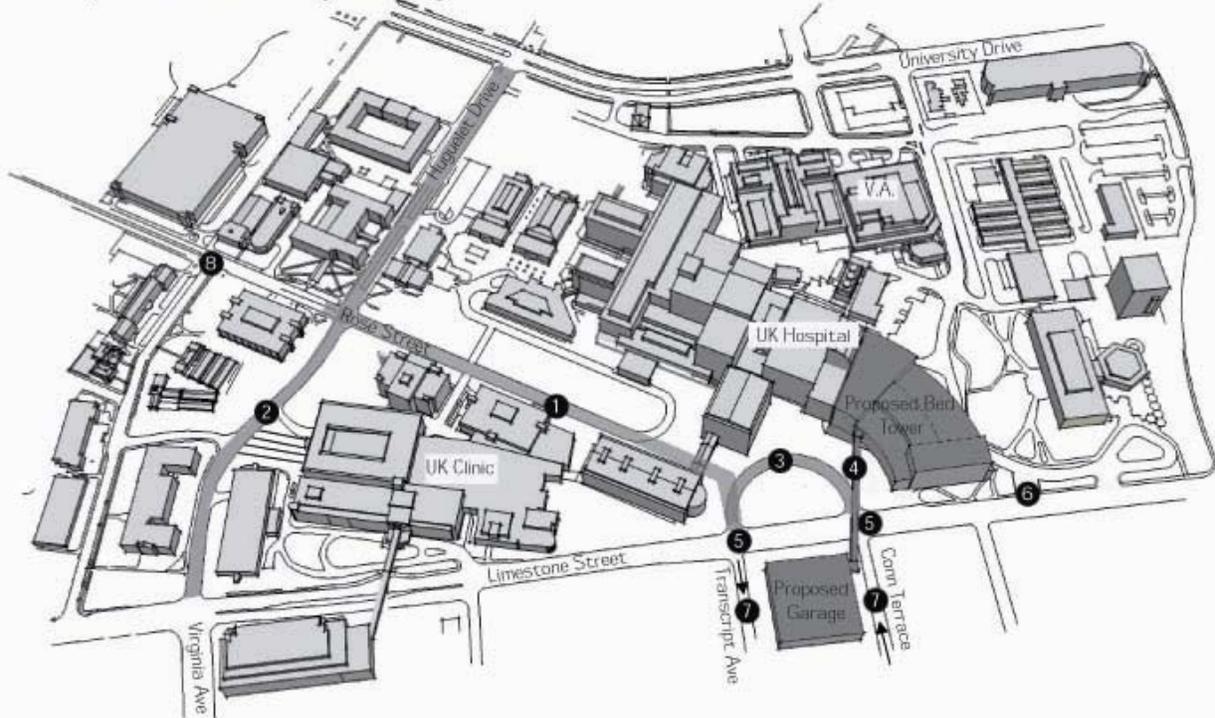
Existing bike lanes on Rose Street should be extended to Huguelet Drive. Bicyclists can then turn left on Huguelet Drive to connect to dorms and bike lanes on University Drive. The *Campus Physical Development Plan* proposes a new connection from Limestone Street by extending Virginia Avenue and KY Clinic through to Rose Street (See diagram below, item 2). It is likely this will become a four-way stop. In the interim, a three-way stop is needed at Huguelet Drive to slow traffic and allow southbound bikes to merge to turn left. The three-way stop will also help vehicles turning on to Rose Street from Huguelet Drive - during peak hours there are limited gaps in traffic.



Recommendations 7.10

- Add bike lanes
- Create left turn bike lane from Rose Street on to Huguelet Drive
- Create a 3-way stop until construction of Virginia Avenue extended

University of Kentucky Proposed Roadway Changes



1. Closure of Rose Street from Huguelet Drive to Limestone St.
2. Creation of a new Limestone to Rose Street connection via construction of Virginia Avenue Extended.
3. Creation of a circular drive (off Limestone) at the Hospital "front door".
4. Pedestrian air rights over Limestone.
5. Installation of new signals on Limestone at Conn Terrace and Transcript. Improved signal operations to enhance pedestrian safety.
6. Restricted access entry for emergency vehicles only (from Limestone).
7. Changes in traffic patterns on Conn Terrace and Transcript.
8. Elimination of traffic signal at Washington Avenue.

3/16/2005

Rose Street, from Huguelet Drive to Limestone Street

The *Campus Physical Development Plan* includes designs to close Rose Street from Huguelet Drive to Limestone Street (see diagram above, item 1) and to continue Rose Street bike lanes from Washington Avenue to Limestone Street. This project would significantly improve bicycling and walking conditions in the campus core. As described in the *Development Plan*, the Virginia Avenue extension will keep the north end of Rose Street open to the public but should be designed to discourage the use of Rose Street for downtown traffic.

In the interim, a low cost solution should be implemented to improve conditions until more extensive construction is begun.

South of Huguelet Drive, current roadway widths are not adequate to add bike lanes to both sides of the road. Two alternate bike routes should be established. Southbound bicycle traffic can ride in the road to Limestone Street or cross into the service road entrance at the Ben Roach Cancer Building. Northbound bicycle traffic on Rose Street should use the service road from Limestone Street at Parking Garage #4, in front of UK Hospital and Ben Roach building.



Recommendations 7.11

- Follow *Development Plan* recommendations to add bike lanes to Rose Street from Huguelet Drive to Limestone Street

Interim solutions

- Sign bike route on Rose Street from Huguelet Drive to Limestone Street
- Left turn bike lane at the Ben Roach service entrance
- Sign bike route through drop off area in front of UK hospital, and Parking Garage #4 and connect to signed bike route on Hospital Drive through to University Drive.
- Curb cuts should be installed to facilitate transition from sidewalks along Limestone Street onto service road
- Crosswalk should be installed on service road at link to Limestone Street sidewalks

Rose Street, from Avenue of Champions to High Street

To extend facilities into adjacent neighborhoods such as Aylesford, bike lanes should be added to Rose Street from Avenue of Champions to Maxwell Street. Street parking is currently permitted on one side of this segment of the road, but will need to be removed to accommodate bike lanes. From Maxwell Street to High Street, roadway widths are not adequate for bike lanes, so sharrows should be applied as an alternate urban treatment. All segments along this route rated less than a C on the BLOS analysis.



Recommendations 7.12

- Remove parking from Avenue of Champions to Maxwell Street
- Strip bike lanes or sharrows

Patterson Drive from Rose Street to Limestone Street

The existing striping on Patterson Drive is faded and narrow.

Recommendations 7.13

- Restripe and widen uphill contra flow bicycle lane to 6'
- Add bicycle symbols to the bike lane
- Add sharrows in downhill direction



Hilltop Avenue from Woodland to Rose Street

Hilltop Avenue, in its existing configuration, is a comfortable road for bike riding; speeds and traffic volumes are relatively low, and the road is flat and wide. Additionally, there are sidewalks with curb ramps for bicyclists not comfortable on the road. The intersection of Rose Street and Hilltop Avenue should be investigated to insure bicyclists and pedestrians can cross Rose Street safely.



Recommendations 7.14

- Designate and sign as bike route

Woodland Avenue from Euclid Avenue to Hilltop Avenue

Woodland Avenue is a key entrance point to the University for students, faculty and employees, and as such carries a considerable amount of bike, pedestrian and vehicular traffic. The existing street width of 40' including on-street parking on both sides is not adequate for bike lanes. One side of on-street parking should be removed to accommodate bike lanes.



Recommendations 7.15

- Remove on-street parking on one side
- Reconfigure and restripe road to add bike lanes to both sides with 5' bicycle lanes, 11' travel lanes, and one 8' parking lane

Columbia Avenue from Rose Street to Woodland Avenue

Columbia Avenue is a well-traveled route by vehicles, pedestrians and bicyclists. The street is 25' wide and does not include on-street parking. While Columbia Avenue is rated as a bike level of service "C", many respondents to the online survey were uncomfortable riding on Columbia Avenue in its current condition. As the street width does not allow for bike lanes, traffic calming measures are recommended such as chicanes, traffic circles at intersections, and neckdowns. Sharrows also should be added to the roadway to alert drivers that the road space is to be shared with bicyclists. Lane widths could also be reduced to 10' each and painted shoulders added.



Recommendations 7.16

- Apply traffic calming measures
- Paint sharrows
- Add striped shoulders

Hospital Drive from Ag Science North to University Drive

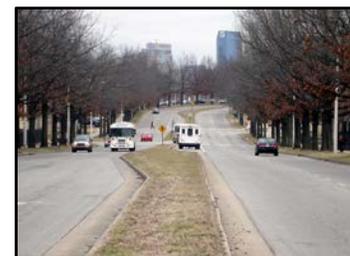
The public input process revealed that the Agricultural Science North Building has poor access to the Academic Core.

Recommendations 7.17

- Sign Hospital Drive as a bike route to provide direct access to bike lanes on University Drive. This bike route should connect to route in front of Parking Structure #4.

University Drive from Hilltop Avenue to Cooper Drive

University Drive has the footprint of a major arterial road yet cuts through the center of campus. This segment has four lanes, a raised median with sporadic left turn lanes, and an estimated ADT of 15,800 (LFUCG BLOS analysis). It is a central route for pedestrians and bicyclists traveling from adjacent neighborhoods and parking lots on the periphery of campus. During the public input process, bicyclists consistently perceive University Drive to be one of the more unsafe routes on campus due to high traffic speeds and motorist behavior.



It is common for four lane roads to generate excessive speeds. Motorists using these roadways note that there are typically spare lanes in their direction and hence drive faster than posted speed limits. At peak traffic

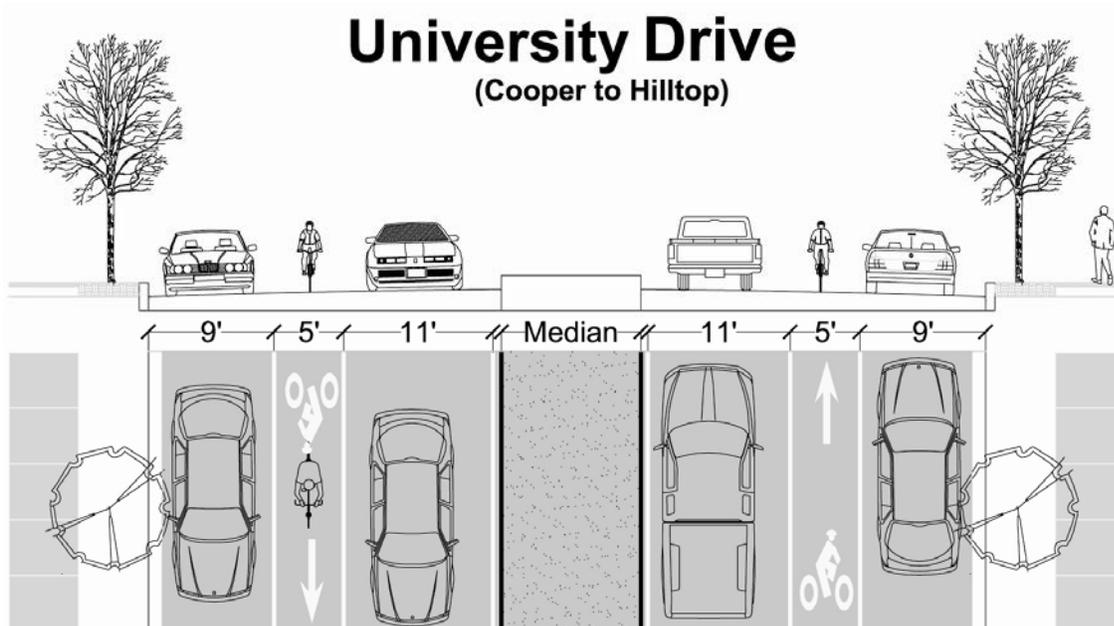
hours, right and left turning movement increase, and motorists driving close together create “screens” of impeded views. Swapping lanes at the last minute to stay in motion is common, leading to rear-end crashes and increasing risk for pedestrians and bicyclists crossing midblock.

A roadway conversion is strongly recommended for University Drive. The upper ADT limit or comfort range to convert roadways from four-lane to two-lane is 20,000 – 25,000 ADT (Burden and Lagerwey, *Walkable Communities, Inc.* March 1999). A roadway lane is capable of carrying 1,900 cars per hour. University Drive from Cooper Drive to Hilltop Avenue carries less than 16,000 ADT per day. 16,000 cars in four lanes over a ten hour period is 4,000 per lane per day, or 400 cars per hour for a ten hour period. Reducing the number of lanes on University Drive to two, would translate into 800 cars per lane per hour---less than half of the reduced roadway’s capacity. This conversion is not expected to affect University Drive’s vehicular capacity. The conversion also supports the University Drive’s new Pedestrian Awareness and Safety campaign (PAWS) initiated in response to pedestrian and motor vehicle collisions on and near campus in an effort to reduce the number of incidents.

Parallel parking and bike lanes should be added to both sides in place of two travel lanes to calm traffic and provide facilities for bicyclists and additional parking close to the center of campus (refer to cross section below). A left turn lane for bicycles also needs to be provided at the intersection with Huguelet Drive.

Recommendations 7.18

- Remove two travel lanes
- Add parallel parking to both sides
- Add 5’ bike lanes to both sides
- Left turn bike lane on to Huguelet Drive



University Drive from Cooper Drive to Alumni Drive

Existing street widths do not allow for the bike lanes on University Drive north of Cooper Drive to be continued to Alumni Drive. In the short term, at the intersection of Cooper Drive, bicyclists will transfer to the proposed pathway system that will extend on both sides of University Drive and will continue along Alumni Drive. The existing pathway on the east side of University Drive south of Cooper Drive is an estimated 5'-6'. The path should be repaired and expanded to 10' and should connect to the proposed path on Alumni Drive. A new path should be constructed on the west side of University Drive.



In the long term, the south end of University Drive should be widened to accommodate on-street parking and bike lanes. This segment of University Drive should be designed to match the profile of roadway from Cooper Drive to Hilltop Avenue.

Recommendations 7.19

- Create shared use 10' path on both sides of University Drive.
- In the long term, widen to accommodate on-street parking and bike lanes.

Alumni Drive from University Drive to Nicholasville Road

Plans and funding exist to add bike lanes to Alumni Drive from University Drive to Nicholasville Road. The project is scheduled for construction in 2005.

Recommendations 7.20

- Follow existing plans to add bike lanes

Cooper Drive from Sports Center Drive to Limestone Street

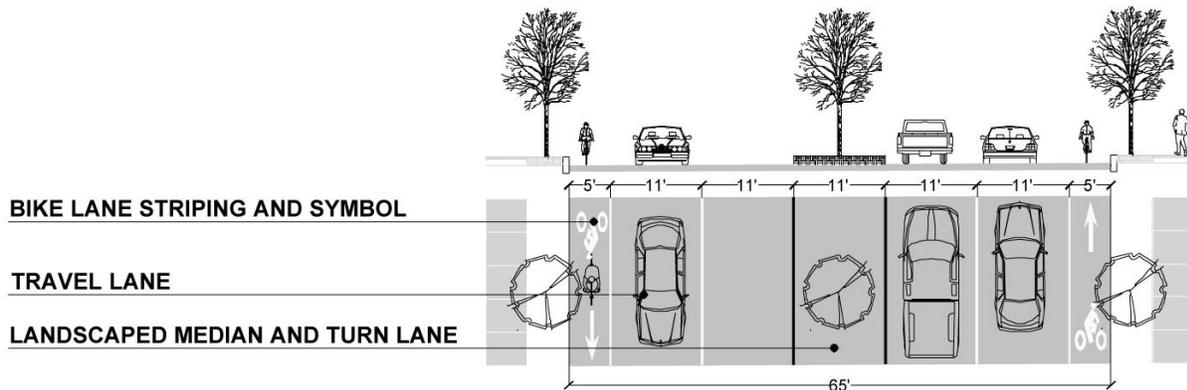
Cooper Drive is a major east-west road through campus. The width of the 5-lane section poses a danger to pedestrians crossing it. As the campus expands southward, this volume can be expected to increase. However, the roadway capacity far exceeds the existing and projected traffic demand. Recommendations made in the Transportation Appendix of *The Campus Physical Development Plan* should be implemented. These recommendations include a raised, landscaped median which maintains the four lanes of traffic and does not require widening the street.



Recommendations 7.21

- A median should be added to the 5-lane section of the road to improve street crossing conditions for people going to and from LCC and Plant Science/Ag Campus South).
- Bike lanes or shoulders are recommended on both sides of the roadway.

RESTRIPING OF COOPER DRIVE TO FOUR LANES WITH MEDIAN/CENTER TURN LANE



Cooper Drive from Sports Center Drive to Eldemere Drive

To create a connection east of campus into adjacent neighborhoods, particularly Hollywood-Mt. Vernon, a signed bike route should be designated on Cooper Drive from Sports Center Drive to Eldemere Drive. Intersection improvements would need to be considered for Cooper Drive and Tates Creek Road if the route were extended east of Eldemere Drive.

Recommendations 7.22

- Sign as bike route

Waller Avenue from Limestone Street to railroad bed

Bike lanes should be extended the full length of Waller Avenue to create access to the Elizabeth Street neighborhood. Currently, bike lanes exist on a segment of Waller Avenue west of the railroad line. Motor vehicle travel lane widths should be shortened. This section of Waller Avenue was identified as level "E" in the BLOS analysis. Intersections along this route (particularly Limestone Street) should be redesigned to better accommodate bicyclists and pedestrians.

Recommendations 7.23

- Shorten lane widths
- Stripe bike lanes

College Way from Alumni Drive to Cooper Drive

To provide an alternate route to University Drive, College Way should be designated as a bike route. Intersections along this route should be redesigned to better accommodate bicyclists and pedestrians.

Recommendations 7.24

- Designate as bike route
- Create crossing of Cooper Drive at College Way

Sports Center Drive from Cooper Drive to Hilltop Avenue

To provide access to on-campus housing at Cooperstown and to the

recreation center, Sports Center Drive should be designated as a bike route.

Recommendations 7.25

- Designate as a bike route

Rosemont Garden from Nicholasville Road to railroad bed

To create access to neighborhoods southwest of campus, a bike route should be designated on Rosemont. Existing facilities consist of wide curb lanes. Lane widths should be shortened to 11' and striped shoulders or 5' bike lanes added (as width allows). The route will use Hiltonia Park as a short connection to the Shady Lane route. The intersection at Nicholasville will need to be evaluated for pedestrian safety and ease of access to Hiltonia Park. Bicyclists will need to cross Nicholasville Road as pedestrians, so wide curb cuts will be required.



Recommendations 7.26

- Designate Rosemont Garden as a bike route, stripe shoulders or bike lanes
- Designate Hiltonia Park as a bike route



Rosemont Garden from railroad bed to Southland Drive

Access on Rosemont Garden should continue to Southland Drive to reach into the residential neighborhoods. Bike lanes have already been designed for installation on this road segment; these plans should be followed.

Recommendations 7.27

- Stripe bike lanes

Tates Creek Road from Alumni Drive to Lansdowne Drive

To provide access from the south end of campus, bike lanes should be striped on Tates Creek Road. Significant improvements need to be made to the intersection of Tates Creek Road and Alumni Drive. Currently, this intersection poses many safety hazards to bicyclists and pedestrians. In the long term, extending the bike lanes North to Euclid Avenue should be investigated.



Recommendations 7.28

- Stripe bike lanes
- Improve crossing at intersection of Tates Creek Road and Alumni Drive



Alumni Drive from Bates Creek Road to Chinoe Road

Although this route is already designated as a bike route, conditions should be improved to make bicycling more safe. Existing bike lanes further south on Alumni should be upgraded and continued to the intersection at Bates Creek. Additional signage should be added and shoulders should be maintained or constructed.

Recommendations 7.29

- Upgrade existing bike lane facilities

University Court from Alumni Drive to Shawneetown Bldg E

Given the potential closing of the Arboretum to bicycle traffic, it is important to build a bicycle connection from campus to neighborhoods and other destinations south of campus. Bike routes and paths on University Drive and Alumni Drive can be connected to a bike route on University Court through Shawneetown. There are two options for the route through the Central Baptist Hospital property (refer to drawing on the following page).



Recommendations 7.30

- Develop a signed bike route on University Court from Alumni Drive to Shawneetown Bldg E

University Court to Shady Lane

The first option for connecting University Court to Shady Lane is through the Central Baptist Hospital parking lot and driveway to McDonald Street. The second option is to build a separate path along the property line of the Hospital and the back yards of residential homes facing McDonald Street. The path would cut through the west end of the Arboretum and connect to Shady Lane.



Recommendations 7.31

Option 1: Create bike route through the Central Baptist Hospital parking lot and driveway to McDonald Street.

Option 2: Build shared use path through west end of the Arboretum.



Glendover Road from Shady Lane to Bellefonte

A bike route should be designated on Glendover Road to connect to the existing signed bike route on Bellefonte and provide access from the South. This series of routes can be used as an alternative to Tates Creek Road which is less comfortable for bicycling.

Recommendations 7.32

- Designate as bike route

Funkhouser Drive from Rose Street to Library Drive

Under existing conditions it is challenging to access the central academic core on bicycle. Barriers include “no bike” symbols, stairways and narrow and congested pathways. To create access to the core, it is important to have several visible and safe routes for bicyclists leading to key entrances and/or buildings in the center of campus. The goal is to get bicyclists as close to all buildings in the core as possible.

A key entrance to the academic core is from the Young Library pathways and Rose Street down Funkhouser Drive. It is recommended that bike lanes be painted on Funkhouser Drive to encourage bicyclists to use this roadway instead of more narrow pathways to the north of the Chemistry-Physics Building. An alternative treatment is the use of sharrows along this same route.



Recommendations 7.33

- Bike lanes or sharrows from Rose Street through parking lot at Funkhouser Drive

Library from Funkhouser Drive to Kastle Hall

The bike lanes should be continued from Funkhouser Drive on to Library Drive to connect to existing bike parking behind Chemistry-Physics building and to a proposed bike path adjacent to Kastle Hall.

Recommendations 7.34

- Bike lanes or sharrows



Red Mile/Virginia Avenue /KY Clinic from Unity Drive to Rose Street

Given the challenges in constructing bicycle facilities on Limestone Street between Rose Street and Scott Street, it is important to provide alternate routes from the west side of campus in to the center of campus. Plans for the campus include creating a new connection on Virginia from Limestone Street to Rose Street, and then using Huguelet Drive to connect to University Drive. Bike lanes should be included on the full length of this new connection. In the interim, a path should be created to offer bicyclists access to Rose Street.

The future intersection of Virginia and Rose Street will need crossing treatments for pedestrians and bicyclists.

Recommendations 7.35

- Bike lanes should be added to Red Mile/Virginia Avenue/KY Clinic

from Unity Street to Rose Street

- In the interim, a short shared path will be needed to connect KY Clinic to Rose Street.

Huguelet Drive from Rose Street to University Drive

To continue the bike lanes on the new roadway connection on Virginia Avenue to Rose Street, bike lanes should be added to the length of Huguelet Drive. Parking on this street will need to be removed or reconfigured to allow for bike lanes.

Recommendations 7.36

- Add bike lanes



Red Mile Road from Unity Drive to Versailles

The online survey revealed that many respondents ride Red Mile Road into campus. This roadway provides access from the west side of campus. Bike lanes should be added to connect to proposed bike lanes further south on Red Mile and on Forbes Road.

Recommendations 7.37

- Add bike lanes

Administration Drive from Limestone Street to Limestone Street

Administration Drive is a low volume and low speed service road that can provide bicyclists with easy access to and from Limestone Street and the Academic Core. The road should be designated as a bike route with signage. Signage near the academic core should direct bicyclists to take Administration Drive to reach the Student Center.

Recommendations 7.38

- Designate as bike route



Limestone Street from Scott Street to Winslow; Upper from Scott Street to Winslow Street

From the Academic core, bicyclists can ride on Administration Drive to Limestone Street. Bike lanes should be added to Limestone Street and Upper streets between Scott Street and Winslow Street to create access across Limestone Street into adjacent neighborhoods and the Newtown Pike bike facilities. A faded bicycle lane exists on a small stretch of Limestone Street between these intersections. On-street parking on Upper may need to be removed to create adequate space for bike lanes. Bicyclists will need to be encouraged to use pedestrian crosswalks to cross Upper and Limestone Street safely.

Recommendations 7.39

- Stripe bike lanes



Scott Street from Limestone Street to Broadway

Bike lanes are included in the plans for the Newtown Pike Extension which connects into Scott Street; however construction of this project will not begin for many years. Sharrowes should be added to Scott Street to connect the many student residences west of campus to the Academic Core.



Recommendations 7.40

- Add sharrowes to Scott Street

Pathway Facilities (Off-Road)

Limestone Street from Alumni Drive to Scott Street

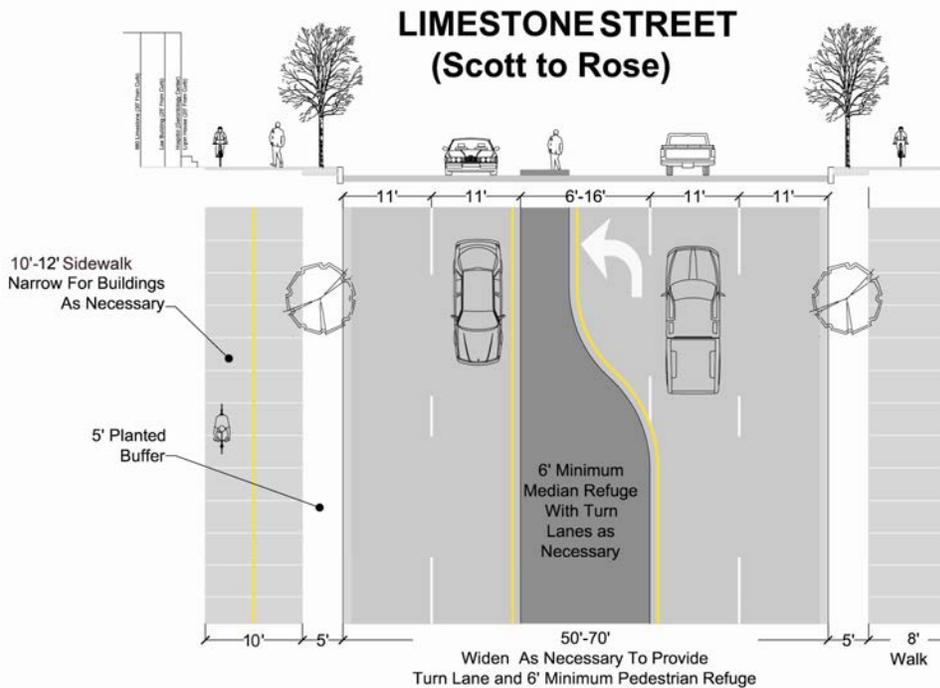
Limestone Street could serve as a key north-south route for bicyclists. However, in its current condition the roadway is not suitable for riding due to traffic volumes, speeds and lane configuration. Bicyclists overcome these challenges by using the sidewalk for north-south travel, but pose a hazard to pedestrians, and are faced with safety issues at several pinch points along the way where space is limited and pedestrian activity substantial. It is recommended that sidewalks be expanded to accommodate pedestrians and cyclists safely the full length of Limestone Street (refer to cross section).



Recommendations 7.41

- Any changes to the roadway or new development along Limestone Street should include a 10' sidewalk on the east side and at a minimum an 8' sidewalk on the west side of Limestone Street. Alternatively, as described in the Transportation Appendix of *The Campus Physical Development Plan* (2002) the existing sidewalk on the east side can be maintained in its current design, and a separate 8' path constructed.
- Limestone Street carries heavy traffic traveling at high speeds. Pedestrians and bicyclists frequently cross mid-block, particularly from Rose Street to Scott Street, and the street has seen serious pedestrian crashes in the past. A 6' raised median should be constructed on Limestone Street from Scott Street to Rose Street as a refuge for pedestrians and cyclists walking bikes across the street. This recommendation coincides with those made in *The Campus Physical Development Plan* (2002). Innovative midblock signal treatments should be explored like those identified in the *ITE Traffic Signal Control Handbook* (i.e. HAWK signals, half-signals, etc).





Alumni Drive from University Drive to Existing footpath east of stadium

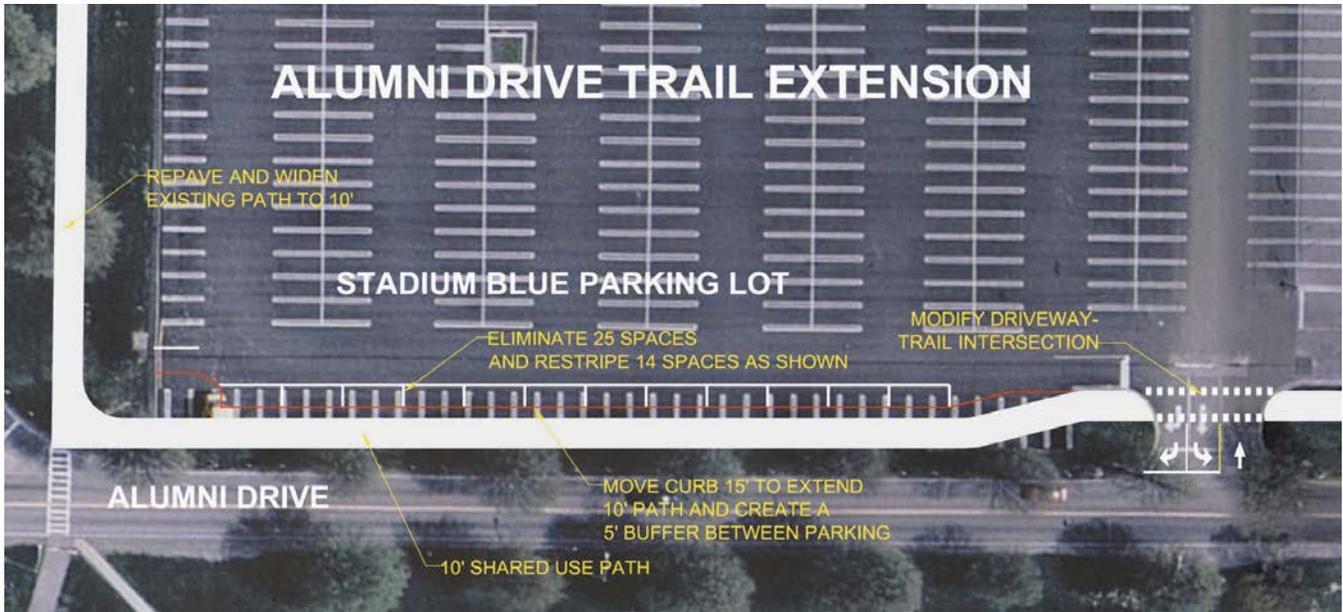
The shared use path along Alumni Drive from Tates Creek Road should be continued through to Limestone Street. Land bordering Alumni Drive from the current path to University Drive is inadequate to build the path next to the road. The path instead should continue west from its current end point through the south end of Commonwealth Stadium parking lot (refer to cross section).

To accommodate the path and maintain the existing operation of the parking lot, 25 car parking spaces should be removed. Other restriping strategies could be developed to reduce the number of lost parking spaces, but driving lanes in the parking lot may need to become one-way. The 10' path will connect to the path and proposed bike lanes on University Drive.

Recommendations 7.42

- Create 10' shared use path from existing Alumni Drive footpath through Stadium parking lot
- Use yellow pavement markings or signs to designate shared use
- Modify driveway to parking lot to include a trail intersection
- Repave and widen path on University Drive to 10'





Young Library path from Rose Street to Hilltop Avenue

Existing pedestrian pathways around the Young Library are wide and not overly congested. The pathway connecting Rose Street to Hilltop Avenue should be designated as shared use to provide direct access to these two key routes for cyclists.

Recommendations 7.43

- Designate Young Library path as shared use

Kastle Hall from Library Drive to path in front of King Library

To send the message that cyclists are welcomed users of campus pathways, particularly in the academic core, one route should be designated as an exclusive bike path that brings cyclists to the central classroom buildings. From bike lanes on Library Drive, the wide 11' path adjacent to Kastle Hall has been identified as ideal for a path where bikes have the right of way. The path should be striped with white bicycle pavement markings and sharrows for two-way riding.



Recommendations 7.44

- Stripe white bicycle markings and sharrows on pavement to indicate that bikes have the right of way

King Library Path from Kastle Hall to Avenue of Champions

The path described above will turn right, running straight in between the King Library and the Journalism Building to Peterson Drive and further to the Avenue of Champions. One side of the 15' path should be designated for bikes; 10' of one side should be striped white to create two lanes of 5' each (for 2-way travel) and should include bike symbols and arrows. The remaining 5' should be designated for pedestrian two-way travel.



Recommendations 7.45

- Create 2-way bike path on sidewalk where bikes have right-of-way by adding a white solid centerline stripe and sharrows along the pathway

White Hall Classroom path from King Library Path to Administration Drive

A shared use path will connect from the dedicated path to the White Hall Classroom Building. Several segments of railing will need to be removed to allow cyclists to cross left to the shared pathway but the 15' - 17' width is ample for a shared-use facility.



Recommendations 7.46

- Create 2-way bike path on sidewalk from King Library path to White Hall Classroom Building where bikes have right-of-way by adding a white solid centerline stripe and sharrows along the pathway
- Remove one segment of railings to allow riders to cross to White Hall
- Designate shared use path from White Hall Classroom Building to Administration Drive

Memorial Hall path from Funkhouser Drive to Memorial Hall

A second route into the academic core should be established from the bike lanes on Funkhouser Drive to the path adjacent to the outdoor amphitheater and Memorial Hall. This proposed shared use path will also provide another access point to/from Limestone Street.



Recommendations 7.47

- Create 2-way bike path on sidewalk where bikes have right-of-way by adding a white solid centerline stripe and sharrows along the pathway

Business and Econ path from Memorial Hall to Administration Drive

The Memorial Hall path will allow bicyclists to ride to the Business and Economics Building using existing sidewalks and on to a proposed new path to connect to Administration Drive. This route will provide access to buildings such as the Patterson Office Tower and Barker Hall as well as the bike parking on Peterson, and to Limestone Street. This route will also direct bikes away from the more congested path that runs adjacent to Anderson Hall.



Recommendations 7.48

- Designate existing sidewalk along the back of the Business and Economics building as shared use path
- Build new 11' path across one section of lawn
- Add curb cut at sidewalk on to Administration Drive



Anderson Hall path from Memorial Hall to Parking lot at Ezra Gillis Bldg

In the long term, pathways running adjacent to Anderson Hall Tower, the Ralph G Anderson building and Miller hall should be reconfigured to better accommodate pedestrian and bicycle traffic and designated as shared use. As a pedestrian these pathways are challenging to navigate due to the circuitous paths and heavy pedestrian activity. Chained landscaping elements prevent pedestrians from taking the most natural and direct route to key destinations.



The main path adjacent to Anderson Hall Tower should be widened by several feet and paths in front of Miller Hall should be straightened and widened to allow better pedestrian and bicycle flow.



Recommendations 7.49

- Widen pathways to an 11' minimum and align for more direct travel
- Designate as shared use path with yellow pavement markings or signage to provide bicyclists with direct access to the academic core

TH Morgan from Medical Plaza to Rose Street

Proposed bike lanes on Kentucky Clinic should connect through to Rose Street with a shared path using existing sidewalks adjacent to the TH Morgan Biological Sciences Building.

Recommendations 7.50

- Designate shared use path using yellow pavement markings or signage

Montclair Path

Bicyclists have worn a pathway in the grass from College Way to Montclair Drive. This path creates a connection into neighborhoods to the East and provides an alternate route to and from Cooper Boulevard. The route should be paved as a shared use path.

Recommendation 7.51

- Create shared use path

Section 8: Intersection Crossings

Existing intersection crossing facilities for pedestrians and bicyclists at the University of Kentucky campus are very limited. Few intersections have adequate crosswalks, crossing signals or warnings to motorists to yield. These conditions create safety hazards for all users of the roadway system. All intersections on campus with a moderate level of activity should be updated using the guidelines outlined below. Numerous intersections were repeatedly noted during the public input process as being hazardous and these are also listed. The intersection at Rose Street and Funkhouser Drive is a particular challenge due to the substantial pedestrian, bicycle and vehicle activity occurring in this one location. A plan view of proposed crossing treated has been provided to significantly improve upon current conditions.

Recommendation 8.1 New design strategies should be employed to improve crossing conditions for bicyclists and pedestrians.

- All marked and unmarked crosswalks should have accessible curb ramps
- Marked crosswalks should be highly visible. Treatments that can be used include:
 - "Yield to Pedestrian" bollards are bright yellow signs placed in the middle of the road at marked crosswalks. They remind drivers of their responsibility to yield to pedestrians in the crosswalk.
 - Countdown signals show how much time a pedestrian or cyclist has remaining to cross the street. They can be designed to begin counting down at the beginning of the walk phase or at the beginning of the clearance (flashing "DON'T WALK") interval. These signals would be appropriate at the crossing of Limestone Street and Scott Street
 - Flashing crosswalks for midblock, uncontrolled locations with heavy night activity. Flashing crosswalks have in-pavement lights that flash when a pedestrian or bicyclist is crossing within the crosswalk. The flashing lights make drivers more aware of those crossing.

- In cases where crossings are more than 60' long, a raised median should be provided as a refuge.

The following intersections have been identified as hazardous for bicyclists and in need of improved crossing treatments:

- Hilltop Avenue and Woodland Avenue
- Rose Street and Rose Lane
- Rose Street and Euclid Avenue
- Rose Street and Columbia Avenue
- Rose Street and Limestone Street
- University Drive and Cooper Drive
- University Drive and Alumni Drive
- University Drive and Huguelet Drive
- University Drive and Hospital Drive
- Alumni Drive at Commonwealth Stadium for people leaving the parking lot and crossing Alumni Drive (end of existing footpath on north side of Alumni Drive)
- Alumni Drive and College Way
- Limestone Street and Scott Street needs a major crossing improvement. Recommend an at-grade crossing, with true raised median in center. If improvements to street related to Newtown Pike extension are more than 5 years then need an interim solution.
- Limestone Street and Colfax Street
- Limestone Street and Virginia Avenue
- Limestone Street and Cooper Drive
- Avenue of Champions and Martin Luther King Boulevard

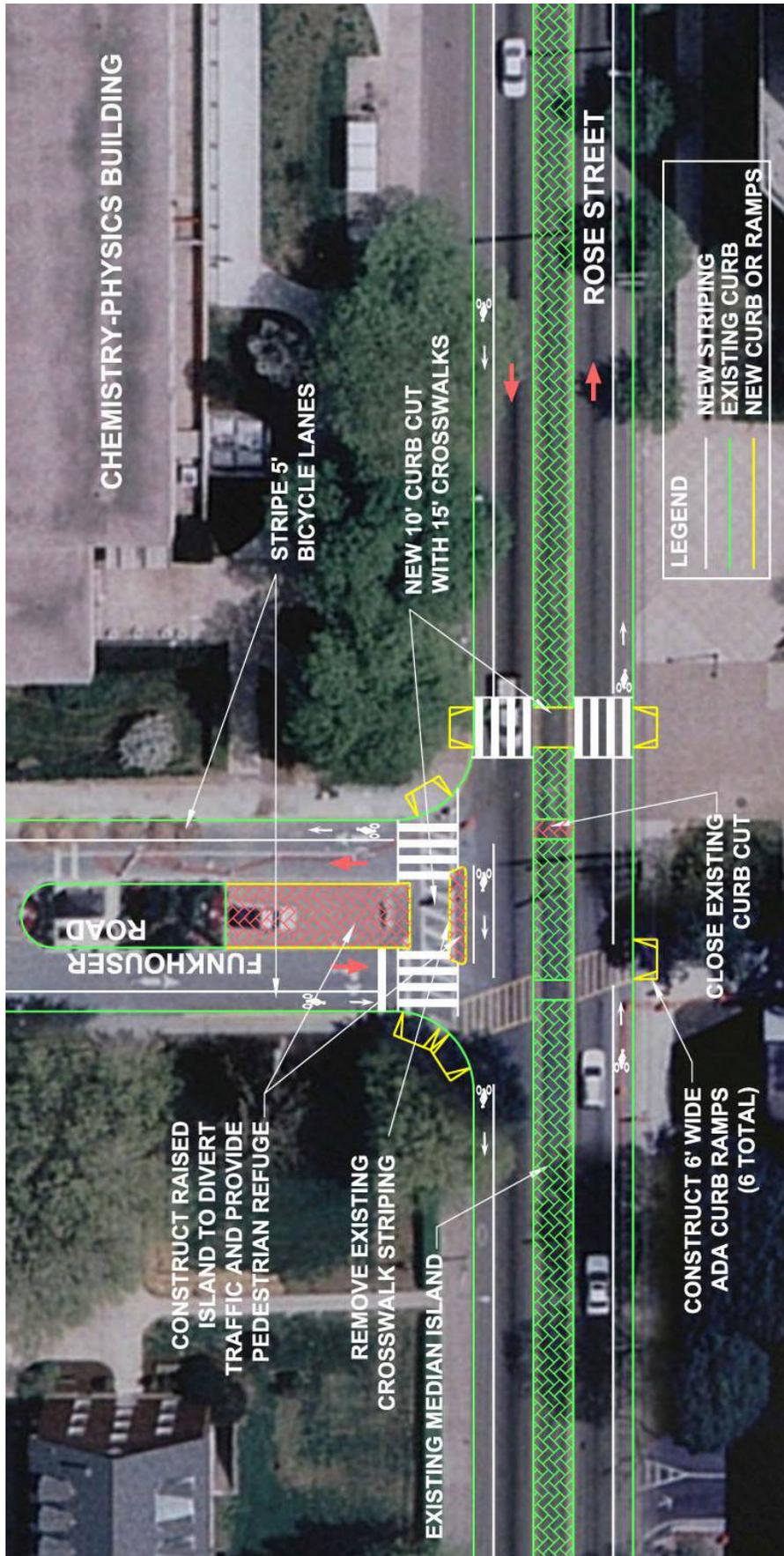
Recommendation 8.2 Create improved crossing facilities for Rose Street at Funkhouser Drive and the Mining and Minerals Building to increase safety of pedestrians, bicyclists and motorists.

Rose Street at Funkhouser Drive and Mining and Minerals Building

The section of Rose Street from Funkhouser Drive almost to the Boone Faculty Center is consistently congested with traffic, pedestrians stepping out into the roadway at all points to cross the road and cyclists. To cross Rose Street, cyclists are forced to cut in front of traffic and either mount the raised median or use one of the two 3' perpendicular curb cuts at Funkhouser Drive creating serious safety hazards. Significant change needs to occur at this location to improve conditions for all users of the road. Changes must allow emergency vehicles to continue to use the median for travel. The Campus Physical Development Plan recommends closing the southern portion of Rose Street through the Medical Center. This would potentially reduce traffic on this congested segment of Rose Street. Until more substantial transportation projects are completed on Rose Street, the following actions are recommended to improve conditions (refer to plan design on following page).

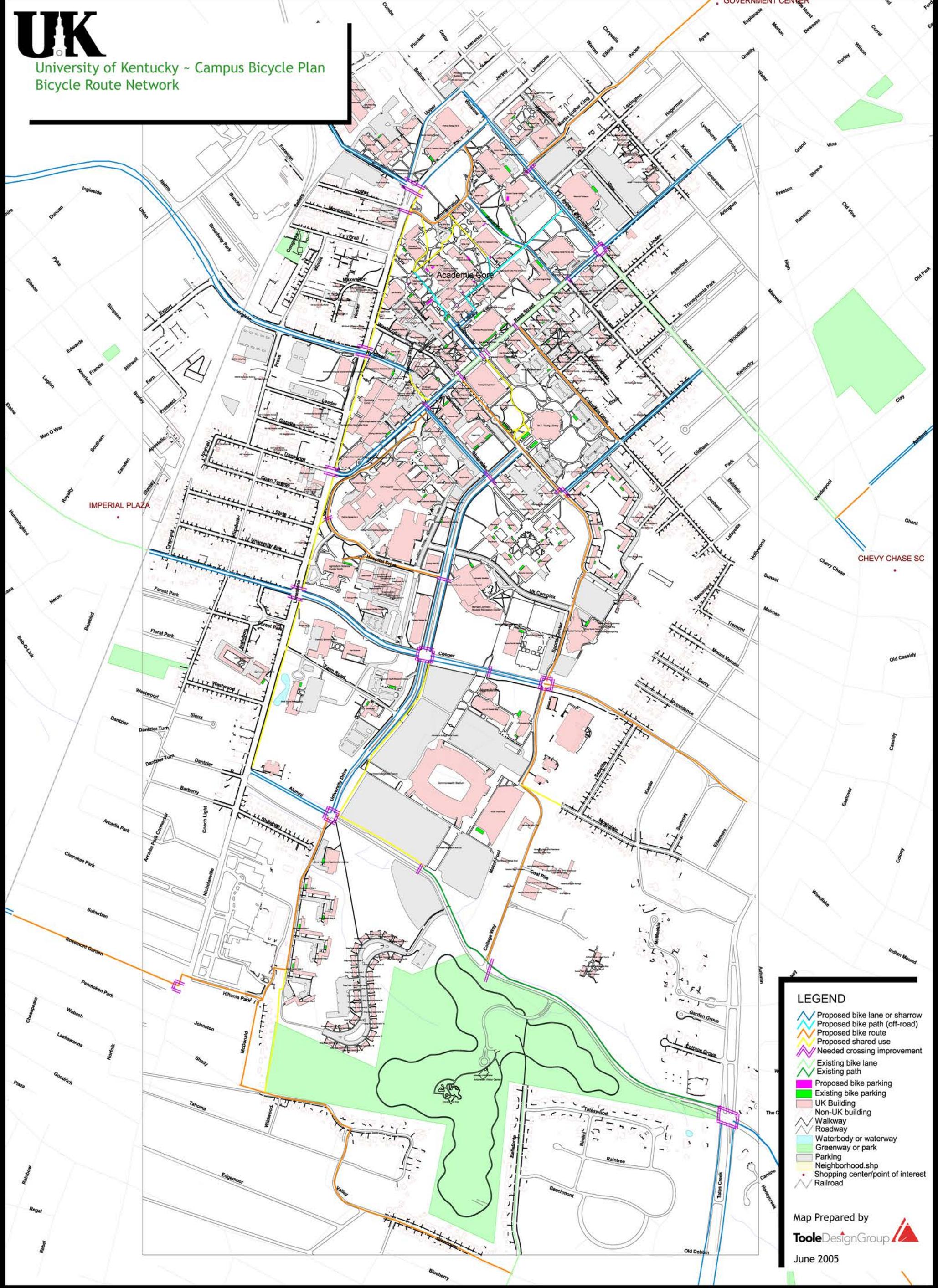
- Remove existing curb cut in median closest to the Chemistry-Physics Building
- Create one wide curb ramp in median (see plan design for exact alignment). Install high visibility (ladder style) crosswalk at this location
- Build 6' curb ramps at key sidewalk locations
- Install a pork chop median at entrance to Funkhouser Drive to prevent vehicles traveling northbound on Rose Street from turning left into Funkhouser Drive.







University of Kentucky - Campus Bicycle Plan
Bicycle Route Network



LEGEND

- Proposed bike lane or sharrow
- Proposed bike path (off-road)
- Proposed bike route
- Proposed shared use
- Needed crossing improvement
- Existing bike lane
- Existing path
- Proposed bike parking
- Existing bike parking
- UK Building
- Non-UK building
- Walkway
- Roadway
- Waterbody or waterway
- Greenway or park
- Parking
- Neighborhood.shp
- Shopping center/point of interest
- Railroad

Map Prepared by
TooleDesignGroup
June 2005

VI ~ CONCLUSION

The bicycle program, policy and facilities described in this plan are recommended to create a comprehensive route network to enable bicyclists to cross campus safely and quickly. Making bicycling conditions more comfortable and efficient and offering incentives to bike will encourage students, faculty and staff to trade car trips for bicycle trips, providing benefits to the entire campus community. Understanding the level of investment required to implement all the recommendations, an implementation schedule has been developed to assist in prioritizing projects and estimated needed resources.

VII ~ FIVE YEAR WORK PLAN

Implementation of the recommendations in this plan will take leadership, commitment, and continuous coordination among University of Kentucky's departments. This section of the plan sets priorities for program and facility improvements for the first five years of the bicycle program, determines the department or agency of responsibility, and estimates cost. Criteria for prioritizing projects include level of investment, need (presence of safety concerns, demand for facilities), and level of coordination. Given budgets recommended in this plan, the work plan sets out activities for each year through year five. Costs for additional recommendations made in the plan can be found in Appendix B: Implementation Schedule.

Year 1 Work Plan: 2005-2006

Budget: \$50,000

Action	Recommendation	Responsibility	Cost
Program and Policy			
Establish 15% position of bike coordinator	1.2	PTS	<i>budgeted</i>
Continue coordination with LFUCG and MPO	1.5 - 1.6	PTS	<i>budgeted</i>
Marketing and Promotion			
Develop Crossing Campus guide - <i>ROLL OUT - FALL 2005</i>	2.3	Consultant	<i>budgeted</i>
Print Crossing Campus guide		Oversight by CPMD	\$20,000
Create bicycling section on the UK website	2.2	Oversight by CPMD	<i>budgeted</i>
Include bicycling information in new student orientation materials	2.1	Oversight by CPMD	<i>budgeted</i>
Conduct enforcement campaign during first month of school: remove improperly parked bikes, warn bicyclists failing to follow the rules of the road	2.6	Campus police	<i>budgeted</i>
Continue dialogue regarding proposed changes to parking permit system and transportation fee	3.1-3.4	PTS	<i>budgeted</i>
Hire a work-study student (20 hrs per week) to help manage Wildcat Wheels and other bicycling efforts	2.4	PTS	\$2,500
Facility Improvements			
Remove "no bikes" decals (approx 50)	5.1	PPD	\$3,000
Begin bike parking changes - move existing underutilized racks to key locations in the campus core	6.1	PTS/PPD	<i>budgeted</i>
Design, produce and plan locations for Shared Path and Bike Right-of-Way Path signs and pavement markings	5.1 - 5.2	PTS/CPMD	\$12,000
Establish three-way stop at Huguelet and Rose	7.1	PTS, LFUCG	<i>budgeted</i>
Begin installing curb ramps in key locations to ease transitions from streets to pathways	7.1	PPD	<i>budgeted</i>
Pre-engineering			
Continue discussions of off-campus bicycle improvements with LFUCG		PTS/LFUCG	<i>budgeted</i>
Seek funding for Shady Lane pathway	7.30 - 7.31	PTS/CPMD	<i>budgeted</i>
Conduct discussions as necessary to convert University Drive, develop design plans	7.18	PTS/PPD/University Housing/CPMD	\$12,500
Total Year 1 Cost			\$50,000

Year 2 Work Plan: 2006-2007
 Budget: \$65,000

Action	Recommendation	Responsibility	Cost
Program and Policy			
Begin tiered parking permit system and institute initial changes to rules for freshmen.	3.1 - 3.3	PTS	<i>budgeted</i>
Begin employee commute encouragement programs	3.6	PTS	\$7,500
Begin student commute encouragement programs	3.5	PTS	\$5,000
Hire a work-study student to help manage Wildcat Wheels and other bicycling efforts	2.4	PTS	\$2,500
Facility Improvements			
Install Shared Path and Bike Right-of-Way Path signs and pavement markings	5.1 - 5.2	PTS/CPMD/PPD	\$5,000
Begin replacing rack types in key locations based on demand	6.2	PTS/CPMD/PPD	\$7,000
Implement new lane and parking configuration on University Drive	7.18	PTS/CPMD/PPD	8,000
Make short term improvements to Rose Street crossings at Funkhouser Drive (install curb cuts, widen median cuts, crosswalks)	8.2	LFUCG	<i>budgeted</i>
Continue installing curb ramps in key locations to ease transitions from streets to pathways	7.1	PPD	<i>budgeted</i>
Pre-engineering			
Continue discussions with LFUCG and MPO regarding bike route locations and easier implementation projects	1.5 - 1.3	PTS/ LFUCG/MPO	<i>budgeted</i>
Develop design drawings for Shady Lane path	7.30 - 7.31	CPMD	\$30,000
Total Year 2 Cost			\$65,000

Year 3 Work Plan: 2007-2008
 Budget: \$80,000

Action	Recommendation	Responsibility	Cost
Program and Policy			
Revise website and marketing material to reflect facility changes, additional promotional efforts to incoming students	2.1 - 2.3	PTS	\$3,000
Increase support for Yellow Bike Program	2.4	PTS	\$2,500
Continue employee commute encouragement programs	3.6	PTS	\$5,000
Continue student commute encouragement programs	3.5	PTS	\$2,500
Hire a work-study student to help manage Wildcat Wheels and other bicycling efforts	2.4	PTS	\$2,500
Facility Improvements			
Design, produce and begin to install Bike Route signs with wayfinding (prioritize Hilltop, College Way, Sports Center Drive)	7.14; 7.24; 7.25	PTS/CPMD/PPD	\$9,500
Construct bicycle routes/lanes/paths	7.4 - 7.50	PTS/CPMD/LFUCG	20,000
Continue to replace recommended rack types, provide covered bike parking	6.1 - 6.3		\$5,000
Pre-engineering			
Total Year 3 Cost			\$80,000

Year 4 Work Plan: 2008-2009
Budget: \$95,000

Action	Recommendation	Responsibility	Cost
Program and Policy			
Begin long-term bike rental program	4.4	PTS	\$4,500
Continue to support Yellow Bike Program	2.4	PTS	\$1,000
Continue employee commute encouragement programs	3.6	PTS	\$5,000
Continue student commute encouragement programs	3.5	PTS	\$2,500
Hire a work-study student to help manage Wildcat Wheels and other bicycling efforts	2.4	PTS	\$2,500
Facility Improvements			
Continue discussions with LFUCG and MPO regarding bike route locations and implementation projects	1.5 - 1.6	PTS/LFUCG	<i>per addl. funding</i>
Continue installing Bike Route signs with wayfinding	7.14; 7.24; 7.25	PPD	\$14,500
Continue to construct routes/lanes/paths	7.4 - 7.50	PTS/CPMD/LFUCG	\$60,000
Continue curb ramp in key locations	7.1	PPD	<i>budgeted</i>
Continue to provide covered bike parking	6.1 - 6.3	PTS/PPD	\$5,000
Construct Shady Lane Bike Path	7.30 - 7.31	PPD	<i>per addl. funding</i>
Total Year 4 Cost			\$95,000

Year 5 Work Plan: 2009-2010
Budget: \$110,000

Action	Recommendation	Responsibility	Cost
Program and Policy			
Conduct Cordon Count - 7% goal met?	-	PTS	\$2,500
Continue employee commute encouragement programs	3.6	PTS	\$5,000
Continue student commute encouragement programs	3.5	PTS	\$2,500
Hire one to two work-study students to help manage Wildcat Wheels and other bicycling efforts	2.4	PTS	\$5,000
Facility Improvements			
Continue to construct routes/lanes/paths	7.4 - 7.50	PTS/CPMD	\$95,000
Reassess priorities	-	PTS/LFUCG	
Total Year 5 Cost			\$110,000

APPENDIX A: SURVEY RESULTS SUMMARY

UNIVERSITY OF KENTUCKY CAMPUS BICYCLE PLAN SURVEY METHODS AND RESULTS SUMMARY

Executive Summary

Input from the University of Kentucky community is critical to the success of the campus bicycle master plan. A key element of Task 3, Stakeholder Involvement, includes a survey of students, faculty and staff who commute to campus. A web-based survey was developed to gain input from two target audiences at the University of Kentucky; 1) people who commute to campus by automobile, bus or foot and 2) people who commute to campus by bicycle. The goal of the survey was to measure attitudes, habits and opinions regarding transportation to and from campus, and to identify issues specific to bicycle and car commuters.

A link to the survey was posted on the University of Kentucky website and emails and flyers were used to promote the survey to a wide audience. The survey was accessible online for two and a half weeks and over five thousand responses were received, representing over ten percent of the University of Kentucky campus community (including Lexington Community College). Almost half of the respondents were students, over 40% were employees, and the remainder was faculty. The survey revealed that more than 7 out of 10 respondents travel to campus most often by car, and less than 1 out of 10 by bicycle.

Employees account for a very small percentage of bicycle commuters (16%) and make up the largest share of car commuters. As to be expected, individuals commuting to campus by car have longer commutes than those commuting by bicycle. However, distance does not explain all of the variation in travel time. More than a third of car commuter respondents (1,364) live less than five miles from campus. Car commuters living the same distance from campus as bicycle commuters still tend to have longer commute times than those riding bikes to campus. Car commuters also are not likely to take other modes, traveling by car only to campus five or more times a week.

Car and bike commuters agreed that dedicated bike lanes on campus or city streets, and trails and pathways separated from the road are the critical amenities to encourage them to ride, or ride more often, to campus. Both audiences also perceive riding on city and campus streets to be dangerous. Bicycle commuters reported that they bike to campus for convenience and time savings, cost savings and because of lack of parking. Car commuters reported most frequently that they do not bike because of distance, not owning a bike, safety and traffic, weather and a need for trip-chaining (i.e. dropping off children at school or daycare before work, grocery shopping on the way home from work).

Survey Design and Administration

The survey was designed to be administered online. A web-based survey was chosen because of the time and cost efficiency of programming, ease of posting the survey on the University of Kentucky Parking and Transportation website, and readily available access to data as compared to a postcard survey that requires printing, distribution, mailing, and tabulation. Given that college students were a critical target of the survey, higher response rates were anticipated with an online survey compared to a postcard that would need to be returned through the mail.

Two sets of questions were written for the two target audiences; bicycle commuters and automobile, bus or foot commuters. Both sets contain six core questions with phrasing modified for the appropriate audience. Core questions include:

1. How do you get to campus most often?
2. How many times a week do you commute to campus by bike/car/car then bike/bike/bus/bus then

- bike/on foot?
3. Roughly, how far do you live from campus (in miles)?
 4. How many minutes (on average) does it take you to get to your classes (or to your office) on campus... by car? by bus? on foot? by bike?
 5. What are the top two reasons why you do (or do not) ride a bike to campus?
 6. What would encourage you to ride a bike (or ride more often) to campus? Please choose your top three choices.
 - a. Dedicated bike lanes on campus or city streets
 - b. Trails and pathways separated from the road
 - c. Financial incentive to bike instead of drive
 - d. Greater enforcement of traffic laws to protect bicyclists on the road
 - e. A campus map showing bicycle routes
 - f. More convenient bike parking
 - g. More secure or covered bike parking
 - h. Better lighting around campus for traveling safely at night
 - i. More police patrolling to ensure safety
 - j. Fewer restrictions to bikes on campus
 - k. A convenient place to shower/change clothes
 - l. A bicycle station on campus providing repairs, supplies, etc..
 - m. Living closer to campus
 - n. Other _____

The response to question 1, “How do you get to campus most often” directed each respondent to either the questions for bicyclists or the questions for auto/bus/foot commuters. One additional question was posed to bicyclists to determine how many ride on the sidewalk, how many ride in the street, and how many wear helmets. Both surveys also included two demographic questions (gender, Undergraduate/Graduate/Faculty/Employee), and finally an opportunity to list any other comments/suggestions.

A link to the survey was posted on University of Kentucky’s Parking and Transportation home page and was accessible online for twenty days from October 26th through November 14th 2004. The survey was promoted through various channels. A global email was sent to all University of Kentucky student, faculty and staff email addresses (it is unknown how many accounts are active); an electronic newsletter was sent by Parking and Transportation Services to about 2500 subscribers; 1,500 flyers were printed with the survey link and distributed around campus to the student center, dormitories, classroom buildings and bike racks; and several campus student groups were asked to forward the link to their membership.

Survey Results

A total of 5,213 responses were received, exceeding the goal of 600 postcard surveys. The University of Kentucky population of students, faculty and staff totals 37,253, and the Lexington Community College population totals 8,939. Consequently, the survey responses represent over ten percent of the total UK campus community. Students, faculty and employees were all well represented in the pool of respondents. Predictably, employees and faculty were overrepresented accounting for only 25% of the campus community but over 50% of respondents (Table 1).

Table 1 - Total Population

	Survey Responses		Total Population	
Student	2,227	46%	34,932	75%
Faculty	650	13%	2058	5%
Employee	2,005	41%	9,202	20%
Total Respondents	4,882		46,192	

The survey results indicate that the UK campus is dominated by car commuters; more than 7 out of 10

respondents travel to campus most often by car. Other modes have significantly smaller shares of commuters; 14% of respondents commute most often on foot, 7% by bike, and 4% by bus (Table 2).

Table 2 - Total Survey Respondents

How do you get to campus MOST often?		
	Response Total	%
by car	3819	73.3%
by bike	367	7.0%
by bus	213	4.1%
on foot (walking)	740	14.2%
Other (please specify)	73	1.4%
Total Respondents	5212	

As much of the research for the *Campus Bicycle Plan* focuses on strategies for converting car trips into bicycle trips, responses from car and bike commuters are of great interest. Comparing the biking and driving respondents, it is clear that employees typically commute by car and are disinclined to commute by bike; more than half of car commuters are employees and only one sixth of bicycle commuters are employees (Table 10). On the other hand, almost two-thirds of bicycle commuters are students, and students show much higher percentages of biking, walking and taking the bus (Table 3). This suggests that bicycling is a mode of travel that is currently more attractive for students than other population groups, and that there is great potential for increasing cycling among the captive audience of 35,000 students.

Table 3 - Student Respondents

How do you get to campus MOST often?		
	Response Total	%
by car	1215	55%
by bike	216	10%
by bus	166	7%
on foot (walking)	589	27%
Other (please specify)	36	2%
Total Respondents	2222	

Bicycle commuters are more likely to bike to campus 4 or 5 days a week and walk or drive once or twice a week, while car commuters tend to only drive and to rarely commute by other modes. Eighty percent of female respondents are driving to campus.

As expected, car commuters tend to have longer commutes and to live at greater distances than bike commuters. Examining only car and bike commuters who live less than 5 miles from campus provides an interesting perspective on commutes of similar distances (Table 17). Of car and bike commuters who live less than 5 miles from campus, 40% of car commuters spend more than 20 minutes commuting, while only 12% of bicyclists spend more than 20 minutes traveling to campus. This indicates that commuting by bike is a more efficient means of travel for these short trips. In fact, one in ten of these short (less than 5 miles) automobile trips takes longer than 30 minutes.

Car and bike commuters agreed that dedicated bike lanes on campus or city streets, and trails and pathways separated from the road would encourage them to ride, or ride more often, to campus. Bicycle commuters added that fewer restrictions to bikes, greater law enforcement to protect bicyclists, and more secure or covered parking would encourage them to ride more often to campus. A large number of car commuters did report that nothing would encourage them to ride a bike to campus. However, more than 70% of these respondents live more than 5 miles from campus and over 60% are employees, suggesting that factors such as distance and perhaps health or trip chaining present considerable barriers to biking. This fact is reinforced by the large number of car commuters reporting that living closer to campus would encourage them to bike to campus.

From both car and bike commuters, there is a perceived lack of safety in riding on city and campus streets. This is reflected in the open ended responses as to why commuters don't bike more often and in the desire for dedicated bike lanes or separate paths and greater law enforcement to protect bicyclists.

Profile of Car Commuters

Respondents who commute to campus most often by car:

- Are more likely to be employees. 51% of car commuters are employees, 34% are students (Table 4)
- Are more likely to be female; 65% of car commuters are female (Table 5)
- 37% (1,364) of car commuters live less than 5 miles from campus (Table 6)
- Are more likely to commute to campus 5 or 6 days a week; few car commuters take other modes (Table 7)
- 28% of respondents take 10 to 20 minutes to get to class/office, 27% take 20 to 30 minutes and 27% take more than 30 minutes (Table 8)
- Cite distance/living too far, don't own a bike, lack of bike lanes, safety/danger, traffic, weather, poor health, need for trip chaining (dropping off kids) as top reasons for not biking to campus
- Cite nothing/nothing else, living closer to campus, dedicated bike lanes, separated trails would encourage them to ride a bike to campus (Table 9)

Table 4 - Car Commuters

Undergraduate	796	22%
Graduate	419	12%
Faculty	519	15%
Employee	1841	51%
Total Respondents	3575	

Table 5 - Car Commuters

Male	1260	35%
Female	2310	65%
Total Respondents	3570	

Table 6 - Car Commuters

Roughly how far do you live from campus (in miles)?		
	Response	Total
I live on campus	43	1%
Less than 1 mile	63	2%
1 to 5 miles	1258	34%
5 to 10 miles	1279	35%
10 or more miles	1019	28%
Total Respondents	3662	

Table 7 - Car Commuters (shows how often car commuters drive to campus and whether car commuters ever commute by other modes)

How many times a week do you commute to campus...									
	0	1	2	3	4	5	6	7	more than 7
by car?	1%	3%	3%	6%	7%	60%	9%	4%	7%
by car then bike?	97%	1%	0%	0%	0%	1%	0%	0%	0%
by bike?	97%	2%	1%	0%	0%	0%	0%	0%	0%
by bus?	95%	1%	1%	1%	0%	2%	0%	0%	0%
by bus then bike?	100%	0%	0%	0%	0%	0%	0%	0%	0%
by walking?	91%	3%	2%	1%	0%	2%	0%	0%	1%
Total Respondents	3775								

Table 8 - Car Commuters

How many minutes (on average) does it take you to get to your classes (or to your office) on campus...		
by car? Please include the amount of time it takes you to WALK from the parking lot to class (office).		
Less than 10 minutes	576	15.7%
10 to 20 minutes	1024	27.9%
20 to 30 minutes	958	26.1%
30 to 45 minutes	633	17.3%
45 minutes or more	370	10.1%
N/A	106	2.9%
Response Total	3667	

Table 9 - Car Commuters

What would encourage you to ride a bike (or ride more often) to campus? Please choose your top THREE choices from the drop down menus below.			
	1	2	3
Dedicated bike lanes on campus or city street	17.1%	10.4%	5.4%
Trails and pathways separated from the road	14.6%	13.1%	5.6%
Financial incentive to bike instead of drive	8.0%	7.7%	7.4%
Greater enforcement of traffic laws to protect bicyclists on the road	2.2%	6.3%	5.8%
A campus map showing bicycle routes	0.3%	1.4%	1.9%
More convenient bike parking	0.8%	2.4%	4.0%
More secure or covered bike parking	1.6%	6.1%	6.8%
Better lighting around campus for traveling safely at night	1.1%	3.1%	3.9%
More police patrolling to ensure safety	1.1%	2.1%	2.8%
Fewer restrictions to bikes on campus	1.0%	2.3%	2.9%
A convenient place to shower/change clothes	1.7%	3.8%	3.8%
A bicycle station on campus providing repairs supplies etc..	0.2%	0.6%	1.2%
Living closer to campus	22.6%	8.1%	7.2%
Other	1.3%	2.2%	3.2%
Nothing/Nothing Else	26.4%	30.4%	37.8%
Response Total	3599	3602	3602

Profile of Bicycle Commuters

Respondents who commute to campus most often by bicycle:

- Are most likely to be students (62% of bike commuters are students), and are least likely to be employees (Table 10)
- Are more likely to be male; 70% of bike commuters are male (Table 11)
- 93% of bike commuters live less than 5 miles from campus, with the majority living 1 to 5 miles (Table 12)
- Tend to bike to campus 4 or 5 times a week, replacing a bike trip most frequently with a car trip or a walking trip (Table 13)
- 84% of bike commuters spend 20 minutes or less getting to classes/work; only 3% spend 30 or more minutes (Table 14)
- Are more likely to ride on the sidewalk than not; 64% of bicyclists ride on the sidewalk
- Are less likely to wear a helmet; 54% of bicyclists do not wear a helmet (Table 15)
- Cite convenience/time saving, not enough parking, cost savings (parking), exercise/health, environmentally friendly as top reasons for biking to campus
- Cite dedicated bike lanes, separated trails, fewer restrictions to bikes on campus, greater enforcement of traffic laws, and more secure bike parking as encouragement to bike to campus

more often (Table 16)

Table 10 - Bicycle Commuters

Undergraduate	143	41%
Graduate	75	21%
Faculty	78	22%
Employee	57	16%
Total Respondents	353	

Table 11 - Bicycle Commuters

Male	248	70%
Female	105	30%
Total Respondents	353	

Table 12- Bicycle Commuters

I live on campus	26	7%
Less than 1 mile	106	30%
1 to 5 miles	197	55%
5 to 10 miles	22	6%
10 or more miles	4	1%
Total Respondents	355	

Table 13 - Bicycle Commuters

How many times a week do you commute to campus...										
	0	1	2	3	4	5	6	7	more than 7	Response Total
by car?	60%	25%	7%	4%	2%	1%	0%	0%	0%	363
by car then bike?	91%	2%	2%	2%	0%	2%	0%	0%	0%	362
by bike?	5%	2%	4%	10%	20%	28%	8%	7%	17%	363
by bus?	90%	4%	2%	1%	1%	0%	1%	0%	0%	363
by bus then bike?	96%	2%	1%	1%	0%	0%	0%	0%	0%	361
by walking?	53%	21%	12%	8%	2%	1%	0%	1%	1%	361
Total Respondents	364									

Table 14 - Bicycle Commuters

How many minutes (on average) does it take you to get to your classes (or to your office) on campus by bike?		
Please include the amount of time it takes you to WALK from where you park your bike to class (or your office).		
Less than 10 minutes	128	36%
10 to 20 minutes	170	48%
20 to 30 minutes	47	13%
30 to 45 minutes	8	2%
45 minutes or more	2	1%
Total Respondents	355	

Table 15 - Bicycle Commuters

When riding your bike do you...		
	Yes	No
ride on the sidewalk?	64%	36%
ride in the street?	90%	10%
wear a helmet?	46%	54%
Total Respondents	355	

Table 16 - Bicycle Commuters

What would encourage you to bike to campus more often? Please choose your top THREE choices from the drop down menus below.			
	1	2	3
Dedicated bike lanes on campus or city street	50%	21%	6%
Trails and pathways separated from the road	14%	18%	8%
Financial incentive to bike instead of drive	11%	9%	11%
Greater enforcement of traffic laws to protect bicyclists on the road	5%	10%	14%
A campus map showing bicycle routes	1%	1%	3%
More convenient bike parking	3%	4%	7%
More secure or covered bike parking	4%	11%	12%
Better lighting around campus for traveling safely at night	1%	3%	6%
More police patrolling to ensure safety	0%	1%	2%
Fewer restrictions to bikes on campus	7%	11%	15%
A convenient place to shower/change clothes	1%	2%	3%
A bicycle station on campus providing repairs supplies etc..	1%	5%	6%
Living closer to campus	1%	1%	1%
Other	1%	0%	1%
Nothing/Nothing Else	2%	3%	6%
Response Total	354	354	354

Table 17 - Car and bike commuters that live 5 miles or less from campus

How many minutes (on average) does it take you to get to your classes (or to your office) on campus...							
	Less than 10 minutes	10 to 20 minutes	20 to 30 minutes	30 to 45 minutes	45 minutes or more	N/A	Response Total
by car? Please include the amount of time it takes you to WALK from the parking lot to class (office).	18%	42%	27%	8%	2%	3%	1367
by bike?	38%	50%	10%	1%	0%		326
by bus? Please include the amount of time it takes you to WALK from the bus stop to class (office).	5%	4%	3%	3%	2%	83%	1367
on foot?	5%	6%	7%	6%	6%	70%	1367

APPENDIX B ~ IMPLEMENTATION SCHEDULE

The Implementation Schedule provides estimates for all recommendations made in this plan, and an indication of each project's level of priority. The first actions that should be taken are indicated by the "short term" implementation timeline. Projects that are also critical to the bike program but involve greater investment are indicated by the "mid term" implementation timeline. And finally projects of substantial investment and coordination are indicated by the "long term" implementation timeline.

Recommendation	Implementation Timeline	Cost <i>(of construction only for facility improvements)</i>	Prime Responsibility
Bicycle Program and Policy Recommendations			
1.1: Hire a Sustainability Director to manage and advocate for the bike program.	Mid term		UK
1.2: Dedicate 15% of the PTS Assoc. Director of Transportation Services' role to the UK bike program	Short term	<i>Budgeted</i>	UK
1.3: Establish dedicated funds for the bicycle program each year through 2010.	Short term	First year funds = \$50,000, increase by \$15,000 each year for 5 years	UK
1.4: Seek alternative sources of funding including Transportation Enhancement	Mid term	-	UK
1.5: Continue and increase coordination with Lexington-Fayette Urban County Government.	Short term	-	UK and LFUCG
1.6 Continue and Increase coordination with Lexington area MPO		-	
2.1: Create a portfolio of marketing materials to promote bicycling and educate the community	Mid term	\$ 10,000	UK
2.2: Create a bicycling section on the UK website	Short term	<i>Budgeted</i>	UK
2.3: Develop a guide to crossing the UK campus safely (printing and distribution costs)	Short term	\$ 20,000	UK
2.4: Increase support for the Yellow Bike Program through promotion and coordination. Hire a work-study student.	Mid term	\$ 5,000	UK
2.5: Develop partnerships with local businesses to encourage bicycling	Mid term	-	UK

Recommendation	Implementation Timeline	Cost (of construction only for facility improvements)	Prime Responsibility
2.6: Use law enforcement to discourage unsafe behaviors and educate bicyclists	Short term	-	UK
3.1: Create a tiered parking permit fee structure	Short term	-	UK
3.2: Establish annual increase for parking permits fees	Short term	-	UK
3.3: Allow all freshmen students and students residing on campus only to purchase parking permits for Tier 3 lots.	Short term	-	UK
3.4: Establish an 8-year goal to prohibit students from bringing vehicles their first year	Mid term	-	UK
3.5: Develop a commuter encouragement program for students	Mid term	\$ 5,000	UK
3.6: Initiate a Commute Club or Commute Trip Reduction program for employees	Short term	\$ 7,500	UK
4.1 Organize a Cyclefest.	Long term	\$ 7,000	UK
4.2 Establish a campus bicycle repair shop.	Long term	\$ 7,000	UK
4.3 Increase campus security	Long term	<i>Budgeted</i>	UK
4.4 Expand Wildcat Wheels to include long-term bike rental	Mid term	\$ 2,500	UK
Bicycle Facility Recommendations			
5.1: Institute a consistent signage system throughout campus (estimate 50 signs); remove "no bike" symbols (estimate 50 symbols to be removed)	Short term	Cost to remove symbols: \$3000; signage design, plan and install: \$17,000	UK
5.2: Incorporate wayfinding signs to direct cyclists to bike routes and bike parking. (Estimate 75 Signs Total)	Mid term	\$ 20,000	UK
6.1: Provide bike parking facilities at building entrances (maintenance crew to move existing racks)	Short term	<i>budgeted</i>	UK
6.2: Replace existing rack design with inverted U-shaped racks with recommended dimensions. Assume U Rack with rails attached to create rack for 10 bikes - not mounted to anything (1 U Rack = \$300 material and installation). Estimate 40 new racks	Mid to Long term	\$ 12,000	UK

Recommendation	Implementation Timeline	Cost (of construction only for facility improvements)	Prime Responsibility
6.3: Offer a variety of bike parking facilities. U Rack = \$300, Polyethelene Locker (non stackable) = \$850 Steel Locker (stackable, variety of locking options) = \$1500	Mid term	\$300-1500 each	UK
6.4: Improve lighting around bike parking facilities. New pole, light, plus installation.	Mid term	\$3,000-5000 each	UK
7.1 Provide curb ramps on to sidewalks	Mid term	\$300-600 each	UK
7.2 Update drainage grates (variable depending on drainage structure)	Long term	\$200-2,000 each	UK
7.3 Future roadway projects should seek to significantly reduce this footprint of campus roadways	Long term		UK
7.4 Euclid; Restripe	Short term	\$ 27,400	UK
7.5 -7.6 Avenue of Champions; Remove parking, stripe bike lanes	Short term	\$ 40,000	LFUCG
7.7 Ashland (Euclid to Main); designate as bike route. 2500 feet of roadway, signs every 500' (BLOS = A)		\$ 2,000	
7.8 Martin Luther King (Avenue of Champions to Main); designate as bike route. 3000 feet of roadway, signs every 500', sharrow (BLOS =C)		\$ 7,200	
7.9 Rose Street (Rose Lane to Euclid); Widen roadway, stripe bike lanes	Short term	Funded: \$76,000	LFUCG
7.10 Rose Street (Washington to Huguelet); Stripe bike lanes	Mid term	\$ 3,300	LFUCG
7.11 Rose Street (Huguelet to Limestone); Sign temporary bike route; stripe bike lanes	Mid term	\$ 4,200	LFUCG
7.12 Rose Street (Euclid to High Street); Stripe bike lanes or sharrow. 2,000 feet, restripe as 5' bicycle lanes with 10' travel lanes, no parking, remove existing striping.		\$ 17,200.00	LFUCG
7.13 Patterson Drive; Restripe bike lanes	Mid term	\$ 5,000	UK
7.14 Hilltop; Sign bike route	Short term	\$ 2,400	UK
7.15 Woodland; Remove parking, stripe bike lanes	Mid term	\$ 8,000	LFUCG
7.16 Columbia Drive; Add traffic calming, sharrow	Long term	\$ 156,300	UK
7.17 Hospital Drive; Sign bike route	Mid term	\$ 2,400	UK

Recommendation	Implementation Timeline	Cost <i>(of construction only for facility improvements)</i>	Prime Responsibility
7.18 University Drive (Hilltop to Cooper); Stripe bike lanes and on-street parking	Short term	\$ 8,000	UK
7.19 University Drive (Cooper to Alumni); Widen existing path and build new shared use path	Mid term	\$ 45,400	UK
7.20 Alumni Drive (University to Nicholasville). Follow plans to add bike lanes.		Funded	
7.21 Cooper Drive; Add median strip and stripe bike lanes	Long term	\$ 173,500	UK would be responsible
7.22 Cooper Drive (Sports Center Drive to Tates Creek); Designate as bike route. 2500 feet of roadway, signs every 500', sharrow (BLOS = D).		\$ 7,200	
7.23 Waller Avenue (Limestone to railroad); Stripe bike lanes. 1,650 feet, restripe as 5' bicycle lanes with 10' travel lanes, no parking- remove existing striping.		\$ 14,750	LFUCG
7.24 College Way (Alumni to Cooper); designate as bike route. 3200 feet of roadway, signs and sharrow every 500'.		\$ 7,680	UK
7.25 Sports Center Drive (Cooper to Hilltop); designate as bike route. 2200 feet of roadway, signs and sharrow every 500'.		\$ 5,280	UK
7.26 Rosemont Garden (Nicholasville to railroad); designate as bike route. 2475 feet of roadway, signs and sharrow every 500'.		\$ 5,940	LFUCG
7.27 Rosemont Garden (railroad to Southland); Stripe bike lanes. Stripe 2200 feet of roadway with bike lanes, signs and markings every 500 feet.		\$ 9,680	LFUCG
7.28 Tates Creek (Alumni to Landsdowne); Stripe bike lanes. Stripe 5000 feet of roadway with bike lanes, signs and markings every 500 feet.		\$ 22,000	LFUCG
7.29 Alumni (Tates Creek to Chinoe); upgrade bike route facilities. 3,200 feet, sharrow and signs every 500'.		\$ 7,680	LFUCG
7.30 - 7.31 Option 1- University Court to Shady Lane; Sign bike route, create bridge over drainage	Long term	\$ 91,440	UK (\$50,000 applied for)
7.30 - 7.31 Option 2- University Court to Shady Lane; Build new trail through Arboretum	Long term	\$ 48,317	UK (\$50,000 applied for)
7.32 Glendover (Shady Lane to Bellefonte); Designate as bike route. 3800 feet, signs every 500'		\$ 3,040	LFUCG
7.33 Funkhouser; Stripe bike lanes or sharrow	Short term	\$ 2,600	UK
7.34 Library; Stripe bike lanes or sharrow	Short term	\$ 2,200	UK
7.35 Virginia Ave/KY Clinic; Stripe bike lanes and create pedestrian crossing at Limestone.	Mid term	\$ 1,800	LFUCG

Recommendation	Implementation Timeline	Cost (of construction only for facility improvements)	Prime Responsibility
7.36 Huguelet (Rose to University); Stripe bike lanes. Stripe 1,000 feet of roadway plus four symbols.		\$ 3,600	UK
7.37 Red Mile (Unity to Versailles); Designate as bike route. 6100 feet symbols and signs every 500 feet.		\$ 14,640	LFUCG
7.38 Administration Drive; Sign bike route	Mid term	\$ 2,000	UK
7.39 Limestone and Upper (Scott to Winslow); Stripe bike lanes		\$ 3,600	LFUCG
7.40 Scott Street (Limestone to Broadway); Add bike lanes. 1300 feet of bicycle lanes with 6 markings		\$ 5,000	LFUCG
7.41 Limestone; Widen sidewalk and/or build separate path	Long term	\$ 60,633	LFUCG/UK
7.42 Alumni Drive (from University to end of existing path to Limestone); Build new shared use path, remove parking spaces in Stadium lot	Mid term	\$ 72,710.00	Possible State + federal sources channeled through LFUCG
7.43 Young Library path; designate as shared use	Short term	\$ 3,480.00	UK
7.44 - 7.46 Kastle Hall and King Library path; Widen path, stripe dedicated bike lanes	Mid term	\$ 13,633.33	UK
7.47 Memorial Hall path; Stripe dedicated bike lanes	Short term	\$ 1,400.00	UK
7.48 Business and Economics path; Stripe dedicated bike lanes and build new path	Mid term	\$ 12,600.00	UK
7.49 Anderson Hall path; Widen and realign pathways	Long term	\$ 20,250.00	UK
7.50 TH Morgan path; Designate as shared use	Mid term	\$ 6,300	UK
7.51 Create shared-use path to Montclair Drive	Long term		UK
Intersection Crossings			
8.2 Create improved crossing facilities for Rose Street at Funkhouser	Short term	\$ 15,000	LFUCG
8.1 Employ new design strategies to improve crossing conditions	Mid term		UK/LFUCG