



# Parking Strategy

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January 9, 2019

# Parking Strategy

## Background

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### **University Board of Overseers Visiting Committee Review of Parking 2015**

Focused on structural deficit, found parking fees 179% below market and recommended retaining expert assistance.

### **Walker Parking Consultants 2017**

Engaged to follow up on Overseers work and completed a review containing over 70 recommendations.

### **Short Term Actions Taken in 2018**

Address urgent issues including PCI compliance, failing equipment and loss of parking to construction activity

### **Parking Strategy Task Group**

Convened 2018 to consider previous studies and set strategic direction

# Parking Strategy

## Task Group

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Mark Watkins, Business Services

Gary Becker, Parking and Transportation

Robert Brawner, Athletics

Oscar Chavez, Campus Police

Wyatt Harris, Student Government Association

Skip Hurley, Staff Senate

Bob Knaster, Business Services

Tim Moore, Student Affairs

Keith Sherman, University of Louisville Foundation

Enid Trucios-Haynes, Faculty Senate

# Parking Strategy

## Issues

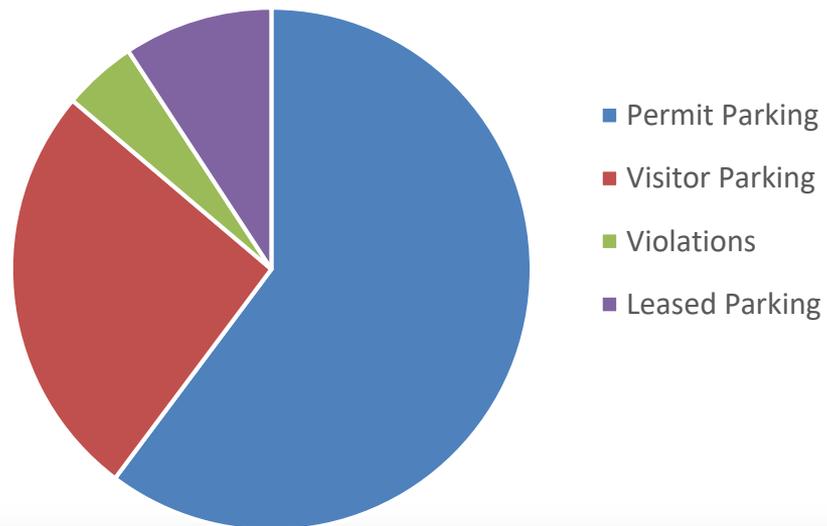
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- Constrained Parking
- Zero Budget for Operational and Deferred Maintenance
- Limited Availability for Visitors and Events
- Decreasing Proximity Increases Safety Issues
- New Technology and License Plate Recognition
- Parking Assignment Efficiency (Colors, Zones, Lots, Spaces)
- Transportation and Shuttle Services

# Parking Strategy

## FY 2017-18 Revenue Sources

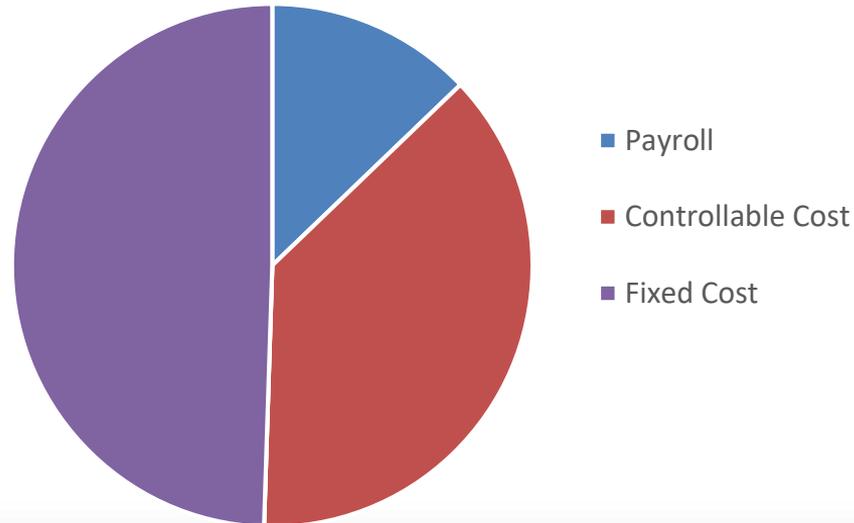
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# Parking Strategy

## FY 2017-18 Expenses

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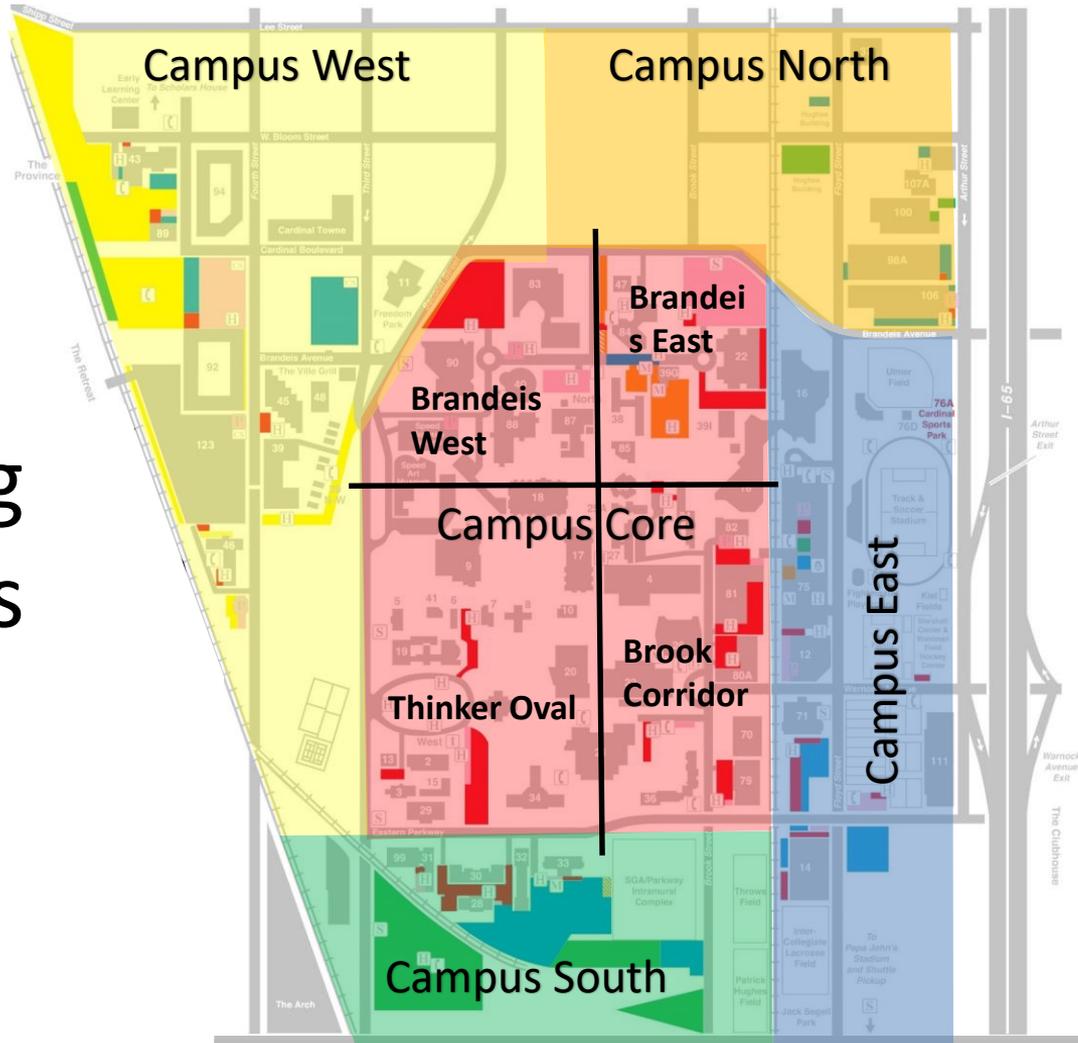
# Parking Strategy

## Recommendations

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1. Budget and Plan for New Parking
2. Add Maintenance to the Parking Budget
3. Charge for All Visitor Parking
4. Implement LPR Enforcement
5. Promote Transit Services and Cross Parking
6. Add Transportation Services, Augment Cameras and Lighting
7. Implement Zone Based Parking Permits
8. Introduce New Services to Improve the Customer Experience

# Parking Zones





# Parking Strategy

**Questions?**

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Thank you!

**Report of**  
**UofL Parking Strategy Task Group**  
**July 30, 2018**

***Introduction***

The Parking Strategy Task group consisting of representatives from Student Government, Faculty Senate, Staff Senate, Student Affairs, University of Louisville Foundation, Athletics, Police, Business Services and Parking tasked with developing a long-term direction to ensure parking services keep pace with University growth.

***Background***

A Visiting Committee commissioned by the University Board of Overseers in January of 2015 to perform a review of parking reported their findings to the University in February of 2017. Their work focused on a structural deficit reported parking fees 179% below market and concluded the number and complexity of issues indicated the assistance of an expert resource would be prudent. The full report is Appendix A.

Walker Parking Consultants were engaged in 2017 to perform a thorough evaluation of parking and transportation infrastructure; technology; practices, policies and procedures; assignment strategies; rates, fees and fines; and accessible parking. This review contained over 70 detailed recommendations with the most impactful involving revenue generation, demand management and assignment plans to maintain the resource while improving sustainability, efficiency and safety. This report is Appendix B.

A number of actions implemented in 2018 addressed immediate issues of failing equipment, PCI compliance and the elimination of parking spaces for construction projects. These actions, carefully planned to align with themes identified by the Visiting Committee, Walker Parking Consultants and long-term strategic direction are contained in Appendix C.

The Parking Strategy Task Group were convened to consider all of this information and set strategic directions that could serve as a compass to guide parking decisions for the future.

***Task Group Members***

Mark Watkins, Associate Vice-President, Business Services  
Gary Becker, Director Parking and Transportation Services  
Robert Brawner, Assistant Athletic Director Operations and Facilities  
Oscar Chavez, Sergeant Campus Police  
Wyatt Harris, Student Government Association Services Vice-President  
Skip Hurley, Staff Senator and Facilities Coordinator JGB Cancer Center  
Bob Knaster, Executive Director Business Services  
Tim Moore, Assistant to Vice Provost Student Affairs  
Keith Sherman Interim Executive Director and COO University of Louisville Foundation  
Enid Trucios-Haynes, Faculty Senator and Professor, Brandeis School of Law

## **Key Issues**

The Task Group identified and prioritized seven strategic themes critical to future success.

### **1. Constrained Parking Assets**

Demand for parking is increasing as the number of students, faculty and staff grow while construction projects displace existing parking lots and the surrounding community consumes or constrains on-street parking. Redirecting vehicles to the stadium can provide short-term relief but growth will ultimately be constrained by parking.

### **2. Operational and Deferred Maintenance**

Maintenance is needed to realize full value from the enormous investment in structures and surface lots, prevent premature deterioration of structures, preserve the functionality of parking access and revenue control systems, ensure the integrity of credit card systems, repair surfaces, signage, lighting, maintain cleanliness and provide a safe and efficient operation.

### **3. Visitor and Event Parking**

Transforming parking spaces into productive assets to produce revenue around the clock addresses budgetary demands while simultaneously mitigating the impact of these needs on permit holders. Current practice provides free parking for certain guests and events that occur during the evening and on weekends. The Task Group endorses Walker Parking Consultants recommendation to charge for all parking and acknowledges their observation this does not always mean the end user pays. Host departments may choose to pay for their visitors to park.

### **4. Proximity and Safety**

Moving parking facilities farther away from the center of campus magnifies safety and security needs, as more aggressive action is required to provide secure storage of vehicles and property along with safe passage in, around, to and from the facility and the campus.

### **5. New Technology and License Plate Recognition**

Technology advances such as License Plate Recognition are effective tools for enforcement and can increase productivity by as much as 400% compared to an officer on foot and eliminate the need for permits. Gated areas still require a method of access as LPR equipment still requires human intervention when a clear view of the plate is not possible. Improvements in technology that automate and/or accelerate actions required to manage utilization of the facilities can drive down operating cost but will require significant changes to policies and practices.

### **6. Parking Zones**

Permits issued by lot or zone allows precise management of spaces and yields a more satisfying experience for parking patrons. Current practice involves dividing spaces in almost every area of campus among various color-coded permits. Patrons may park in any lot as long as spaces designated for their permit color are available. This practice creates a false perception of limited availability as employees and students crowd into the most desirable areas.

### **7. Shuttle Service**

As the distance between the parking lot and typical campus destinations exceeds one mile considerations of employee and student time, effort and personal safety traveling to and from their vehicle, particularly after dark, dictate provision of transportation.

## Conclusions

The demand for safe, secure and convenient parking options is growing in a dynamic and changing environment with rapidly increasing pressure from university and community development. During the seventies and eighties demolition of industrial sites awaiting construction of new buildings and athletic fields provided vast expanses of gravel parking that appeared to be a virtually limitless resource with little or no cost for maintenance.

In contrast, today new residents of both campus housing and the surrounding community create exploding demand for a limited number of spaces in parking structures, paved surface lots and on the neighborhood streets. Structured parking requires significant investment for both construction and maintenance. Ensuring the most efficient and effective utilization of current assets while simultaneously preparing to budget, plan and build new assets can prevent parking from inhibiting growth.

Other variables in transportation technology as seemingly distant as autonomous vehicles or as familiar as ride sharing will also influence the future of parking. Anticipating and planning for dynamic, growing need for service will be critical, as developing new assets will require time and resources.

The current parking rate structure also results in revenues that are not sufficient to meet expenses. The combination of sub-market rates and a structural deficit indicate a need to increase revenue if parking is to operate as a self-sufficient auxiliary enterprise and meet even the currently desired level of service.

## Recommendations

### Recommendation 1: Budget and plan for new parking

Budget for future development of new parking assets near the campus core. Creating new surface lots and/or upgrading surface lots to structured parking are the only ways to add parking near campus. A “sinking fund” as recommended in the Walker report is needed to accomplish this construction, as revenue generated by a garage is not sufficient to pay for the garage. This fund would be comprised of the current cash balance and any surplus realized from operations.

Parking Revenue and Expenses	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
Permit Parking	\$3,288,733	\$3,487,388	\$3,674,375	\$3,812,514	\$3,955,635	\$4,103,911	\$4,257,524	\$4,416,660	\$4,581,513	\$4,752,282	\$4,929,173
Visitor Parking	\$1,413,689	\$1,518,505	\$1,548,875	\$1,579,853	\$1,611,450	\$1,643,679	\$1,676,552	\$1,710,083	\$1,744,285	\$1,779,171	\$1,814,754
Violations	\$249,565	\$253,312	\$258,378	\$263,546	\$268,817	\$274,193	\$279,677	\$285,270	\$290,976	\$296,795	\$302,731
Leased Parking	\$505,992	\$562,200	\$618,420	\$618,420	\$630,788	\$630,788	\$643,404	\$643,404	\$656,272	\$656,272	\$669,398
<b>Total Revenue</b>	<b>\$5,457,979</b>	<b>\$5,821,405</b>	<b>\$6,100,048</b>	<b>\$6,274,333</b>	<b>\$6,466,689</b>	<b>\$6,652,571</b>	<b>\$6,857,157</b>	<b>\$7,055,418</b>	<b>\$7,273,046</b>	<b>\$7,484,520</b>	<b>\$7,716,056</b>
Payroll	\$701,626	\$741,696	\$756,530	\$771,660	\$787,093	\$802,835	\$871,692	\$889,126	\$906,908	\$925,047	\$943,547
Controllable Cost	\$2,053,471	\$2,377,529	\$2,615,108	\$2,781,517	\$2,957,515	\$3,135,269	\$3,266,286	\$3,392,977	\$3,465,611	\$3,540,246	\$3,616,941
Deferred Maintenance	\$0	\$100,000	\$225,000	\$250,000	\$350,000	\$400,000	\$450,000	\$500,000	\$500,000	\$500,000	\$500,000
Fixed Cost	\$2,699,830	\$2,694,525	\$2,699,119	\$2,696,036	\$2,698,053	\$2,695,060	\$2,698,532	\$2,365,620	\$2,367,732	\$2,368,596	\$2,367,757
<b>Total Expenses</b>	<b>\$5,454,927</b>	<b>\$5,813,750</b>	<b>\$6,070,757</b>	<b>\$6,249,214</b>	<b>\$6,442,662</b>	<b>\$6,633,164</b>	<b>\$6,836,509</b>	<b>\$6,647,724</b>	<b>\$6,740,252</b>	<b>\$6,833,888</b>	<b>\$6,928,246</b>
Operating Surplus/Deficit	\$3,052	\$7,655	\$29,291	\$25,119	\$24,027	\$19,407	\$20,648	\$407,695	\$532,794	\$650,632	\$787,811

Identify and prioritize potential sites as part of the master planning process based on projected demand for parking and ability of the site to generate revenue to offset costs of construction and maintenance.

## ***Recommendations (continued)***

### ***Recommendation 2: Add Maintenance to the Parking Budget***

Address immediate needs for access and revenue control equipment (gates) in year one, then the lot surfaces and security equipment in years two and three. Add operational and deferred maintenance as a line item when developing the parking budget. This cost should be an integral component of visitor and permit parking rates as well as fines and fees.

### ***Recommendation 3: Charge for All Visitor Parking***

Transform all parking spaces into productive assets that produce revenue around the clock to address budgetary demands while simultaneously relieving permit holders of the full impact of these demands.

The Task Group endorses Walker Parking Consultants recommendation to charge for all parking and acknowledges their observation this does not always mean the end user pays.

Host departments may choose to pay for their visitors to park by providing an account number when placing a reservation for Information Center spaces.

### ***Recommendation 4: Implement LPR Enforcement***

Acquire LPR equipment, build the required database of license plate numbers, and associate with conventional permits to streamline enforcement. Continue to appraise capabilities of LPR for access with the goal of eliminating the annual expense of printing permits.

A related recommendation to address new technology is for the Parking Office to collaborate with the Sustainability Office to monitor, evaluate and promote transportation technology such as ride sharing, transit, cycling, electric bikes and autonomous vehicles that may moderate the demand for parking.

### ***Recommendation 5: Promote Transit Services and Cross Parking***

More aggressively market transit services as well as the ability of permit holders to cross-park in campus lots during periods of low demand when transit services are not available. Campus parking becomes plentiful on evenings, weekends, holidays, summer and winter break when class is not in session.

Encourage increased use of the stadium parking option or utilizing transit, as a commuting option will reduce pressure on limited campus assets during periods of peak demand. Monitor and adjust shuttle service quarterly to maintain reasonable service levels.

### ***Recommendation 6: Add transportation, security cameras and lighting***

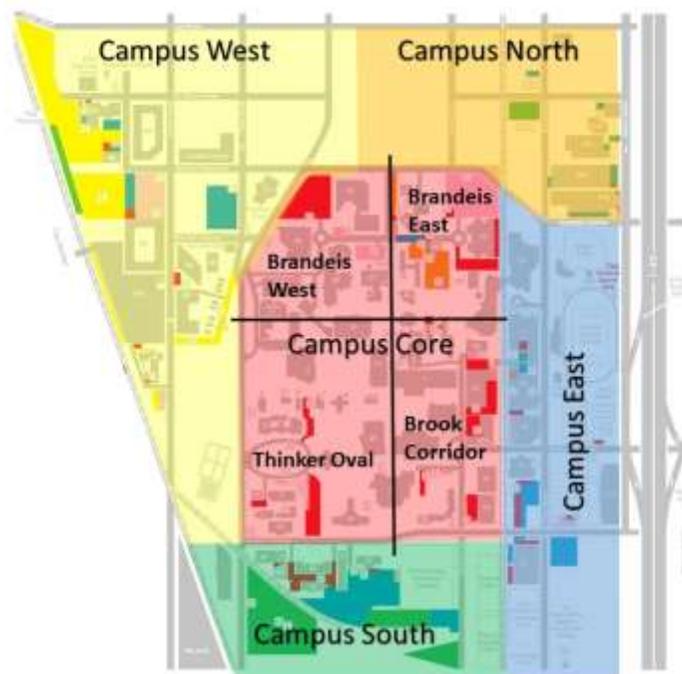
Implement SGA proposal for a late night extension of shuttle service to provide secure transportation to and from parking facilities after TARC service ends. An application driven on-demand ride sharing service optimizes efficiency by allowing multiple users to share a single vehicle as it travels to and from various destinations. The Parking and Transportation Office will manage this service through an outsourcing arrangement. Evaluate lots to ensure adequate lighting and conspicuous security cameras are present. Parking has budgeted \$100,800 to provide late night transportation dubbed the Cardinal Loup by SGA.. The Parking Office and University Police will compare parking habits and camera coverage and lighting levels to determine where improvements need to occur. Outdoor cameras start at approximately \$6,000 each to install including network and power. Lighting depends on the amount of improvements required but starts just under \$1,000 to upgrade an existing fixture from induction to LED technology that will increase light output while reducing energy consumption.

**Recommendations (continued)**

**Recommendation 7: Implement zone based parking permits**

Reduce reserved spaces from over 700 to less than 25 and create reserved lots that guarantee patrons a parking space in the desired area without reserving a specific space. Reserving spaces for individual use requires treating these spaces as full even when the permit holder is sick, on vacation, at a meeting or traveling for business. Creating reserved parking zones could make approximately 200 more spaces available in the campus core while ensuring lots are never full.

Allocate reserved spaces only to positions, not the person in that position. Appointments such as President, Provost, Dean or Athletic Director would change hands whenever the position changes from one incumbent to the next.



Assign color based permits such as Blue and Yellow to a specific lot or zone to reduce crowding, guarantee the ability to find a space and create a more satisfying experience for patrons.

**Recommendation 8: Introduce new services that improve the customer experience**

Develop concierge service for car wash, oil change and similar time saving enhancements to improve the user experience. Sell memberships to offset management cost and pass through actual cost of service to end user. Issue an RFP to identify a vendor to pick up cars, perform services and return by end of day or agreed upon time. Add event services including valet and shuttles to transport visitors from parking to SAC and other campus locations

## ***Appendices***

The electronic version of this document contains hyperlinks to PDF versions of the appendices. The print version contains a printed copy of each document.

Appendix A

[Report of the UofL Overseers Visiting Committee on Parking](#)

Appendix B

[Parking System Study by Walker Parking Consultants](#)

Appendix C

[Short Term Parking Action Plan](#)

DRAFT

## **Report of U of L Visiting Committee on Parking**

I. Introduction – The Visiting Committee on Parking (“VC”) has been at work since late January 2015 in the effort to review and analyze the current parking operation for the purpose of making recommendations for improvement to the Board of Overseers and ultimately to the President’s Office.

II. Background - In January 2014, a report was delivered to the Provost and the Budget Director. This report contained recommendations to deal with the structural deficit inherent in the 620 Garage bond debt (discussed below).

The outlined recommendations included:

- Parking Permit Fee Increases
- Increase in Hourly Pay Parking
- Renegotiation of University Medical Center surface parking lot leases
- “Pay-and-park” at the new Student Recreation Center

With the exception of the “pay and park” recommendation, these recommendations were not adopted by the University administration.

There is ample evidence to conclude that parking permit fees are below market. There has not been a fee increase since 2011/2012. The report referenced above showed that current permit fees are 179% below market. Sixteen benchmark institutions were included in the study.<sup>1</sup>

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<sup>1</sup> The 16 institutions were SUNY – Buffalo, SUNY – Stonybrook, Temple University, University of Alabama at Birmingham, University of California – Irvine, University of Cincinnati – Main Campus, University of Illinois – Chicago, University of Iowa, University of New Mexico, University of North Carolina – Chapel Hill, University of Pittsburgh – Main Campus, University of South Carolina at Columbia, Virginia Commonwealth University, Northern Kentucky University, University of Kentucky, and Western Kentucky University. There is updated benchmark data as of September 2014. It hasn’t been analyzed, but there is no reason to believe that the comparison of the University’s permit fee structure to the updated benchmark data would have improved.

III. Charge of the Visiting Committee - In communications with the President's Office, the VC was given the charge of reviewing the overall parking operations with a focus on the finances. The VC focused its work on revenue, expenses and efficiencies of the parking operations. The hoped-for outcome is for the parking operations to be profitable and sufficient for the University's users, its students, staff and faculty and, in the case of the health science campus, its patients and their families.

#### A. Appointment of Members of the Committee

An excellent committee was assembled. The members were Jim Allen, Marty Bell, Mike Brown, Charlie Dahlem, Cathy Duncan, Welby Edwards, Steve Gault, Margaret Handmaker, Blake Haselton, John Huber, Tim Mulloy, Sam Rechter and Beverly Wheatley. Bruce Dudley served as chair of the VC.

#### B. Work of the Committee

##### 1) Dates of Meetings

The VC met on January 29, February 26, March 26, May 14, June 18, July 23, August 20 and October 22 in 2015, and April 28 in 2016.

##### 2) Subcommittees and Chairs

Early in the process, two subcommittees were established, Finance and Parking Operations. Mike Brown chaired the Finance Subcommittee and Steve Gault chaired the Parking Operations Subcommittee.

In addition, the two subcommittees met on several occasions. Dudley and Haselton also met twice with Hilliard Lyons representatives to discuss refinancing options for the 2008 bond issue that funded construction of the 620 Muhammad Ali parking garage ("620 Garage").

At the June 18 meeting, the VC invited consulting firms to attend and provide input to assist the VC in its analysis of the parking operations. Three firms responded to the invitation. The firms in attendance were SP +, Walker Parking Consulting and LAZ Parking. The meeting proved worthwhile and many areas of inquiry were revealed and discussed.

The July 23 meeting was called to permit the VC to question and learn from Doreen Wood, who was retiring at the end of July 2015 as the Manager of the University parking operations.

### 3) Assistance from CFO's Office

Harlan Sands and his office provided invaluable assistance. In particular, Melissa Shuter and Mark Watkins accumulated, organized and analyzed voluminous data for the VC's consideration.

## IV. Presentation of Issues

### A. Belknap and Health Science Campuses – Parking Fees

The VC acknowledges the unique differences between the two campuses and that it may be viewed as inequitable by some stakeholders if the parking fees on one campus are increased in order to “subsidize” the parking operations of the other campus.

### B. 620 Muhammad Ali Blvd. Parking Garage

The twenty year tax-exempt bond debt incurred to construct the 620 Garage in 2008 was structurally flawed. Annual bond payments exceeded \$2.3 MM.<sup>2</sup> Usage of the garage is far below projected, and that which is necessary to make the garage fiscally self-sufficient. It is noteworthy, however, that even if the garage were fully utilized by paying users at current rates, it still would generate a substantial annual deficit of \$1.7 MM. Further, if the currently unutilized 700 spaces were leased at the current market rate (\$45/month), only \$378,000 of additional revenue would be generated, not nearly enough to offset the large deficit.

There is available commercial space (6,321 square feet) in the 620 Garage at the corner of Clay and Muhammad Ali, and the VC recommends that leasing efforts begin at the earliest possible time. There is a tenant improvement

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<sup>2</sup> Importantly, in March 2016, the University refinanced debt, including parking related debt, saving \$1.19 million for parking in years 2017-2020 (2017 savings, \$206,185; 2018 savings, \$139,020; 2019 savings, \$139,020; 2020 savings, \$705,942). Debt payments for years 2021-2029 will be unchanged from the original schedule. The calculated net present value savings is \$1.12 MM. With the refinancing, the average annual bond payments are reduced to \$1.9 MM.

allowance fund in the amount of \$440,000 available to build out the space. Along these lines, it should be noted that an additional 200 spaces are anticipated to be sold in 2017/2018 when the Pediatric Building is completed.

The VC understands that the 620 Garage was built in anticipation of the new Veteran's Hospital locating in the downtown medical complex. The Veterans Administration, however, did not choose the downtown site. It is anticipated that the excess parking capacity will exist until further expansion of the medical complex occurs.

The VC has considered the possibility that for-profit and not-for-profit entities might have a need for additional parking capacity, and the VC believes these opportunities must be pursued.

#### C. Other Bond Expense and Direct Parking Expenses.

In addition to the 620 Garage debt, there is other bond debt associated with the Belknap (Floyd Street) and Chestnut Street garages. The University refinanced the outstanding debt in 2003 which was paid off in June 2016. In 2012, the University expanded the Chestnut garage, which has an annual debt service of \$325,000, and the final payment will be in 2023.

The total annual debt service on all three garage projects is \$2.95 MM.<sup>3</sup>

The direct operating expenses of the parking operation total \$2.4 MM. However, there are other parking-related expenses not included in this number that are charged to other areas. These total \$1.4 MM and include, among others, physical plant maintenance (\$550,000), utilities (\$290,000), security including cameras (\$250,000) and capital maintenance (\$90,000). Additionally, there are items in the budget that might not be considered true parking expenses and could more appropriately be allocated to a different budget. A few of these items are the campus TARC route agreements (\$1,001,000), escort program (\$10,000) and Physical Security staffing (\$23,600).

#### D. Management/Operation of Parking Services

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<sup>3</sup> The total annual debt service drops to \$971,385 in 2017 after refinancing of the 620 Garage debt and after the final payment (\$228,000) in 2016 on the original Chestnut Street garage bond debt. The combined debt service will increase throughout the determined schedule. (See attachment – "Combined Debt Service").

The VC considered the best fit among self-operation, contract management, and a concession agreement, but no consensus was reached. These alternatives must be analyzed further with input from the CFO's office and consultation with potential outside consultants and providers of contract management services.

The Ohio State University ("OSU") has entered into a concession arrangement whereby it essentially assigned its parking properties and operations to a for-profit firm for 50 years in exchange for an upfront payment of \$483 MM. When invested, the funds will provide income to fund certain operations that were retained by OSU and to support OSU's academic mission in an environment of declining allocation of public funds to higher education.

The VC did not favor a concession agreement primarily because of the loss of control by the University.

The concession agreement capped parking fee increases to 5% annually for the first 10 years. Following that period, there is no cap.

The CFO's Office prepared a concession agreement analysis in September 2014 to mimic the OSU Agreement. The analysis concluded that the University would derive \$72 MM (compared to OSU's \$483 MM). The \$72 MM would produce \$4 MM annually, but the University would need approximately \$4.3 MM to fund retained operations such as shuttle operations, a concession agreement manager, fleet replacement, debt service and other operating expenses.

This analysis did not assume implementation of increased parking operation revenues before entering into the concession agreement. If various fees were increased, the \$72MM number would increase.

#### E. Parameters of Study

There are a number of very important issues that must be addressed and analyzed in connection with the revenue structure of the parking operation in order to determine its future direction. Some of these are:

- Determine what is "on the table" and what is not in terms of what issues are open to review and analysis.

- Determine where prices and expenses should be relative to peer institutions and the market when appropriate. The VC was not presented with any comparative information concerning costs at peer institutions.
- Determine the revenue/expense goals. Should the parking operations be neutral or profitable? Before the construction of the 620 Garage and issuance of the associated bond debt, the parking operation was profitable and, in addition to providing a maintenance reserve, which is crucial to the physical health of the garages and paved surface lots, the enterprise provided revenue in support of the University's academic mission.
- As the University continues to transition toward a more "residential" campus, determine the projected parking demand and corresponding optimum financial model.
- Determine the preferred parking structure (hunting license versus reserved parking and options in between).
- Determine whether different rates should be charged at different times of day.
- Determine how many times the same parking space can be turned over in a day.
- Determine whether any associated "all in" parking costs should be subsidized by the University.
- Determine future parking demand, high-demand parking areas and lot utilization.
- Determine how best to assess costs- as a fee, for a permit or a hybrid approach. The VC discussed the possibility of adopting a hybrid transportation fee approach as part of student charges, but did not reach a conclusion as to its appropriateness.
- Determine who should bear the cost of parking (faculty and staff or students; or across the board; or other creative solutionf somewhere else).

- Determine if discounts will be provided to specific groups, i.e., patients.
- Determine if parking permits should be priced on a sliding scale based upon University compensation.
- Determine if it is good policy to increase costs to park to encourage use of alternative transportation (cycling and walking).
- Determine how to make access by commuter-students inviting.
- Determine how best to solicit customer feedback.
- Determine appropriate revenue sharing/management agreement with Athletics.
- Determine appropriate operations to debt service ratio (discussed 1.1 to 1.25 ratios).
- Determine appropriate maintenance fund reserve levels.
- Determine capital and long-term facilities plan.

V. Technology Opportunities - The VC has learned that many “opportunities” to leverage technology exist and may be appropriate for U of L. Some of these, no doubt, would be beneficial. Examples are as follows:

- Pay-by-cell for meters and lots
- License plate recognition software (do away with permits)
- Parking meters that indicate when the time expires

(Cincinnati experienced 40% increase in revenue with credit card capable smart meters)

- Lighting upgrades
- Special events -- reservations for click & park that give direction ("flight" experience) – associated marketing revenue opportunity
- Use technology to determine real time space availability

VI. Conclusions and Recommendations - At its June 18, 2015 meeting, the VC voted unanimously to recommend that the University engage a consultant to study the entire parking operation and make recommendations. With the work progress thus far by the VC, it would be pleased to remain involved to receive the consultant's report and to adopt the consultant's recommendations with which it agrees. These recommendations would then be brought to the full Board of Overseers for approval.

It is fair to say that the VC believes there are too many complex and interrelated issues for it to study and that the assistance of experts is necessary. Experts will be able to bring "best practices" to bear at the University. The VC also believes that the 620 Garage bond obligation is such that it will be impossible under the current circumstances, even after the 2016 refinancing, for the parking operation to break even or become profitable until that debt is addressed.

The VC understands the importance of the governance process at the University. Stakeholders will need to be convened at the appropriate time to consider the recommendations made by the VC and adopted by the Board of Overseers (assuming that such adoption occurs).

Notwithstanding the VC's opinion that an outside consultant is necessary, there are a number of items that it believes must be implemented. Those are:

- Parking permit fees must be increased incrementally over a number of years.

- A tenant must be procured for the 620 Garage first floor commercial space, and a local real estate broker should be engaged to spearhead this effort. In addition, the University should explore the possibility of converting Clay Street from one-way to two-way.
- The University must seek potential for-profit or not-for-profit users of the excess 620 Garage capacity.
- The University must establish a reserve fund to repair and maintain its surface lots and parking garages.
- The University must consider implementing technology upgrades that reduce costs while generating more revenue from the parking operation.

We trust this report is adequate and encourage you to contact us in the event the Visiting Committee on Parking can be of further assistance in the future.

Bruce K. Dudley  
Bruce K. Dudley, Chairman

Feb. 10, 2017  
Date

# COMBINED DEBT SERVICE

## 620 GARAGE

	2008 Debt (Original)	2015 Debt Refinanced	2016 Debt Refinanced
2017	\$ 2,367,907.00	\$ 850,171.00	\$ 643,385.00
2018	\$ 2,366,007.00	\$ 850,171.00	\$ 711,150.00
2019	\$ 2,368,107.00	\$ 850,171.00	\$ 711,150.00
2020	\$ 2,364,007.00	\$ 2,368,408.00	\$ 1,662,466.00
2021	\$ 2,368,408.00	\$ 2,364,794.00	\$ 2,364,794.00
2022	\$ 2,364,795.00	\$ 2,366,955.00	\$ 2,366,955.00
2023	\$ 2,366,957.00	\$ 2,364,782.00	\$ 2,364,782.00
2024		\$ 2,367,820.00	\$ 2,367,820.00
2025		\$ 2,365,620.00	\$ 2,365,620.00
2026		\$ 2,367,731.00	\$ 2,367,731.00
2027		\$ 2,368,594.00	\$ 2,368,594.00
2028		\$ 2,367,756.00	\$ 2,367,756.00
2029		\$ 2,364,769.00	\$ 2,364,769.00
<b>Total Debt Payment</b>		<b>\$ 26,217,742.00</b>	<b>\$ 25,026,972.00</b>
<b>Average Annual Debt Payment</b>		<b>\$ 2,016,749.00</b>	<b>\$ 1,925,152.00</b>

### UofL Board of Overseers Visiting Committee on Parking

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\* Chair, Overseers Visiting Committee

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**WALKER**  
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August 25, 2017  
Bob Knaster, Executive Director, Auxiliary Business Services  
University of Louisville  
Louisville, KY 40292

Re: *University of Louisville  
Parking System Study  
Walker Project #13-3257.00*

Dear Bob:

Walker Parking Consultants is pleased to submit this final Parking System Study for the University of Louisville.

This document is intended to assist the University of Louisville with decisions related to parking and transportation planning, including decisions regarding redistributing parking demand, using existing physical assets more efficiently, and adjusting fees and fines to assure that University Parking and Transportation Services can function as a self-sustaining auxiliary service now and into the future. The information provided in this document includes our findings and projections based on data provided by the University of Louisville, Walker's own data collection, analysis, and professional assumptions discussed herein.

On behalf of my colleagues John Dorsett and Elspeth McGarvey, I want to express our appreciation of the opportunity to be of service to you and the University on this important project. We are happy to accept one set of consolidated comments in order to take this report from its draft to final form. Please do not hesitate to contact us with any questions or comments.

Sincerely,

WALKER PARKING CONSULTANTS

David J. Lieb  
Consultant/ Asst. Project Manager

Enclosure

cc: John W. Dorsett, AICP, CPP; Senior Vice President, Walker Parking Consultants  
Elspeth McGarvey, Analyst, Walker Parking Consultants



PARKING SYSTEM STUDY

# UNIVERSITY OF LOUISVILLE

LOUISVILLE, KENTUCKY

Prepared for:

THE UNIVERSITY OF LOUISVILLE

August 25, 2017



**WALKER**  
PARKING CONSULTANTS



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EXECUTIVE SUMMARY



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### EXECUTIVE SUMMARY

UofL's University Parking and Transportation Services (PTS) auxiliary manages approximately 10,147 spaces at both the Belknap and Health Sciences Center (HSC) campuses. The auxiliary operation is intended to generate enough revenue to support services without Commonwealth or tuition funds. However, PTS is currently operating at a deficit. After a review of PTS, Walker's recommendations were developed with this situation in mind. At the same time, the recommendations also place significant focus on sustainability, efficiency, and safety.

Among the recommendations, Walker counsels using pricing as a lever to balance supply and demand, to reduce the parking crunch in the most desirable areas by redistributing some demand to less-utilized parking areas near PJCS, on the roof of the 620 Garage, and potentially in the "silos" area. Reducing competition for the most-desired spaces, can free up



some of the most convenient parking for transient use—campus guests and visitors, including potential students and their families.

While higher parking fees are an important aspect of Walker's suggestions, our approach emphasizes *choice and balance*—offering each demographic more- and less-convenient parking alternatives (with commensurate pricing), transportation alternatives (including subsidized transit and discounted carpooling), and the support services designed to make the use of alternative transportation viable for more people. This multipronged approach is intended to make PTS financially sustainable, support environmental initiatives, reduce congestion, and increase cyclist, pedestrian, and motorist safety in core campus areas.

It is critical to note that the strategies that Walker is recommending are synergistic and are unlikely to succeed in isolation. Specifically, simply raising fees without providing alternatives is unlikely to be effective in changing behaviors—it will likely generate ill will, while failing to provide a higher level of service. Other means of enhancing revenues are also explored, including increased parking citation rates, a student transportation fee, and funding from the employee benefits overhead.

Other recommendations focus on potential changes to policies at PTS, including opening remote parking to overnight parking, to allow students to store vehicles away from the campus core. Parking enforcement can be enhanced by an ambassadorial component, which

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measures success by customer interactions rather than by tickets written, and helps users park in such a way that encourages safety.

A five-year financial projection shows that by applying Walker's recommendations, UofL can operate the parking auxiliary so that it can support operations, maintenance, and debt service, shuttle service, and can generate capital for future maintenance, construction, and equipment purchases.

The report consists of: an introduction; a description of the study area; a narrative describing project methodology; descriptions of existing and projected conditions; Walker's recommendations; five-year financial projections; and, appendices detailing peer benchmarking, parking enforcement as a customer service function, and transportation demand management programs and support services. The "Recommendations" chapter contains over 70 detailed recommendations broken down into several sections, ranging policies, to user assignment strategies, to fees and fines, to TDM and technology, visitor parking, and auditing.

### **Some of the recommendations that Walker considers the most impactful:**

- Enhance revenue to keep University Parking and Transportation Services self-sustaining; recommendations include various fee and fine adjustments
- Provide a parking and transportation system based on choice.
- Redistribute parking demand, through right-priced parking
- Manage parking more closely, by lot or zone, rather than by color
- Replace outdated parking equipment; consider LPR technology to simplify, improve customer service, and integrate functionality
- Use freed up central campus space to better accommodate visitors
- Charge for all parking (note: this does not always mean that the end-user pays)
- Continue to enhance demand management programs to reduce need for future additional parking infrastructure
- Perform regular internal audits

# INTRODUCTION AND BACKGROUND



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## **INTRODUCTION AND BACKGROUND**

The University of Louisville (“UofL” or “University”) is a state supported research university located in Kentucky’s largest metropolitan area. It was a municipally supported public institution for many decades prior to joining the university system in 1970. The University has three campuses. The 287-acre Belknap Campus is three miles from downtown Louisville and houses seven of the university’s 12 colleges and schools. The Health Sciences Center is situated in downtown Louisville’s medical complex and houses the university’s health related programs and the University of Louisville Hospital. The 243-acre Shelby Campus is located in eastern Jefferson County.

Walker Parking Consultants (“Walker”) has performed a review of UofL’s parking and transportation practices, focusing on the Belknap Campus (“main campus” or “Belknap”) and the Health Science Center (“HSC”). Included in our review are reviews of infrastructure; technology; practices, policies, and procedures; user assignment strategies; rates, fees and fines; and, accommodations for accessible parking. Walker has also provided an assessment of the local market and has made some comparisons with peer institutions.

This study is a thorough evaluation of UofL’s existing parking and transportation conditions. The results have been used to develop recommendations to guide future policy decision making at the University. Among the recommendations are tools for using existing parking and transportation resources more efficiently, and to help bring the parking supply and demand into better balance—for faculty, staff, students, patients, and visitors.

As currently organized, University Parking and Transportation Services (“PTS”) is a University auxiliary operation—intended to provide these services, generate compliance with the rules and regulations, maintain and repair the infrastructure, and balance the capacity with campus needs. As an auxiliary function, the department must generate enough revenue to support these needs without the use of Commonwealth or tuition funds. Currently, PTS is operating at a deficit, with little prospect (given current operating constraints, external to the department) of bringing the budget into balance, without operational change—including the support to adjust parking fees.

Other colleges and universities have been experimenting with different operating models, including: centralized (subsidized) funding; contracting operations/staffing to an outside vendor; allowing an outside operator to privatize the parking; or, even monetizing the parking as part of a public-private partnership (“P3”). In a P3 arrangement, the parking assets are sold to an outside entity for a large, upfront lump sum payment for a defined period of time, usually 30, 50, 75, or even 100 years.

After taking into consideration the campus’ priorities and the University and departmental missions and ethos, Walker does not recommend that the campus pursue a P3 arrangement. Instead, in the report that follows, Walker makes numerous, concrete recommendations to

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improve campus parking and transportation operations that will make it financially and environmentally stable, while continually improving the services provided to the campus community. Overall, Walker's opinion is that if the University exhibits the institutional and financial discipline that would be required to make the parking and transportation options appealing to an outside provider (such as redefining allocation strategies, increasing revenues [fees, fines, etc.], stabilizing finances), then the campus will likely do better to maintain PTS as an internal, auxiliary function. This will require administrative support.

More than simply changing policies and pricing, the exercise in institutional discipline requires supporting the campus community with a balanced set of commuting alternatives, with a range of choices including: pricing, convenience, and alternative commuting strategies. For changes of the magnitude required to bring the system into balance and keep it self-supporting and customer-service focused, it will be critical for the departmental operations to be transparent and well communicated. To these ends, Walker makes recommendations about operational changes and philosophies, and recommends communication and marketing messages and strategies to engage the campus community.

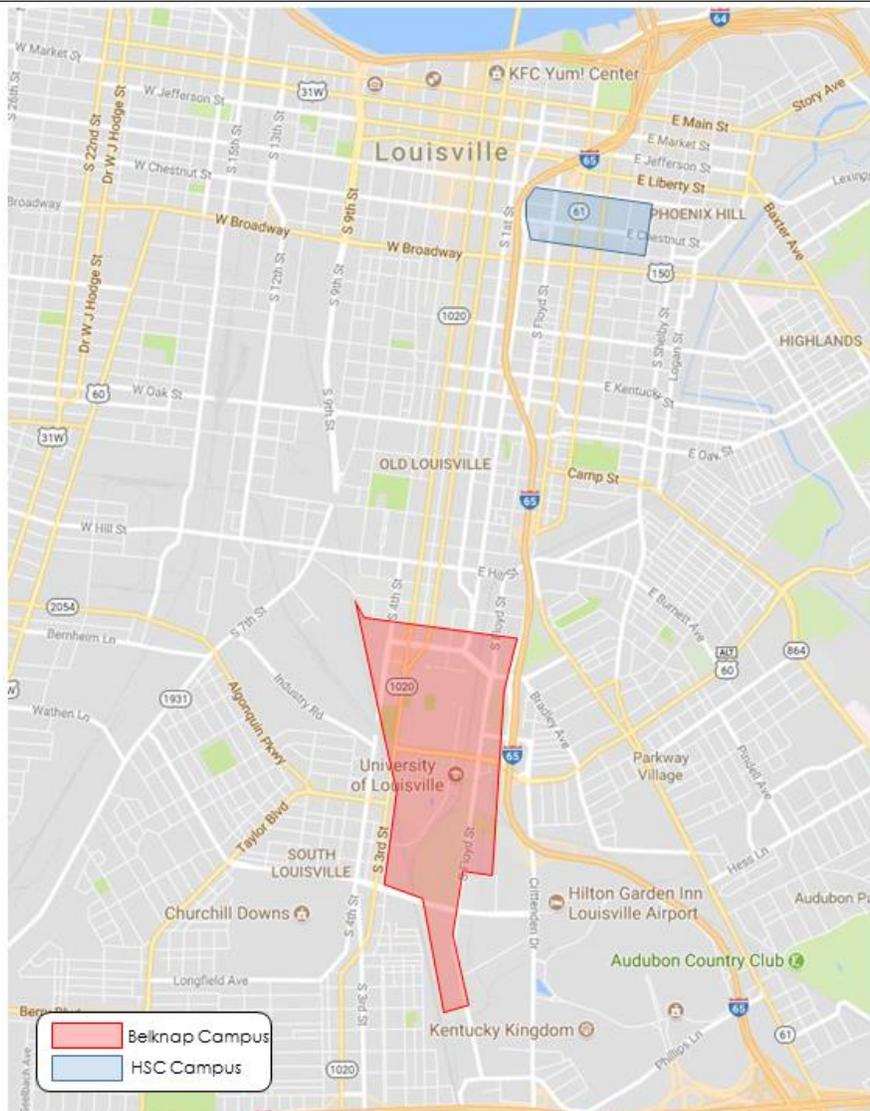
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**STUDY AREA**

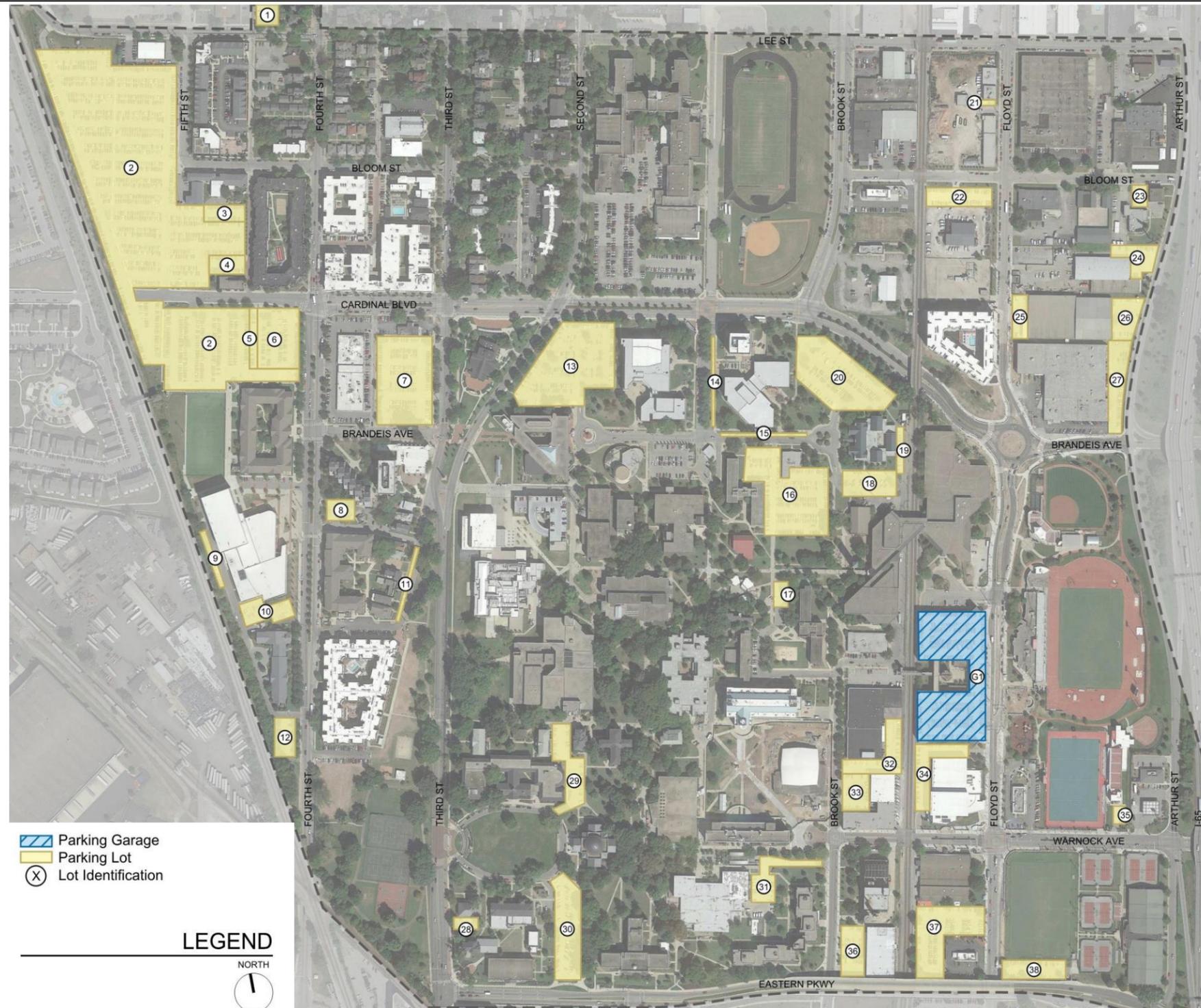
The study area for this project included both the Belknap Campus and Health Sciences Campus (HSC). These campuses are located about two miles apart in urban Louisville, Kentucky. The main, or Belknap, campus is roughly bounded by railroad tracks and S. 3<sup>rd</sup> Street to the west, Central Avenue to the south, South Floyd and Arthur Streets to the East, Lee Street to the north. The HSC is approximately bounded by I-65 on the west, East Gray Street on the south, South Clay Street on the east, and East Muhammad Ali Boulevard on the north. It should be noted that many of the edges are porous—University facilities may spill across the boundaries, or non-University properties may extend into the borders.

Exhibit 1: Map of Study Area



Source: Walker Parking Consultants, 2017

Exhibit 2: Belknap Campus North of Eastern Parkway



Source: Walker Parking Consultants, 2017

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Exhibit 3: Belknap Campus South of Eastern Parkway



Source: Walker Parking Consultants, 2017



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Exhibit 4: Belknap Campus Inventory

#	Lot Name	Designation	Inventory*
1	West Lee St.	Blue	5
2	Chevron Lot	Yellow Green	1,210 49
3	Urban Econ Research	Blue	47
4	UPDC	Red Blue	1 19
5	Bettie Johnson	Blue	22
7	3rd & Brandeis	Blue	160
8	Louisville Hall	Red	5
9	Rec Center West	Yellow	22
10	Minardi Hall	Yellow Red	9 4
11	Unity Place	Yellow	36
12	Billy Minardi North	Yellow	22
13	COB/Music School	Red	190
14	Unitas Tower	Yellow	10
15	Brandeis St.	Blue	7
16	Miller Hall/Red Barn	Yellow	197
17	Threlkeld Hall	Red	3
18	Uclub South	Red	52
19	UClub East	Red	19
20	Uclub North	Red	9
21	Hughes Bldg	Blue	9
22	Bloom St. @ Floyd St.	Green	42
23	DEHS	Blue	11
24	Tow Lot @ Arthur St.	Green	13
25	Inventory Control	Blue	8
26	Univ. Operations	Blue	16
27	Human Resources	Blue	56
28	SPI	Red	9
29	Law School	Red	40
30	Natural Science	Red	103
31	MITC	Red	18
32	Houchens South	Red	34
33	Service Complex	Red	20
34	Natatorium	Red	12
35	Marshall Center	Red	5
36	University Relations	Red	52
37	Thrust Theatre	Red Blue	19 115
38	Bass Rudd Tennis	Red	6
39	Engineering Graphics	Green	618
40	Vogt	Red	1
41	Ernst Hall	Red	10
42	Speed School	Green Red Blue	134 76 222
43	Yum Center	Blue	42
44	Floyd St. @ Hahn St.	Blue	44
45	PJCS North	Purple	1,016
46	PJCS South	Purple	1,471
G1	Floyd St. Garage	Yellow	142
		Green	551
		Blue	48
	Floyd St. Garage North	Red	65
Floyd St. Garage South	Red	6	
<b>TOTAL</b>			<b>7,132</b>

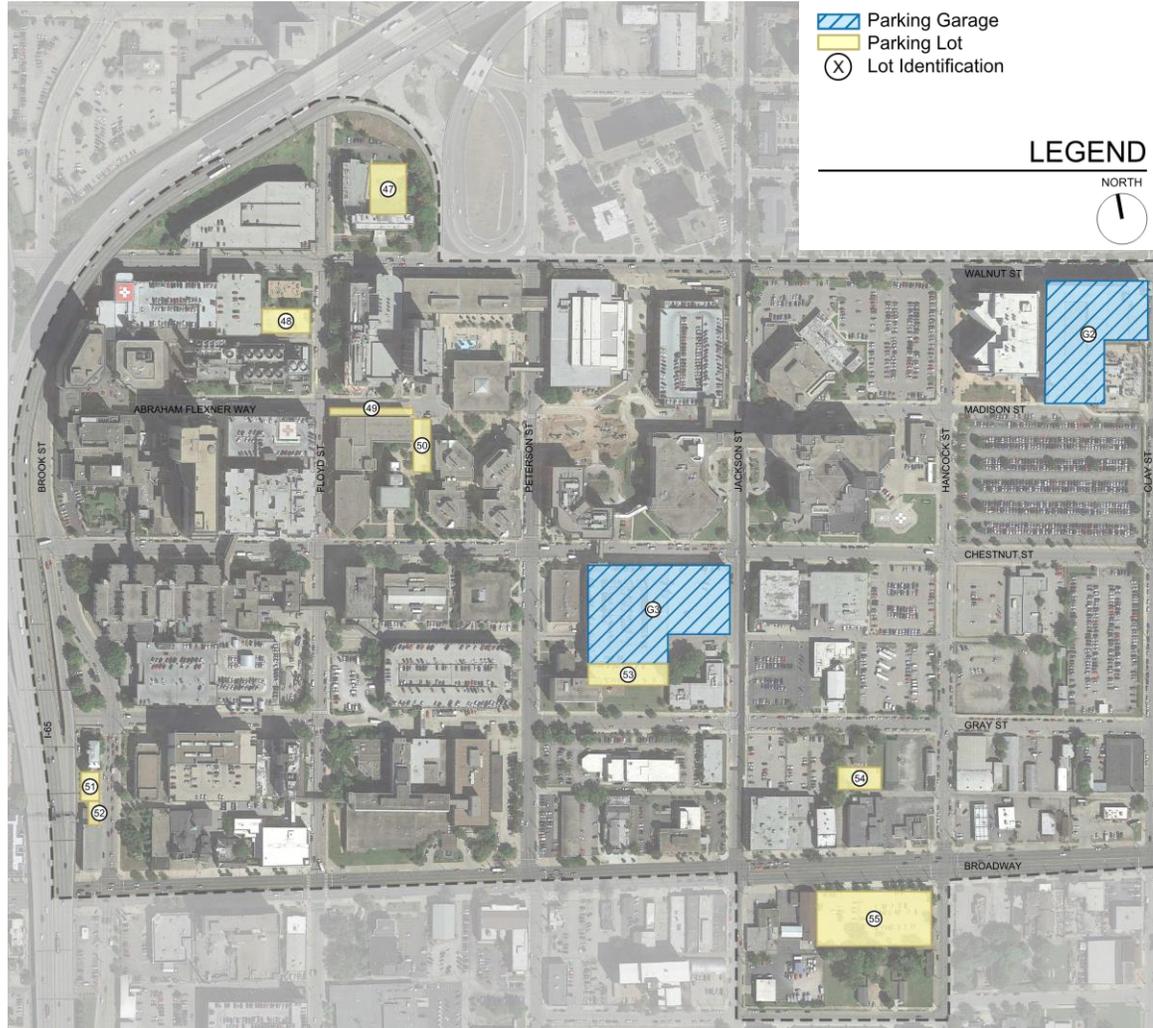
\* Permit spaces only, does not include ADA spaces or aisles, loading, service, reserved for department, etc.

Source: UofL Provided Data, 2017

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Exhibit 5: Map of Parking System: Health Sciences Center



Source: Walker Parking Consultants, 2017

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Exhibit 6: Health Sciences Center Inventory

#	Lot Name	Designation	Inventory*
47	Lion's Eye	Red	8
48	Cardio Research	Red	15
49	Abraham Flexner	Red	1
50	Baxter Building	Red	12
51	Keeney House	Red	8
52	Myers Hall	Green	194
53	MedDent Apartments	Brown	37
54	Gray St. Lot	Blue	14
		Red	10
55	Med Center One	Blue	66
		Red	4
G2	620 Garage	Magenta	1,576
		Red	53
G3	Chestnut St. Garage	Magenta	715
		Red	402
<b>TOTAL</b>			<b>3,115</b>

\* Permit spaces only, does not include ADA spaces or aisles, loading, service, reserved for department, etc.

Source: UofL Provided Data, 2017

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## METHODOLOGY

Regardless of whether we are performing a parking operations review for a large-scale airport, developing a management plan for a city, or addressing supply and demand issues on a university campus, Walker begins every engagement by listening to stakeholders and developing a well-rounded understanding of how the parking system operates, who manages the system, when and where parking problems typically occur, how frequently shortages are observed, how the population and infrastructure will change over the planning horizon, and what strategies have been implemented in the past. Gathering information during the kick-off meeting and through other stakeholder interviews provides an opportunity to understand parking from multiple perspectives, and often sheds new light on problems that may not otherwise be recognized. It also gives the various University departments an opportunity to share information with each other and ensure that a parking plan is able to move forward with an established goal or goals that all parties have vetted. Although it is unlikely that everyone will agree on the topics of parking and transportation, building consensus early among all the stakeholders involved can yield a smoother process and improve the chances of achieving effective change.

Once we have gathered the qualitative background needed to address parking conditions on campus, we perform a quantitative assessment of campus parking and transportation resources. As regards the campus parking inventory and occupancy statistics, the UofL elected to provide Walker with data, rather than having us do the counts. Under “existing conditions,” below, Walker places the parking inventory numbers and estimated parking occupancies—provided by the University—into context.

We tabulated the data provided, and compared the parking demand to the supply to determine occupancy rates by lot and permit type, as well as overall system adequacy. Walker also compared the observed parking demand by user type to the student and faculty populations statistics provided by the University to develop a parking model that can be used to project future parking demand based on growth and development assumptions provided, again by the University. Future parking demand was compared to the projected parking supply and future parking surpluses and deficits are estimated.

After identifying the location and size of any parking shortages, as well as which populations are most likely to experience deficits, we develop strategies to mitigate the parking shortages and better manage the parking system.

# EXISTING CONDITIONS



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## **EXISTING CONDITIONS**

### **PARKING RULES AND REGULATIONS**

The rules and regulations are comprehensive and clear with a few minor typos (including the “vendor parking” section ending in the middle of a sentence). They are prominently available from the University Parking and Transportation Services webpage. The language used is clear, as are expectations, policies, and consequences.

Walker was verbally informed that overnight parking is not currently allowed for holders of purple permits (specifically not permitted at Papa John’s Cardinal Stadium). Walker did not see this limitation listed in the rules and regulations.

Walker’s commentary upon some of the specific policies described in the rules and regulations is expanded upon in the Recommendations section of this report.

### **POLICIES AND PROCEDURES**

UofL displays an industry best practice by providing a training, policy, and procedure handbook for its full-time, part-time, and student staff. The guide is concise yet thorough. A few items noted by Walker are as follows:

- The handbook should be updated to reflect the elimination of the associate director role.
- In the attendance policy, a “tardy” is defined as clocking in 10 or more minutes late. However, the description references the timeclock rounding to the nearest 10<sup>th</sup> of an hour (or six minutes). This means that an employee clocking in just under 10 minutes late will actually show as 12 minutes late—moving the transgression from the acceptable category to being unacceptable per the policy. This can be clarified by setting the “tardy” limit at either six or 12 minutes, rather than ten.
- The section on cash handling is very thorough, but should list actions to take if the balances do not match upon reconciliation. In the Recommendations section, guidelines for best audit practices—to back up these procedures—are detailed.
- UofL is considering moving the dispatch function out of the front office area, to minimize disruptions for both customer service functions and radio operators. Walker supports this idea (see also Recommendations).

### **COMMUNICATIONS AND MARKETING**

The department has a good web presence and an easily-navigable site. Although University Parking and Transportation Services and UofL Sustainability share responsibility for commuting programs, the parking, transportation, and commute green information is presented in a unified and seamless manner on the University Parking and Transportation Services website—providing cohesive messaging.

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**PARKING FEES**

The main source of revenue for UofL Parking and Transportation Services is parking fees. The chart below illustrates the 2016-17 parking fees, sales numbers, and revenue. Data provided by UofL.

**Exhibit 7: FY 2017 Parking Fees and Estimated Revenue**

<b>Belknap Campus</b>	<b>User Group</b>	<b>Annual Price</b>	<b>Permits sold</b>	<b>Revenue</b>
Red	Employees	\$590	861	\$507,990
Blue	Employees	\$281	1,413	\$397,053
Green	Grad Stdts	\$132	1,616	\$213,312
Yellow	Resident	\$150	1,740	\$261,000
Orange	Resident	\$150	435	\$65,250
Purple	Undergrad	\$98	4,016	\$393,568
<b>HSC Campus</b>				
Red	Employees	\$590	329	\$194,110
Magenta	Employees	\$379	743	\$281,597
Jewish Hosp.	Employees	\$379	226	\$85,654
White	Stdts & Employees	\$379	1,474	\$558,646
Blue	Employees	\$281	109	\$30,629
Green	Grad Stdts	\$132	236	\$31,152
Brown	Residents	\$150	32	\$4,800
Handicapped		\$256	256	\$65,536
<b>CURRENT TOTAL</b>			<b>13,486</b>	<b>\$3,090,297</b>

Source: UofL Supplied Data, 2017

**HISTORICAL PARKING FEES**

The 2016-17 parking fees had been stagnant since 2012. FY2018 marks the first parking fee increase in several years—these increases range from 0% - 12% and will generate additional revenues, but they will be insufficient to balance the departmental budget. As a result, the revenues are unlikely to concurrently support all expenses, including: day-to-day operations, debt service, deferred maintenance, and a sinking fund to cover regular, on-going maintenance. It is an extremely positive step that the campus has begun to support rate increases, and vital that it continue, in order to allow the department to be self-sufficient.

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Exhibit 8: Parking Fees: 2007-2018

	FY18	FY12-FY17	FY10-FY11	FY09	FY08	FY07
<b>Red</b>	\$620	\$590	\$562	\$535	\$486	\$463
<b>Chestnut Magenta</b>	\$399	\$379	\$361	\$344	\$313	\$298
<b>620 HSC White</b>	\$379	\$379	\$361	\$126	-	-
<b>Jewish Hospital</b>	\$399	\$379	\$361	\$344	\$313	\$298
<b>Blue</b>	\$296	\$281	\$268	\$255	\$232	\$221
<b>Yellow/Orange</b>	\$169	\$150	\$143	\$136	\$124	\$118
<b>Green</b>	\$149	\$132	\$126	\$120	\$100	\$94
<b>Purple</b>	\$100	\$98	\$93	\$88	\$80	\$78

Source: UofL Supplied Data, 2017

PEER COMPARISON RATES

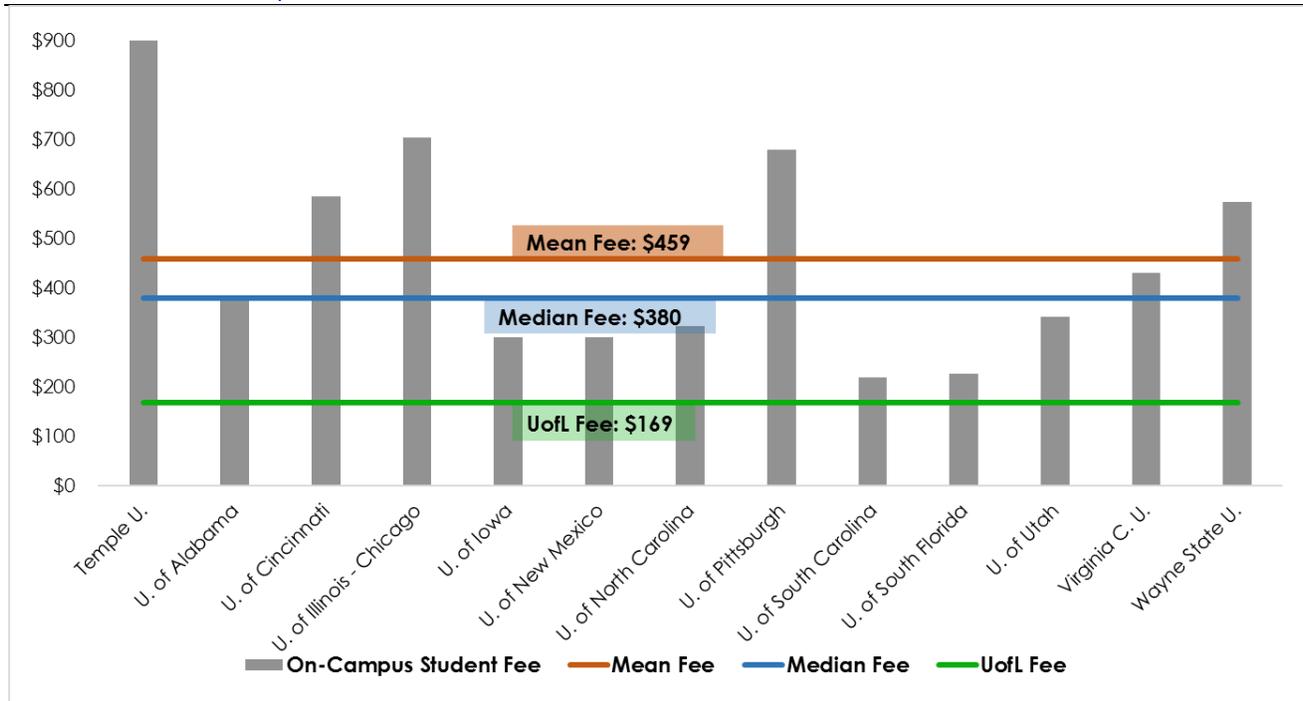
Below is a summary table of UofL's parking rates compared to 11 benchmark institutions (three in-state and eight out of state). Data suggestion that most UofL rates are noticeably lower than its Kentucky counterparts, and significantly lower than out-of-state peers.

Exhibit 9: Comparison of Resident Student Fees

Institution	Reserved Employee (12 mo.)	Employee (12 mo.)	On-Campus Student (9 mo.)	Remote Commuter (9 mo.)
<b>University of Louisville</b>	<b>\$620</b>	<b>\$296</b>	<b>\$169</b>	<b>\$100</b>
<b>Average rate of peers</b>	<b>\$1,276</b>	<b>\$693</b>	<b>\$459</b>	<b>\$292</b>
<b>\$ Difference among all peers</b>	<b>(\$656)</b>	<b>(\$397)</b>	<b>(\$290)</b>	<b>(\$192)</b>
<b>% Difference among all peers</b>	<b>-106%</b>	<b>-134%</b>	<b>-171%</b>	<b>-192%</b>

Source: Walker Parking Consultants, 2017

Exhibit 10: Peer Comparison Fee Rates



Source: Walker Parking Consultants, 2017

The comparison with the local City of Louisville market is even more marked. With hourly-on street rates at \$1.75, and median monthly garage rates at \$110 per month for reserved spaces and \$90 per month for unreserved spaces. Current monthly parking rates (or their equivalent) on the UofL campus range from \$8.33 to \$33.25 for unreserved parking and \$51.67 per month for reserved parking. These fees are well below the local market.

Exhibit 11: Median Local Market Rates

	Monthly (Median)		Transient
	Reserved	Unreserved	
Municipal garages	\$110	\$90	\$2/hr, either \$10 or \$18/day
Private garages	\$115	\$95	\$10/day (median)
Municipal Lots		\$60	\$3/day
Private Lots		\$60	\$5/day (median)
On-street metered: \$1.75/hour			

Source: Walker Parking Consultants, 2017

Exhibit 12: UofL Monthly Rates

	Annual	Monthly
<b>Blue</b>	\$296	\$24.67
<b>Magenta</b>	\$399	\$33.25
<b>White/Jewish</b>	\$379	\$31.58
<b>Red</b>	\$620	\$51.67
<b>Yellow/Orange/Brown</b>	\$169	\$14.08
<b>Green</b>	\$149	\$12.42
<b>Purple</b>	\$100	\$8.33

*Source: Walker Parking Consultants, 2017*

Benchmarking using peer fees can provide some value, however, there are drawbacks as well. For example, comparison institutions may operate their own transit systems, or may have more or fewer (or no) parking structures. It is helpful to have a sense of perspective regarding other operations, and an organization can benefit from introspection, to determine whether it is achieving efficiencies.

More pressing, however, it is important to note that UofL's current rates result in revenues that are not sufficient to meet all expenses (including operations, ongoing maintenance, deferred maintenance, and debt service). The combination of sub-market rates, in addition to the structural deficit, indicate a need to significantly increase parking rates—if UofL is to operate self-sufficiently, and to provide the level of service and quality of facilities to which it aspires.

Fee recommendations can be found in the next section of this report, and a full representation of Walker's benchmarking research can be found in Appendix 1.

**PARKING VIOLATIONS, FINES, AND APPEALS**

Parking fines have been stable since 2007. Now, as parking fees are starting to increase (and UofL is considering future increases to balance the budget), the University should consider increases in order to keep fines commensurate with parking fees.

Most fines double (and the right to appeal expires) if tickets are not paid within seven calendar days of issuance.

Walker believes that UofL is demonstrating a "best practice," by charging a five-dollar administrative fee for denied parking citation appeals, as a way of reducing the number of frivolous appeals. This helps maintain the integrity of the process, while not overburdening the appeals staff and committee.

Walker's suggestions regarding fines, appeals fees, and—perhaps most importantly—collections are discussed in the Recommendation section.

Exhibit 13: UofL Violation Fines

	2006 and earlier	2007 - Present
<b>No valid permit</b>	\$40	\$30
<b>Parked in driving lane</b>	\$20	\$20
<b>Prohibited by sign</b>	\$20	\$20
<b>Area permit does not apply</b>	\$20	\$15
<b>Not within marked space</b>	\$20	\$20
<b>Parked on grass, dirt, sidewalk</b>	\$20	\$30
<b>Red reserved space</b>	\$40	\$60
<b>Prohibited by yellow marking</b>	\$20	\$20
<b>Meter violation</b>	\$20	\$15
<b>Visitor/patient parking only</b>	\$20	\$30
<b>Handicapped space/blocking access ramp</b>	\$100	\$200
<b>Possession lost/stolen permit</b>	\$180	\$180
<b>Owens permit but failed to display</b>	\$20	\$20
<b>Loading zone</b>	\$20	\$20
<b>Forged/altered permit</b>	\$180	\$250
<b>Blocking Handicap access</b>	\$100	\$100

Source: UofL, 2017

PARKING INVENTORY AND ESTIMATED OCCUPANCY

The summarized inventory and averaged occupancy of campus parking, provided by UofL is shown below. Estimated lot-by-lot occupancies are illustrated later in this section.

Exhibit 14: Estimated Occupancy Averages

	Inventory	% Occupied at Peak	Space Full at Peak
<b>Belknap</b>	7,132	80%	5,679
<b>HSC</b>	3,115	71%	2,203
<b>TOTAL</b>	<b>10,247</b>	<b>77%</b>	<b>7,881</b>

Source: UofL Supplied Data, 2017

This reflects permit spaces only, does not include general ADA spaces or aisles, loading, service, reserved for department, or other special designations. No parking lot occupancies were counted by Walker as a part of this study—the occupancies are estimates provided by UofL, based on experience, familiarity, and observation. The following heat maps show occupancy percentage lot-by-lot, and are intended to illustrate a typical peak demand time (e.g., 2:00 p.m. on a Wednesday, during the fall semester, after the add-drop period has ended). This gives a sense of where parking is at, or near, capacity, and where vacancies might be found, even during the campus' peak demand hours and days.



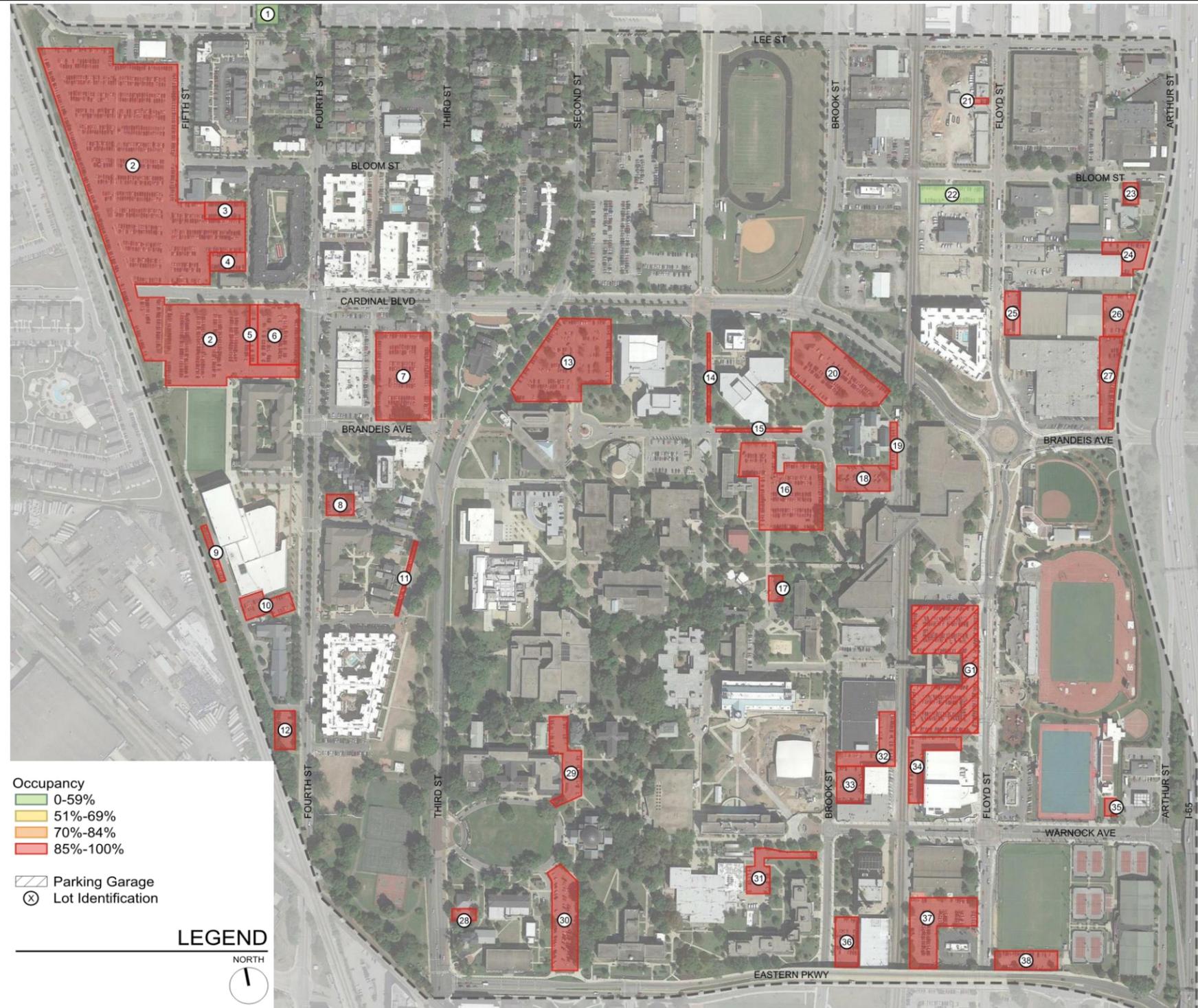
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*MAIN CAMPUS ESTIMATED PEAK PARKING OCCUPANCY*

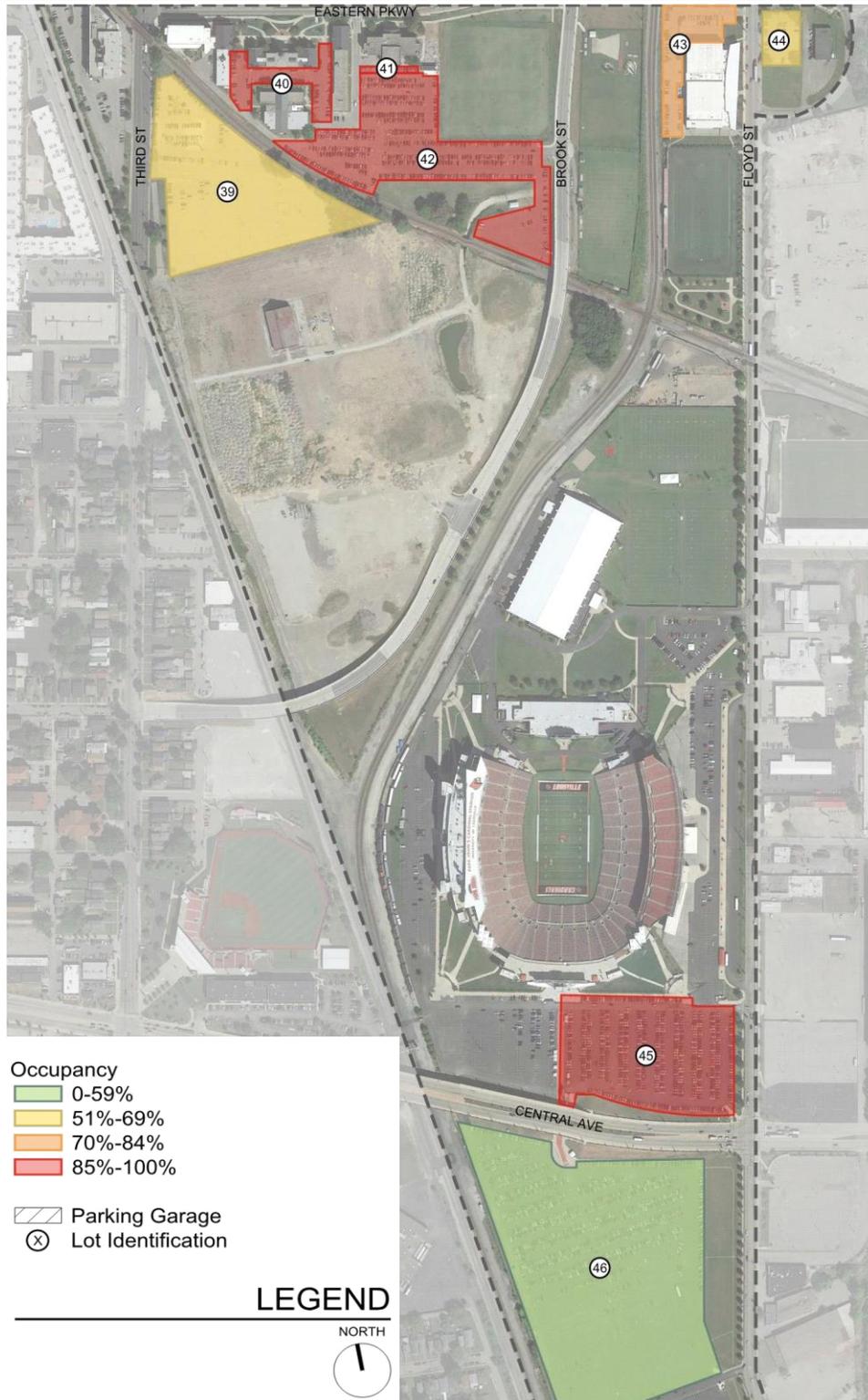
UofL's parking occupancy estimates suggest that around 20 percent of spaces are available during periods of peak demand on the Belknap campus, but that the available parking is located in less desirable parking areas (e.g., the area around Papa John's Cardinal Stadium [PJCS], particularly the south lot). Of the approximately 1,400 available spaces on the Belknap campus, nearly 1,000 of them are in this south lot. If demand for parking on the Belknap campus grows, there are two sections of parking south of (and contiguous with) the PJCS south lot, accounting for an additional 3,000 spaces that could be made available to meet additional demand.

Exhibit 15: Occupancy Heat Map: Belknap Campus North of Eastern Parkway



Source: Walker Parking Consultants, 2017

Exhibit 16: Occupancy Heat Map: Belknap Campus South of Eastern Parkway



Source: Walker Parking Consultants, 2017

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Exhibit 17: Belknap Campus Occupancy List

#	Lot Name	Designation	Inventory*	% Occupied at Peak**	Spaces Full at Peak	Spaces Available at Peak
1	West Lee St.	Blue	5	0%	0	5
2	Chevron Lot	Yellow	1,210	98%	1,186	24
		Green	49	90%	44	5
3	Urban Econ Research	Blue	47	85%	40	7
4	UPDC	Red	1	100%	1	0
		Blue	19	100%	19	0
5	Bettie Johnson	Blue	22	85%	19	3
7	3rd & Brandeis	Blue	160	100%	160	0
8	Louisville Hall	Red	5	100%	5	0
9	Rec Center West	Yellow	22	100%	22	0
10	Minardi Hall	Yellow	9	100%	9	0
		Red	4	100%	4	0
11	Unity Place	Yellow	36	100%	36	0
12	Billy Minardi North	Yellow	22	100%	22	0
13	COB/Music School	Red	190	100%	190	0
14	Unitas Tower	Yellow	10	100%	10	0
15	Brandeis St.	Blue	7	100%	7	0
16	Miller Hall/Red Barn	Yellow	197	100%	197	0
17	Threlkeld Hall	Red	3	100%	3	0
18	Uclub South	Red	52	100%	52	0
19	Uclub East	Red	19	100%	19	0
20	Uclub North	Red	9	100%	9	0
21	Hughes Bldg	Blue	9	100%	9	0
22	Bloom St. @ Floyd St.	Green	42	5%	2	40
23	DEHS	Blue	11	100%	11	0
24	Tow Lot @ Arthur St.	Green	13	100%	13	0
25	Inventory Control	Blue	8	90%	7	1
26	Univ. Operations	Blue	16	90%	14	2
27	Human Resources	Blue	56	100%	56	0
28	SPI	Red	9	100%	9	0
29	Law School	Red	40	100%	40	0
30	Natural Science	Red	103	100%	103	0
31	MITC	Red	18	100%	18	0
32	Houchens South	Red	34	100%	34	0
33	Service Complex	Red	20	100%	20	0
34	Natorium	Red	12	100%	12	0
35	Marshall Center	Red	5	100%	5	0
36	University Relations	Red	52	100%	52	0
37	Thrust Theatre	Red	19	100%	19	0
		Blue	115	100%	115	0
38	Bass Rudd Tennis	Red	6	100%	6	0
39	Engineering Graphics	Green	618	50%	309	309
40	Vogt	Red	1	100%	1	0
41	Ernst Hall	Red	10	100%	10	0
42	Speed School	Green	134	100%	134	0
		Red	76	100%	76	0
		Blue	222	95%	211	11
43	Yum Center	Blue	42	75%	32	11
44	Floyd St. @ Hahn St.	Blue	44	50%	22	22
45	PJCS North	Purple	1,016	100%	1,016	0
46	PJCS South	Purple	1,471	33%	485	986
G1	Floyd St. Garage	Yellow	142	80%	114	28
		Green	551	100%	551	0
		Blue	48	100%	48	0
	Floyd St. Garage North	Red	65	100%	65	0
	Floyd St. Garage South	Red	6	100%	6	0
<b>TOTAL</b>			<b>7,132</b>	<b>80%</b>	<b>5,679</b>	<b>1,453</b>

\* Permit spaces only, does not include ADA spaces or aisles, loading, service, reserved for department, etc.

\*\* Estimate of approximate occupancy should assume the same time of day, day of week, and time of year for all spaces (e.g. 2:00 p.m. Wednesday, fourth week of the semester)

Source: UofL Provided Data, 2017

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*HSC CAMPUS ESTIMATED PEAK PARKING OCCUPANCY*

On HSC, UofL estimates reflect that approximately 30 percent of the parking spaces remain available at time of typical peak demand. Around 600 of the 900 available spaces are found in the 620 Garage. It is anticipated that the opening of a pediatric facility currently under construction at the HSC, will increase demand in the 620 garage (approximately 150-200 additional, concurrent vehicles<sup>1</sup>). This should leave adequate space still available on this campus.

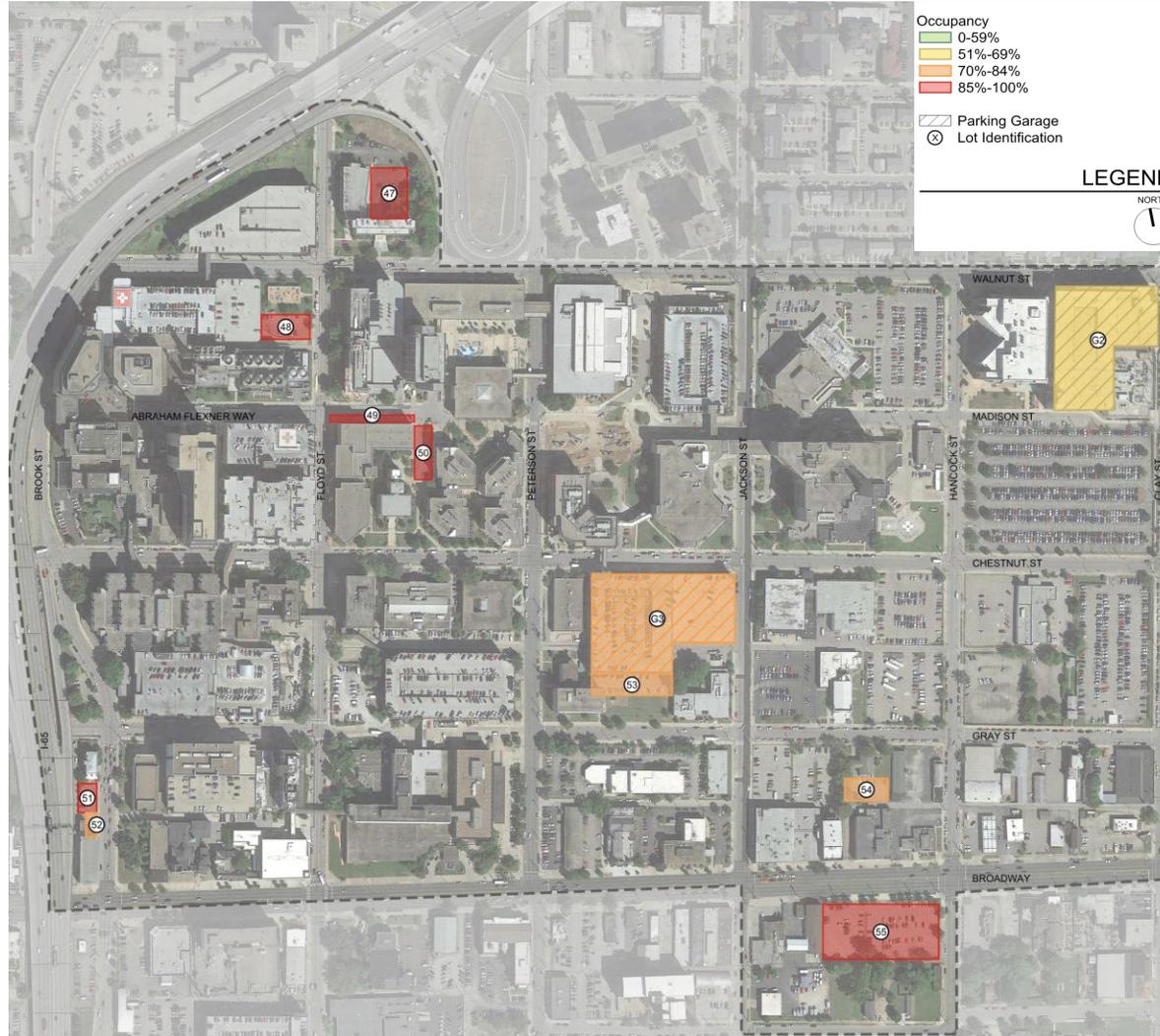
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<sup>1</sup> The new pediatric facility is expected to draw 150,000 patient families per year, this works out to approximately 500-600 potential vehicles per day, allowing for three to four turnovers per space per day, this yields, 150 to 200 concurrently parked vehicles.

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Exhibit 18: Occupancy Heat Map: Health Sciences Center Campus



Source: Walker Parking Consultants, 2017



**Exhibit 19: Health Sciences Center Campus Occupancy List**

#	Lot Name	Designation	Inventory*	% Occupied at Peak**	Spaces Full at Peak	Spaces Available at Peak
47	Lion's Eye	Red	8	100%	8	0
48	Cardio Research	Red	15	100%	15	0
49	Abraham Flexner	Red	1	100%	1	0
50	Baxter Building	Red	12	100%	12	0
51	Keeney House	Red	8	100%	8	0
52	Myers Hall	Green	194	80%	155	39
53	MedDent Apartments	Brown	37	70%	26	11
54	Gray St. Lot	Blue	14	70%	10	4
		Red	10	100%	10	0
55	Med Center One	Blue	66	80%	53	13
		Red	4	100%	4	0
G2	620 Garage	Magenta	1,576	60%	946	630
		Red	53	100%	53	0
G3	Chestnut St. Garage	Magenta	715	70%	501	215
		Red	402	100%	402	0
<b>TOTAL</b>			<b>3,115</b>	<b>71%</b>	<b>2,203</b>	<b>912</b>

\* Permit spaces only, does not include ADA spaces or aisles, loading, service, reserved for department, etc.

\*\* Estimated occupancy assumes the same time of day, day of week, and time of year for all spaces (e.g. 2:00 p.m. Wednesday, fourth week of the semester)

Source: UofL Provided Data, 2017

**EQUIPMENT**

**BELKNAP CAMPUS**

While several campus lots are permit controlled, without equipment, most have some form of access and revenue control.

**Ticket-in Credit Card Out**

- Student Activity Center
- Cardinal Boulevard and 4<sup>th</sup> Street

**Access Card Controlled, Free Out**

- Grawemeyer Hall
- Law School
- Music School
- Red Barn
- University Club
- North Information Center
- Speed Museum Alley
- Chevron Lot
- Student Recreational Center (reserved area)
- Student Recreational Center (players' lot)
- Yum Center – Basketball (Floyd Street)
- Yum Center – Lacrosse and Women's Basketball (Floyd Street)
- Marshall Center

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- Bass Rudd Tennis Center

**Multi-Space Center**

- Student Recreational Center North
- Student Recreational Center South
- Ralph R. Wright Natatorium

*HEALTH SCIENCES CENTER CAMPUS*

Most of the parking associated with the Health Sciences Center is in the Chestnut and 620 Garages.

**Ticket-In, Credit Card-Out AND Access Card Controlled, Free Out**

- Chestnut Street Garage
- 620 Garage

**Access Card Controlled, Free Out**

- Chestnut Street Garage – Springer Alley
- MedCenter One
- Abell Administration

**Multi-Space Meter**

- Lions' Eye

The campus' access and revenue control equipment is outdated and poses a PCI compliance risk. For these reasons, UofL has set aside funding and written an RFP for new equipment to modernize campus parking facilities.

*TRANSPORTATION DEMAND MANAGEMENT (TDM) AND SUSTAINABILITY*

In 2008, UofL signed the American College and University Presidents [sic] Climate Commitment (ACUPCC), and had done an admirable job living up to that commitment. The campus developed a multifaceted Climate Action Plan (CAP), and has earned gold STARS (Sustainability Tracking Assessment and Rating System) designation from AASHE (the Association for the Advancement of Sustainability in Higher Education). Earning this rating—and even the effort required to submit an application—are very challenging, requiring a substantial investment of human and financial resources.

Transportation-related sustainability efforts are a significant part of the commitments indicated above, among UofL's programmatic investments are the following:

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- “Cardinal Directions”
  - Established in 2012.
  - A ridematching, sustainable-commuting web interface (built by RideAmigos).
  - This service can also “gamify” alternative commutes by allowing members to log their alternative transportation trips to earn incentives.
  - Costs \$9,000 per year. Funding for 2018 not yet secured.
- Carshare
  - CarShare by Enterprise has three vehicles on the Belknap campus.
  - University use is less expensive than mileage reimbursements and reduces the level of liability.
  - Available for personal use by any member of the campus community (and surrounding community).
  - Program is exclusive to campus, there are no Enterprise carshare vehicles in the rest of the city.
  - University program is open to all qualified students, faculty, and staff, ages 18 and up.
  - Zipcar also has a Louisville presence, with a single car downtown, a few blocks west of HSC.
- Bicycles
  - UofL bikeshare program allows the free checkout of a bike, helmet, and lock for a day at a time.
  - UofL has invested \$30,000 towards the startup of LouVelo, a community-wide bikeshare program, in which over 300 bikes can be checked out of and into 30 docking stations scattered throughout Louisville, including in proximity to both the Belknap and HSC campuses. The first hour is free to LouVelo members.
  - The campus offers dozens of covered and uncovered bike parking locations as well as six “fixit” locations for minor self-service bike repairs.
  - UofL has earned a “silver” designation from the League of American Cyclists, as a bike-friendly university.
  - The earn-a-bike program established in 2012 has provided up to 400 vouchers annually, valued at \$400 towards qualifying bicycle purchases, to individuals who commit to not purchasing a parking permit for at least two years. This highly successful and popular program has been suspended for FY2018 due to extraordinary financial challenges currently faced by the University.
- Carpooling
  - UofL’s carpooling program allows members of the campus community to share the ride with their peers and share the full cost of a campus parking permit.
  - Cost can be shared via payroll deduction (pre-tax) for those eligible to do so.
  - Members have access to about a dozen reserved carpool spaces on campus.
  - “Cardinal Directions,” as described above, can be used as a tool to help match carpool members.

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- Members receive a limited number of one-day parking permits for the days on which individual carpool members each need to bring a vehicle to campus. Faculty and staff receive ten daily permits per six months; students receive six daily permits per six months.
- Vanpooling
  - Program is provided by RideShare by Enterprise for groups of four or more
  - A program for larger groups (of 7-15 people) is provided by “Ticket to Ride” a branded program operated by KIPDA (the Kentuckiana Regional Planning and Development Agency).
  - KIPDA also supplies guaranteed ride home program for vanpoolers.
  - Currently, there are no UofL-based vanpools, though some UofL community members are passengers in vanpools based at other employers.

### *TRANSIT AND SHUTTLES*

- All current members of the UofL campus community can use their valid University ID for unlimited travel on TARC (Transit Authority of River City), the local public transportation provider.
- TARC offers comprehensive service on and around both the Belknap and HSC campus, and throughout downtown.
- Additionally, TARC operates regional routes that serve “TARC and Ride” park-and-ride lots.
- In addition to purchasing system-wide access for UofL community members, the University also contracts with TARC to operate campus circulator shuttles—one (Route 90) on the west side of campus, the other (Route 94) connecting the Belknap campus and peripheral parking at PJCS.
- Total University-related TARC rides have been at or about 1.1 million per year since FY2004. About 60 percent of those rides are on circulator Route 94.
- The University separately operates a smaller shuttle that circulates the HSC campus.

PROJECTED CONDITIONS



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## **PROJECTED CONDITIONS**

### MASTER PLANNING

Although the University does have plans to build, most projects have been put on hold during the current financial crisis. The campus does not foresee any major construction on campus within the next five years. Because of the substantial change in the campus's financial picture and senior leadership, it is difficult to predict the directions in which the University will be going beyond the next five-year window. As a result, our projections for loss/gain of parking indicate a status quo, and campus population growth projections—for undergraduate students only—are illustrated at approximately 1.5 percent per annum (consistent with the projections provided by UofL). All groups other than undergraduates are projected to remain flat, consistent with the previous 10 years' worth of data.

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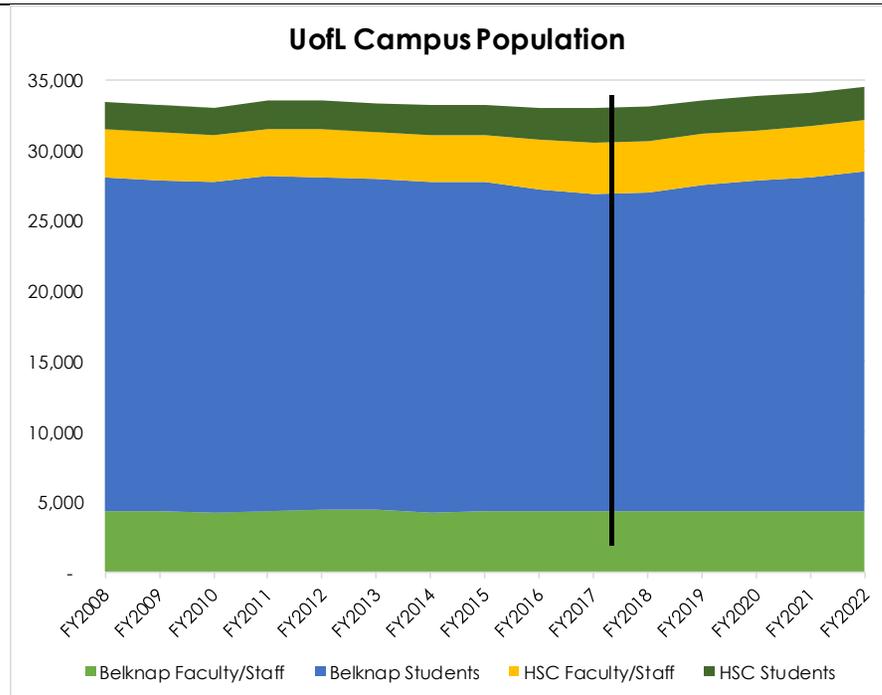
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Exhibit 21: Campus Population Projections

	ACTUALS										PROJECTIONS				
	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022
<b>Belknap Faculty/Staff</b>	4,302	4,336	4,183	4,363	4,430	4,413	4,258	4,308	4,289	4,296	4,296	4,296	4,296	4,296	4,296
<b>Belknap Students</b>	23,792	23,561	23,561	23,809	23,611	23,581	23,511	23,410	22,940	22,640	22,753	23,283	23,539	23,808	24,208
<b>HSC Faculty/Staff</b>	3,440	3,420	3,335	3,412	3,479	3,349	3,315	3,395	3,563	3,634	3,634	3,634	3,634	3,634	3,634
<b>HSC Students</b>	1,881	1,925	1,995	1,999	2,033	2,058	2,135	2,186	2,275	2,415	2,415	2,415	2,415	2,415	2,415
<b>TOTAL</b>	<b>33,415</b>	<b>33,242</b>	<b>33,074</b>	<b>33,583</b>	<b>33,553</b>	<b>33,401</b>	<b>33,219</b>	<b>33,299</b>	<b>33,067</b>	<b>32,985</b>	<b>33,098</b>	<b>33,628</b>	<b>33,884</b>	<b>34,153</b>	<b>34,553</b>

Source: UofL, 2017

Exhibit 20: UofL Campus Population 2008-2022



Source: Walker Parking Consultants, 2017

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## CURRENT MASTER PLAN ASSUMPTIONS

### BELKNAP CAMPUS

- Proposed research park directly south of the Speed School (south of the railroad tracks, currently a “green” triangular parking lot, will proceed—though likely not in the next five years. This would bring in additional population and parking demand.
- Proposed housing in the northwest quadrant of campus is likely to be built on some of the yellow parking there. This would increase the demand for student residential parking spaces, while concurrently reducing supply. Also not foreseen within the next five years.
- Several smaller projects are likely to remove pockets of central campus parking for “higher and better use” over time, but again, not within the next five years

### HEALTH SCIENCES CENTER CAMPUS

There is currently a surplus parking at the HSC, though some people have to walk two to three extra blocks to use the newer, but less-popular 620 Garage versus the Chestnut Garage. The 620 Garage, which currently has capacity, will be somewhat more stressed with the opening of a new pediatric facility that is under construction. Early estimates are that this facility will draw 150,000 visitors per year. Although this will tax the capacity more, the garage should continue to have adequate capacity in the near- to mid-term.

## PROJECTED PARKING DEMAND

Although UofL has ambitious enrollment goals over the next decade, the previous ten years of total campus population(s) has been relatively stable. Our financial projections, as well as parking demand projections are based on flat population growth, particularly over the five-year planning horizon that Walker has been asked to consider. If growth does occur at an accelerated rate, permit revenues will be higher than projected; and increased parking demand can be absorbed in the PJCS south that are not currently used for daily parkers (approximately 3,000 spaces).

Walker used FY2017 population and permit sales numbers to calculate the approximate demand ratio for each group. For example, among 4,296 faculty and staff on the Belknap campus 2,837 permits were sold in FY2017, which yielded a demand ratio of 66 percent. The only demographic expected to expand during the next five years are undergraduate students, and because no additional beds are projected to be added during this time frame all additional population are expected to be commuting students. Using the population projections above, we would expect approximately 1,570 additional commuter students to be added over the course of five years. Commuter students demonstrate a demand ratio of 26 percent, meaning we would expect an additional 408 permits to be sold.

Exhibit 22: Permit Demand Ratios

<b>FY2017</b>				
<b>Belknop</b>	Faculty/ Staff	Resident Students	Commuting Students	<b>TOTAL</b>
<b>Permits</b>	2,837	2,175	5,069	<b>10,081</b>
<b>Population</b>	4,296	3,000	19,640	<b>26,936</b>
<b>Demand ratio</b>	66%	73%	26%	<b>37%</b>
<b>HSC</b>	Faculty/ Staff	Resident Students	Commuting Students	<b>TOTAL</b>
<b>Permits</b>	2,144	32	973	<b>3,149</b>
<b>Population</b>	3,634	44	2,371	<b>6,049</b>
<b>Demand ratio</b>	59%	73%	41%	<b>52%</b>
<b>TOTAL PERMITS</b>				<b>13,230</b>
<b>TOTAL POP</b>				<b>32,985</b>
<b>TOTAL %</b>				<b>40%</b>

Source: Walker Parking Consultants, 2017

The last factor relates to concurrent presence of permit holders. Currently there are a total of 10,081 permits sold to faculty, staff, and students on the Belknop campus, but at typical peak demand there are an estimated 5,679 spaces filled; this means that 56 percent of the permits are used concurrently at peak, so of the 408 additional permits we would expect 230 of them to add to the campus' peak demand. The Belknop campus has an adequate surplus (over 1,400 spaces) to absorb this growth.

Exhibit 23: Belknop Campus Concurrent Permits

	Permits Sold	Spaces Full at Peak	% Permits Used Concurrently	Demand Ratio	Add'l Population	Add'l Permits Sold	Add'l Spaces Used
<b>Belknop Campus</b>	10,081	5,679	56%	26%	1,570	408	230

Source: Walker Parking Consultants, 2017

# RECOMMENDATIONS



**WALKER**  
PARKING CONSULTANTS

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## RECOMMENDATIONS

### POLICIES

The campus' rules and regulations governing parking and transportation are readily available in print and on the Parking and Transportation Services website. The rules are concise but comprehensive, and are clear. Walker noted a typographical error in the “Vendor Parking” section, in which the final sentence ends in the middle (“Vendor permits are...”).

In order to support many of the recommendations that follow in the balance of this section, changes to some of the rules and regulations may potentially be required. Some examples of possible changes follow.

#### Recommendations:

- Alter the “cascading” privileges associated with each permit type—if permissions are granted on a lot-by-lot or zone basis, each respective permit type will require a specific list of overflow privileges (see “user assignment” recommendations).
- Specify that parking permits for the PJCS are valid 24/7, to allow the lot to be used for any commuter (faculty, staff, or student) and for parking/storage of resident student vehicles (to support a low-priced alternative, if the recommendation to substantially increase Belknap main campus residential parking permit prices is followed).
- Develop a policy that requires PJCS permit holders to vacate stadium parking (and temporarily disallow overnight parking at PJCS) during football games or other large campus events, as needed.
- Unify the daily timeframes during which restrictions change (i.e., instead of restricting red spaces until 5:00 p.m. and other main campus spaces until 4:15 p.m., open all spaces to other campus permits at 4:15 p.m.); this will simplify communication and lend clarity.

### CAMPUS DEVELOPMENT

#### BELKNAP CAMPUS

Per UofL planners, the University is not expecting any significant development of the physical infrastructure of the Belknap campus over the next five years—due to fiscal constraints. To this end, other than incremental growth in the undergraduate student population, Walker does not foresee major changes either to demand for parking or to the overall parking inventory.

Even in the absence of major physical changes to the Belknap campus, Walker recommends that the University consider changes to current parking demand patterns, in order to improve congestion and safety, and to be better prepared for supply/demand challenges in the future, when the UofL resumes its ambitious growth and development.

#### Recommendations

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- Loosen up on-campus (Belknap) demand by offering students close-in residential parking at a much higher cost, to encourage some students to store their cars remotely, rather than parking adjacent to their residence halls.
- Enhance the price differential between proximate and remote parking for all constituencies, to help shift the balance away from central campus.
- Before constructing another parking garage, for example, if the supply-demand ratio does shift significantly, there are alternatives that could be exercised first.
- To that end, the existing PJCS lot, south of Central Avenue, only has the northernmost section in use for commuters (about 1,500 spaces), there are an additional 3,000 spaces in that lot that could be opened for campus parking. In order to address the preceding recommendations, there would need to be changes in how those spaces are administered:
  - Change regulations to allow overnight parking (vehicle storage). This may require an increase in security.
  - Offer this parking to resident students and commuting faculty and staff, as a less expensive option—rather than just to commuting students.
  - Shuttle costs would likely increase to cover the larger geographic area and higher ridership, without a loss to level of service.
- There is another lot owned by the University (the “silos” lot), where a grain elevator was demolished,
  - The lot is located east of South Floyd St. between Floyd and I-65, bounded by Hahn St. on the north and railroad tracks on the south.
  - By acreage, there may be room for as many as 1,000-1,500 spaces.
  - This location could be developed at low cost into a viable surface lot. This could be used before the southern portions of PJCS, in order to park some people a closer to the main campus.
  - Existing shuttle routes could be tweaked to serve this lot, but capacity may need to be increased to maintain current headways.

### *HEALTH SCIENCES CAMPUS*

Per UofL planners, the only known, planned development on the HSC campus is the completion of the new Pediatrics Facility. This expanded medical service is anticipated to draw as many as 150,000 new visits to HSC each year. Based on UofL's reported parking occupancies, and

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Walker's associated parking projections, there should be adequate space at HSC to absorb this additional demand. Walker does not anticipate the need to construct additional parking within the five-year planning horizon covered by this report.

**Recommendations:**

- Per the parking fee recommendations later in this section, use pricing as a tool to distribute demand more evenly through the HSC parking resources.
- Walker recommends redistribute some of the demand at the HSC to the currently least popular parking area (the roof of the 620 garage).

**USER ASSIGNMENT PLANS**

How parking is priced and assigned has a dramatic impact upon the function of campus, the supply demand ratios, the perception of how full campus parking is, congestion, and pedestrian, cyclist, and motorist safety. Right now, the parking occupancies on both campuses are concentrated in the most desirable areas—giving the impression that “all parking is full,” this of course, is not the case. Based upon UofL estimates of concurrent demand, the Belknap campus has nearly 1,500 parking spaces available even during periods of peak typical demand (about 1,000 of which are found in the PJCS south lot). If needed there are two more sections of the PJCS south lot that could be made available, for another 3,000 parking spaces; and the “silos” area could easily be converted to a gravel parking lot for up to 1,000 more cars (based on square footage). The HSC campus also has nearly 1,000 spaces vacant at peak times—most of which are found in the 620 Garage.

In reality, there are probably even more spaces that are vacant, because among the inventory, approximately 1,500 spaces are reserved for specific individuals. For the purpose of estimating peak occupancy all of these spaces are considered full, although it is unlikely that they are. However, since no one can use those spaces when the assigned user is sick, on vacation, at a meeting, or travelling for business, they are effectively full throughout every business day. If, say, 15 percent are unused at any given time, that would yield an additional 200 or so additional vacancies between both campuses.

The current parking pricing and designation schema helps to reinforce this supply-demand imbalance. If the parking fees and user assignment strategies were adjusted to shift some demand to PJCS and the 620 Garage, the demand for the currently most desirable parking spaces could loosen considerably, giving the campus more flexibility in how those spaces are used. This can make the campus more accessible to visitors, reduce frustration, and enhance safety.

Later in this section Walker recommends a fee structure that can help encourage some members of the campus community to make different choices regarding where they park, based on price. How the parking is managed, designated and assigned can be synergistic with

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a revised pricing structure. Right now, parking privileges are designated by color (with different user groups being allowed to purchase those color-coded permits). For example, nearly all faculty and staff parkers on the Belknap campus purchase blue parking permits, which allow parking in any Belknap parking space that is not designated for red permits (reserved spaces), or residential or visitor spaces. Spaces available to blue permit holders are scattered throughout the entire Belknap campus. While this allows a certain degree of flexibility to these permit holders, it can also yield an imbalance in demand and an unpredictability as to where to find a parking space. This can lead to permit holders hunting in several lots until they find an available space—which can be frustrating and increases congestion as people search. Parkers also have the opportunity to drive from one campus location to another, again increasing congestion in the most pedestrian- and cyclist-intensive part of campus.

Parking assignments are more segmented on the HSC campus, with different permits issued for the two main parking areas—the Chestnut and 620 Garages. Walker recommends continuing this closer form of management, to keep supply and demand in balance. A system designed around a “park-once” philosophy can result in a campus that is more hospitable to pedestrians and cyclists.

Walker recommends managing UofL parking more closely, by individual lot or garage, or by zone. In so doing, the campus can better predict the occupancy of each parking facility and can begin to spread out demand among all available parking. If pricing (as described in detail later) is high enough for the central-most parking and less expensive for perimeter parking, demand on the center of campus can be significantly reduced, and more parking can be made available for visitors including prospective students (this is discussed in the Visitor/Admissions Parking section later in this report).

Loosening demand on the center of campus, should reduce the abuse of loading spaces, building access, and illegal parking that impacts people with disabilities. Similarly, Walker recommends pricing residential parking on the center of both campuses in a manner commensurate with the value of that parking (especially as it provides 24/7 access to parking that is sold at a one-to-one ratio)—and providing an inexpensive option to store residents' vehicles on the perimeter of campus. In so doing, the crush for residential spaces on the Belknap campus in particular can be reduced, helping to assure that parking spaces can be available for students—such as those in the UPS program—to find a space near their residence hall upon their very late night return to campus.

While a “park-once” philosophy can strengthen intra-campus parking management, Walker recommends that UofL continue to offer inter-campus flexibility, allowing campus community members to move freely between the Belknap and HSC campuses, as business needs dictate. It would be advisable to continue to offer reciprocal parking arrangements for faculty, staff, and students with verified needs for access to both locations. Improved technology (discussed in a later section), can help facilitate the provision of access with multiple privileges.

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Also relevant to user assignments, is the management of electric-vehicle (EV) charging stations. These are a very limited campus resource, that is expensive to procure and install, the use of which should be maximized for the benefit of EV drivers. Although it is unlikely that the laws governing utilities would allow the University to charge for the electricity used, the campus does have the ability to assess a fee for access to these spaces—this privilege should come at a premium. In addition, a vehicle should only be allowed to park in an EV charging space if it is actively charging. Owners should be required to move their cars to free up these spaces for others who need them throughout the day. Walker recommends that UofL add a violation category for staying in excess of the required charging time. This will help maximize the efficiency and availability of these few spaces—and charging a fee for access (i.e., a more expensive permit) can generate funds that not only help the University recoup the cost of electricity, but may help generate additional revenue that can be used to add more charging stations on campus as demand inevitably rises.

**Recommendations:**

- Combine Walker's fee recommendation (see "Fees" section) with a more tightly controlled user assignment strategy.
- Instead of broad color designations, manage on a facility-by-facility or zone basis.
- Shift some demand to the perimeter of the Belknap campus or to the 620 Garage at HSC.
- Reduce the number of permits sold for central campus parking.
- Free up convenient space for guests, visitors, prospective students, and other transient parkers.
- Ensure that the prices charged for short-term parking are commensurate with the desirability of those spaces (payment may be made by the end user or by a sponsoring department).
- Balance the use of central and perimeter parking by students living in residence halls. Some need frequent access, others need a place to store their cars. Use differential parking fees.
- Encourage "park-once" behavior, by limiting privileges and improving intra-campus infrastructure.
- Continue to offer reciprocal parking arrangements between the Belknap and HSC campuses.
- Manage the use of electric vehicle charging stations by employing a premium fee for access and enforcing time limits to maximize availability.

**PARKING LOT LAYOUT**

On congested, high-demand campus, Walker often recommends revisiting the layouts and striping patterns in surface parking lots, to gain more parking spaces—using existing asphalt. We do not see the necessity of pursuing this option at this time, due to the overall substantial surplus of parking on the Belknap campus (primarily PJCS south), and the sufficiency of the parking

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inventory on the HSC campus. Shifting some demand to the perimeter of the Belknap campus, in particular, offers benefits in terms of reducing travel on the main campus rather than adding congestion (which, in turn can compromise pedestrian, cyclist, and motorist safety).

## PARKING AUXILIARY

UofL has designed University Parking and Transportation Services to operate as an auxiliary unit of the campus. This means that the department is expected to be fully self-supporting—covering all expenses, including: wages and benefits, operational expenses, parking maintenance and repair, construction of parking infrastructure, and debt service.

Current expenses are in excess of the revenue being generated by the department. The budget is currently balanced through the use of cash reserves. The status quo trajectory is not financially sustainable. As the department already operates in a lean manner, there is little savings to be had on the expense side of the equation. With this in mind, Walker has made recommendations regarding parking permit fees and citation fines. Illustrated later in this section is a table of parking fines and parking fee recommendations—the projected revenues associated with these new pricing structures are projected to be sufficient to support the auxiliary operation, and allow the department to gradually build a capital reserves fund. The reserves should allow the department to be nimble enough to address changing campus needs, once campus development and construction return to their historic levels. Due to financial exigencies, the campus is currently abstaining from the addition of new facilities on the Belknap Campus. One major campus construction project is underway at the HSC campus—a pediatrics facility that is anticipated to generate 150,000 visits per year.

### **Recommendations:**

- Increase central campus parking fees on both campuses
- Increase fines for violations, to engender compliance and generate revenue
- Consider a student transportation fee to offset the cost of providing transit privileges, and potentially to fund additional or enhanced TDM programming.
- Consider a faculty/staff benefits overhead charge to cover the costs of offering a transit benefit, and potentially adding or enhancing TDM programming.

## PARKING ENFORCEMENT

Parking enforcement is a function of customer service—a service intended to protect those campus parkers who purchase parking privileges and who follow the rules. The primary purpose of parking enforcement is to generate compliance, rather than revenue. With this in mind, customer-service oriented parking enforcement staff can spend their time catching people doing things right, providing guidance to customers who might otherwise get a citation, and generally focusing on customer-service “touches” as a metric, rather than the number of tickets

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written. See Appendix 2 for an article on ways to operate parking enforcement as an ambassadorial operation.

UofL is equipped to provide an effective enforcement program, handheld ticket writers (iPad or iPad Mini tablets) are electronically tied into the parking software and have and share current information. This allows violators and scofflaws to be identified quickly and in real time. Strong and consistent enforcement policies and practices are critical to the smooth, service-oriented parking program. Similarly, an effective enforcement program relies upon the exercise of the available consequences, including tickets, towing/booting, and active collection of fines.

UofL has well-articulated and thorough rules and regulations in print and on the Parking and Transportation Services website, including appropriate consequences. While UofL has a strict policy regarding unpaid tickets (three or more and the vehicle is immediately towable), this consequence is rarely applied. Towing or booting can be valuable tools for attaining compliance and collecting from scofflaws (a detailed discussion regarding the appropriate use of these tools can also be found in Appendix 2). Parking fine collections for students are well-managed in that unpaid citations are placed on their Registrar accounts, assuring compensation. However, most collections activities for faculty and staff are passive (i.e., no renewal without payment)—creating a situation in which people can circumvent the parking system, or can leave the University without settling their citation-related debt. Furthermore, violations by non-affiliates of the campus are not actively pursued.

**Recommendations:**

- Enforce regularly;
- Vary patrol patterns;
- Cover each area at least once a day, and multiple times a day in the most high-demand areas of campus;
- Apply a philosophy of providing an ambassadorial service;
- Measure success by customer interactions rather than by number of citations written;
- Use available tools to encourage compliance, towing and/or booting;
- Assure collections of fines (there are third-party vendors that can help pursue scofflaws);
- Use enforcement revenues as a tool to moderate the necessity of parking fee increases;
- Consider the use of license plate recognition (LPR) technology to replace physical parking permits, to conduct enforcement, to allow paperless parking citations, and to provide access and revenue controls; and,
- Keep fines commensurate with parking fees and with the severity of violations (see next section for specific recommendations).

**FINES**

The current parking fine structure has been in place since 2007. It is Walker's view that the fines are due for an increase, due to the time elapsed since the last time they were raised, and

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because they need to increase as parking fees increase (especially if Walker's parking fee recommendations are implemented—see next section).

The table below illustrates the fines from 2006 and earlier, the revised fine schedule from 2007 to present, and Walker's recommended fines. Under Walker's suggestions, most permit or privilege violations would range from \$20 to \$40, and would represent increases of \$0 to \$10 above current fines. Walker has re-categorized some violations as being safety-related, and increased those to \$50 (e.g., parked in driving lane, parked on grass, dirt, or sidewalk), since these violations can impede traffic flow, wellbeing, or accessibility. Violation of reserved parking spaces carries a recommended fine of \$100, up from \$60, to provide additional protection as the fee goes up. We recommend increasing the fine for an ADA violation to \$250 (the same as the maximum fine for the same violation in the City of Louisville), and the same fine for blocking ADA access. In calendar year 2016, over 200 tickets were written for illegally occupying ADA spaces or aisles, and access, and this unacceptable behavior is reasonable justification for increasing the fines. Fraudulent, forged, stolen, and altered permits should share this highest fine, in recognition of the value of the services that are being taken—particularly if the fees are raised in accordance with Walker's recommendations.

**Exhibit 24: Existing and Recommended Fines**

	2006 and earlier	2007 - Present	Recommended	Change	Notes
No valid permit	\$40	\$30	\$40	\$10	Return to previous value
Parked in driving lane	\$20	\$20	\$50	\$30	Safety violation
Prohibited by sign	\$20	\$20	\$50	\$30	Safety violation
Area permit does not apply	\$20	\$15	\$30	\$15	New permit/privilege violation amount
Not within marked space	\$20	\$20	\$30	\$10	New permit/privilege violation amount
Parked on grass, dirt, sidewalk	\$20	\$30	\$50	\$20	Safety violation
Red reserved space	\$40	\$60	\$100	\$40	If red fee goes up, greater protection
Prohibited by yellow marking	\$20	\$20	\$30	\$10	New permit/privilege violation amount
Meter violation	\$20	\$15	\$20	\$5	Return to previous value
Visitor/patient parking only	\$20	\$30	\$30	\$0	No change
Handicapped space/blocking access ramp	\$100	\$200	\$250	\$50	Equals max. ADA fine for Louisville
Possession lost/stolen permit	\$180	\$180	\$250	\$70	Same as forged/altered
Owens permit but failed to display	\$20	\$20	\$20	\$0	No change
Loading zone	\$20	\$20	\$30	\$10	New permit/privilege violation amount
Forged/altered permit	\$180	\$250	\$250	\$0	No change
Blocking Handicap access	\$100	\$100	\$250	\$150	Equals max. ADA fine for Louisville, Lexington, and Frankfort

Source: Walker Parking Consultants, 2017

UofL's appeals program and policies are well-conceived and the fee for frivolous appeals is a best practice—as is the policy of doubling the face-value of unpaid fines. However, this will only be truly effective in an environment in which the collection of outstanding fines is actively pursued. Walker does not recommend excepting violations from doubling if the fine is unpaid after seven days.

Although raising fines may be unpopular, it is important to bear in mind that the argument against higher parking fines is, in essence, arguing for the privilege of inconveniencing, displacing, or endangering others by parking illegally. The goal of enforcement should be to make citations so unpalatable that people will not risk failing to comply with the rules.

In the absence of a change in behavior, and with current collection rates (approximately 80 percent), the table below reflects the potential additional revenue that could be generated by increased fines.

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Exhibit 25: Revenue Potential with Recommended Fines

	Tix Written CY2016	Face Value CY2016	Face Value w/Recommended*
No valid permit	6,637	\$199,110	\$265,480
Parked in driving lane	251	\$5,020	\$12,550
Prohibited by sign	539	\$10,780	\$26,950
Area permit does not apply	2,471	\$37,065	\$74,130
Not within marked space	309	\$6,180	\$9,270
Parked on grass, dirt, sidewalk	23	\$690	\$1,150
Red reserved space	498	\$29,880	\$49,800
Prohibited by yellow marking	210	\$4,200	\$6,300
Meter violation	2,511	\$37,665	\$50,220
Visitor/patient parking only	271	\$8,130	\$8,130
Handicapped space/blocking access ramp	190	\$38,000	\$47,500
Possession lost/stolen permit	9	\$1,620	\$2,250
Owens permit but failed to display	273	\$5,460	\$5,460
Loading zone	117	\$2,340	\$3,510
Forged/altered permit	2	\$500	\$500
Blocking Handicap access	14	\$1,400	\$3,500
	<b>14,325</b>	<b>\$388,040</b>	<b>\$566,700</b>
	<b>80% Collection Rate:</b>	<b>\$310,432</b>	<b>\$453,360</b>

\* With no change in behavior

	<b>Difference</b>
<b>Face Value</b>	<b>\$178,660</b>
<b>@ 80% Collection Rate</b>	<b>\$142,928</b>
<b>Net increase</b>	<b>46%</b>

Source: Walker Parking Consultants, 2017

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**Recommendations:**

- Increase meter/overtime fine from \$15 to \$20, the same as a failure to display a permit
- Increase most permit or privilege violations (e.g., permit does not apply, loading space) to \$30;
- Return "no valid permit" to its pre-2007 fine of \$40;
- Increase safety-related violations to \$50;
- Keep reserved-space violations commensurate with pricing, by increasing to \$100;
- Move the most egregious violations to the current maximum fine of \$250 (e.g., ADA and fraud);
- As fines increase the \$5 fee for frivolous appeals should be increased as well, perhaps to \$10. If it is too low compared to a fine, people will file an appeal just to delay paying the fine, and \$5 is a relatively small penalty, especially if an appeal is made solely to avoid having the ticket double; and,
- All violation fines should double after seven days, including ADA and fraud.

**PERMIT FEES**

UofL's Parking and Transportation Services is currently not generating adequate revenues to cover its expenses, including debt service. As a campus auxiliary it is intended to be completely self-supporting, but it is only accomplishing a balanced budget by spending down existing reserves. This is not a sustainable model of operation. The largest single source of revenue (approximately two-thirds) is parking permit fees.

Walker has recommended a revised parking fee structure, which is presented in the table below. These fees are not only intended to balance the budget, but also to balance supply and demand, by creating a much higher premium for highly-convenient parking. The model is built to allow any campus community member to avoid the bulk of any increases by moving to perimeter, rather than central, parking areas. This is applicable on both the Belknap and HSC campuses. For example, reserved parking fees would increase substantially, and student residents would pay a premium to parking immediately adjacent to their residence hall versus parking (or storing their cars) in a perimeter lot.

The model below reflects assumptions including: parking at PJCS allowing overnight parking, and/or the addition of the "silos" lot to the inventory as a perimeter lot. Expenses related to renovating the silos lot or to additional shuttle capacity and hours are not included in these projections. The model also does not assume any additional investments in transportation demand management strategies. Although, approximately 600 current individual parking permit holders (less than five percent) are assumed to shift to transit or carpools, to avoid permit price increases.

The basis for permit revenue was derived using FY2018 parking permit prices (raised for the first time in six years), and actual sales numbers from FY2017.

Exhibit 26: Existing UofL Permit Fees and Sales

FY2018 prices (FY2017 sales numbers)				
Belknap Campus	User Group	Annual Price	Permits Sold	Revenue
Red	Employees	\$620	861	\$533,820
Blue	Employees	\$296	1,413	\$418,248
Green	Grad Stdts	\$149	1,616	\$240,784
Yellow	Resident	\$169	1,740	\$294,060
Orange	Resident	\$169	435	\$73,515
Purple	Undergrad	\$100	4,016	\$401,600
HSC Campus				
Red	Employees	\$620	329	\$203,980
Magenta	Employees	\$399	743	\$296,457
Jewish Hosp.	Employees	\$379	226	\$85,654
White	Stdts & Employees	\$379	1,474	\$558,646
Blue	Employees	\$296	109	\$32,264
Green	Grad Stdts	\$149	236	\$35,164
Brown	Residents	\$169	32	\$5,408
Handicapped		\$256	256	\$65,536
<b>CURRENT TOTAL</b>			<b>13,486</b>	<b>\$3,245,136</b>

Source: Walker Parking Consultants, 2017

To build a new parking fee structure, we defined a “base” rate for main campus, unreserved parking like current blue and white permits. All other fees are keyed to this rate. For example, in the model below, reserved permits are three times this amount and perimeter parking is three-tenths of this amount. Residential permits (yellow, orange, brown) are priced at 1.25 times the base rate, in recognition of their 24/7 privileges. The illustrated “base” rate is \$400 per year



**Exhibit 27: Existing UofL Permit Fees and Sales**

**Base Fee (all users) \$400**

	Multiplier*	Fee	Was	As is #**		Shifts/elasticity ***	
Main campus and HSC unreserved	1	\$400	Blue/Magenta/White/Jewish	3,965	\$1,586,000	4,692	\$1,876,640
Main campus and HSC reserved	3	\$1,200	Red	1,190	\$1,428,000	1,190	\$1,428,000
Resident student - Belknap and HSC (24/7 access)	1.25	\$500	Yellow/Orange/Brown	2,207	\$1,103,500	1,430	\$714,875
HSC - 620 roof (incl. HSC residents)	0.5	\$200	Green/Brown?	1,852	\$370,400	169	\$33,700
Remote parking student/employee commuters (stadium)	0.3	\$120	Purple	4,016	\$481,920	4,642	\$557,052
Remote parking residents employee commuters (Silos)	0.3	\$120	N/A (e.g., Silos location)	-		503	\$60,408
Handicapped	1	\$400		256	\$102,400	256	\$102,400
<b>POTENTIAL TOTAL</b>				<b>13,486</b>	<b>\$5,072,220</b>	<b>12,881</b>	<b>\$4,773,075</b>
<b>Net Revenue Gain ****</b>				<b>\$1,827,084</b>		<b>\$1,527,939</b>	

\* Relative to "base fee"

\*\* No behavior change

\*\*\* Price changes yield shifts in behavior

\*\*\*\* No TDM shift anticipated in this model

Source: Walker Parking Consultants, 2017

Some of the assumptions that feed into the model above are as follow:

- White, Jewish Hospital, and Magenta permits: No change as the price increases minimally, from \$379 or \$399 annually to \$400.
- Blue permits: Fee increases from \$296 to \$400 per year. Ten percent of Belknap Blue permit holders move to perimeter parking at \$120 per year. Ten percent of HSC Blue permit holders move to the roof of the 620 garage at \$200 per year.
- Red permits: Fee increases from \$620 to \$1,200 per year. Due to the high desirability of, and latent demand (i.e., the waiting list) for, these permits, no change in the number purchased is assumed.
- Yellow and Orange Permits: Fee increases from \$169 to \$500 per year. 65 percent continue to purchase privileges for these highly-convenient parking spaces; 20 percent of students leave their cars at home, and 15 percent move to perimeter parking at \$120 per year.
- Brown permits: Fee increases from \$169 to \$500 per year. Half of these HSC campus residents are projected to keep their proximate access, while half move to the roof of the 620 Garage for \$200 per year.

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- Green permits: This \$149 permit type is essentially eliminated. On the Belknap campus 50 percent are projected to purchase “base” priced permits for main campus parking at \$400 per year; 30 percent move to perimeter parking at \$120 per year; and, 20 percent do not bring cars to campus. At HSC, 30 percent purchase “base” priced permits for \$400 per year; 60 percent move to the 620 Garage roof; and, ten percent do not bring cars.
- Purple permits: Fee increases from \$100 to \$120 per year and yields no change in purchases, though these areas (PJCS and potentially “silos”) see an influx from other permit types, as indicated above.
- ADA permits: Share the fees in the area in which the permit holders park. No change in number of ADA permits sold is assumed.

The parking fees and assumptions indicated above yield a projected annual net revenue gain of approximately \$1.53 million over the status quo. Combined with the recommended increased parking fines, the total net revenue gain would be \$1.67 million in the first year. This would be enough to balance the Parking and Transportation Services budget, would fund a sinking fund for the proper maintenance of the parking infrastructure, and would help build capital reserves necessary for future major repairs or additions to the parking system.

Although the fees above are consistent (and in most cases still lower than) benchmark institutions and the local parking market, if the University does not have the appetite for such increases, alternative revenue streams could be pursued. Student transportation fees and the employee benefits overhead rate are potential sources of revenue to support some of Parking and Transportation Services operations.

#### OTHER POTENTIAL REVENUE SOURCES

If, as discussed above, the University does not have the appetite for the fee increases that are appropriate to balance the Parking and Transportation Services budget, the campus could instead pursue other forms of revenue to supplement parking fees.

Currently, the University (through the Parking and Transportation Services budget) pays over \$800,000 per year to TARC for public transit and shuttle services. This amount is projected to increase over time as the transit agency’s expenses continue to rise. Arguably, offering unlimited public transportation to UofL’s students, faculty, and staff is a benefit—either connecting people to perimeter parking lots or bringing them to and from campus, as a primary mode. To this end, there are potential (and relatively small) user fees that could be implemented to supplement Parking and Transportation Services’ budget. Walker recommends a combination of a student transit fee and an employee benefits overhead charge—with a goal of generating approximately \$1.3 million per year to offset transit, shuttles, and potentially other transportation demand management (TDM) opportunities (e.g., carpooling and vanpooling benefits, and perhaps restoring funding to the nationally recognized Earn-a-Bike program).

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An example of how this funding could be raised is as follows:

- Student transportation fee: With the current student body (Belknap and HSC) of just over 25,000 students a transportation fee of \$20 per semester could generate approximately \$1 million per year. This is, of course, scalable—as the fees generated would increase as the student body grows. The fee could also be designed to increase annually by a small inflationary figure (e.g., two percent per year).
- Faculty/Staff benefits overhead rate: UofL currently has a benefits overhead rate of 25.44 percent (which funds, among other things, the University portion of health insurance and life insurance premiums, retirement accounts, etc.). With an annual payroll of over \$600 million, an increase of 0.05 percent to 25.49 percent could provide approximately \$300 thousand towards transit and transportation benefits. For most employees' wages this would represent a cost of one to two cents an hour.

### VISITOR/ADMISSIONS PARKING

It is important to be cognizant that campus guests—whether guest speakers, alumni, the media, service providers, contractors, or especially prospective students—have a measurable impact on the success and future of the University of Louisville. And, nearly everyone, whether transient visitors to campus (like those listed above) and daily users of campus (faculty, staff, and students), value convenient parking. All of these constituencies bring significant value to the campus—and each, likely, would prefer not to pay for parking.

Layered atop these campus needs and desires is the reality that there is a substantial expense involved with providing, operating, and maintaining the campus parking system. The PTS auxiliary operation (as described in an earlier section) is required to be financially self-sustaining. To lend perspective, it is helpful to consider that the Parking and Transportation auxiliary does not “own” any of the parking infrastructure—the parking garages and lots are University resources, of which PTS is the steward. To recoup expenses, parking fees are charged. If any parking is provided at “no-fee,” the associated proportion of the overall expense is shifted to different users and user groups. For example, if students did not have to pay for permits, faculty and staff would have to pay more; if visitors (or certain classes of visitors) do not pay, that cost burden is implicitly shifted to permit holders instead.

In order to be equitable for the entire University, its community members, and its guests, all parking should have an associated fee. However, this should not imply that parking fees need to be charged to every end-user. For example, a department may wish to cover the cost of a guest speaker's parking, and admissions may not desire that parking costs are passed along to prospective students and their families. In these cases, because PTS is an auxiliary (as opposed to generally funded), the sponsoring organization should be able to directly compensate PTS for the parking costs.

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How Admissions guests are accommodated is, reasonably, a critical issue at UofL. These prospective students represent the lifeblood of the institution. And while Walker strongly recommends that the burden of the cost of accommodating this important demographic should not be borne by PTS (and by extension, the other paying customers), the department does have an important responsibility to assure good and consistent access for these guests.

Some important aspects of Walker's recommendations, if implemented, should result in a loosening of demand in the most desirable parking on both campuses, especially including the central portions of the Belknap campus. If some of the demand can be reduced through pricing incentives and enhanced transportation demand management (TDM) (see next section), UofL will have the opportunity to convert some permit parking on the main campus to short-term parking to address the needs of visitors. Walker suggests that this should be the role of PTS—to provide appropriate management of the parking system to support campus access, not to provide no-fee parking.

If more parking spaces are made available for transient use, and managed with a parking meter or other form of revenue collection, individual departments or campus functions could have the ability to pay for their guests' parking—whether by voucher, validation, or journal transfer to PTS. If any individual campus department desires reserved parking spaces, dedicated solely to their guests, they should pay the same annual cost for those spaces (plus signage and installation costs) as individuals do. It is possible that some of the demand reduction techniques recommended in this report could make enough spaces available to allow some dedicated and reserved spaces to be set aside. Walker does not recommend the broad use of reserved spaces, as they will likely be empty a good portion of the time, rendering the use of a limited resource less efficient than shared uses would.

**Recommendations:**

- Build user-assignment and parking-allocation strategies that support the needs of campus departments to accommodate guests and other short-term campus users.
- Charge for the use of all campus parking spaces to spread the expenses associated with the provision of parking (as an auxiliary business unit) equitably across all beneficiaries of the system.
- Allow campus departments to absorb the costs of parking for their guests—i.e., it does not have to be the end-user who pays the fee.
- Applying other recommendations in this report, work to reduce demand in the currently most congested areas of the campuses.
- Reallocate some central parking from permit-controlled to short-term, to support campus departments, including Admissions.
- If spaces are dedicated to a specific use or department, PTS should be compensated for the annual cost of a reserved space.

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## TRANSPORTATION DEMAND MANAGEMENT (TDM)

Adding parking supply is not the only way to accommodate campus parking needs. It is possible (and often less costly) to make existing parking supply—or at least the most convenient parking supply—adequate to campus needs by shifting demand and reducing the number of single-occupancy vehicles (SOVs) brought to campus each day—this is referred to as transportation demand management or TDM. With an investment of effort, it may be possible to enhance these demand reductions through policy changes, targeted communications, programmatic enhancements and incentives, and pricing disincentives.

UofL already has the building blocks of a robust TDM program, including the following:

- A strong partnership with TARC to provide unlimited, no-fee public transportation to all members of the campus community;
- A shuttle system to connect perimeter parking to the main campus. While this does not reduce traffic to the University, it does reduce congestion on and through the densest areas of pedestrian and cyclist circulation;
- A ride-matching portal (Cardinal Directions);
- Dedicated carpool spaces;
- Availability of vanpooling programs;
- Access to carsharing;
- Investment in bikesharing; and,
- Access to a guaranteed ride home program.

## PRICING STRATEGIES

When parking demand begins to outstrip the available supply in single, high-demand lots or in entire campus areas, it may be worthwhile to look at pricing strategies. There are many ways to undertake this, depending upon the demand patterns: all parking can be increased equally or pricing can be tiered based on the relative desirability of particular parking areas. Strategic pricing can shift demand to less utilized lots, allowing more efficient use of existing spaces, or overall use of parking can be reduced, encouraging people to use other modes—however, it is important to note that in order to be effective and to generate goodwill, it is vital to have alternatives available, lest employees simply bite the bullet when it comes to higher pricing, with no appreciable effect on demand. Walker's recommended parking pricing structure is detailed in the "Fees" section of this report.

## Recommendations

- Widely publicize the availability of the Guaranteed Ride Home Program.
- Use pricing as a lever to impact parking and transportation decisions.
- Incentivize the use of perimeter parking to reduce central campus congestion and to free up spaces for transient parkers and prospective students. Increase shuttles as

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needed, convert perimeter spaces to allow overnight parking, and enhance security as needed.

- Promote the use of public transportation.
- Increase the incentives for carpooling; consider a financial incentive, rather than—or in addition to—a reserved parking space.
- Consider the use of "Other Potential Revenue Sources," as described earlier in this report to fund enhanced TDM programs, including the possible funding of programs such as Earn-a-Bike, that have been lost to financial exigencies.
- Set up events at which people can get personalized support to figure out their transportation alternatives.
- Have lunch-and-learns or timeclock meetings—especially with shift workers—with the support of the local vanpool providers, to explain and generate interest in vanpooling.
- Publicize the availability of carshare vehicles for personal errands and for University business, the higher the utilization, the more likely the carshare provider is to add vehicles—this creates a positive feedback loop.
- Continue to support cyclists (improve infrastructure incrementally as projects are undertaken, provide shower access, continue invest in bikesharing).

See Appendix 3 for a more detailed discussion of TDM programs and support services.

**AUDIT**

Walker recommends the following best practices for auditing cash, cash equivalents, and procedures. In general terms, there are six types of audits, which we recommend on the following schedule:

Type of Audit	Frequency
Cash Controls Audit	Annually
Permits/Decal Audit	Annually
Other Revenue Audit (credit card, etc.)	Every 2-3 Years
Operational Audit	Every 2-3 Years
Citations/Fines Audit	Every 2-3 Years
Operating Expenses/Payroll Audit	Annually

A more detailed description of each audit activity follows:

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### CASH CONTROLS

1. Review cash handling procedures for effectiveness, segregation of duties, and accountability.
2. Review sampling of cash collections to ensure the money is properly accounted for, reconciled, accurately recorded in the accounting records, and deposited in a timely manner.

### PERMITS/DECAL

1. Review permit and/or decal cost and compare to recent permit sales to ensure accuracy.
2. Review duplicate permit/decal policies and compare to listing of assigned duplicates. Perform spot checks of vehicles on campus to measure compliance with the policy.
3. Perform spot check of vehicles in non-controlled parking lots and/or garages for policy compliance.

### OTHER REVENUE

1. Review credit card revenue collection methods, checking for correct fee assessment and collection of all revenue.
2. Review Accounts Receivable outstanding balances and adjustments, and write-off practices and procedures.

### OPERATIONAL AUDIT

1. Review parking equipment and management system. Ensure that interfaces are working properly and all equipment is in working order.
2. Review operations manual to ensure all facets of parking operation are included. Recommend additions and/or changes based upon the review.
3. Interview staff regarding operating procedures and record current observations. Compare findings to operations manual.

### CITATIONS/FINES

1. Review parking citations/fines policy. Comment on effectiveness and compliance with best practices.
2. Review sampling of imposed citations/fines for compliance to current policy.

### OPERATING EXPENSES/PAYROLL

1. Review sampling of operating expense invoices for accuracy and feasibility. Compare invoices to accounting records.
2. Audit all employee time cards and reconcile to accounting records.
3. Reconcile auxiliary payroll charges to accounting records (tax, workers' compensation, etc.)

# FIVE-YEAR FINANCIAL PROJECTIONS



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### **FIVE-YEAR FINANCIAL PROJECTIONS**

Five-year financial projections were developed for PTS. The first projection assumes that UofL's permit and citation fees remain at current levels, but with 2.5 percent annual parking fee and expense growth. The second projection assumes that Walker's recommended fees and permit sales (discussed in the Recommendations section) are implemented in FY2019, and that the fees and expenses grow by 2.5 percent each year.

Both projections use actual expenses from FY2017 and FY2018 parking fees as a base, and extrapolate future revenues and expenses based on those values. All revenues and expenses also are assumed to grow by 2.5 percent each year, to account for inflation. To account for a recent increase in transient parking fees, a 38 percent increase in transient revenue above FY2017 levels was assumed, in addition to the 2.5 percent growth. Agreements for KentuckyOne parking have also been recently updated, which will generate more revenue, and these agreements are implemented in the projection.

A "sinking fund" is also assumed, to cover regular maintenance and repairs to the parking infrastructure. Based on Walker's experience, this sinking fund was assumed to be 1% of \$20,000 per structured space per year and 1% of \$5,000 per surface space per year, or about \$1 million per year.

Payments to TARC for shuttles, as well as the HSC shuttle remain the same costs as in FY2017, as do wages and benefits, and are inflated by 2.5 percent annually. Expenses also include the operation and maintenance of the new proposed PARCS, which was estimated to cost 10 percent of the initial cost, or about \$100,000 per year.

The five-year expense projection is presented below. Both permit and citation fee scenarios assume the same expenses.

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**Exhibit 28: 5-Year Expense Projection (Both Scenarios)**

		Year 1	2	3	4	Year 5
	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
	Approx. Actual	Projected	Projected	Projected	Projected	Projected
<b>Wages and Benefits</b>						
Wages	\$ (697,080)					
Benefits	\$ (256,393)					
Sub-Total	\$ (953,473)	\$ (977,300)	\$ (1,001,700)	\$ (1,026,700)	\$ (1,052,400)	\$ (1,078,700)
<b>Non-Labor Operating Expenses</b>						
Equipment, Supplies, & Maintenance	\$ (344,850)	\$ (270,433)	\$ (277,200)	\$ (284,100)	\$ (291,200)	\$ (298,500)
PARCS Operation and Maintenance		\$ (102,500)	\$ (105,100)	\$ (107,700)	\$ (110,400)	\$ (113,200)
Insurance	\$ (38,153)	\$ (39,100)	\$ (40,100)	\$ (41,100)	\$ (42,100)	\$ (43,200)
Utilities	\$ (105,198)	\$ (107,800)	\$ (110,500)	\$ (113,300)	\$ (116,100)	\$ (119,000)
UofL Administrative Fee	\$ (251,022)	\$ (257,300)	\$ (263,700)	\$ (270,300)	\$ (277,100)	\$ (284,000)
TARC Shuttle	\$ (808,505)	\$ (828,700)	\$ (849,400)	\$ (870,600)	\$ (892,400)	\$ (914,700)
Miscellaneous	\$ (146,936)	\$ (150,600)	\$ (154,400)	\$ (158,300)	\$ (162,300)	\$ (166,400)
Sub-Total	\$ (1,694,665)	\$ (1,756,433)	\$ (1,800,400)	\$ (1,845,400)	\$ (1,891,600)	\$ (1,939,000)
<b>Total Operating Expenses</b>	\$ (2,648,138)	\$ (2,733,733)	\$ (2,802,100)	\$ (2,872,100)	\$ (2,944,000)	\$ (3,017,700)

Source: Walker Parking Consultants, 2017

The five-year net revenue projection that assume UofL's current fees is presented below, followed by the projection assuming Walker's recommended fees.

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**Exhibit 29: 5-Year Net Revenue Projection (Assuming UofL Fees)**

	Projected Year:					
	Year 1	2	3	4	Year 5	
	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
	Approx. Actual	Projection	Projection	Projection	Projection	Projection
<b>Revenue</b>						
Parking Permits	\$ 3,090,297	\$ 3,248,136	\$ 3,345,199	\$ 3,438,860	\$ 3,533,159	\$ 3,636,062
Transient Surface	\$ 137,171	\$ 182,800	\$ 187,400	\$ 192,100	\$ 196,900	\$ 201,800
Transient Structure	\$ 949,808	\$ 1,265,600	\$ 1,297,200	\$ 1,329,600	\$ 1,362,800	\$ 1,396,900
KentuckyOne	\$ 189,793	\$ 505,992	\$ 562,212	\$ 618,444	\$ 630,813	\$ 630,825
Parking Meters	\$ 22,348	\$ 29,800	\$ 30,500	\$ 31,300	\$ 32,100	\$ 32,900
Parking Fines	\$ 271,476	\$ 278,300	\$ 285,300	\$ 292,400	\$ 299,700	\$ 307,200
Department Revenues	\$ 55,781	\$ 57,200	\$ 58,600	\$ 60,100	\$ 61,600	\$ 63,100
Revenue Sub-Total	\$ 4,716,674	\$ 5,567,828	\$ 5,766,411	\$ 5,962,804	\$ 6,117,072	\$ 6,268,787
<b>Revenue Reductions</b>						
Sinking Fund		\$ (1,041,050)	\$ (1,067,100)	\$ (1,093,800)	\$ (1,121,100)	\$ (1,149,100)
Debt Service	\$ (970,560)	\$ (1,035,412)	\$ (1,037,083)	\$ (1,989,595)	\$ (2,688,451)	\$ (2,690,601)
<b>Net Revenue</b>	\$ 3,746,114	\$ 3,491,366	\$ 3,662,228	\$ 2,879,409	\$ 2,307,521	\$ 2,429,086
<b>Total OpEx</b>	\$ (2,648,138)	\$ (2,733,733)	\$ (2,802,100)	\$ (2,872,100)	\$ (2,944,000)	\$ (3,017,700)
<b>Net Operating Income</b>	\$ 1,097,975	\$ 757,633	\$ 860,128	\$ 7,309	\$ (636,479)	\$ (588,614)

Source: Walker Parking Consultants, 2017

Exhibit 30: 5-Year Net Revenue Projection (Assuming Walker's Recommended Fees)

		Year 1	2	3	4	Year 5
	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
	Estimate	Projection	Projection	Projection	Projection	Projection
<b>Revenue</b>						
Parking Permits	\$ 3,090,300	\$ 3,251,562	\$ 4,783,240	\$ 4,913,745	\$ 5,046,190	\$ 5,185,412
Transient Surface	\$ 137,171	\$ 182,800	\$ 187,400	\$ 192,100	\$ 196,900	\$ 201,800
Transient Structure	\$ 949,808	\$ 1,265,600	\$ 1,297,200	\$ 1,329,600	\$ 1,362,800	\$ 1,396,900
KentuckyOne	\$ 189,793	\$ 505,992	\$ 562,212	\$ 618,444	\$ 630,813	\$ 630,825
Parking Meters	\$ 22,348	\$ 29,800	\$ 30,500	\$ 31,300	\$ 32,100	\$ 32,900
Parking Fines	\$ 271,476	\$ 278,300	\$ 453,400	\$ 464,700	\$ 476,300	\$ 488,200
Department Revenues	\$ 55,781	\$ 57,200	\$ 58,600	\$ 60,100	\$ 61,600	\$ 63,100
Sub-Total	\$ 4,716,676	\$ 5,571,254	\$ 7,372,552	\$ 7,609,989	\$ 7,806,703	\$ 7,999,137
<b>Revenue Reductions</b>						
Sinking Fund		\$ (1,041,050)	\$ (1,067,100)	\$ (1,093,800)	\$ (1,121,100)	\$ (1,149,100)
Debt Service	\$ (970,560)	\$ (1,035,412)	\$ (1,037,083)	\$ (1,989,595)	\$ (2,688,451)	\$ (2,690,601)
<b>Net Revenue</b>	\$ 3,746,116	\$ 3,494,792	\$ 5,268,369	\$ 4,526,594	\$ 3,997,152	\$ 4,159,436
Total OpEx	\$(2,648,138)	\$(2,733,733)	\$(2,802,100)	\$(2,872,100)	\$(2,944,000)	\$(3,017,700)
<b>Net Operating Income</b>	\$ 1,097,978	\$ 761,058	\$ 2,466,269	\$ 1,654,494	\$ 1,053,152	\$ 1,141,736

Source: Walker Parking Consultants, 2017

Unlike the scenario which includes Walker's recommended fees, the first scenario shows an operating deficit by 2021, after debt service payments approach \$2 million.

Pro formas for both scenarios are presented in the tables below, and show the cumulative net operating income over the five years.

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**Exhibit 31: 5-Year Pro Forma (Assuming UofL Fees, 2.5% Annual Fee Growth)**

	Projected Year:					
	Year 1	2	3	4	Year 5	
	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
	Approx. Actual	Projection	Projection	Projection	Projection	Projection
Revenue	\$ 4,716,674	\$ 5,567,828	\$ 5,766,411	\$ 5,962,804	\$ 6,117,072	\$ 6,268,787
Total OpEx	\$ (2,648,138)	\$ (2,733,733)	\$ (2,802,100)	\$ (2,872,100)	\$ (2,944,000)	\$ (3,017,700)
Sinking Fund		\$ (1,041,050)	\$ (1,067,100)	\$ (1,093,800)	\$ (1,121,100)	\$ (1,149,100)
Debt Service	\$ (970,560)	\$ (1,035,412)	\$ (1,037,083)	\$ (1,989,595)	\$ (2,688,451)	\$ (2,690,601)
<b>Net Operating Income</b>	<b>\$ 1,097,975</b>	<b>\$ 757,633</b>	<b>\$ 860,128</b>	<b>\$ 7,309</b>	<b>\$ (636,479)</b>	<b>\$ (588,614)</b>
<b>Cumulative NOI</b>	<b>\$ 1,097,975</b>	<b>\$ 1,855,608</b>	<b>\$ 2,715,736</b>	<b>\$ 2,723,045</b>	<b>\$ 2,086,566</b>	<b>\$ 1,497,952</b>

Source: Walker Parking Consultants, 2017

**Exhibit 32: 5-Year Pro Forma (Assuming Walker's Recommended Fees, 2.5% Annual Fee Growth)**

	Projected Year:					
	Year 1	2	3	4	Year 5	
	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
	Approx. Actual	Projection	Projection	Projection	Projection	Projection
Revenue	\$ 4,716,676	\$ 5,571,254	\$ 7,372,552	\$ 7,609,989	\$ 7,806,703	\$ 7,999,137
Total OpEx	\$ (2,648,138)	\$ (2,733,733)	\$ (2,802,100)	\$ (2,872,100)	\$ (2,944,000)	\$ (3,017,700)
Sinking Fund		\$ (1,041,050)	\$ (1,067,100)	\$ (1,093,800)	\$ (1,121,100)	\$ (1,149,100)
Debt Service	\$ (970,560)	\$ (1,035,412)	\$ (1,037,083)	\$ (1,989,595)	\$ (2,688,451)	\$ (2,690,601)
<b>Net Operating Income</b>	<b>\$ 1,097,978</b>	<b>\$ 761,058</b>	<b>\$ 2,466,269</b>	<b>\$ 1,654,494</b>	<b>\$ 1,053,152</b>	<b>\$ 1,141,736</b>
<b>Cumulative NOI</b>	<b>\$ 1,097,978</b>	<b>\$ 1,859,036</b>	<b>\$ 4,325,305</b>	<b>\$ 5,979,799</b>	<b>\$ 7,032,951</b>	<b>\$ 8,174,687</b>

Source: Walker Parking Consultants, 2017

The scenario in which UofL maintains its current fees results in an operating deficit by 2021, and a cumulative net operating income of approximately \$1.5 million. Conversely, the scenario in which Walker's recommended fees are adopted result in no years of operating deficit, and a cumulative net operating surplus of over \$8.1 million, and include all payments to TARC, maintenance to the parking system infrastructure, and debt service payments. These funds could be used to support more extensive TDM services, like Cardinal Directions and Earn-a-Bike, which have been suspended or are in jeopardy, due to lack of funding.

# STATEMENT OF LIMITING CONDITIONS



**WALKER**  
PARKING CONSULTANTS

AUGUST 25, 2017

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## **STATEMENT OF LIMITING CONDITIONS**

This report is subject to the following limiting conditions:

1. This report is based on assumptions outside the control of Walker Parking Consultants/Engineers, Inc. ("Walker") and/or our client. Therefore, Walker cannot guarantee the results.
2. The results and conclusions presented in this report may be dependent on assumptions regarding the future local, national, or international economy. These assumptions and resultant conclusions may be invalid in the event of war, terrorism, economic recession, rationing, or other events that may cause a significant change in economic conditions.
3. Walker assumes no responsibility for any events or circumstances that take place or change subsequent to the date of this report.
4. Walker is not qualified to detect hazardous substances or environmental matter, has not considered such, and therefore urges the client to retain an expert in this field, if relevant to this study.
5. Sketches, photographs, maps and other exhibits included herein may not be of engineering quality or to a consistent scale, and should not be relied upon as such.
6. All information, estimates, and opinions obtained from parties not employed by Walker, are assumed to be accurate. We assume no liability resulting from information presented by the client or client's representatives, or received from any third-party sources.
7. All mortgages, liens, encumbrances, leases, and servitudes have been disregarded unless specified otherwise. Unless noted, we assume that there are no encroachments, zoning violations, or building violations affecting the subject properties.
8. This report is to be used in whole and not in part. None of the contents of this report may be reproduced or disseminated in any form for external use by anyone other than our client without our written permission.
9. The projections presented in the analysis assume responsible ownership and competent management. Any departure from this assumption may have a negative impact on the conclusions.

# APPENDICES



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**APPENDICES**

**APPENDIX 1: BENCHMARK PEER INSTITUTION PERMIT FEES**

UofL runs parking as an auxiliary enterprise, which means it must operate as a business and balance financially. This is true for 11 of the 15 schools studied. These universities likely have higher parking fees than universities that do not run parking as an auxiliary enterprise, since the revenues and expenses do not necessarily need to be balanced. Of the universities studied, three subsidize the parking system cost through mandatory student fees. Two of these universities, SUNY Buffalo and SUNY Stony Brook also only charge students through a mandatory transportation tuition fee, and the reason for this is likely that the parking system is not an auxiliary enterprise.

Exhibit 33: Parking Funding and Spaces

Institution	Auxiliary	Approx. Total Spaces	% Structure	% Surface
<b>University of Louisville</b>	<b>Yes</b>	<b>10,147</b>	<b>35%</b>	<b>65%</b>
SUNY - Buffalo	No	19,000	N/A	N/A
SUNY - Stony Brook	No	N/A	N/A	N/A
Temple University	No	3,510	66%	34%
University of Alabama	Yes	14,000	50%	50%
University of Cincinnati	Yes	N/A	N/A	N/A
U. of Illinois - Chicago	Yes	10,466	65%	35%
University of Iowa	No	15,669	28%	72%
University of New Mexico	Yes	14,000	18%	82%
University of North Carolina	Yes	22,240	29%	71%
University of Pittsburgh	Yes	4,918	72%	28%
University of South Carolina	Yes	12,000	51%	49%
University of South Florida	Yes	20,840	33%	67%
University of Utah	Yes	12,049	24%	76%
Virginia Commonwealth U.	Yes	12,749	71%	29%
Wayne State University	Yes	13,000	52%	48%
Mean Values*		13,419	47%	53%

\*Mean values do not include University of Louisville figures.  
Source: Walker Parking Consultants, 2017

The parking fees recorded in the table below were collected by U of L.

Exhibit 34: Annual Parking Fees at Benchmark Universities

Institution	Reserved Employee (12 mo.)	Employee (12 mo.)	On-Campus Students (9 mo.)	Remote Commuter (9 mo.)
<b>University of Louisville</b>	<b>\$ 590</b>	<b>\$ 281</b>	<b>\$ 150</b>	<b>\$ 98</b>
SUNY - Buffalo		Free	Tuition fee only	
SUNY - Stony Brook		Free	Tuition fee only	
Temple University		\$ 1,440	\$ 900	\$ 540
University of Alabama		\$ 600	\$ 380	\$ 325
University of Cincinnati	\$ 1,248	\$ 936	\$ 585	\$ 264
U. of Illinois - Chicago	\$ 1,446	\$ 906	\$ 704	
University of Iowa	\$ 696	\$ 540	\$ 300	\$ 225
University of New Mexico*	\$ 1,450	\$ 400	\$ 300	\$ 175
University of North Carolina	\$ 1,658	\$ 925	\$ 323	\$ 246
University of Pittsburgh	\$ 1,104	\$ 1,020	\$ 680	\$ 680
University of South Carolina		\$ 340	\$ 220	\$ 90
University of South Florida	\$ 1,076	\$ 265	\$ 226	\$ 183
University of Utah	\$ 1,734	\$ 446	\$ 341	
Virginia Commonwealth U.	\$ 1,068	\$ 840	\$ 430	\$ 196
Wayne State Universtiy		\$ 345	\$ 574	
Mean Fee**	\$ 1,276	\$ 693	\$ 459	\$ 292
Median Fee**	\$ 1,248	\$ 600	\$ 380	\$ 236
UofL Deviation from Mean	\$ (686)	\$ (412)	\$ (309)	\$ (194)
UofL Deviation from Median	\$ (658)	\$ (319)	\$ (230)	\$ (138)

\*U. of New Mexico also charges a transportation fee to students.

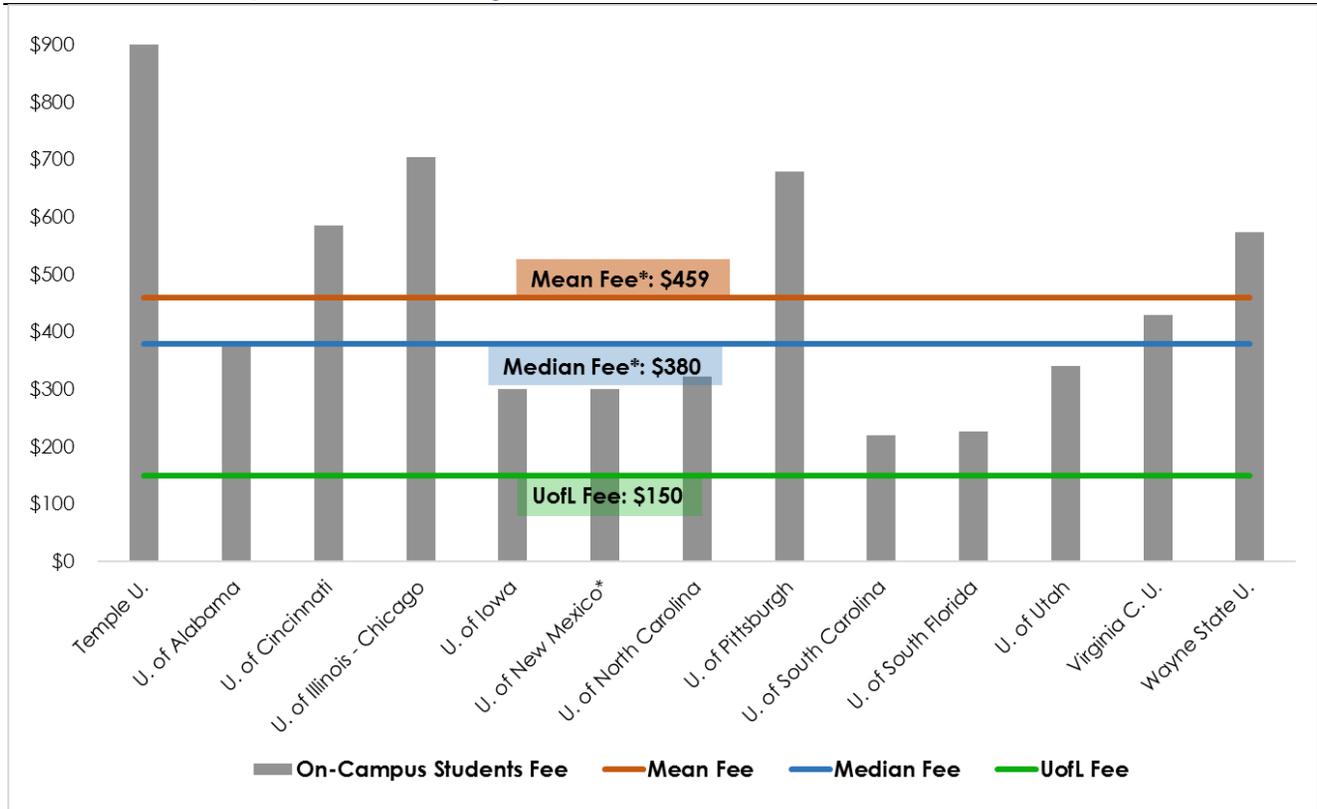
\*\*Mean and median fees do not include University of Louisville fees.

Source: Walker Parking Consultants, 2017

Although UC Irvine and UC San Diego are considered academic peers of Uof L, Walker has left them out of this comparison as the culture, regulations, and expenses surrounding parking in California are not generally comparable and would have skewed the mean peer parking fees significantly higher.

UofL's fees are all lower than the mean fee across universities (not including UofL in the mean values). Reserved parking is \$686 below, employee parking is \$412 below, the on-campus student fee is \$309 below, and remote commuter student parking is \$194 below the mean fee. These differences are illustrated in the figure below.

Exhibit 35: On-Campus Student Parking Fees



\*Mean and median fees do not include University of Louisville fees.

Data Source: University of Louisville

Insight can also be gained by examining universities' structured parking ratio to lot and on-street parking. It is expected that universities that have parking auxiliaries and that have a relatively large amount of structured parking will need to charge more for parking than those with a low amount, since debt for the parking structure and reserves for repairs. Indeed, Temple, Illinois at Chicago, Virginia Commonwealth (specifically employee fees), and Pittsburgh charge among the highest fees among these universities, and all three have over 65% of their parking inventory in structured parking.

CAMPUS SHUTTLES AND PUBLIC TRANSPORTATION

All of the 15 universities studied have campus shuttles, which are free to students, faculty, and staff in all the universities except for SUNY Buffalo and SUNY Stony Brook. For the schools in which parking is an auxiliary enterprise, the shuttle systems are as well. In many cases, rides are subsidized through mandatory student tuition fees. In the case of the auxiliary enterprises, those subsidies are routed through the enterprise department.

Exhibit 36: Transit Incentives and Transportation Funding

Institution	Public Transit Discounts	Student Tuition Fee
<b>University of Louisville</b>	<b>Free to students</b>	<b>No</b>
SUNY - Buffalo	Not discounted	Shuttle
SUNY - Stony Brook	Not discounted	Shuttle
Temple University	10% discount to students	No
University of Alabama	Not discounted	No
University of Cincinnati	Not discounted	No
U. of Illinois - Chicago	Free to students	Transit & Shuttle
University of Iowa	Discounted rate to students	No
University of New Mexico	Free to students	Shuttle
University of North Carolina	Free to entire public	No
University of Pittsburgh	Free to students	Shuttle
University of South Carolina	Free to first year students	No
University of South Florida	Free to students	No
University of Utah	Discounted rate to students	Shuttle
Virginia Commonwealth U.	Discounted rate to students	No
Wayne State University	Not discounted	No

*Source: Walker Parking Consultants, 2017*

The table above illustrates whether public transit is discounted or free to students, and whether the shuttle system or discounted transit rides are subsidized through mandatory student fees. In six out of the 15 schools, the shuttle system is subsidized through student fees. In the scenarios which are also auxiliary enterprises, the student fees are routed to the enterprise to help cover costs. These programs incur costs to operate, which increases the cost of overall transportation systems, which could lead to higher parking fees. University of Illinois at Chicago, for example, offers a free on-campus shuttle and free transit rides on a robust, urban public transit system, but parking fees are among the highest of the universities listed here even though both the shuttle and transit pass are subsidized through mandatory student transportation fees.

**LOUISVILLE MARKET**

The parking market near campus is mostly centered near downtown—which is adjacent to the northern edge of the Belknap campus, and surrounds the Health Sciences Campus. Parking fees at municipal garages, lots, on-street meters, and private garages and lots were recorded. The area of focus was approximately between 9<sup>th</sup> street and I-65, and the Ohio River and Broadway.

Exhibit 37: Louisville Parking Market

	Monthly (Median)		Transient
	Reserved	Unreserved	
Municipal garages	\$110	\$90	\$2/hr, either \$10 or \$18/day
Private garages	\$115	\$95	\$10/day (median)
Municipal Lots		\$60	\$3/day
Private Lots		\$60	\$5/day (median)
On-street metered: \$1.75/hour			

Sources: [louisvilledowntown.org](http://louisvilledowntown.org) and Louisville Parking Authority

The median fee for the 14 municipal garages was \$110/month for reserved spaces, and \$90/month for unreserved spaces, and all lots were \$2/hour and either \$10 or \$18 for a full day. The median fee for the 27 private garages was \$115/month for reserved spaces and \$95/month for unreserved spaces, and the median daily fee was \$10/day. The most expensive garage recorded was \$150/month for a reserved space in a private garage, and the least expensive garage was \$80/month for an unreserved space in a public garage.

The city has two public surface lots available—one is \$60/month, and the other is \$3/day. Of the 36 private lots recorded, the median fee was \$60/month and \$5/day. The less expensive lots were located just south of Broadway. The least expensive lot recorded was \$30/month and \$2/day. The most expensive lot recorded was \$130/month and \$9/day.

By contrast UofL charges the monthly equivalent of about \$17 to students for on-campus parking and about \$23 to faculty and staff. University reserved parking is offered for the equivalent of \$49 per month. This is considerably lower than the parking rates throughout Louisville in both public and private lots. Furthermore, newer off-campus student residences are starting to unbundle parking from their rental rates. Those that do so are charging closer to the market rate, approaching \$100 per month.

**CONCLUSIONS**

In general, the parking fees at UofL are a fraction of parking fees in the rest of the Louisville market, even at off-campus student residences. When compared to other institutions, the difference is not as drastic, especially when the ratio of structured parking is accounted for, UofL's student fee is about \$309 lower than the mean across all benchmark universities (\$459).

Benchmarking parking fees can be illustrative, but also has some limitations. Walker recommends using the data judiciously. Comparing to peer institutions can create some sense of context from the consumer's point of view. However, the comparison cannot reasonably take into account the differences in programs, region, setting (urban, suburban, rural), deferred maintenance, and other factors. As suggested by some of the data above, the prevalence of structured parking and provision of transit services can make a dramatic difference. The



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comparison with public and private Louisville parking prices is perhaps of more immediate relevance in understanding the local market—though supply and demand patterns may differ. Universities often have a greater density of demand than do the communities in which they operate; which can justify a campus charging fees in excess of the surrounding market. In the case of UofL, comparing to the market-price range in Louisville highlights that the University's fee structure is demonstrably low.

Perhaps the most important factor in setting parking pricing is the amount of revenue required to allow the Parking and Transportation auxiliary operation to financially break even, while also setting aside funds for the maintenance and (perhaps) the construction of additional parking infrastructure. Once the fees necessary for this type of support are proposed and massaged, it is useful to apply the context of local and peer benchmarks.

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## APPENDIX 2: AMBASSADORIAL PARKING ENFORCEMENT

### UNIVERSITY PARKING ENFORCEMENT *IS* CUSTOMER SERVICE

Prior to becoming a parking consultant, I spent 25 years working in university parking and transportation organizations, working my way from communications and marketing roles to leadership positions. Having served in these capacities, I grew to appreciate the definition of a university as “a group of people sharing a common parking problem.”

Hackneyed? Yes. But, nearly universally true—as campuses have many more daily attendees than they have parking spaces. Campus parking organizations have the challenging task of balancing the management of a scarce resource and providing service to campus customers.

*The mindset is a shift from the mentality of an enforcer to that of a protector.*

#### **What, exactly, are we trying to prevent?**

It can be easy to lose track of, but the real point of parking enforcement is neither to punish nor to generate revenue. Granted—it often does these things, too. But, the real function of parking enforcement is customer service. It is about protecting parking spaces and capacity for the people who are doing the right thing: purchasing parking permits, paying meters, and respecting time limits. People who ignore the limits and regulations, displace and inconvenience your customers. And that’s the best-case scenario—other illegal parkers are abusing ADA parking spaces and aisles, are blocking emergency access, and are preventing service and delivery from occurring effectively. These transgressions go beyond simple inconvenience and can jeopardize health, safety, and the efficiency of operations.

#### **The University Environment**

While this article focuses on university parking systems and enforcement, much of what is discussed can translate to other institutional and municipal contexts. There are features, however, which make universities unique and particularly challenging environments—features that are more striking or exaggerated in campus settings. One key difference is that in a municipality the organization providing, controlling, and enforcing parking is different than the service providers that customers are frequenting. At a university, the customers of the campus parking system are the customers of the university. Restaurant patrons generally won’t get upset with a dining establishment if they get a city parking ticket—it’s a different story on campus.

Campuses have insular populations, selling parking permits and issuing parking citations to their own faculty, staff, and students. This audience of regular community members can be touchy enough, but often it is the transient visitors to campus that can be even trickier. These guests are very sensitive to the added value that they are conscious of bringing—they include prospective students and their families, media, alumni and donors, guest speakers, dignitaries, service and delivery vendors, regents or board members, and parents.

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It is this close relationship, between the parking organization and the campus community and its guests, that really drives the necessity for a customer-service based enforcement program. If you are focusing on customer service, then you are emphasizing deterrence over citations. Part of effective deterrence is an appropriate fine structure. Many parking violators are performing a mental calculus of risk—how likely are they to get caught? And what will it cost them? Obviously, a ticket for failing to pay a meter or for parking without a permit must be expensive enough that a customer realizes that in the long run it makes more sense to abide by the rules. Other fines, however, like those for ADA spaces (or aisles) and life safety zones should be so high and so unpalatable that the goal is never to need to write a citation for that violation.

### **Ambassadors, not Ninjas**

The universities for which I worked and Walker Parking Consultants, advocate for an ambassadorial approach—meaning that the enforcement personnel shift from being ticket writers to being field service representatives (not just representing the parking organization, but the institution as a whole). There is a significant chance that these staff members will be among the first official university representatives that many campus guests will meet. They are also a consistent presence around campus; they can be greeters and guides. This casts them in a role that is an extension of the educational mission of the university—courteous, helpful, and (at least partially) in the business of catching people doing something right. Or, if they spot someone parking illegally (whether out of ignorance or disregard), they can educate and guide that customer to a legal space. Of course, this won't always work; at one point I was shadowing a member of our enforcement team and we saw someone park in a high-demand area without a permit. We got his attention and informed him that he was illegally parked; barely turning around to look at us he said: "Ticket me." So, we did. But, our first attempt was taking the opportunity to help him avoid the citation.

A good hiring and selection process is crucial to putting the right people with the right mentality out there. Naturally, a robust training program gives these talented and personable professionals the customer-service orientation and tools. Another key aspect, however, is having the appropriate metrics. If you do everything else right, but give the field representatives a ticket quota, you risk the success of this endeavor to refocus your efforts, redefine your mission, and revise your reputation. By no means does this imply that these ambassadors shouldn't have metrics—all of us should—but, as a profession we need to rethink what those metrics are. Ask your staff to make a certain number of customer contacts during the course of their day, or make sure that they are covering enough parts of the campus enough times during their shift. It's more about improving compliance than about writing tickets—the citation is only one of your tools. If you are responsible for overseeing this staff train them well, accompany them occasionally (it will do you a world of good to go out among your staff and your customers!), and set the expectation that they will hold themselves and each other accountable to the reimagined (and somewhat less tangible) metrics that you set. It's impossible to completely erase the stigma from a staff that writes citations. However, if they are friendly and proactive,

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their days are going to be more pleasant. And customers will begin to assume better (or at least won't expect the worst).

Years ago, a good friend's brother was walking his dog in the woods of Upstate New York and lit what we'll call, for argument's sake, a funny-looking cigarette. Suddenly a DEA agent (who happened to be there staking out an alleged grow operation) rappelled down—zip!—from a tree immediately above his head and cited him. That is the impression that many people have of parking enforcement. For a while, I remember our reputation being such that customers believed, or credibly seemed to believe, that our enforcement staff were literally hiding in the bushes, waiting for someone to park illegally or for a meter to expire, and jumping out to slap a citation on the windshield. Of course we are providing customer service training, not ninja training, but we need to make sure that that comes through in the way we think of ourselves and present ourselves to the public.

### **But, the Budget?**

Undoubtedly, budgetary realities have to factor into this conversation. The good news is that enforcement personnel can fully support their own positions (including equipment and career apparel) very easily, by writing an average of three to eight tickets per hour depending upon pay rates, systems, equipment, and other expenses. More good news is that, in reality, there is never likely to be a shortage of violators—there are plenty of people who won't be caught in the act of parking illegally and educated on the spot.

In a reconsidered enforcement operation, anything beyond breakeven could be considered gravy. If that would be a budget buster, consider recovering lost revenue through improved citation accuracy to reduce voids, and via enhanced collection rates. Reduced staff turnover among the enforcement ranks (by virtue of making the job and people's impressions more pleasant) will save hiring and training costs. If you have a liberal appeals process for first time violators and visitors, rather than automatically waiving or voiding the citations entirely, consider reducing the fine to what the customer *would have paid* had they known or understood the regulations (e.g., lower the fine to the cost of a meter payment or of a daily visitor permit). This can help add to the bottom line and still leave new or naive users of the system feeling as if they've been treated fairly.

### **Das Boot**

As we know, sometimes violations are so frequent, chronic, or flagrant that stronger action is needed and vehicles must be physically removed. Or, must they? A good, rational towing and booting program can also help enhance the customer service face of the parking organization, by judicious application of these options. Naturally, there are times when towing is the best (or only) solution, for example: a chronic violator parked in a high-demand area; a vehicle illegally occupying a reserved or ADA space; or, someone parked in a manner that threatens health and safety (hydrant, fire lane, etc.). Other times vehicle immobilization, or "booting," may be

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more appropriate. These boots are wheel locks, which don't allow a vehicle to be moved until the device is removed. The application of these devices can be superior to towing in many cases and for several reasons. A vehicle that is parked in an area with adequate capacity which, for example, is displaying a forged, lost, stolen, or otherwise fraudulent parking credential; or, one that belongs to a chronic violator or to someone with a high dollar-amount of outstanding fines can be immobilized instead of being towed.

There are several advantages to booting over towing (which is usually done by an outside service provider).

Obviously, the booted vehicle is still THERE. For the customer, this means no panicked phone call to the police reporting a stolen car; it also means that they don't have to chase the car down to get it out of impound, the boot fee (more on this in a moment) doesn't necessarily have to be paid in cash—a typical requirement at towing companies—and the customer can simply pay their fee and all outstanding fines, and drive away.

The university benefits by collecting a boot fee (it should be priced less than the towing fee), which generates revenue for the campus rather than for a contractor. Also this costs the customer less, creating at least fewer hard feelings. Applying a boot takes less than a minute, which is much more efficient than summoning and awaiting a tow truck. The boot can be used to compel payment in full of all outstanding fines, whereas a towing company is usually only able to and/or concerned with collecting their own fee.

Then there's the visibility of booting, which communicates that the campus is serious about enforcement. However, instead of seeming draconian, a good communication and marketing program can highlight the benefits and the fact that the university is using booting to save customers time, money, effort, and inconvenience.

There are a couple caveats about the use of a booting program. First, you need to have the ability to respond 24/7, prepared to collect fees and fines and to release a vehicle at whatever moment a customer discovers the boot and settles their account. This can be done with the assistance of campus police, an answering service, or an outside contractor (which is easiest, but significantly dilutes the potential revenue benefits). Note that this also permits you the flexibility to immediately return a vehicle to someone who cannot pay, but has a bona fide emergency for which they need their car—something that simply isn't possible if you've had a vehicle towed.

Second, because a campus is a concentration of clever people, don't plan on leaving a boot on for more than 24 hours—people (think engineering students!) can damage or destroy them. While you could bill them for the damage or press charges, it's just not worth the nuisance. I recommend investing in at least a middle-of-the-line immobilizing device that has a hub cover that blocks access to the lug nuts. If a booted customer hasn't contacted you within that first day, remove the boot and tow the vehicle. At that point you've given the old college try, as if

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were. I don't suggest, however, double-dinging them with a boot fee and a towing fee. One or the other is both fairest and reflects best upon a customer service orientation.

**Value Added**

In order to emphasize the ambassadorial, customer-service orientation of your department, you can implement some simple value-added (and humanizing) aspects to their jobs. These can be inexpensive, but highly visible. Three that I have personal experience with, which I found really beneficial, are: visitor and information booths; motorist assist programs; and, guaranteed ride home.

Rotating people who would otherwise be writing tickets into the visitor and information booths on campus, if applicable, (or in a welcome center of some kind) gives them an exclusively customer-service oriented role to undertake and in which to be seen. This gives both the employee and the customers an opportunity to see each other in a different context and connect on a personal level. This also allows the field personnel to get a good idea of the types of questions that customers have and what is confusing on campus—to feed that back through the organization and make improvements to policies, procedures, and way-finding and regulatory signage.

A motorist assist program can be a great public relations enhancement, and is as simple to provide as procuring a jumpstart kit with a built in compressor, a one-gallon gas can, and (depending upon your climate) a shovel and some road salt or grit. If your field staff drives cars to do their jobs, these few items in the trunk will allow them to help with a jumpstart, a soft tire, an empty gas tank, or a vehicle stuck in the snow. In the case of a flat tire or a lock-out, they can call for roadside assistance or a locksmith (these latter two would usually be at customer expense).

Also, if the staff is driving vehicles in order to check for parking violations, or to move between areas on campus, a creative way to use them as a resource is to have them provide your guaranteed ride home (GRH) service. GRH is a critical component of a successful transportation demand management (TDM) program. When we did this, we found that it put our staff in a position to be helpful and empathetic—assisting a commuter who needed to get home due to illness or family emergency, or to take a parent to a sick child at school. Additionally, it sends a message from your department that as important as enforcement is, your priority is the well-being of fellow campus community members.

With all of this in mind, it is important to carefully consider their career apparel. If they are wearing uniforms that appear similar to police gear or make them appear like security guards, it can undermine your efforts to present them as approachable, friendly, customer-service professionals. Yet, they of course need their appearance to project an appropriate degree of professionalism and authority when they are dealing with difficult customers (this, however, could be as simple as a radio that can summon a police presence if needed). Each institution

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will find its own balancing point; oftentimes khakis and embroidered polo shirts in school colors can tread that line effectively.

## **Conclusion**

While it isn't easy to take your field enforcement staff out of their typecasting as villains, it is possible. These efforts are not one-time expenditures, but a process of investing in your staff, processes, and campus community. However, it will raise the profile (in a great way) of your department. It will make all of your staff, particularly the field staff feel better about their jobs—they'll be better and more comprehensively trained, they'll have more positive (and fewer negative) experiences with customers, and they won't burn out quite so easily. For small investments, you will avoid frequent hiring processes and new-employee training; you'll also be developing entry-level staff that will gain the skills to grow and develop within the department. With efforts to continuously improve, to broaden the definition of customer service, and to proactively share and communicate your initiatives, your efforts, and your commitment to a quality experience for the campus's faculty, staff, students, and guests, the reputation of your department will be enhanced. And—if even a little bit more than before—the campus community will recognize that parking enforcement IS customer service.

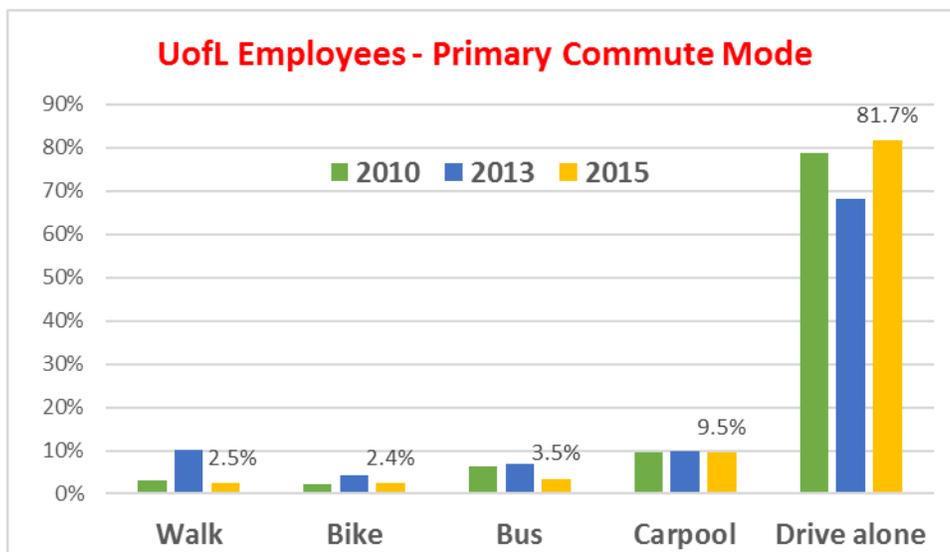
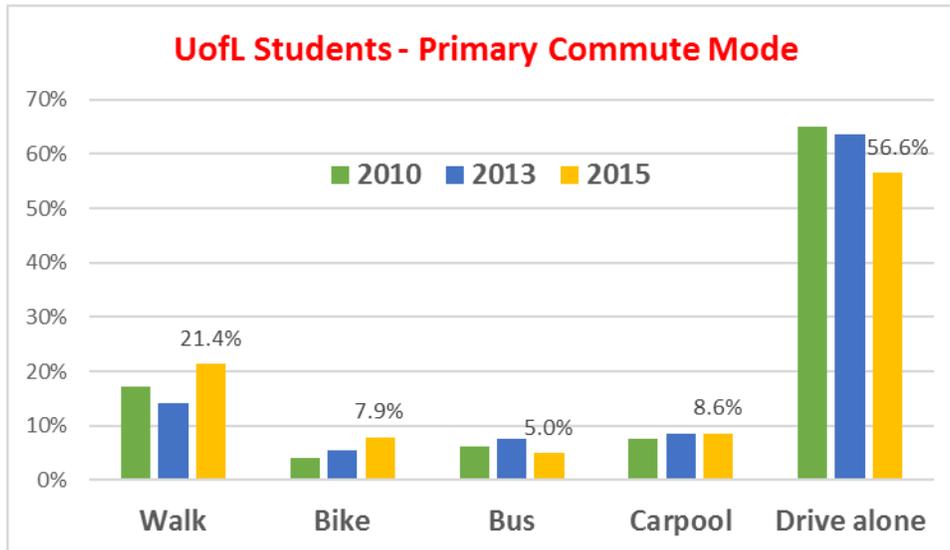
***David Lieb** is a parking consultant specializing in higher education and transportation demand management (TDM) at Walker Parking Consultants, Inc. Prior to his consulting career, he spent 25 years as a parking and transportation professional at Cornell University and at the University of Colorado – Boulder. At each of these organizations, the role of parking enforcement continued to evolve, expand, and improve over time.*

APPENDIX 3: TRANSPORTATION DEMAND MANAGEMENT (TDM) STRATEGIES

TDM PROGRAMS

**Transit**

Public transportation in the Louisville region is provided by TARC. TARC, however, does not attract many UofL riders aside from those who ride the shuttle routes. Although students are more likely than faculty and staff to commute to campus using public transit, in a UofL 2015 survey, only five percent of students report riding the bus. This was the least-used transportation option used by students (versus driving alone, carpooling, walking, or biking). Less than four percent of faculty and staff survey respondents reported commuting to campus via transit; only walking and cycling had lower mode shares.



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It seems that, perception (or lack of understanding of the transit system) rather than price is impacting people's choices. By increasing the price to park on the center of campus, transit can be framed as a no-fee way to gain nearly door-to-door access. This would need to be supported by marketing and communications efforts, including "travel training." These engagement techniques are discussed further later in this appendix.

### **Carpooling**

The University can strategically incentivize carpooling in order to reduce the number of SOVs arriving on campus each day. The members of a carpool typically are only eligible to purchase one parking permit for the group (usually this permit can be switched between members' cars). An LPR system of parking and enforcement could greatly simplify the granting of carpool parking privileges for both those administering and those using the system.

A carpool can have as few as two members, but in this way, each carpool can effectively remove at least one car from campus. Carpool benefits are generally provided as preferential parking, discounted parking, or both. In order to maximize the use of UofL's parking system, Walker recommends discounting permit prices rather than reserving parking spaces for carpools. If, for example, a carpool permit is 50 percent of the full cost of a permit, two people can split this discounted rate and each only pay a quarter of the full price to park.

Carpooling may be able to serve the large number of UofL community members who live outside of the areas most densely served by public transit, particularly those in perhaps a six- to ten-mile radius, in which the population density may remain conducive to people finding carpooling partners.

### **Vanpooling**

A vanpool program operates in the gray area between carpooling and public transportation. Vanpooling is most frequently a contracted service, with a vanpool company such as "Ticket to Ride" or RideShare by Enterprise providing the vehicle. The group of commuters, usually facilitated by the provider, gathers like a carpool would. The van is driven by one of the members of the group. The cost for the van, which can range from minivan to full-size (based upon the size of the group, ranging from four to 15), depends upon several factors: the size of the van, the type of van, the number of members, distance traveled, and whether or not fuel is included in the price. The vanpool company provides the vehicle lease, insurance, maintenance, and repairs. There are often funds available to subsidize the full cost of vanpools from metropolitan planning organizations (MPOs), councils of governments, or air quality management districts. An employer can also provide some subsidy to its employees.

Vanpools function somewhat like transit, the member of the group who is the driver (there are usually secondary and tertiary drivers as well), picks up the balance of the passengers. This can happen home-by-home, but more commonly groups meet at park-and-ride locations (formal



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or informal). The driver often receives some level of benefit, sometimes they travel with no fare, or they do not pitch in for fuel. They may also be allowed personal use of the vanpool vehicle on evenings and weekends, up to a certain number of miles per month. Any or all of these benefits may vary by vanpool provider or group norms. The driver or some other member of the vanpool may be responsible for a small amount of monthly paperwork.

Among the costs of parking permits, gas, oil, maintenance, tires, wear-and-tear, and depreciation, commuting via vanpool is a substantial savings when compared to the cost of individual commutes. Essentially, vanpooling works best and is most cost effective when it operates like transit in situations in which transit does not otherwise work. The most efficient vanpools operate to locations that are unserved or underserved by public transit, and/or during hours that transit does not run. Vanpools are generally most cost effective for roundtrip commutes of 20 miles or more.

For example, a vanpool works well for groups of shift workers who share a schedule that is stable, such as dining and custodial workers, who need to arrive earlier than transit starts running or leave campus after regular transit service ends. It is important to note that the employees do not need to live in the exact same community—they simply need to share a corridor between home and work. Even their work locations can vary to a degree and still allow vanpooling to be effective.

It is important to note that some service workers are experiencing socio-economic conditions in which their transportation costs are highly disproportionate to their household income, with vehicles that are older, less reliable, and less fuel efficient. For this group of workers, vanpooling can have a very positive economic impact.

Often the most challenging problem with marketing vanpooling is explaining it. The first hurdle is helping potential riders and drivers understand who owns the van and manages the liability (the vanpool provider), and that the van is driven by a member of the vanpool, rather than by a hired driver. The next challenge is finding the person or people in a potential group who are willing to be drivers and back-up drivers (the vanpool provider usually provides driver training for those who

## VANPOOL PROGRAM AT CU BOULDER

The University of Colorado—Boulder, after months of struggling to launch a vanpooling program, went back to the drawing board with their vanpool provider and designed a simple flat-rate fee structure that was easy to understand and explain, was fair to the vanpool members, generated income for the vanpool company, and allowed P&TS to work with payroll to implement consistent paycheck deductions (which allow users to save even more money, by paying with pretax dollars, since vanpooling is a form of transit). Within a few months, CU Boulder went from struggling to launch a single vanpool, to having seven of them serving around 50 people. This represented a very real reduction in the number of vehicles brought to campus each day.



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would be driving full-size vans). A third challenge is forming and managing (e.g., counseling through conflict) the group—the vanpool company will usually facilitate these interactions. The last major obstacle is that the matrix of pricing which depends upon so many factors (size of van, type of van, number of seats, number of occupants, distance traveled), can be confusing; this is particularly true if marketing to individuals for whom English is not a first language.

In order to be successful, there are several strategies that have been proven to help. First, arrange a situation in which you can speak directly with the people who would benefit from the service—do not count on gatekeepers (e.g., shift managers). For service workers, hold a brief timeclock meeting as a shift begins, or visit a staff meeting; have a member of parking and transportation services, a representative from the vanpool company, and (as appropriate) foreign language interpreters. This direct and personal contact can be very effective and reassuring. Second, make sure all of the subsidies are lined up, to reduce the costs to the individual end users; this may require partnership with regional organizations (a vanpool provider may undertake the full burden for this task), and as desired identify any subsidies the University may be willing to contribute to each van or participant. Third, and most importantly, work with the vanpool provider to simplify the equation by which the pricing is determined—perhaps limit the selection vehicles, increase the mileage bands that determine pricing based on distance, eliminate month-to-month changes in pricing that make using payroll deduction prohibitively difficult. To the degree possible work with the vanpool provider to create as few flat rates as possible. Most conversations with potential vanpoolers end when they ask how much it will cost them, and the answer is “well, that depends...” They glaze over and they are lost.

Once a campus gets a handful of vans operating, it has a built-in group of representatives that can provide testimonials, advice, and information. At that point, the University can go beyond the low-hanging fruit like service workers and market more broadly. Vanpooling has a 40-year history of providing a cost-saving commuting choice to office workers and other professionals, as well.

In short, the successful launch of a vanpool program requires a very active, creative, and engaged partnership with vanpool provider and institutional support (supervisors, parking services, payroll, etc.). The right combination of incentives will help as well: free or discounted parking for vanpools, payroll deduction, and University subsidies can all help.

### **Walking and Cycling**

Pedestrian and cycling improvements support parking and demand management strategies in several ways. A welcoming and safe walking/cycling environment encourages users to expand the range of parking facilities that they are willing to consider. They also lessen campus community members' reliance on using their vehicles to travel between destinations on the campus. In other words, users park once and walk/cycle, rather than drive, as they travel from

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location to location. Furthermore, for those living in proximity to the University, it provides a viable alternative to utilizing their vehicle at all to travel to and from the campus.

As part of the long-term planning efforts ongoing at the University, there is a recognition of a shift in generational trends away from driving/car ownership and towards multi-modal transportation. Therefore, various means of pedestrian and cyclist improvements should be considered throughout the campus. These improvements can range from better defined walkways and pedestrian crossings, defined bike routes/paths, changing/shower facilities, secure bike storage, one-way bike rental kiosks, as well as shared paths. Overall, long-range planning efforts for the University should keep in mind the objective to de-emphasize the reliance on the vehicle and highlight multi-modal choices.

For those for whom walking and cycling do or can work as commuting modes, their efforts can be assisted by the support services that also make transit, carpooling, and vanpooling more accessible to more people. Some of these TDM “enablers” or “security blankets” are discussed in further detail in the following section.

### *SUPPORT SERVICES*

TDM programs tend to work best when they are accompanied by support services or TDM “enablers,” which can act as a security blanket for commuters who leave their personal vehicles at home. These can include: a guaranteed ride home (GRH) program, park-and-ride lots, commuter ride matching, one-day parking permits for alternative commuters, a bikeshare program, and carshare vehicles available on campus.

Some TDM initiatives are not programs in and of themselves, but are “enablers,” enhancing people’s ability to participate in programs. We refer to these as support services. While the TDM programs themselves reduce single-occupancy vehicle presence, the support services help *attract and retain* program participants. Above, we referred to these offerings as security blankets. That is what our cars are for most of us, most of the time. The average car spends 95 percent of its time parked, and only five percent actually transporting us someplace.<sup>2</sup> But, we know it is *there*, if we need it.

It is this sense of security that keeps some people driving every day, even if they know that transit, carpooling, vanpooling, or cycling can work perfectly well for them—even if they know that changing commuting modes could save them hundreds or even thousands of dollars per year. We say *sense of security* because while programs such as GRH tend to rate high in importance, their utilization is generally low.

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<sup>2</sup> Shoup, Don. *The High Cost of Free Parking*, 2005.

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## Guaranteed Ride Home

Guaranteed ride home (GRH) programs may be the most important support service to offer. Here is an example from Cornell University, in Ithaca, NY.

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*When TDM programs were implemented at Cornell in 1990, potential participants were surveyed. Among the questions asked was: "How frequently do you think you would require [a guaranteed] ride home?" The consensus was around once per month. Within less than two years of the introduction of TDM at Cornell, there were over 3,000 participants eligible for the GRH program. If each of them required one ride per month, the University would have been providing tens of thousands of rides each year. In reality, over the course of the next 20 years, the average was around 5 rides per month among the full campus population. The importance of a GRH program is its existence, not its actual use. In the course of those 20 or so years, Cornell's GRH program was broadened to include anyone on campus, the assumption being that if someone requests a ride, they had—almost by definition—not brought a car to campus that day. The number of rides requested did not increase, but the public relations value was high and the awareness of GRH did increase.*

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Similarly, CU Boulder introduced GRH and the amount of money that was budgeted to pay for rides in the first year of the program was not depleted for over ten years.

Part of the reason for these extremely low levels of use of GRH is that it is a safety net of last resort. Even those people who are eligible, and whose circumstances dictate a need for a GRH, will seek out other means of obtaining a ride before calling for this service. They will ask coworkers, family, and friends first; and only failing this, will they finally call for a guaranteed ride home. Walker recommends that UofL publicize—and, if possible, expand—the GRH program in concert with increasing parking fees and introducing TDM options, and market it widely.

Guaranteed rides home can be provided or augmented by campus staff using University vehicles, with taxicabs, by employing a ride-hailing service (e.g., Uber or Lyft), or by taking advantage of carshare vehicles.

## Carsharing

Much like the guaranteed ride home program, the availability of carshare vehicles on the campus can serve as an enabling service that can increase levels of participation in TDM programs. Again, this plays to why people want to have a car with them at work or school to begin with—just in case. With GRH the question is "what if I need to get home (or to daycare or my kid's school) in a hurry?" With carshare the question is "what if I need to run a midday

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errand?" Some people even drive their own cars to campus every day in order to run periodic business-related errands.

Individual and departmental carshare memberships can cover these needs. The point is to help convince campus community members that alternatives exist for getting around during the day that do not require them to have their own cars. In fact, in many cases, a carshare car will be closer to their location (and will have a guaranteed, reserved spot available when they return).

The magnitude of a carshare's presence on campus will be directly related to the level of usage of the cars already there—meaning that the more the cars are used, the more likely it is that the carshare provider will add more vehicles to campus, presumably scattered around campus, making carsharing increasingly convenient. By encouraging more individuals and departments to join carshare and to use those cars for errands, rather than using their personal or campus-owned vehicles, the more prevalent the service can become.

The two main benefits are that people who could commute by alternative means, but bring a car just so it is available for potential midday use can now leave their cars at home and still feel that they have mobility when they need it. In the case of people who bring cars to work for work-related errands, carsharing provides a good tool that may expose the University to less liability.

### **Bikesharing**

Bikesharing, works much like carsharing, with people able to check out bikes for short periods of time, returning them to the system when they are done. This is particularly good for quick trips across campus—and unlike carsharing, bikesharing systems often allow one-way trips, in which the bicycle does not have to be returned to the same rack from which it was checked out. Like carsharing, this is about midday mobility—an enhanced sense that once you come to campus via alternative transportation, you are not restricted in your ability to get around. Because bikeshare trips generally replace trips that would otherwise be walking or bus trips, it is less of a TDM enabler than GRH or carsharing, but it reinforces the notion that mobility is not all about individual automobiles.

### **One-Day Permits**

A GRH program can account for the days on which people experience unexpected needs to leave campus. However, there are days on which individuals know that they have before- or after-work commitments, or daytime errands for which they cannot (or prefer not to) use carshare or bikeshare. For these planned needs, it can be mutually beneficial if customers who choose not to purchase long-term permits can be given access to one-day permits. These may be offered free, at a discount, or at the current going rate for daily parking. In order to incentivize alternatives to the SOV, Walker recommends that at least some permits (e.g., ten per year or one per month) are provided at partially- or fully-subsidized pricing. Like each of the preceding

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support services, this “enabler” addresses the security blanket issues, as described earlier in this section, which surround people’s choices to bring their personal vehicles to campus every day.

### *PARK-AND-RIDE LOTS*

Park-and-ride lots can be formal, official places to meet public transit. Using park-and-ride lots is also useful for carpools and vanpools in areas in which population density drops rapidly outside the employment centers. It is likely that there are other underutilized parking lots in the environs of the City that may be good places for official or unofficial park-and-ride lots—these may be places of worship or commercial centers that see low levels of use during business days. Often businesses will welcome this use, as it can bring them customers as people drop off or pick up their cars.

### *RIDEMATCHING*

Many carpools are formed between spouses and partners, who unless provided additional incentives to ride together, may bring two vehicles to campus each day. Alternatively, neighbors may pair up to commute to UofL—or co-workers may realize that they live close enough to each other to make carpooling viable. Cardinal Directions is a valuable tool that supports the formation of carpools, and should be further employed as UofL encourages more TDM participation.

### *MARKETING*

It is not enough to simply offer alternatives to the SOV commute. TDM must be marketed so that people are both aware of the programs, and see how they fit their individual needs.

Because the single-occupancy vehicle is so deeply engrained in people’s minds and in the culture, the TDM message can be challenging one to get through. It needs to be interwoven in all conversations about transportation. And it is more than a discussion about environmental sustainability: it is about the University investing in people not parking, about land-use, about the amount of money that individuals can save by commuting differently, about traffic and emissions, and about transportation equity.

Many people choose their mode of commuting reflexively, through habit. Because new employee orientation may not occur for days or even weeks after a new hire, it is imperative to get alternative transportation information into the hands of new employees immediately. If the University waits until orientation, the new staff member almost certainly already has a parking permit and an ingrained commuting habit that will be much harder to break. Education regarding commuting options (and the individual benefits) has to start with the first contact that faculty, staff, and students have with representatives of parking services. When a new community member comes joins the campus, if they have a car they are likely to request a parking permit. This should immediately generate a conversation that begins: “But, did you

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know..." It takes training, discipline, and consistency to ensure that this happens—but, the chances of encouraging someone to join a TDM program will be highest during this first contact.

However, TDM is not a one-time message; the presence of these programs needs to be a constant undercurrent in the communications that come from parking. People's lives are a continuum of changing circumstances, and their transportation needs and options can change with them. The transportation needs of a single person versus one who is married may differ. Requirements also change as children progress from infancy to childcare to school age and older. People find themselves caring for elders, or working more than one job, or participating in community activities. Each transition brings an opportunity to reconsider one's transportation choices.

Among the marketing messages, we recommend highlighting a guaranteed ride home program—open to anyone who did not arrive on campus in an SOV. We also suggest focusing on an employee commuting incentive program that provides enough flexibility to encourage people to relinquish their parking permits, without feeling as if a single trip to campus will wipe out the savings gained by several days of using alternatives. Another important message is the availability of carshare vehicles for personal and business-related errands.

These marketing efforts should pervade written, electronic, and face-to-face interactions. Some examples follow:

- **Transportation Fairs**—Once or twice a year, University Parking and Transportation Services can sponsor a transportation fair, with representatives from public transportation, private shuttles, vanpool providers, ridematching companies, bicycle sales and repair shops, carshare, bikeshare, taxi services, ride-hailing services, and more. These events may be held outdoors in the early fall or in the spring, or indoors in student gathering spaces. Often campus governance bodies, sustainability groups, and other campus offices (student life, sustainability, etc.) may help organize and fund a transportation fair. Vendors may also contribute funding or door prizes.
- **Work-Study**—Students learn best from students. Parking and Transportation might engage work-study students to provide education about bicycle safety, transportation options, the cost of vehicle ownership, and daily commuter training. The students would spend 10 to 15 hours per week speaking to residence halls, staffing outreach events, providing travel training, and collecting transportation-related data on campus.
- **New Student Orientation**—The TDM Plan would integrate transportation-related planning for parents and students in the student orientation programs. The plan should focus on the economic impact of vehicle ownership on campus and the University's effort to provide inexpensive transportation alternatives to support the student with daily commuting and other transportation needs.
- **International Student Travel Training**—International students are some of the most frequent users of bus systems, but arrive unfamiliar with the surrounding area and the



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capabilities of the transportation system. This reality leads to a feeling of isolation and may challenge retention. The TDM Plan should include a travel training program that introduces the transit system and transportation culture of the campus to support the travel alternatives for shopping, child-care, and entertainment. Training could include group bicycle rides to introduce the city and bike laws. It could also include a “transit scavenger hunt” to desirable locations as international grocery stores, religious centers, and entertainment.

- Employee Travel Training—The TDM Plan can include a curriculum to encourage these faculty and staff to try transit, carpooling, vanpooling, and cycling. Parking and Transportation Services can perform outreach by making presentations to departmental or divisional staff meetings, or by staffing an information table in a breakroom for a couple of hours.



**WALKER**  
PARKING CONSULTANTS

Construction of a new residence hall will displace 328 resident spaces and 132 visitor spaces at the corner of Fourth and Cardinal. Surface parking construction is over \$3,000 per space and structured parking \$20,000 per space. A task group is developing a long-term strategy for University parking. The following measures are a short-term solution to provide parking for the 2018-19 academic year.

**Recommended Actions**

1. 159 spaces on the roof of the Floyd Street garage can be combined with 166 existing resident spaces to create 325 resident student spaces in the garage.
2. 618 spaces in the Third Street lot across from Reynolds Lofts will be available to the 1,200 graduate students and part time faculty on Belknap Campus. GTA's and part time faculty may also purchase Blue permits.
3. 200 spaces in the Myers Hall lot at the Health Science Center will be available to the 641 graduate students and part time faculty on this campus. May also purchase blue permits.
4. 642 Green spaces in surface lots and the Floyd Street garage on Belknap campus will be converted to Blue Permit spaces for employees and graduate students.
5. 52 resident student spaces near Bettie Johnson Hall will be reserved for UPS students to facilitate safe late night travel to and from the UPS Worldport.
6. A limit on sales of all permit types except the Purple (stadium) permit and waiting lists created to avoid overselling spaces.
7. 365 spaces in the "T" lot on the Southeast corner of Floyd Street and Central Avenue were being considered for use as long-term storage of resident student vehicles. The University of Louisville Foundation is currently evaluating a possible sale of this property. Plans for active use have been tabled pending further notice from the Foundation.