

Review of Public-Private Partnership Opportunities

University of Colorado – Boulder
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Introduction

The purpose of this report is to assess whether Public-Private Partnerships (“P3”) might be used to help achieve some of the University of Colorado Boulder’s (“CU Boulder” or “University”) goals and objectives related to infrastructure and service delivery.

Our Understanding of Your Needs

As with any university evaluation, we understand our evaluation necessarily takes place within the context of the larger issues facing CU-Boulder, most crucial among them the challenge of providing exceptional education, world class research and an excellent student experience in the face of declining state support, rising operating costs, aging infrastructure, growing backlog of deferred maintenance, and limited debt capacity. Together, these fiscal challenges place increased pressure on tuition rates and student fees, potentially limiting student access. Further, we understand that our evaluation and recommendations must align with institutional goals and objectives, recognizing the need to drive as high a percentage of spending as possible into core academic responsibilities.

Institutional Goals & Objectives

Within the context of these constraints, we understand that consideration of alternative finance and delivery options should align with the goals articulated by the Chancellor in the Program Plan for Capital Assets Management released in November 2014:

1. *Increase retention and student access;*
2. *Effectively promote and sustain CU-Boulder’s reputation; and*
3. *Develop alternative sources of revenue.*

Further, these goals are consistent with the Flagship 2030 Strategic Plan and the Campus Master Plan which was adopted in 2007, establishing the following core vision of the University:

“The University of Colorado Boulder will become a leading model of the ‘new flagship university’ of the 21st century – by redefining learning and discovery in a global context and setting new standards in education, research scholarship, and creative work that will benefit Colorado and the world.”

The 2011 Campus Master Plan (“Master Plan”) established a framework detailing how facilities will support the university’s mission and vision. Throughout our report, we will consider these goals and objectives in the context of the potential for Public-Private Partnerships to ensure our evaluation and proposed options align with the University’s mission and vision.

Challenges Facing the University

Through our initial review of annual reports and interviews with University officials, we understand the University is facing the following key challenges:

- **Declining State Support** – Since 2008, state funding for the CU System has declined both in dollar amount and as a percentage of the total budget, forcing budget cuts and resulting in a greater reliance on tuition and fees and self-generated revenues. While temporary Federal State Fiscal Stabilization Funds (SFSF) helped alleviate budget cuts for fiscal years 2009-2011, state funding has yet to return to levels prior to the recession. As a result, tuition rates have increased (see below), and there has been greater focus on self-generated revenues, as evidenced by Chancellor DiStefano’s explicit goal of developing alternative sources of revenue.
- **Rising Operating Costs** – Even though state funding has declined, operating costs have continued to rise. The increase in expenses has been primarily driven by increased instructional costs, as academic and instructional programs and supporting student services have grown along with enrollment. While CU Boulder has acted aggressively to lower operating expenses, increasing enrollment and aging infrastructure continue to put pressure on operating costs.
- **Aging Infrastructure** – According to the 2011 Campus Master Plan, more than 80% of the buildings on campus are more than 25 years old, and more than 62% of all buildings are projected to be more than 50 years old by 2015. The majority of buildings between 25- and 40-years old have systems at the end of their useful life, and industry studies indicate overall maintenance and renewal requirements peak during this period, ultimately contributing to increased O&M costs and capital renewal requirements.¹
- **Growing Backlog of Deferred Maintenance** – According to a 2013 Sightlines report, CU Boulder is spending less on existing buildings than lifecycle needs require, resulting in a backlog of deferred maintenance. Between FY07 and FY13 Sightlines estimates the university spent an average of \$8.3 million less than necessary to stabilize the backlog. As a result, CU Boulder has accumulated a growing backlog of approximately \$439 million in deferred maintenance costs, including approximately \$90-\$100 million in deferred maintenance for student housing. While recent construction, particularly for student housing, and plans to upgrade the Carlson Gymnasium and the Engineering Center Complex will help reduce the backlog, limited funding and debt capacity restrict the campus’s ability to adequately address deferred maintenance.
- **Limited Debt Service Capacity** – The CU System is subject to statutory limits on its debt under C.R.S. §23-20-129.5(2)(d) that requires the university to maintain a debt ratio of 10% or below. Historically, regent policy has been more conservative than these statutory requirements, limiting the ratio of the university system to 7%. In FY13, CU Boulder’s debt service capacity ratio was 8.8%, restricting the campus’s ability to finance additional projects.²
- **Increased Pressure on Tuition Rates** – According to NCES data, over the past four years, CU Boulder’s in-state undergraduate tuition (excluding fees) has increased 17.9% in total. While undergraduate fees have increased at a comparable rate of 17.6%, room and board has only increased by 13.6% over the past four years.³ Likewise, according to a 2013 report by CHANCE Management Advisors, parking rates have historically increased at an annual average of only 3.1 percent for faculty and staff and 2.8 percent for students.

¹ Source: *Campus Master Plan* (Section V – 4) citing “studies completed by APPA, the federal government, and private entities”

² *Annual Report on Current and Forecasted Debt Ratios (FY12- FY17)* – Available at: <<http://www.cu.edu/treasurer/debt-capacity-analysis>>

³ Source: *NCES data (FY11-FY14)* – Available at: <<https://nces.ed.gov/>>

Value Proposition

In the face of these challenges, the University of Colorado Boulder should consider Public-Private Partnerships as another finance and delivery tool to meet the University's goals and objectives. Although P3 can vary widely both in scale and application, Public-Private Partnerships are a vehicle by which the University can leverage its physical assets to achieve any combination of the following objectives:

- Generate revenues
- Achieve greater operational efficiencies and cost-savings
- Access new sources of capital
- Optimize risk allocation
- Improve student success and retention

Though opportunities will vary across asset class and individual project, P3's can provide a broad spectrum of infrastructure and service delivery options, ranging from O&M agreements and peer partnering to achieve greater operational efficiencies, to monetization aimed at extracting value from existing assets, and to long term concessions designed to access new capital sources and incentivize performance. Whatever the modality, Public-Private Partnerships is one avenue that can help meet a public institution's evolving infrastructure and service delivery needs, allowing the University to focus on student success through its core academic and research mission.

Guide to Report

As previously stated, the purpose of this report is to assess whether P3 might be used to help achieve some of the University's goals and objectives. To this end, we will first provide a general description of the current state of the asset, then detail our understanding of the plans and goals for each asset class, and finally outline potential P3 service delivery options.

Through our discussion with University officials, the following asset classes were determined appropriate for review:

- Student Housing
- Power Plants / Utilities
- Parking Facilities
- Hotel / Conference Center

An overview of the typical ownership structures, payment structures, scope of services, and risk allocations associated with DBFOM / DRFOM, monetization, long-term O&M contracts, and saving performance contract partnerships have been provided within the appendix.

Student Housing

Overview

General Description

The Department of Housing and Dining Services (HDS) manages and operates all on-campus housing at the University of Colorado Boulder. On-campus housing includes residence halls, dining and food retail stores at various locations including UMC and C4C, apartments, and family and graduate housing apartments, including the campus child care center, across the Main Campus, East Campus, and Williams Village.

Asset Inventory

With recent renovations and additions to residence halls on campus, the CU Boulder campus currently has a total bed count of approximately 8,217 totally. Table 1 details the distribution below:

Table 1 – Bed Count for On-campus Housing

Type	# of Beds
Residence Halls	6,875
Apartments at Bear Creek	977
Graduate/Family Housing	808
Total	8,570

Source – Total for Residence Halls as of Fall 2014 and total for Apartments at Bear Creek and Graduate/Family Housing as of the start of the 2010-11 Academic Year.

According to the 2011 Master Plan and data provided by the University, on-campus housing utilizes approximately 129 acres across the Main Campus, East Campus, and Williams Village and includes over 3 million GSF across 23 residence halls and 8 apartment complexes totally approximately 114 buildings.

Financial Overview

Over the past three fiscal years, the Department of Housing & Dining Services (HDS) has averaged over \$104 million in operating revenues (\$56M for Housing alone in 2013, \$60M or Housing alone in 2014) and approximately \$74 million in operating expenses for an average of \$30 million in net operating revenue. Operating revenues have been driven primarily by student fees for room and board in residence halls (approximately 88.7%, 55% for Housing alone), and operating expenses have been driven by employee compensation (approximately 41%).

As a self-funded unit, the HDS does not receive State funding or tuition; all funding is derived from user fees and bond financing. Under this model, net operating revenue is used to pay debt service and to fund capital outlays and deferred maintenance. As of April 30, 2014, the Department of Housing and Dining Services had approximately \$298,129,582 in outstanding bonds, which were used to finance renovations, new construction, and refinance previous bond series.

Over the past three fiscal years, HDS has paid an annual debt service of approximately \$20 million, achieving an average debt coverage ratio of slightly over 1.7. Capital outlays, deferred maintenance, and other transfers together have averaged approximately \$10 million annually, though varying significantly between fiscal years. Remaining funds enter a HDS fund balance (reserve fund), which at the end of FY14 totaled approximately \$10.8 million.

Housing Goals & Objectives

According to the 2011 Campus Master Plan, the core purpose of university housing is to provide a sense of community and to support student academic goals. When successful, university housing and programming can help increase student retention, which is one of the Chancellor's explicit goals.

Guided by this core purpose, the Master Plan articulates a number of high-level goals and objectives, including the following that may provide opportunities for Public-Private Partnerships:

- *“Provide housing that is moderately affordable for students and economically feasible to construct and maintain for the university.”*
- *“Provide housing that is appealing to both today's undergraduate and graduate students.”*
- *“Develop and maintain undergraduate housing capacity in the residential halls that is no less than the current percentage of freshman plus 20% for returning upper-division students.”*
- *“Replace outdated graduate and family housing facilities and maintain a capacity that provides housing for up to 20% of the graduate student population (approximately 1000 apartments).”*
- *“Address the high cost of housing in Boulder community for faculty, staff, and graduate students through the redevelopment of the existing graduate and family housing facilities.”*

In total, the Master Plan proposed over 1.35 million GSF and \$400 million in renovations and new buildings to be completed by 2025. However, not all projects are expected to be completed due to changing priorities and institutional constraints, particularly funding. Facilities Planning estimated approximately 67% of the complete list of proposed projects would be realized.

Recent Progress

Since completing the Campus Master Plan in 2011, the Department of Housing & Dining Services has made considerable progress toward targeted goals and objectives, including:

- **Completed major renovations & new construction** – Since 2011, the Department for Housing & Dining Services has continued to make renovations and expansions, including the major renovations to Kittredge West and Baker Hall and an expansion to Kittredge Central and Williams Village North outlined in the Campus Master Plan.
- **Completed majority of construction projects under budget** – The renovations to Kittredge West were originally estimated to cost \$22.8 million but were completed under budget at \$21.7 million. New construction for Kittredge Central was estimated to cost \$37.3 million but likewise was completed under budget at \$34.9 million.⁴ The renovation to Baker Hall was estimated to cost \$41.1 million and was completed under budget at approximately \$36.1 million.⁵
- **Maintained high occupancy rates** – Since 2010, the overall occupancy rate for on-campus housing has averaged approximately 95.2%, led by residence halls which have remained steady with an average occupancy rate of approximately 97.2%.

⁴ Sources: (1) 2011 Campus Master Plan Exhibit V-A-3 and (2) CU-Boulder's new and renovated residence halls showcase new academic program, sustainability – August 19, 2013. Available online at: <<http://www.colorado.edu/news/releases/2013/08/19/cu-boulder%E2%80%99s-new-and-renovated-residence-halls-showcase-new-academic>>

⁵ Sources: (1) 2011 Campus Master Plan Exhibit V-A-3 and (2) update provided by Steven Threatt (August 2015)

Our Understanding of CU Boulder Housing Needs

Given the unit's progress, it is our understanding that the University is seeking strategies to address the backlog of deferred maintenance, the limited progress on graduate and family housing, and the growing student housing capacity requirements. More specifically, we understand the University would like to address the following:

- **Significant backlog of deferred maintenance** – At the time of the Master Plan, approximately 47% of HDS buildings were 25-50 years older; 31% were over 50 years old; and only 22% of facilities had been built or fully renovated within the past 25 years. HDS facilities account for approximately \$90-100 million of the University's approximately \$439 million in deferred maintenance, even despite the recent Kittredge West, Kittredge Central, and Baker Hall projects.
- **Limited-to-no progress on graduate and family housing facilities** – The asset-life of the majority of graduate and family housing unit has expired, including the 650 units north of Boulder Creek that are 40-70 years old. These units have not been substantially renovated and are in need of major rehabilitation and renovation. The Master Plan estimates the need for a minimum of 1,700 units for graduate students and their families by 2020, which requires the complete replacement of currently available units (approximately 850), as well as capacity increases to meet the target for providing housing for 20% graduate students and their families. Plans to address areas north of Boulder Creek are in the works, but HDS and University officials acknowledge this is not currently contemplated in the budget planning models.
- **Increased capacity required for undergraduate students** – According to the Master Plan, CU Boulder expects enrollment to increase by approximately 2,900 students from 2010 to 2020 and 5,000 students by 2030. In addition to increasing enrollments, the University has targeted supplying 20% of undergraduate housing capacity in the residential halls reserved for returning upper-division students. Currently, however, upperclassmen only account for approximately 14% of the on-campus residential population.⁶ Therefore, to meet this target and to account for growing enrollment, the Master Plan estimates the need for a minimum of an additional 1,500 beds for undergraduate students.

Although specific to CU Boulder, the needs identified above are highly consistent with recent market trends. Similar facilities have been successfully delivered through public-private-partnerships, accelerating delivery of student housing facilities in an affordable and credit neutral manner.

While hundreds of universities across the country are turning to P3 to address similar needs, discussions with CU Boulder personnel suggest that the university's appetite for leveraging P3 to delivery student housing may have been soured a bit by prior experience with the System Treasurer having to address three failed attempts at utilizing P3 across the enterprise, including the quasi-partnership initiative for the Williams Village Student Housing Expansion Project.⁷

However, before discarding an entire delivery tool, CU Boulder should undertake a more thorough assessment of any prior initiative to determine what specifically caused the project to fail. In this

⁶ Source: On-campus interview with Kambiz Khalili, Executive Director of the Department of Housing & Dining Services

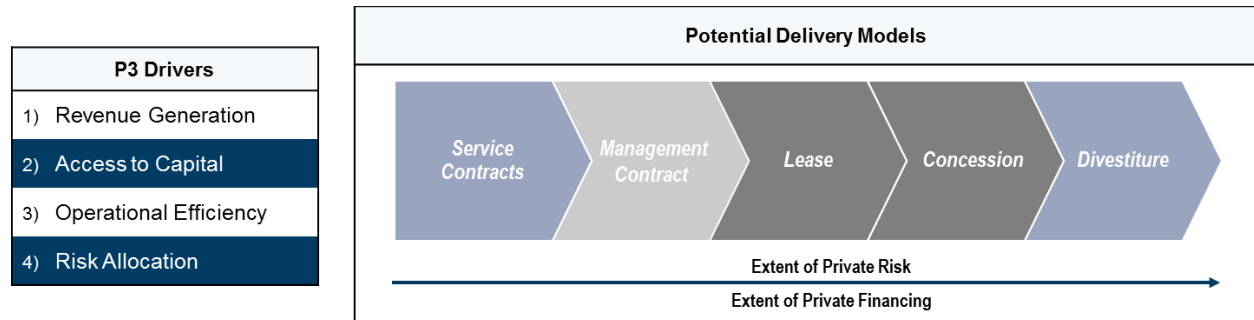
⁷ In 2002, CU-Boulder –acting through its regents- entered into a ground-lease agreement with a private partner to develop and operate the Williams Village Student Housing Expansion Project. The development struggled to attract students, resulting in low occupancy rates. As a result, the University ended the agreement in 2006 and has since improved the occupancy rate and student experience.

regard, it is the opinion of specialists who analyzed the contract for the Williams Village Student Housing Expansion Project, that the contract did not reflect a standard best practice P3, nor did it exhibit normal risk sharing and performance incentive structures. In other words, although a private developer was involved in the project, the contract did not represent a typical P3 structure and thus any associated performance shortfalls and associated problems are not necessarily imputable to a P3 delivery model. Regardless of the reason for the project failure, one disappointment should not necessarily impede the University from exploring best-practice P3 to address its critical infrastructure and service needs.

Potential Funding & Delivery Options for Student Housing

Unquestionably, the University’s student housing needs could be addressed through Public-Private Partnerships. A wide variety of transaction structures would accelerate the Unit’s ability to meet its housing goals and objectives, including both new capital projects and addressing deferred maintenance needs. These could be done in a credit neutral manner. Figure 1 provides a high-level menu of options:

Figure 1 – Menu of P3 Options for Student Housing



Given the capital requirements associated with addressing both new facilities and deferred maintenance, access to new sources of capital is clearly an important factor. Although some universities have turned to privatization or sale-leaseback structures to monetize existing housing assets in order to fund future requirements, in the case of CU Boulder, we do not consider this option realistic due to the unit’s outstanding debt and backlog of deferred maintenance.

Instead, we believe the University should consider the following P3 option (see Appendix for details):

1. Design-Build (Renovate)-Finance-Operate Maintain (DBFOM and/or DRFOM): This model offers an integrated delivery method that combines the design and construction responsibilities of DB procurements with performance-based O&M contracting and private financing for a fixed period of time (usually anywhere from 25 to 99 years). In exchange, the private partner has the right to collect the revenue from the project and/or is compensated through a payment for services based on performance specifications for the duration of the contract. As with Design-Build-Operate-Maintain (DBOM) contracts, the responsibility for performance of O&M activities in the long-term is transferred to the private partner creating incentives to optimize life-cycle costs. A DBFOM for student housing typically involves a ground lease, as well as facility lease agreements.

Relevant Case Studies for Student Housing Public-Private Partnerships

Given the importance of student housing to universities, decision-makers face an imperative to optimize student housing in light of the current environment. Table 2 details recent P3 transactions in student housing below:

Table 2 – Student Housing Case Studies

University of Iowa, Graduate Student Housing⁸	
Summary of P3 Project	Facing a pressing need to replace aging facilities, the University determined that traditional financing and construction would raise rates and require three or more years to complete. The University eventually reached a \$31 million agreement for the financing and operation of graduate student housing through a 40-year ground lease. The private partner, Balfour Beatty, worked with the University to conduct student focus groups to optimize designs and integrate new buildings with existing Housing & Dining services.
University of Kentucky, Student Housing	
Summary of P3 Project	As of Fall 2011, the University of Kentucky determined that expanding and improving student housing facilities was a key strategic priority. The University agreed to a large scale public-private partnership arrangement with EdR Realty Trust, with the University receiving a share of gross revenues and net income contingent on the private partner achieving an agreed upon IRR. The deal involves an original term of 50 years with a termination clause and facilities maintenance provisions protecting the University, with two potential renewal terms to follow.

Advantages and Disadvantages of Option(s)

Model	Advantages	Disadvantages
Traditional Delivery Model / Current State	<ul style="list-style-type: none"> • The University maintains complete control of Student Housing • No employee or operational disruption • Depth of knowledge of the physical asset and O&M is retained in-house 	<ul style="list-style-type: none"> • Limited or no financial capacity to meet new capacity and capital improvements requirements • Declining utilization of graduate & family housing
DBFOM / DRFOM	<ul style="list-style-type: none"> • Operational efficiencies are achieved through economies of scale and introduction of advance technology and innovation, typically providing 20% to 25% cost savings • Authority may receive upfront cash payment based on the net present value of future lease payments which can be used to fund capital projects • Market competition on bidding and selection of a qualified private partner lowers prices • Incentivizes the private partner to 	<ul style="list-style-type: none"> • Somewhat reduced University control on operations and maintenance, while the students, parents, and community will hold the University accountable for the quality of the services provided • Proper metrics are needed to measure performance and incentivize the right quality of services and outcomes • Disadvantages can be mitigated or aggravated depending on the quality of the contract, provision for the Owner’s rights, exit ramps for non-compliance and service level agreements

⁸ *Closing the Doors on Hawkeye Court – August 20,2013* Available online at: < <http://now.uiowa.edu/2013/08/closing-doors-hawkeye-court>>

Model	Advantages	Disadvantages
	run a lean, efficient organization with a focus on service delivery <ul style="list-style-type: none"> • Supplements limited University resources and capabilities to meet the growing demand for infrastructure development • Incentivizes the private partner to deliver projects on time and within budget 	

Conclusion & Next Steps

Clearly, the number of universities exploring and implementing P3 for student housing suggests that this is viable alternative that CU Boulder could and should explore further. That said, however, the University should engage proven experts to assist in conceptualizing the transaction and undertaking a preliminary feasibility study to better understand a number of factors, such as project scoping, payment structures, balance sheet treatment/credit impact, etc. This assessment should also include a preliminary analysis of rental rates, fill requirements, KPIs and incentive structures, as well as of potential market participants and financing structures.

Utility Services

Overview

General Description

Utility Services under the Department of Facilities Management manages and operates all utility services and facilities at the University of Colorado Boulder, including generating and distributing steam, electricity, and chilled water for the campus. It also manages on-campus sewer and storm sewer systems.

Asset Inventory

To meet campus heating, cooling, and supplemental electricity needs, the University relies on the recently renovated West District Energy Plant (WDEP; formerly “Power House”), the newly constructed East District Energy Plant (EDEP), and the Williams Village Heating and Cooling Plant. Xcel Energy provides the majority of electricity on campus, but Utility Services maintains the distribution system. The WDEP and EDEP facilities are capable of providing supplemental electricity as needed, and individual systems meet specific energy demands for recently built facilities, primarily on the East Campus.

Financial Overview

Over the past three fiscal years, the total operating expenses for Utility Services has averaged over \$33.4 million annually, with approximately \$30.4 million in costs related to electricity, steam, and chilled water. Though financial statements were not provided, we understand the unit essentially functions on a cost-recovery basis.

As such, operating revenue is used to cover operating expenses, debt service, a 60-day operating fund, and transfers to the University (e.g. – GAR). Any remaining operating revenue is credited back to University customers to pay for future utility services. Further, it is our understanding that the unit does not sell excess capacity to any customers outside of the University and may be limited in its ability to do so by University or State regulations.

Operating expenses are driven primarily by costs related to electricity, which over the past three fiscal years have averaged approximately 42.9% of total operating expenses. The university purchases the majority of its electrical needs from Excel but has the capability to co-generate electricity when it is advantageous to do so. Under this arrangement, services and payments essentially pass through Utility Services to campus customers and to Xcel, though a fee is added to electricity rates to cover overhead costs and transfers to the University.

To ensure operating revenues cover expenses, Utility Services determines rates for the campus based on projected operating expenses, with the goal of breaking even for the year. The Budget and Finance Committee has to approve rates before changes are made.

Goals & Objectives

According to the Utility Services website, the mission of the unit is “to generate and distribute steam, electricity, and chilled water in a safe, reliable, and efficient manner.” Reliable and efficient utility services and infrastructure allow the University to pursue the goals and objectives outlined in the Flagship 2030 Strategic Plan and the 2011 Campus Master Plan, including the following goals that may provide opportunities for Public-Private Partnerships:

- *“Design campus systems (infrastructure) to ensure an efficient, pleasing, and safe campus for many years to come.”*
- *“Develop sustainable facilities that are economically sound, environmentally responsible, and socially just.”*

Section I – A (4)

In total, the Master Plan proposed \$131 million in renovations and new buildings to be completed by 2025, with \$91.1 million in approved projects currently nearing completion.

Recent Progress

Since completing the Campus Master Plan and Utility Program Plan in 2011, the University has made considerable progress toward targeted goals and objectives, including:

- **Completed major renovations to the Power House (now WDEP)** – Renovations to the Power House began in the fall of 2012 and were completed by the summary of 2013. Upgrades provide the Power House with improved steam generational efficiency and the capacity to provide approximately 50% of the campus’s electrical power requirements (approximately 100% of requirements without any redundancy).
- **Nearly completed new construction of the EDEP and interconnected distribution network** – Construction on the new East District Energy Plant and extensions to the distribution network to interconnect the new plant with the existing Power House began (WDEP) in the fall of 2012 and became fully operational in April 2015.
- **Added capacity to reduce carbon emissions** – Renovations to the Power House are expected to reduce carbon emissions, as the repowered equipment utilizes natural gas, and new systems recover exhaust waste heat to provide additional heating and electrical power without requiring extra fuel. In total, these renovations provide the capacity to reduce carbon emissions by approximately 30,000 metric tons per year.
- **Reached N+2 redundancy** – As part of renovations to the WDEP, the two repowered CTG combustion turbines are expected to produce base load electrical power and steam, with the two existing boilers providing N+2 redundancy (N+2 redundancy means that two boilers can fail without disrupting service). Plans are in place to maintain redundancy at the required N+1 level as the existing boilers fail or are taken off-line.
- **Maintained steady utility rates** – Since FY 2012, rates have remained relatively stable, with annual growth rates (CAGR) averaging less than 2%. The rate for electricity increased from \$0.1058 / kWh in FY2012 to \$0.1125 /kWh in FY 2015. During the same time period, the rate for steam has increased from \$22.31 / Klb to \$23.987 / Klb, and chilled water increased from

\$0.3569 / ton to \$0.3654 / ton. Rate increases have been driven primarily by variable costs; however, rates have been relatively stable in recent years due in part to a favorable natural gas market and 36-month price locks.⁹

Our Understanding of Utility Needs

CU Boulder has made significant progress with the execution of its utility modernization and expansion plan and although additional improvements are needed, there does not appear to be a strong and compelling need for much more additional capital resources or investment in the central utility. That said, however, it is not clear at this time the extent to which the University has supplemented utility operations with energy efficiency and sustainability initiatives (particularly at the facilities-level) and whether these would require substantial investments.

Nevertheless, while the new construction and renovations address major campus energy needs, additional opportunities may still remain. On the one hand, a recently refurbished central utility may offer monetization and risk allocation opportunities. A sale or long-term lease of the central utility to a qualified utility operator could result in a significant infusion of funding for the university, while guaranteeing the long-term operation and maintenance of the system.

Likewise, and although our scope did not include a technical assessment of existing facilities, many universities find that they can strengthen central utility financial performance by improving in the following areas:

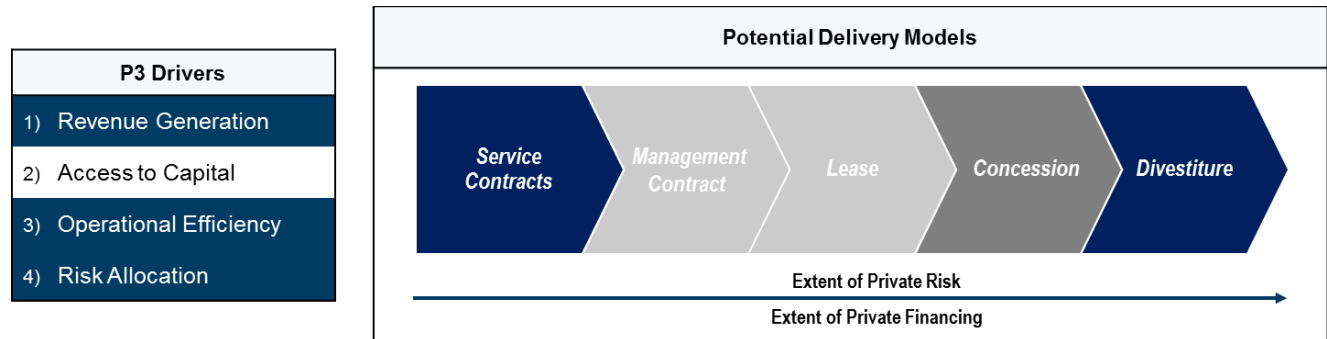
- **Purchasing:** CU Boulder likely purchases goods and services directly from its suppliers and sub-contractors. As an individual entity, it is assumed the University does not benefit from vendor discounts that might typically be available to a large third party utility company.
- **Maintenance Best Practices:** Though recent upgrades should help the University operate more efficiently, the existing maintenance strategy could benefit from a peer review. The split between internal and sub-contracted maintenance tasks may have room for improvement. For instance, Reliability Based Maintenance could be implemented and other areas where CU Boulder procedures differ from industry best practices may also be identified.
- **Labor Savings:** Through discussions with Utility Services staff, it is our understanding that the unit operates a lean staff, which may be difficult to scale when the new EDEP comes online, as retention and hiring are pain points. Bringing in a private partner may help alleviate some staffing issues, creating an opportunity for additional savings.
- **Delayed Capex:** Occasionally, new equipment is purchased and installed when a better spare parts policy, different dispatch model or increases in preventive maintenance could allow for extended equipment life-spans and the deferment of investment in new equipment.
- **Energy Efficiency:** Based upon our experience, we suspect that there are likely some areas offering additional energy efficiencies.

⁹ Source: CU Boulder Memo – Fiscal Year 2013 Utility Rates (April, 16, 2012)

P3 Options for Utility Operations

Given the scale and scope of recent investments, we believe the University’s utilities infrastructure provides an opportunity for the University to generate revenue through monetization and greater efficiencies and cost savings through potential service and management contracts. The new revenues and cost-savings could be used to pay down debt and/or to fund capital improvement projects core to the University’s mission and vision. Figure 2 provides a high-level menu of options:

Figure 2 – Menu of P3 Options for Utilities



After careful consideration of CU Boulder’s specific situation, we believe that it might want to consider one of the following options (see Appendix for additional details):

1. **Monetization:** Given the recent investment program in campus energy plants, the University may want to consider monetizing its investment by selling or leasing the facilities to a qualified utility operator in exchange for an upfront payment. The private utility operator would then be required to operate and maintain the utility in accordance with University-stipulated standards, in exchange for an off-take agreement by which the University purchases energy from the plant. There are several different potential contract modalities that could support this monetization strategy, including privatization, sale-leaseback, lease-leaseback, and O&M concession. While monetization may have been a more attractive option prior to recent system upgrades, the option still provides the opportunity to secure an upfront payment that the University can use to support other university priorities.
2. **Long-term O&M Concession:** In an operations and maintenance (O&M) concession, the University would enter into contract with a private partner that would operate, manage and maintain all or part of the utility system / energy plant(s), typically undertaking an initial benchmarking period to verify quantitative indicators regarding the performance of the system and asset quality. This pre-defined benchmark would then be used to evaluate the private partner’s performance over the term of the contract. These arrangements typically involve a term of 8 to 15 years, and savings generally range between 20% and 25% of total O&M costs. While these numbers can vary depending on the initial operating performance levels of the assets, this range is generally considered possible through well-designed O&M incentive structures.
3. **Savings Performance Contract(s):** If a full monetization strategy is viewed by the University as too aggressive an approach in the short term, another option to explore would be a savings performance contract. Savings Performance Contracts rely on incentivized performance by a private partner. In general terms, this allows universities to benefit from private industry

expertise, while maintaining its public workforce and public governance structure. Under this model, CU Boulder would engage an experienced private operator under a performance contract to implement operational efficiency initiatives to bring performance in line with best practices. Based on peer and industry benchmarks, the private partner (sometimes referred to as a “peer partner”) would work with existing management and employees to identify areas for improved efficiencies and savings that will help maximize profitability and/or off-set infrastructure costs. Typically, this partnership option results in operations and maintenance (O&M) cost savings of 10% to 15% annually and helps the Utility Services manage its rate structure and operating costs. The private partner is paid either entirely or partially on the basis of the savings that it produces. This model was used, for instance, by the City of New York Water and Sewerage Department, resulting in a 30% annual savings (valued at over \$100 million).

Relevant Case Studies for Utility Public-Private Partnerships

As universities scale, resource capacity needs can escalate quickly – requiring immediate capital-intensive upgrades and build-outs. Sustainability efforts compound investment requirements, with campuses seeking to fulfill environment and conservation initiatives. Table 3 details recent P3 transactions in utility infrastructure below:

Table 3 – Utilities Case Studies

University of Oklahoma, Energy¹⁰	
Summary of P3 Project	Facing an aging portfolio of utilities, the University of Oklahoma sought a solution to increase cost effectiveness and free up resources for investment in core academic missions. In 2010, the University agreed to a 50 year contract with Corix Utilities for the broad management of on-campus utilities. The contract includes management of central heat and power, natural gas, electricity, potable water, and wastewater. Although ownership is retained by the University, future renovation and capital improvements during the contract period are the responsibility of the private partner. According to Corix, the University can expect savings of \$38M to \$66M over the contract term.
University of Maryland, Energy¹¹	
Summary of P3 Project	UMD was seeking to procure long term trigeneration services and construction of energy and chilled water utilities to replace aging systems and significantly expand capacity for campus growth without tapping into public resources. The procurement resulted in a \$469 million transaction for construction and maintenance of Electrical Utilities and Chilled Water Distribution. The transaction closed successfully in April 1999 with private and nonprofit partners Trigen-Cinergy and MEDCO, in a 20-year deal to finance, operate, and manage utilities. At the time of the transaction, the partnership contemplated energy reduction of 32 percent and monetary savings of more than \$120 million.

¹⁰ *Project Profile, University of Oklahoma*. Available online at: <https://www.corix.com/docs/default-source/experience/corix-university-of-oklahoma_project-profileFD33D7DAD2A4.pdf?sfvrsn=2>

¹¹ *Mid Atlantic CHP, University of Maryland Project Profile*. Available online at: <http://www.midatlanticchptap.org/states/UMD_Profile.pdf>

Advantages and Disadvantages of Option(s)

Model	Advantages	Disadvantages
Traditional Delivery Model / Current State	<ul style="list-style-type: none"> • The University maintains complete control of utility systems • No employee/operational disruption • Depth of knowledge of the physical asset and O&M is retained in-house 	<ul style="list-style-type: none"> • Operating and financing risk • Regulatory risk • Hiring restrictions and retention issues • Strict emissions standards • Limited purchasing power
Monetization	<ul style="list-style-type: none"> • Upfront payment to reflect value of assets • Long-term, performance-based operating guarantee (typically 20% savings) • Financial predictability (known rates) • No funding/financing requirement for future modernization and expansion • University retains regulatory oversight and dictates standards 	<ul style="list-style-type: none"> • The University loses full or partial control and ownership of the asset • Public perception of complete privatization could be negative without proper communication and change management – politically and socially challenging
O&M Concession	<ul style="list-style-type: none"> • Operational efficiencies are achieved through economies of scale and introduction of advance technology and innovation, typically providing 20% to 25% cost savings • Market competition on bidding and selection of a qualified private partner lowers prices • Incentivizes the private partner to run a lean, efficient organization with a focus on service delivery • Incentivizes the private partner to deliver projects on time and within budget 	<ul style="list-style-type: none"> • Proper metrics are needed to measure performance and incentivize the right behavior • Limited University control on operations and maintenance, while the students, parents, and community will hold the University accountable for the quality of the services provided • Limited upfront capital payment to the University to fund the LTCP requirements
Performance-Based Contract	<ul style="list-style-type: none"> • Similar advantages as the O&M concession model, as well as: <ul style="list-style-type: none"> ○ Operational efficiency improvements that typically yield 10% to 15% in O&M savings ○ No up-front costs for entering into the agreement with the private operator ○ Operational savings may provide an opportunity to mitigate rate increases • Short-term nature of contract is very palatable to stakeholders • Knowledge internalized / long-term benefits from short-term contract 	<ul style="list-style-type: none"> • No up-front funding to support the requirements of the long-term capital projects • University retains regulatory and capex risk

Conclusion & Next Steps

In recent years, there has been a marked move by universities towards leveraging P3 for utility operations. That said, however, there are many different approaches to utility P3, as some universities are in need of plant expansion and modernization, while others are more focused on capitalizing savings and minimizing operating risks over the long term. It is worth noting that the Anschutz medical campus used a P3 approach but needed to be bailed out by the treasurer. This should not deter CU Boulder from evaluating P3 approaches, but the details of the failure at Anschutz should be considered as part of the decision-making process.

While there are a number of potentially exciting P3 structures that could be employed to both monetize existing assets and generate savings, prior to making a definitive decision as to the best path forward, the University would be well advised to undertake a comprehensive technical assessment of the utility system to determine the potential scope for savings and improvements, as well as a baseline asset value. The assessment will allow the University to determine exact needs, which will help inform any potential public-private partnership structure. This assessment could be completed in a period of six to eight weeks, at which time a detailed options analysis could be presented to the University.

Parking

Overview

General Description

Parking at CU Boulder comprises a major asset class with significant financial and strategic implications to the university. CU Boulder's parking inventory consists of 12,407 parking spaces managed by various campus units, led by Parking Services at 70%, Housing and Dining Services at 15%, Research Building Services at 12%, and Athletics at 3% of the total inventory.

Asset Inventory

The University's parking inventory consists of a variety of parking lot types, including permit, visitor, attended and metered parking lots. The campus contains two major parking structures – The Euclid AutoPark ("EAP") and The Regent AutoPark ("RAP"). Opened in 1991, the EAP is a 135,456 square foot facility located between Broadway and 18th Street, accommodating 415 vehicles. Likewise opened in 1991, the RAP is a 278,180 square foot facility located at Regent and Engineering Drive, accommodating 868 vehicles.

Financial Overview

As a self-funded auxiliary, Parking Services does not receive state tax dollars or tuition fees. All funding is derived from user fees and bond financing. According to consolidated financial data gathered by Chance Management Advisors (CHANCE), the net operating income for fiscal year 2014 was approximately \$2.1 million, with \$8.25 million in operating revenues and \$6.15 million in operating expenses. Capital costs were approximately \$2.36 million, leading to a net decrease of \$257,223 in the overall fund balance.

Operating revenues have been driven primarily by business, temporary, meter, transient, and after hours services. Operating expenses originate principally from labor and other operating costs, namely transfers to the University (e.g. – GAIR, contributions to RTD/EcoPass) and credit card fees. Currently, proceeds of the Series 2014A Bonds are being used to fund improvements to the Euclid AutoPark.

Goals & Objectives

Several key goals and objectives have emerged as part of the Transportation Master Plan included in the 2011 Campus Master Plan, including the following goals that may provide opportunities for Public-Private Partnerships:

- *“Better manage the available parking supply and price it to ensure financial sustainability and to encourage alternative mode use.*
- *Ensure TDM and parking management strategies are considered and incorporated into projects as the campuses develop and to use other methods, such as providing more on-campus housing and building university villages, to minimize or eliminate the need to build new parking.*

- *Develop viable financial strategies to address current financial deficits of Parking & Transportation Services as well as identify funding for new and expanded efforts to achieve a reduction in travel and parking demand.”*

Section V – E (1.c)

Recent Progress

Since completing the Campus Master Plan and Transportation Master Plan in 2011, the University has taken important steps toward targeted goals and objectives, including:

- **Completed a comprehensive analysis of the parking system** – In July 2013, the University hired parking consultant Chance Management Advisors (CHANCE) to complete a comprehensive analysis of the parking system, including outsourcing and monetization opportunities. The report culminated in recommendations that would promote greater integration and collaboration in providing parking services to the campus.
- **Developed and approved plans for new Folsom Parking Garage** – Approved by the Board of Regents in June 2014, plans were developed to build a two-level, below grade parking garage in conjunction with the Indoor Practice Facility. This project is in the construction phase and is expected to cost \$24.8 million and provide approximately 580 parking spaces.
- **Developed and approved plans for renovations to the Euclid AutoPark** – Also approved by the Board of Regents in 2014, plans were developed to add new spaces above the Euclid AutoPark for admissions, academic advising and other student services functions. Though the project is not parking related, services may be impacted during the construction phase. The project is currently in the design phase and estimated to cost approximately \$43 million.

Our Understanding of Parking Needs

Given the unit’s recent progress on goals and objectives, it is our understanding that the University is seeking alternative strategies that streamline operations and management, generate increased revenues to address financial deficits, and optimize parking assets to fund efforts to reduce travel and parking demand. More specifically:

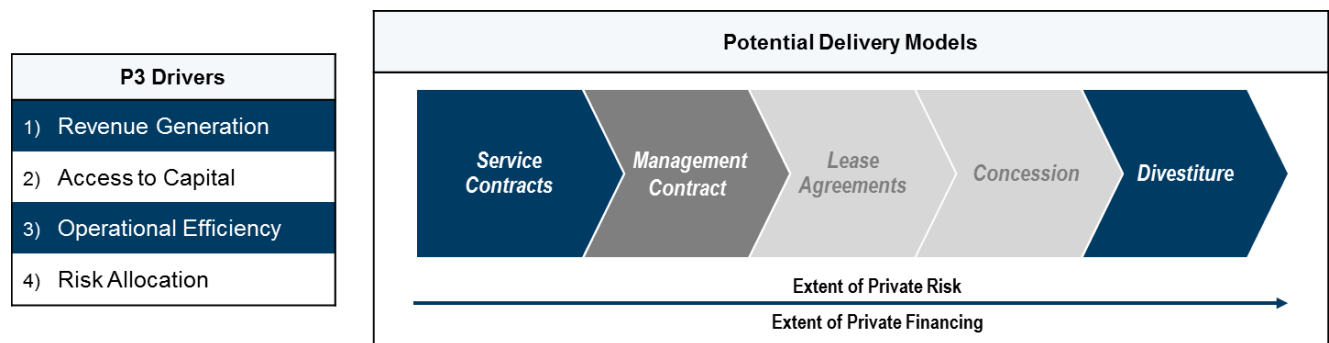
- **Complex operations and management structure** – The division of parking management leads to operating redundancies across campus. Several core parking management activities – permit assignment, facilities maintenance, space utilization, long term financing and funding – are managed separately, leading to a complex and inefficient approach. Multiple reviews have suggested the consolidation of parking management under Parking Services, but an actual consolidation has yet to be pursued.
- **Limited revenues to address current financial deficits** – As stated in the financial overview, the net operating income for fiscal year 2014 was approximately \$2.1 million, with \$8.25 million in operating revenues and \$6.15 million in operating expenses. However, with capital costs of approximately \$2.36 million, parking services had a financial deficit of \$257,223 for the year. As identified in the 2013 Parking Study, the current practice of issuing complex parking permits and rates, providing free and reduced-fee parking, and subsidizing non-parking functions and activities limit the unit’s ability to operate as self-funded auxiliary.

- Limited progress on transportation priorities** – In recent years, CU Boulder has integrated parking into the broader conversation about transportation management on campus, which has focused on the expansion of alternative transportation to reduce single occupancy vehicle traffic on campus. As a result, CU Boulder’s parking strategy focuses on using technology to manage parking more efficiently, rather than increasing the inventory of parking. The campus has discussed the need to use existing lots as potential development zones and relocate parking off site, supported by shuttle services.

P3 Options for Parking

Recognizing both the current state of parking at the University of Colorado and the desired goals and objectives of the University, we believe that Public-Private Partnerships for parking have significant potential to provide value to the university in three key areas – revenue generation, access to capital and operational efficiency. Figure 3 provides a high-level menu of options:

Figure 3 – Menu of P3 Options for Parking



As previously discussed, several key factors shape the current state of the parking enterprise. First and foremost, parking is highly decentralized with disparate ownership and management by auxiliary and academic units, leading to substantial operational redundancies. Secondly, the university faces complex needs related to new capital investments in parking, especially with respect to efficient land usage. More specifically, the university has identified a need to consider converting existing surface parking lots into space for academic facilities, which will require the development of more complex parking structures and/or off-site parking supported by shuttle services. The CU Parking Transportation Master Plan itself confirms the market reality that structures are difficult to deliver, especially when underground (such as the C4C garage and the proposed Folsom Garage) as these projects require such activities as excavation and shoring. Finally, there is a desire to optimize the parking model to allow the assets to more effectively serve as a revenue stream to the campus at large and support capital planning.

Given these factors, three Public-Private Partnership delivery models have potential to facilitate the University in pursuit of its parking goals (see Appendix for additional details):

- Design-Build-Finance-Operate- Maintain (DBFOM):** Under a DBFOM structure, a private partner (typically a consortium operators, developers and investors) will be responsible for the design, construction, financing, operation, and maintenance of new parking facilities. In general, a DBFOM will be structured over a contract period between 25 and 50 years, during which time the private partner maintains operation and maintenance of the asset. To attract private participation and reduce costs, CU Boulder would likely also need to provide the private partner

with rights to the assets and surrounding real estate during the agreed upon concession period to allow for commercialization of CU Boulder parking facilities to complement the revenues assessed from parking fees.

2. Monetization / Divestiture: The University may want to consider offering its parking assets to a single operator in exchange for an upfront payment. This, coupled with clearly articulated operating guidelines and pricing regulations, could assist the university not only in meeting its parking needs over the coming decades, but also in improving its traffic management system through new technologies and dynamic pricing.
3. Incentivized Performance Contract: If the University prefers to adopt a more conservative approach in the short term, another option to explore would be an incentivized performance contract or a management contract, where the private partner is generally paid a combination of a fixed and performance-based fee. Typically, this partnership option results in operations and maintenance (O&M) cost savings of 10% to 15% annually. It likewise has been known to increase parking capacity by 30%-40%, simply by employing alternative parking strategies within existing facilities. The terms of the contract would need to be tailored to the specific needs of the University’s parking facilities, but should include consideration of attended parking, dynamic pricing, commercialization opportunities, and integration with broader transportation systems management and operation.

Relevant Case Studies in Parking Public-Private Partnerships

As with CU Boulder, parking remains a central issue affecting faculty, students, and visitors alike at universities across the United States. As universities consider their own unique needs, the following universities have utilized P3 agreements:

Table 4 – Parking Case Studies

University of California, Parking¹²	
Summary of P3 Project	As part of its Southeast Campus Integrated Projects Plan (SCIP), the University of California Berkeley recognized the need for additional parking and planned a project involving the demolition of a current athletic practice field for the construction and operation of a 500-space structure. The final transaction was closed with City Park for the construction and operation of a \$20M facility. After the structure was completed, a new field was built atop the parking facility. Ultimately, the transaction will provide the university with revenue created from the sale of parking.
University of Southern Mississippi, Parking¹³	
Summary of P3 Project	Due to a growing need for student and employee parking capacity, USM procured alternative financing options for the development of a parking garage on an accelerated delivery timeline. The University entered into an agreement with a private consortium, Eagle Parking LLC, for the design, construction and financing of a \$16M parking structure. The deal was 100% financed by the private partner and resulted in an annual fee of approximately \$1 million to be paid by the university for a period not to exceed 31 years.

¹² *New field and parking structure to replace Maxwell Family Field*– January 22, 2014 Available online at: < <http://www.dailycal.org/2014/01/22/new-field-parking-structure-replace-maxwell-family-field/>>

¹³ *Parking Garage Construction on Track* – July 13, 2010 Available online at: < <http://www.usm.edu/news/archives/older/cms/index44e7.html>>

Advantages and Disadvantages of Option(s)

Model	Advantages	Disadvantages
Traditional Delivery Model / Current State	<ul style="list-style-type: none"> • The University maintains complete control of parking assets • No employee or operational disruption 	<ul style="list-style-type: none"> • Lack of ability to apply parking revenues into core mission of academic campus. • Potential difficulty delivering new parking structures effectively and on budget • Poor performance levels, as compared to other universities
DBFOM	<ul style="list-style-type: none"> • The University benefits from private sector efficiencies and innovation in the construction and operation of parking • No disruption to existing parking assets • Competitive bidding process drives significant value . • Can serve as low risk “pilot” to introduce campus environment to Public-Private Partnerships • Potential to increase total parking capacity significantly due to innovation and expertise • Improved financial performance benefits university • Ability to integrate with traffic management system 	<ul style="list-style-type: none"> • Difficult to implement under current decentralized operations and management structure, particularly how cost savings and potential payments would be shared between current parking providers (i.e., Parking Services, HDS, Athletics, etc.)
Asset Divestiture	<ul style="list-style-type: none"> • Same benefits of DBFOM, plus an significant upfront or ongoing payment 	<ul style="list-style-type: none"> • Same challenges as DBFOM, plus less control over and rights related to the use of the assets
Incentivized Performance Contract	<ul style="list-style-type: none"> • Short term contract could result in significant operational and financial improvements • Potential to increase total parking capacity without capital investments • Best practices internalized by university 	<ul style="list-style-type: none"> • Same challenges as DBFOM

Conclusion & Next Steps

Universities across the country have been looking to unlock value from existing parking assets through long-term contracts with private operators. A wide variety of options exist for CU Boulder to improve and expand its parking infrastructure; however, at this time, there is no clear understanding of the University’s priorities relating to this asset class. Until a clear policy decision is made regarding the university’s medium term parking strategy, it is difficult to recommend a particular P3 structure. Similar to the findings in Chance Management Advisors’ (CHANCE) comprehensive assessment, we believe opportunities are limited by the current operational structure, making any decision on long-term strategies and P3 options difficult. Once this is addressed, however, CU Boulder should reconsider P3 as a viable option for the University to optimize the value of its parking assets.

Hotel & Conference Center

General Description

CU Conference Services (CUCS) is currently operated as an auxiliary enterprise within the University's Housing & Dining operation. Each year, approximately 120 conferences take place under CUCS management. Revenues from CUCS are used to subsidize the remainder of the student housing enterprise, allowing for lower room and board rates for students and providing for year-round employment for HDS staff.

In recent years, significant discussion has taken place surrounding the creation of a standalone hotel and/or conference center to serve the University and surrounding community.

Asset Inventory

In 2013, CU Boulder acted upon a plan to demolish the University of Colorado's College Inn, a 76,779 square foot building located on Athens Street. At that time, it was determined that renovation of the building, which was built in 1964, would cost more than its financial worth to the campus. Prior to demolition plans, the College Inn served as a conference center and provided overflow capacity for students when dedicated residential space was unavailable.

At this time, CUCS relies upon the University's residential housing stock and instructional space in order to accommodate guests and events on campus. As mentioned in the Student Housing section of this report, utilization for the undergraduate housing buildings is very high during the academic year. Therefore, CUCS primarily operates conferences during off peak academic periods when students are away from campus, the most significant of which is the summer period. The Coors Events center, originally named the CU Events/Conference center, also provides space for large events but primarily serves as a multi-purpose arena for CU athletics.

Financial Overview

Based on financial information provided for the Housing & Dining enterprise, CU Conference Services generated \$4,304,071 in revenue in fiscal year 2014. Compared to FY 2012, CUCS revenues grew by approximately 47%. Furthermore, CUCS accounts for approximately 4% of revenue as a percentage of total revenues for the Housing & Dining Enterprise.

Goals & Objectives

Although the master plan does not specifically articulate goals for Conference Services, our understanding is that the University's goals related to the current conference center enterprise and any future additions include:

- *"Providing opportunity for Conference Services to increase the number of conference attendees at CU."*¹⁴

¹⁴ CU Master Plan – Section IV – F.1

- *Accommodating the meeting, continuing education, symposia, event and other University need that are being met or not currently being met by either on or off campus facilities in Boulder.*¹⁵
- *“Resource leveraging” between the campus and community to create mutually beneficial projects in the area.*
- *Taking advantage of housing and academic assets during times when primary utilization is low, while balancing the need to accommodate conferences and ensure that adequate housing is available to those students that need it even during low occupancy periods.*

Recent Progress

CU Boulder’s recent capital projects have included several major academic and residential buildings, which not only provide additional space to be used for conferences, but also provide improved facilities more attractive to conference guests. Recently completed projects include the Baker Residence Hall Renovation, the renovated Kittredge West Residential Hall, and the new Kittredge Central Residential Hall. With the opening of Williams Village north, new administrative offices and storage space to support CUCS operation also became available.

Our Understanding of Hotel & Conference Center Needs

The 2011 Campus Master plan lays out the current state of CUCS and outlines several high level needs for the future. Based on the master plan and publicly available data, the primary needs influencing hotel & conference services include the following:

- **Increased capacity to allow for greater numbers of attendees.** Based on surveys conducted in 2008, the campus has the ability to support year round conferences and conferences larger in size. Currently, the capacity limitations during the school year, combined with the lack of large central multi-purpose meeting space, limits the university’s ability to maximize conference service revenue.
- **Improved lodging features and amenities.** The campus lacks the features and amenities in demand by conference organizers and attendees, such as air conditioning, private baths, and room temperature controls. In order to increase demand (and likely prices), the campus will need to improve facilities with desired features.

The most recent master plan contemplates potential improvements needed to sustain and grow Conference Services. Improved housing facilities – to include suite-style housing, larger meeting spaces, and private bathrooms – will provide additional support to the space needs anticipated for Conference Services. Furthermore, there remains a significant need to invest in improved amenities, namely audio visual capabilities and air conditioning within classrooms and residential halls. At the time of the 2011 Master Plan, Williams Village was the only housing area offering air conditioned rooms; however, recent renovations to Baker Hall and the Kittredge complex have helped address this need by adding air conditioning. To address meeting space needs, the Master Plan scopes two key possibilities to be considered during future development of residential halls: (1) the development of large multi-purpose spaces as part of redevelopment at Kittredge and Darley Commons or (2) the creation of a multipurpose community center as part of graduate and family housing units.

¹⁵ *Hotel Conference Center Survey.* Available online at: <<http://www.colorado.edu/ememoarc/admin/2008.04/0004.html>>

Plan for New Conference Center

Although an explicit plan has not been created, there have been exploratory discussions on campus surrounding the development of a standalone hotel and conference center to support campus and community needs. In Section IV – F.4 of the 2011 Master Plan, the University discusses the potential for partnerships in the redevelopment of the area north of Boulder Creek. One possible development option discusses a conference center that would serve the City of Boulder and the University, developed as a partnership between the city, university, and possibly private developers. Prior to the 2011 Master plan, the Facilities Task Force of the Flagship 2030 initiative recommended establishing a CU-Boulder Creek Village north of Boulder Creek in conjunction with a hotel-conference center.¹⁶ After flood mitigation goals are achieved, the CU Boulder Creek Village would allow for the development of a dense mixed-use village concept combining faculty, alumni, and graduate housing with a conference and hotel complex. Commercialization of housing could also occur to attract additional revenue and private sector participation.

In 2008, CU Boulder conducted a survey to assess the existing need of the University for hotel and conference facilities. The assessment not only determined that existing facilities were subpar compared to projected needs, but that CU could likely generate sufficient and regular demand for a conference center. Initial plans scoped a conference facility between 35,000 and 45,000 square feet with conference capacity to accommodate between 40 and 1,200 people and a hotel with 150 to 200 rooms.

Currently, two potential sites have been identified – a location at Grandview and one at Folsom Street and Arapahoe Avenue. Based primarily on location choice and the ability to capture synergies from CUCS, the hotel and conference center would be delivered and operated by the university or by a private developer and hotel manager.

Because of the regional demand for such a conference center, partnerships with the City of Boulder are also under consideration. Currently, regional demand for conference space in the area tends to be captured by large hotels outside the City of Boulder, namely Omni Interlocken Resort in Broomfield and Westin Westminster in Westminster. As a result, both the City and the University are forfeiting potential revenue that could be captured by a facility in Boulder. The City has already earmarked money to be spent on projects involving community spaces in the downtown area of Boulder, which could supplement or complement investments by the University or a private entity.

P3 Options for Hotel / Conference Center Services

Depending on the site selection for the facility, there are a number of potential alternative finance and delivery opportunities (see Appendix for additional details):

1. **P4 Structure**: If the project is executed in coordination with the City of Boulder, it could be structured as a P4 (Public-Public-Private Partnership) agreement. The first step towards attracting a private partner to help develop any site would involve exploring potential eligibility for tax incentives for office, retail and hospitality services with the City and State. Economic incentive zones can reduce state and local tax burdens associated with parcels of developable land used in whole and in part to generate economic development benefits. The project would most likely take on the form of ground-lease, although it could also be executed as an outright

¹⁶ *Flagship 2030 Final Report, Facilities Task Force* – September 2008. Available online at: <
http://www.colorado.edu/flagship2030/sites/default/files/attached-files/TaskForceFacilities_1.pdf>

sale (subject to usage restrictions). The nature of the enterprise, as well as the financing, is such that this should be entirely off the university’s balance sheet, and compensation to the investor would derive through occupancy and user fees.

2. DBFOM / Ground-Lease: Alternatively, utilizing available or underutilized land owned by CU Boulder, the University could follow a very common private delivery model. A private partner (comprised of hotel and real estate developers) would develop the project at their sole cost through a ground lease agreement with the University. The term of the lease would be determined on the basis of the expected financial structure (probably 50 years), with the building reverting to University ownership at the end of the contract.

Relevant Case Studies for University Hotel/Conference Centers Public-Private Partnerships

Generally speaking, universities rely upon the private market for full-scale hotel provision but provide limited conference facilities in-house. For universities, the decision to develop full-scale hotel facilities in-house generally depends upon the existing capacity of the local market, the scale and predictability of demand generated by university patrons, and the compatibility of such a facility with the university’s mission and strategic goals. Table 5 outlines a sample of recent P3 transactions for university hotel/conference centers below:

Table 5 – Sample of Recent University Hotel Case Studies

University of California, Hotel¹⁷	
Project Summary	In 2009, the University of California entered into a Public-Private Partnership agreement with the University Hospitality Group to develop and operate a 75-room hotel. The private partner agreed to finance, build, own and operate the hotel along with a conference center. The hotel operates under the Hyatt Place brand, and was built without significant cost to the University of California.
Kent State University, Hotel and Conference Center¹⁸	
Project Summary	In 2012, the Kent State University Foundation entered into a partnership with the Pizzuti Companies, City of Kent, DFWR, and Finance Fund for the development of a \$16 million, 80,000 square foot, 84-room hotel. The university foundation will own and manage the hotel. Financing included \$9 million in New Markets Tax Credits from Finance Fund and \$6.5 million from Development Fund of the Western Reserve. The hotel also serves as a learning space for students enrolled in the university’s hospitality management program.
Drexel University: The Study at University City	
Project Summary	Drexel identified a location for a full-service boutique hotel, with meeting space, retail, and other amenities to serve its community, as well as neighboring institutions (including U Penn). Through a competitive process, Drexel selected Hospitality 3, LLC, a New Haven,

¹⁷ *Groundbreaking Ceremony for Hotel*– April 20, 2009. Available online at: < http://news.ucdavis.edu/search/news_detail.lasso?id=9098>

¹⁸ *Public/Private Partnership Builds New Kent State University Hotel and Conference Center* – September 4, 2012. Available online at: < <http://www.prnewswire.com/news-releases/public-private-partnership-builds-new-kent-state-university-hotel--conference-center-168483476.html>>

Connecticut and Manhattan-based hotel and real estate development company to develop the project through a ground lease agreement with Drexel at the company's sole cost. The building will revert to Drexel ownership at end of term. Size: 145,000 square feet.

Conclusion & Next Steps

While P3/4 structures could be employed to bring a new hotel/conference center to CU Boulder, the University may benefit by first establishing a task force with representatives from both the local and university communities to explore these options further as well as an option to operate and maintain such a facility in-house. Once established, the task force should consider hiring professionals to conduct a comprehensive market assessment to determine the demand for a hotel/conference center and make decisions based on that and potentially subsequent reports.

Appendix – Overview of P3 Structures

The following provides an overview of the typical ownership structure, payment structure, scope of services, and risk allocations associated with DBFOM / DRFOM, monetization, long-term O&M contracts, and saving performance contract partnerships:

Design-Build (Renovate)-Finance-Operate-Maintain

Ownership

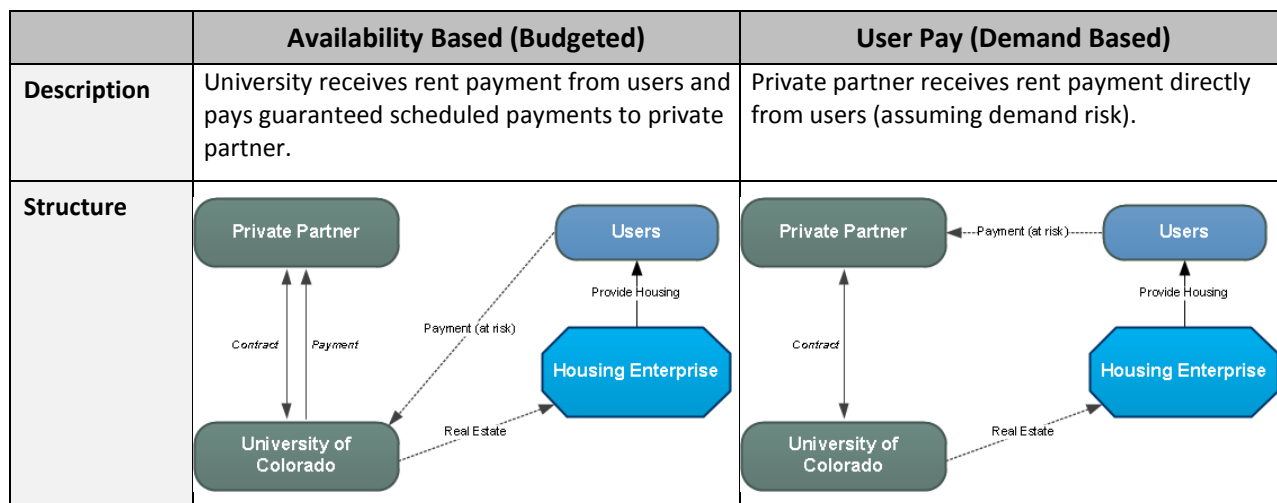
The public entity sponsoring the project may retain full ownership over the project assets throughout the partnership period, although tax ownership can be (and often is) transferred to allow for tax depreciation, with asset ownership reverting to the university at the end of the contract term. Generally, private partners are required to make direct equity investments into a special-purpose vehicle or “SPV” (discussed below) with leverage varying from 70% to 90% depending on the project risks and liquidity in the debt capital market. Equity from different sources can be invested at various stages of the project with equity investments first required during the construction period.

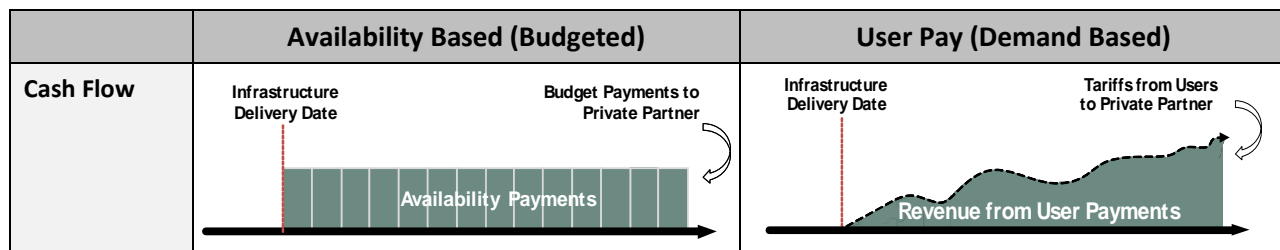
Payment Structure

Contracting and financing for a project delivered under a DBFOM generally requires the incorporation of a new concession company created for the sole purpose of the project called a special-purpose vehicle (SPV). The SPV is the recipient of revenues, which are leveraged to issue bonds or other debt on a non-recourse basis and pay for project development costs. This is similar to the University’s previous experience with Bear Creek; however, the SPV created for that partnership was fully-owned by the University, which meant that the University was ultimately liable for the financing and revenue risks involved in the project.

Payment structures provide one way to mitigate this risk and potential liability. For example, payments for student housing can be structured in two ways – (1) user-payments or (2) availability payments. Figure 4 provides an overview of how these structures may work:

Figure 4 – Example: Potential Payment Structures for Student Housing





As Figure 4 shows, the primary difference between user-payments and availability payments is which entity directly receives payments from users. Under a user-payment structure, the users make payments directly to the private partner or SPV, which therefore takes on the revenue risk associated with occupancy levels and late or absent payments. Under availability payments, users make payments to the University, which then indirectly pays the private entity.

Risk Allocation

There is a great deal of variety in DBFOM arrangements and especially in the degree to which financial risks are transferred to the private partner. Early investors are usually replaced at the end of the construction period (or soon after) by investors with longer investment horizons and risks profiles more closely aligned with the revenue risks of the concession company. Other types of equity investors take an active role from early development into the operation period and remain invested throughout the life of the concession.

Equity investors hold a junior claim on project revenue and generate a return only if the concession can cover its O&M costs, debt service, capital investment obligations, and reserve requirements. As such, equity is the most risky and most expensive form of capital, with early investors usually requiring higher return for a higher degree of risk than later-stage investors.

Debt and equity providers in DBFOM concessions impose strict discipline on the design-build and O&M contractors working for the SPV through contractual structures that include enforceable liquidated damages, security packages, and warranty provisions forcing the concessionaire to manage risk proactively.

One of the key value propositions of a DBFOM is the ability to optimize risk allocation between the private partner and the public entity. The primary goal of risk allocation is to assign each risk to the party most capable of mitigating its impact on the project.

Type of Risk	Description	Transaction Considerations
Design Risk	The possibility that designs do not meet desired output needs or are not structured to provide long-lasting, sustainable value.	Output specifications will be contracted into the deal, requiring the private partner to deliver on key needs required by the University.
Construction Risk	The possibility that construction delays amplify costs or that projects are delivered over budget.	Contract will set forth project milestones ensuring delivery within a specified time frame. Construction price will be contracted into the payment structure based on a predetermined cost, meaning the university bears no risk if construction does not occur at expected prices.

Type of Risk	Description	Transaction Considerations
Financial Risk	The aggregate impact of debt investments on the university’s balance sheet and credit ratings.	Equity and private debt funding will offset any funding required from the University.
Operating Risk	The possibility that operating expectations of the Project are not met or that costs exceed budgeted O&M costs, due to increases in input costs, skills requirements, labor disputes, employee competence, technology failure, or other issues.	Payment can be structured to remove potential operating budget overruns from the university’s purview.

Monetization

Ownership

There are a number of ownership variants that lend themselves to a monetization strategy. In some instances, universities may actually sell the assets in exchange for an upfront or ongoing payment; in other instances, universities will retain ownership while a private operator – in exchange for either an upfront payment or ongoing concession-payments – is afforded the right to utilize the assets over the term of the contract. The decision as to the ownership structure will depend on a myriad of factors, including the state of the assets, magnitude of existing liabilities, regulatory risk, off-take agreements, the ability of the private partner to commercialize and sell to third parties, etc.

Payment Structure

In any monetization/privatization structure, the University would receive a payment (whether upfront or on an ongoing basis) in exchange for the transfer of the ownership and/or rights to the assets. Using CU Boulder’s energy plants as an example, given that all operational costs associated with the operation and maintenance of an asset are born by the University, the value of the system for monetization purposes would generally follow the following formula:

$$\text{\$ Value (to CU Boulder)} = \text{NPV} [(\text{URI} - \text{Financing} + \text{Savings}) * \text{Term}]$$

This formula shows that the value to the University would be equal to the Net Present Value (NPV) of any Utility Rate Increase (URI) that the University is willing to bear minus the financing (i.e. the return required by the financing entity) plus any Savings (i.e. operational and energy efficiencies in the plant) over the Term (i.e. duration of the monetization agreement).

To view it another way, if the University were to sell the plant facilities, the private entity could only get a return on their investment through the utility rates that they would charge the University for the energy streams the facilities produced. The agreed upon rate structure, escalation, and other terms are typically agreed to within an Energy Services Agreement (ESA), sometimes called a USA (Utility Services Agreement) or PPA (Power Purchase Agreement). The new utility rates will be based upon the costs associated with the production of the energy plus the return desired by the financing entity minus what savings the new owner can find in plant operations.

Risk Allocation

With monetization, the private partner retains the operating risk during the term of the contract. The primary risk for the University is the contracting risk, as a poorly negotiated contract can lead to significant rate increases, service disruptions, and backlash from stakeholders. The majority of these risks can be mitigated through contract negotiations with the help of technical and legal advisors.

Long-Term O&M Contract

Ownership

Under this option, the University maintains full ownership rights to the utility assets. The private partner enters into a performance contract and does not have any ownership or regulatory rights.

Payment Structure

The O&M contract model typically compensates the private operator via a combination of a fixed fee and a performance-based fee. Operational savings are generated over time, and those savings typically accrue to the asset owner for its use. Another compensation model that the University may consider to mitigate the timing effect on capital budgets is an O&M risk transfer model in which the private partner performs the O&M and preventive maintenance and provides the University with an upfront payment.

Risk Allocation

While an O&M agreement would allow the University to maintain full ownership of the asset, the University would also retain 100% responsibility for future capital investments required to finance the long-term capital improvement plan, capital expansions, major maintenance, and sector planning and regulation. Depending on the contract, the private operator would typically bear the majority operating risks and any risk to recovering any investment and portion of cost savings. Risks include equipment performance, operations, maintenance, and equipment

Savings Performance Contracts

Ownership

Under a savings performance contract, the University maintains full ownership rights to the utility assets. The private partner enters into an incentive-based performance contract and is compensated based on savings achieved through implementing efficiency initiatives.

Payment Structure

With these incentivized performance contracts, there is usually no up-front payment to the private entity. Instead, the private operator is incentivized by future payments made based on actual savings achieved through implementing efficiency initiatives (value-based-billing). Savings are measured using key performance indicators (KPIs) that are established at the beginning of the effort and are used to track service performance relative to benchmarks over time.

Risk Allocation

Like traditional delivery models, almost all risks associated with infrastructure delivery and operations remain with the University. The private partner risks losing money if operational improvement initiatives fail to achieve agreed upon cost savings and key performance indicators.