# Efficiency & Effectiveness Annual Report

March 2021

University of Massachusetts

Amherst • Boston • Dartmouth • Lowell • Medical School • UMassOnline

# Agenda

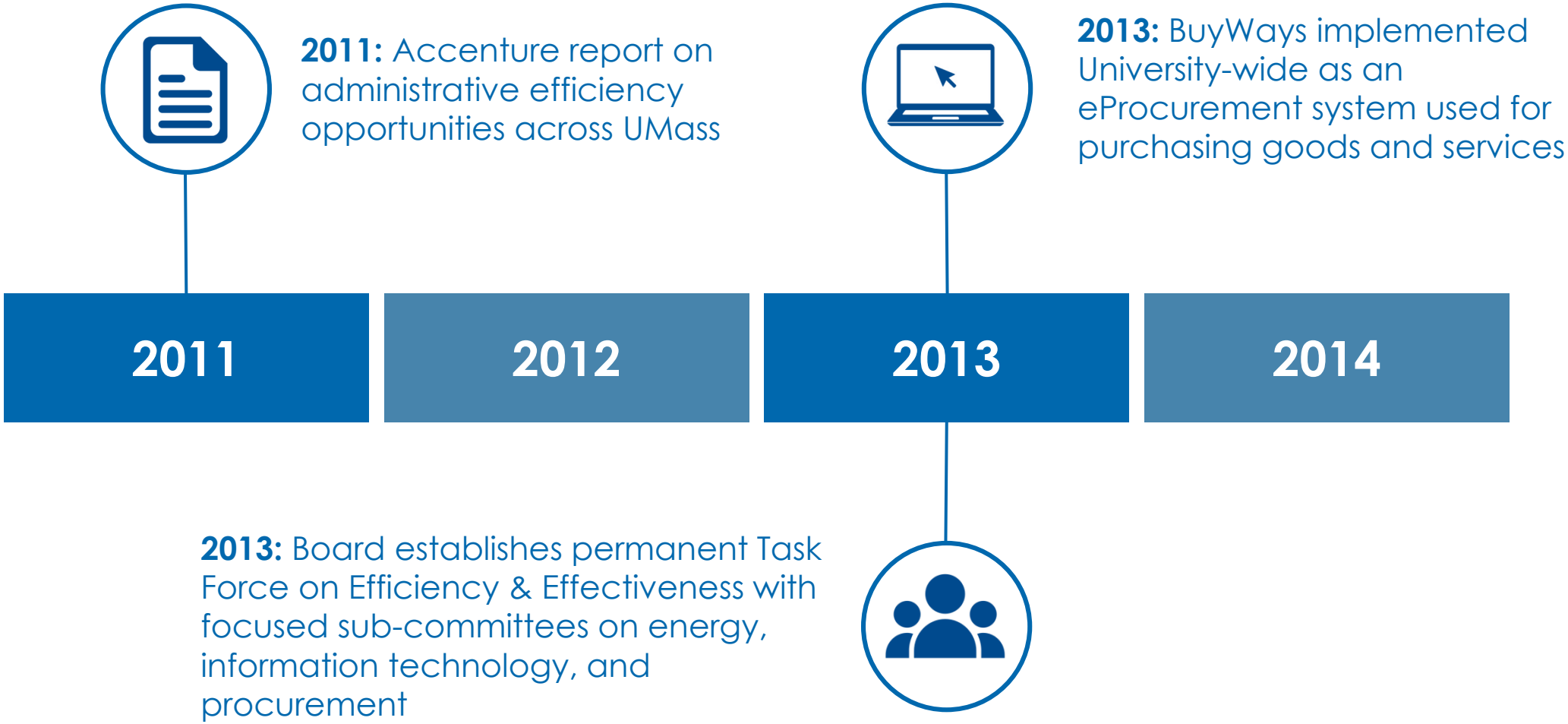
- Key Highlights
- Legacy of E&E Efforts
  - Timeline
  - Savings Summary (2011-2019)
- Origin of UPST
  - Shared services model
  - UPST Goals & Objectives
- Success of UPST
  - Summary of Activities
  - Savings Summary
  - Project Highlights
- System Office E&E Efforts
- What's Next & Future of Shared Services
- Appendix
  - Key Terms & Savings Methodology
  - Legacy & UPST Projects

# Key Highlights

- Realized over $99 million in total savings through 133 projects initiated from 2011 through FY2019
- Unified Procurement Services Team (UPST) responsible for system-wide procurement/accounts payable led by a Chief Procurement Officer launched in January 2020
- $18.5 million in cost savings achieved through 94 initiatives across all five campuses since launch of UPST
- To continue achieving its mission of providing "better, faster, cheaper" services to the University, the UPST has developed a robust pipeline of process improvements and cost savings projects
- Committed to pursing innovative shared services models to manage operations and deliver a world-class education to our students

# Legacy of E&E Efforts

# Timeline of E&E Efforts




**2011:** Accenture report on administrative efficiency opportunities across UMass

**2013:** BuyWays implemented University-wide as an eProcurement system used for purchasing goods and services

**2013:** Board establishes permanent Task Force on Efficiency & Effectiveness with focused sub-committees on energy, information technology, and procurement

# Timeline of E&E Efforts

**2015–2017**: Expand subcommittee work to include facilities management and library services

**2016:** UMass Dartmouth AP functions consolidated with President's Office

**2016–2018:** *Better Together*, a business process review, establishes a university system of standards and alignment that maximizes resources and fosters collaborative efficiency and effectiveness

**2019:** Shared service model explored and developed for a Unified Procurement Services Team (UPST)

**2020 & Beyond:**
- UPST launched
- Continued research and planning for expansion of shared services

2015 | 2016 | 2017 | 2018 | 2019 | 2020

# Cost Savings and Reductions: FY11 - FY19

***Over the past 7 years, UMass projects $99 million in cost savings from efficiency and effectiveness efforts.***

- Spending reduced by $22.3 million – cost avoidance totaled $77.5 million
- Re-investment into student programs and services that improve academic quality
- Goal to accelerate the pace through re-alignment of the organization and enhanced operational efficiencies

**$99.8 million**

cost savings
FY2011 to FY2019

# E&E Achievements Prior to UPST

***UMass has realized over $99 million in total savings through 133 projects initiated through FY2019***

| ($ in Thousands) | # Projects | Cost Reductions | Cost Avoidance | Total Savings |
|---|---|---|---|---|
| Energy & Sustainability | 33 | $12,975 | $36,442 | $49,417 |
| Purchasing Initiatives | 25 | $6,507 | $17,407 | $23,914 |
| IT Initiatives | 72 | $2,834 | $16,829 | $19,662 |
| Facilities | 2 | $0 | $6,200 | $6,200 |
| Library | 1 | $0 | $656 | $656 |
| ***Total*** | ***133*** | ***$22,316*** | ***$77,534*** | ***$99,849*** |

*Note: legacy projects only include those with system-wide impacts*

# UPST: Origins and Success

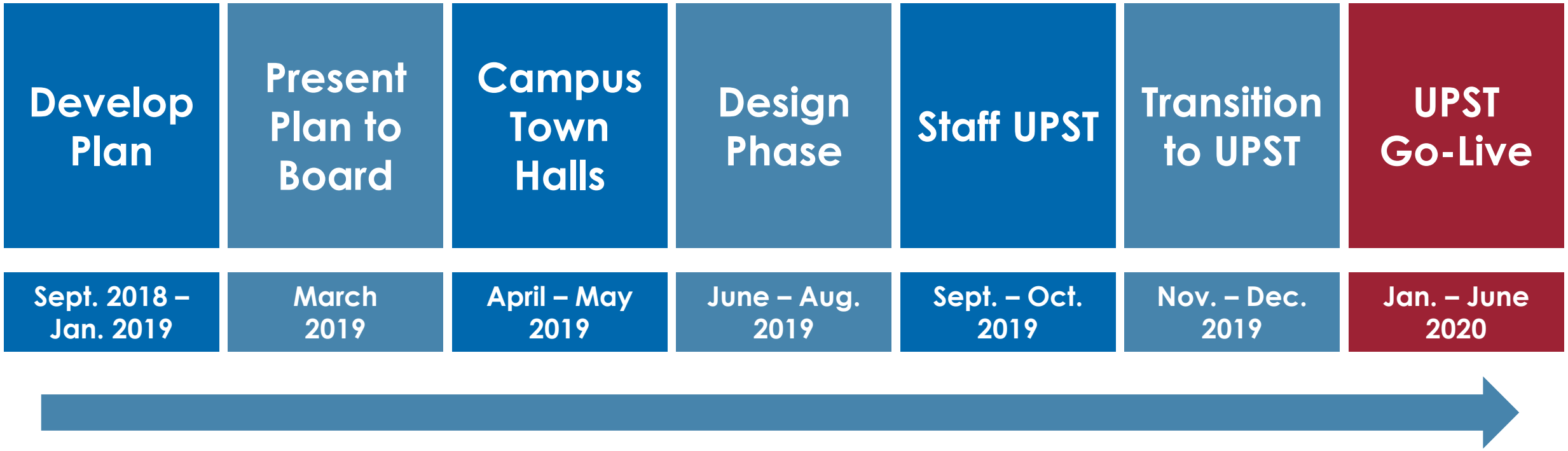
# Shared Services: Background

***The Shared Services project was launched in 2018 at the request of President Meehan with the support of the Board to assess the potential of a shared services model at UMass***

- Key Objectives Identified
  - Evolve A&F organization providing world-class service across the entire system
  - Modernize functions to provide services at lower cost
  - Re-invest savings back to academic programs and ensuring continued affordability
  - Further demonstrate UMass is operating efficiently and effectively
- Building on momentum of past initiatives:
  - 2011 Procure-to-Pay Study
  - Business Process Review (BPR)
  - Efficiency & Effectiveness Taskforce (E&E)
- Delivered comprehensive plan January 2019 outlining development of procurement shared services:
  - Establish UPST responsible for system-wide procurement/accounts payable led by a Chief Procurement Officer (CPO); providing services to all campuses
  - Governance structure to ensure strong campus / vendor customer relationships
  - Measure and report results against identified Key Performance Indicators (KPIs)

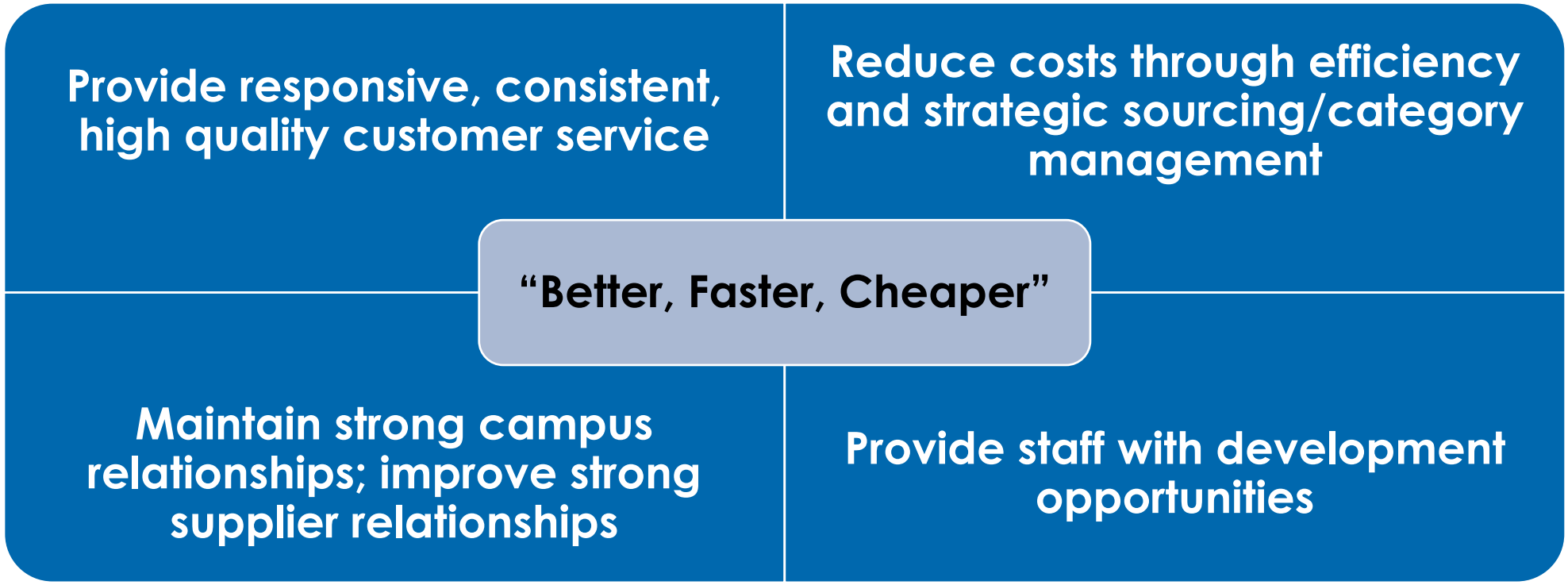
# UPST Timeline

***Engagement with campuses and all stakeholders a constant during development of UPST***



# UPST Goals and Objectives

## Key Objectives



# UPST Objectives Driving Achievements

## Process Enhancements (BETTER)

**Strategies Identified:**
- Streamlined PO's, etc.
- External SLA's and meaningful KPI's
- Timelines institutionalized in contracts
- Robust warranties
- Supplier Diversity considerations

**Tactics Achieving Objectives:**
- Coordination of remote learning/ work, PPE, and surveillance testing products & services procurement activities
- Capital spend suspension
- Pre-authorization spend control process (AtP)
- Campus specific decrease in spending limits

## Ease of Administration (FASTER)

**Strategies Identified:**
- Approved UMass product catalogues
- Vendor Consolidation
- Enterprise wide agreements and polices
- POC's (Proof of concepts)
- Greater adoption of automation

**Tactics Achieving Objectives:**
- Bank Card program (consolidated 6 programs)
- Automated supplier registration (self-service) process for new suppliers
- Payment process streamlining i.e. direct payment and invoice approval workflow roll-out
- Automated grants approval process

## Cost Discipline (CHEAPER)

**Strategies Identified:**
- Predetermined Margins/ Markups
- Volume based pricing/ Rebates
- Market Intelligence to utilize competitive benchmarks, etc.
- Pre-emptive, UMass system wide pricing requirements

**Tactics Achieving Objectives:**
- Continued drive for system-wide contracts
- 40 active supplier punch-out catalogs (7 more in the pipeline)
- Data driven sourcing activities

# 2020 by the Numbers

- **$772M** in total annual spend
- **$18.5** in actualized savings
- **$670K** in identified future savings
- **200,380** invoices processed
- **116,000** purchase orders
- **17,000+** active suppliers
- **15,900** travel authorizations
- **100+** bidding events completed
- **2,600** contracts created
- **29,000+** customer service requests resolved
- **6,000** suppliers set-up
- **100+** policy & process harmonization initiatives identified

# Cost Savings and Reductions

***Since January 2020 savings achieved through over 94 initiatives across all five campuses***

- Spending reduced by $11.5 million in FY20; achieved $15.3 million through December 2020
- Cost savings demonstrates results of various strategies:
  - $12.1 million in cost reductions
  - $13.4 million in cost avoidance
  - $1.4 million in revenue generation
- Accelerate the pace of savings achieved as UPST implements tactics and enhances operational efficiencies

**$26.9 million**

cost savings achieved since launch of UPST

# Cost Savings Details

***Tracking savings increases in FY21 as UPST celebrates one year of operations***

| Spend Category | FY20 Savings | FY21 Savings(1) | Total Savings |
|---|---|---|---|
| Capital | 4,456,739 | 2,811,763 | 7,268,502 |
| General Services & Supplies(2) | 1,479,612 | 3,346,193 | 4,825,805 |
| IT/Telecom | 1,855,790 | 2,418,008 | 4,273,798 |
| Marketing & Advertising | - | 623,342 | 623,342 |
| Maintenance, Repair, Operations | 232,963 | 17,410 | 250,373 |
| Professional Services | 21,834 | 1,245,249 | 1,267,083 |
| *Subtotal* | *8,046,938* | *10,461,965* | *18,508,903* |
| Energy(3) | 3,526,000 | 4,900,000 | 8,426,000 |
| **Grand Total** | **11,572,938** | **15,361,965** | **26,934,903** |

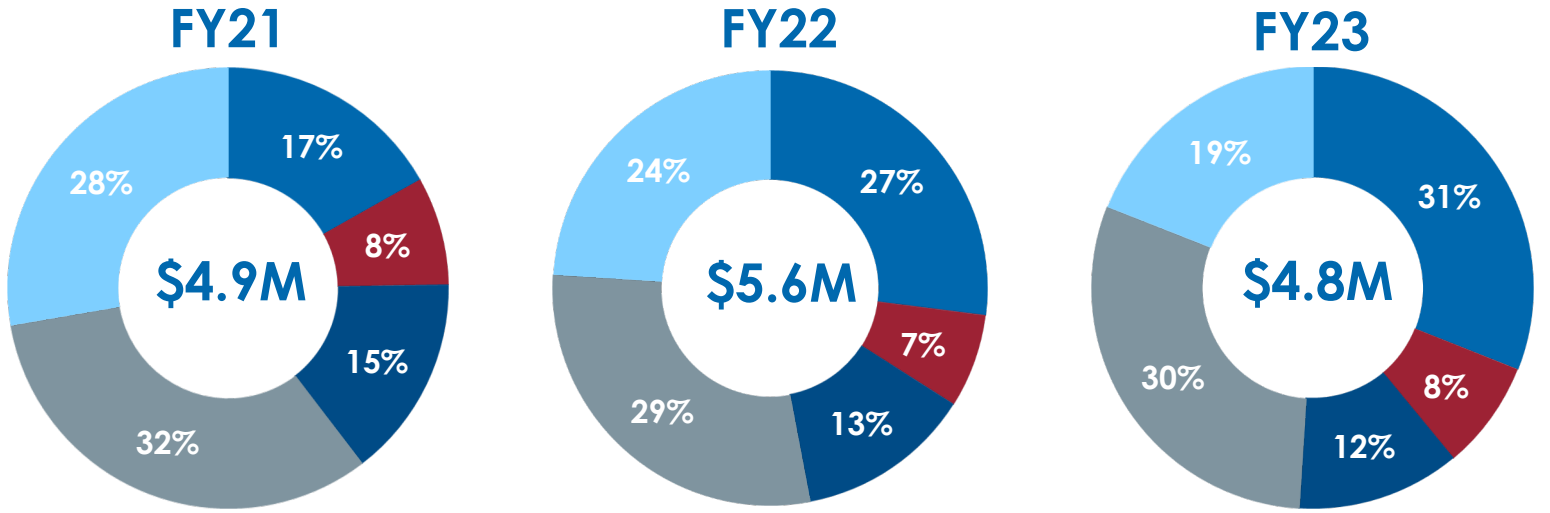


(1) FY21 savings through December 2020; (2) Library efficiency projects included in General Services spending category; (3) Projected savings are based on past performance and may change with market conditions

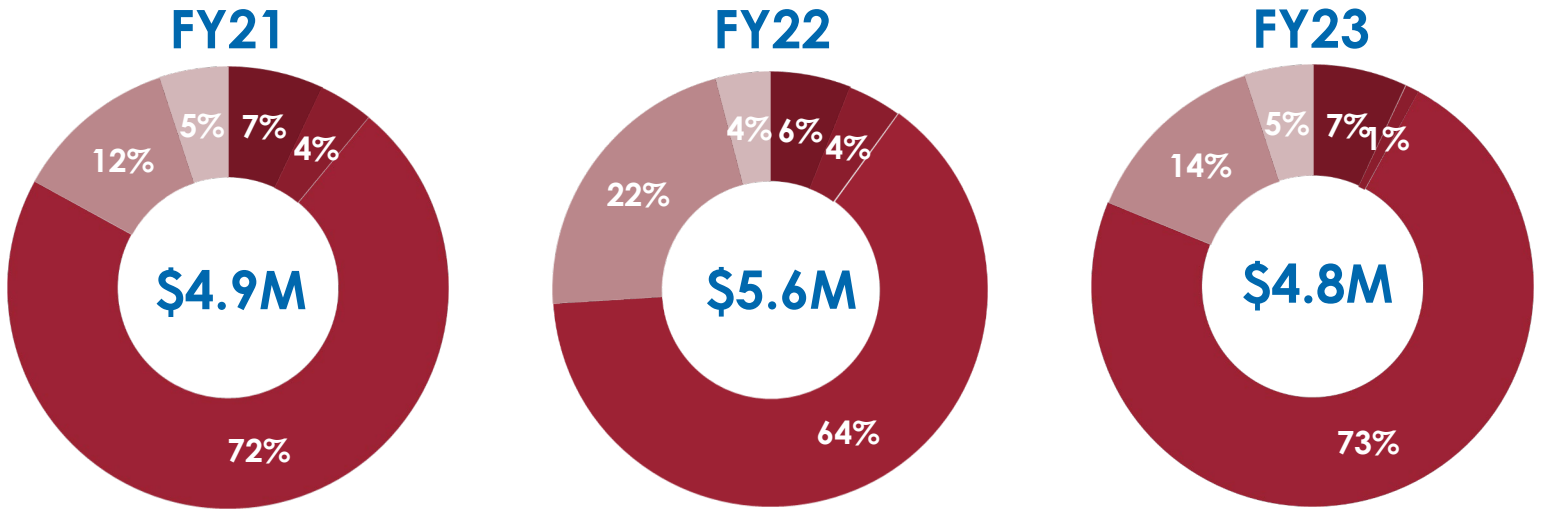
# FY20 Energy Sourcing

## Locking in rates at historic lows in the market will impact FY21, FY22 & FY23*

Campus FY21
- UMA
- UMB
- UMD
- UML
- UMMS




Savings Type
- Battery Savings
- Elec. Avoided Costs
- NEGC Solar Credits
- Nat. Gas Avoided Cost
- Solar Savings



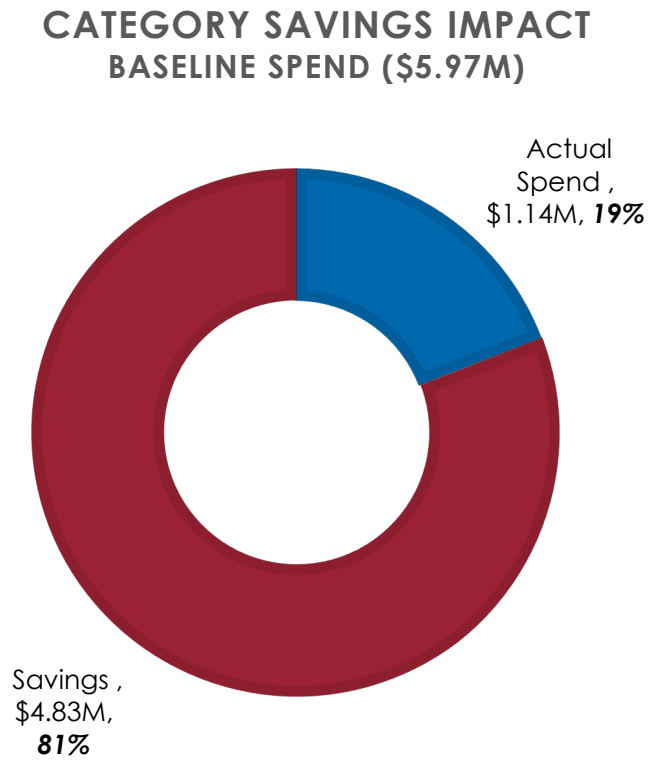

University of Massachusetts

*Projected savings are based on past performance and may change with market conditions

# General Services & Supplies

***Broad category of good and services, including travel related costs, food services, office suppliers and services***

| Project | Total Savings |
|---|---|
| Transportation Contract Adjustments | 4,200,000 |
| Contract Renegotiation with On-line Journals Provider | 327,593 |
| Pouring Rights Project | 178,600 |
| Revenue Generated from a Food & Beverage Contract | 78,600 |
| Animal Medicine Protective Clothing | 18,340 |
| Water Tunnels Project | 17,845 |
| Room Darkening Shades | 4,827 |
| **Total** | **4,825,805** |






**Actual Spend**: lowest bidder or accepted offered price
**Savings:** The difference between the Baseline Spend and Actual Spend is the Savings (amount of Cost Reduction and Cost Avoided to be reported)

# General Services & Supplies: Project Spotlight

**Librarians Collaborate to Reduce Costs: Contract Renegotiation with On-line Journals Provider**

In 2020, UPST engaged with the Library Directors of all five campuses to enter into negotiation with major supplier of academic journals to the UMass Library system. As a category, journals are proprietary with limited to no competition. Through evaluation of existing contracts, refining the portfolio and eliminating non-value added services as well as negotiating price as a single entity, the collaboration between UPST and the Library Directors resulted in $327k in cost reduction.

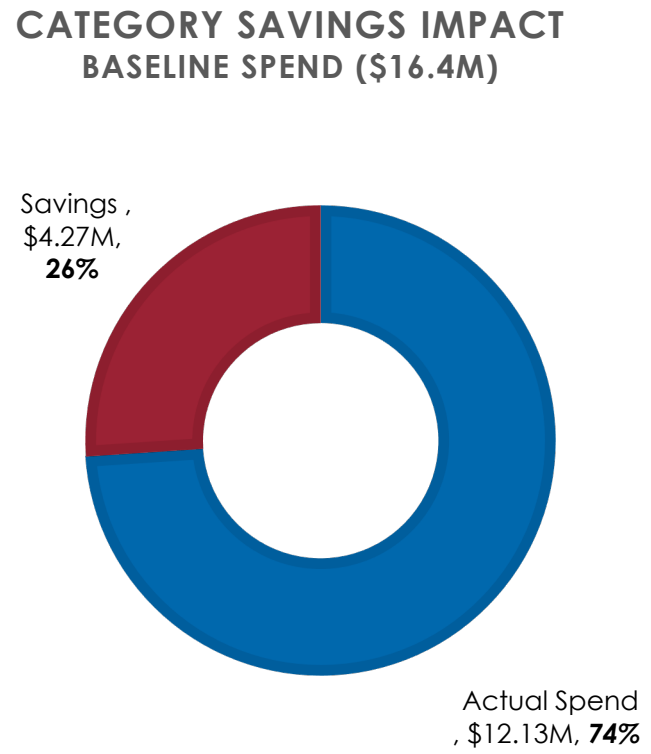
**Boston campus leverages UMass Terms to reduce cost: Transportation Contract Adjustments**

Long before the current COVID pandemic, the UMass Office of General Council included contract provisions protecting the University's interest in the event of a "pandemic." When UMass Boston campus had to shut down, they were left with a multi-million dollar shuttle bus contract that was no longer necessary. By leveraging the contract language that favors UMass, UPST was able to quickly cancel the contract on behalf of the campus, resulting in millions in one-time savings.

# Information Technology

***Represents business applications & support, IT consulting, software licenses, IT & telecom equipment leasing***

| Project | Total Savings |
|---|---|
| Network Maintenance - Additional Services | 1,000,000 |
| Hardware Provider MSA Negotiation | 773,000 |
| ERP (Financial) System License Negotiation | 454,119 |
| Network Maintenance | 440,000 |
| Amherst Network Switch Maint. Cost Savings | 423,789 |
| Procurement System Contract Renewal | 391,392 |
| Digital Storage System Negotiation | 165,000 |
| Lecture Capture Platform Negotiation | 129,000 |
| All Other Projects - Under $100K | 497,498 |
| **Total** | **4,273,798** |



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# Information Technology: Project Spotlight

**Leveraging Vendor Relationships: ERP (Financial) System License Negotiation**

In 2020 UPST engaged University Information Technology Services (UITS) to negotiate with the provider of our core Enterprise Resource Planning (ERP) system. Without impacting services or service levels, the team was able to reduce our annual contract cost by $450k

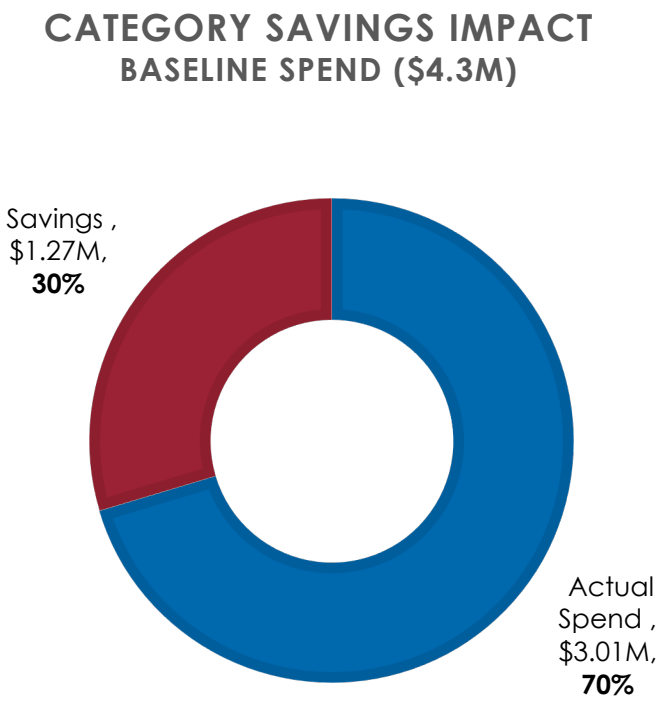
**Strong Partnerships return strong cost reductions for remote learning: Lecture Capture Platform Negotiation**

With the shift to remote learning in 2020, the need for technologies that foster active, engaged, and personalized video-based learning was greater than ever. The five campuses share a common lecture capture platform that allows the faculty to record and publish lectures to the web. UPST engaged with the supplier, who had been a partner with UMass since 2010, collaborating with their senior leadership to reduce UMass' cost, without impacting service, resulting in over $129k in reductions.

# Professional Services

***Business and facilities related services (non-IT), including consulting, marketing, legal, HR services***

| Project | Total Savings |
|---|---|
| System-wide COVID-19 Testing | 755,000 |
| Admin Staff Review for CNS | 297,200 |
| Property Recovery | 124,644 |
| Costello Athletic Center Branding | 67,705 |
| Pest Services | 16,833 |
| Courier Services | 4,000 |
| Carpet Replacement | 1,001 |
| Development of on-line ordering platform | 700 |
| **Total** | **1,267,083** |



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# Professional Services : Project Spotlight

**Ensuring COVID Testing Resources for Our Campus Community: System-wide COVID-19 Testing**

In 2020, with the rapidly growing need for COVID testing, UPST supported a multidisciplinary group, including the Office of General Counsel, Enterprise Risk Management, Campus Administrative and Academic leadership to engage the Broad Institute to secure COVID testing for students, faculty and staff, resulting in over $750k in savings.

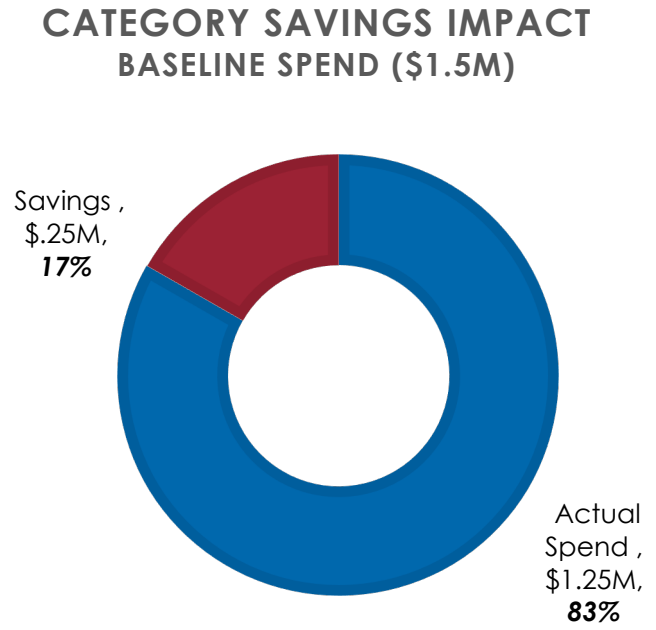
**Turning over every stone to return value back to UMass: Property Recovery**

With approximately 240,000 payments to suppliers per fiscal year, there will certainly be occasions where suppliers inaccurately bill the University or credits go unclaimed. UPST worked with suppliers to conduct a through review of statements and invoices, as well as with the Commonwealths abandoned property office to identify and claim $124k in funds owed to the campuses.

# Maintenance, Repair & Operations

***Goods and services, including janitorial supplies, infrastructure & maintenance materials, building equipment***

| Project | Total Savings |
|---|---|
| Security Enhancement Services | 200,139 |
| Summer Janitorial | 29,218 |
| Statewide Water Treatment Services | 17,410 |
| Gas Chromatograph, Mass Spectrometer | 3,606 |
| **Total** | **250,373** |



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# Maintenance, Repair & Operations: Project Spotlight

**Scale and Scoping Drives Security Savings: Security Enhancement Services**

In 2020, the need to close and secure areas of campus increased overnight with the demands of COVID. UPST partnered with the UMass Medical School campus to bid their third party security services. By leveraging a competitive marketplace and changes to the scope of services being provided, the process resulted in a savings of $200k to the campus

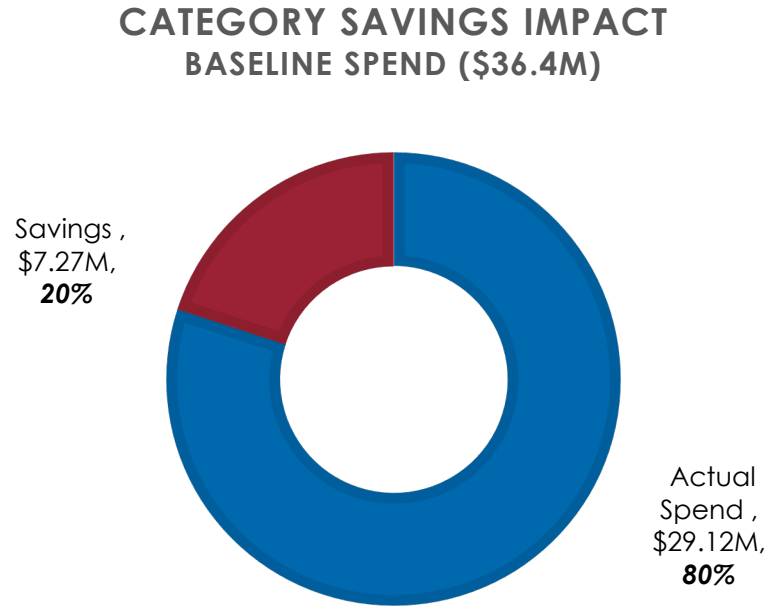
**Large or small, every dollar counts: Gas Chromatograph, Mass Spectrometer**

To support our research, the faculty require state of the art scientific equipment. Where much of this equipment is unique and there is limited competition in these fields, the UPST team has partnered with our faculty on numerous occasions to leverage professional negotiation and the scale of the Universities purchases to reduce costs. While some of these efforts result in only a few thousand of dollars in savings, every dollar saved goes right back into the teaching and research performed by the campuses.

# Capital Construction

***Design and construction projects bid to support the ongoing expansion and maintenance of campus infrastructure***

| Project | Total Savings |
|---|---|
| Pinanski Parking Lot Improvements | 1,285,464 |
| McCormack Hall Roof Replacement | 1,109,000 |
| Quinn Bldg Roof Replacement | 834,899 |
| Costello Basketball Suite | 396,478 |
| Brett Renovations, Phase II | 350,322 |
| Construction of 7th Floor Clinical Wing | 298,559 |
| Concordia Fire Sprinklers & Roof | 289,325 |
| Research Equipment | 231,000 |
| Ball Hall Fire Alarm Upgrades | 200,305 |
| All Other Projects - Under $200K | 2,273,151 |
| **Total** | **7,268,502** |




**Capital Plan Paused Mitigating COVID Impacts**

In 2020 UPST partnered with the Campus Facilities teams and the UMass Office of the President to rapidly decrease the total number of projects bid as the University System shifted to a position to preserve cash as COVID impacted budget projections.



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# UPST Performance: Major Accomplishments to Date

***Truly centralized shared services, driving benefits actualization with more work to be done…***

| Service Area | UPST Performance Status | UPST Performance | Target |
|---|---|---|---|
| Procurement Cost Savings | | $26.9M (12 months) | $16.5M (18 months) |
| Requisition to PO in 1 business day | | 87% | 88% |
| Early Payment Discounts | | 85% | 80%+ |
| Late Payments (over 30 days) | | 16% | <15% |
| Travel & Expense Approval | | 11 days | 8 days |
| Supplier Set-Up | | 10 days | 8 days |
| Invoices received electronically | | 48% | 58% |
| Contract Creation | | 33 days | N/A |

On track/ meets target  Slightly below target  Targeted for improvement

# System Office E&E Efforts

# UMass System Provides a Structure Leading to Greater Efficiency & Effectiveness

***Unified governance structure under one Board of Trustees, providing leadership and establishing policies and procedures for the University System***

## Administrative

- Consolidated financial reporting for annual audits, capital plan, budget, and financial forecast
- Independent internal audit functions
- Legal guidance & support
- One Treasury to manage all campus receipts, financial institution relationships, tax administration, and insurance
- Independent borrowing authority taking advantage of real time refinancing opportunities and just in time borrowing
- Risk identification, mitigation along with emergency response activities and reporting
- State & Federal government advocacy

## Academic

- Academic program reviews and approvals
- One student system shared by Boston, Dartmouth and Lowell campuses
- Consistent UMass Online learning platform (Blackboard)

# System Office – Highlights from FY20

***System Office team creates system-wide efficiency and effectiveness resulting from unified coordination and strong leadership***

- The System Office creates opportunities for collaboration and coordination between campuses, including shared services
- Cross-campus information sharing and best practice implementation facilitated by centralized leadership
- Efficiency and effectiveness are inherent to the mission of the System Office, with examples featured from departments in the following section of slides

# University Information Technology Services

***UITS delivers technology solutions and services to the President's Office and the campuses in support of the University of Massachusetts' mission of teaching, learning, and research system-wide***

**Improved academic technology** by coordinating on Learning Management Systems (LMS) strategies, better aligned across the system and renegotiated the existing contract allowing the University to better contain costs over a longer term.

**Supported success of research programs** through the MGHPCC, a collaboration with Boston University, MIT, Harvard and Northeastern, to bring improved transparency and strategy to the financial model to reduce operating expenses for the University

**Drove IT efficiency and effectiveness** through network consolidation completed during FY20 resulting in keeping network rates flat for FY2021 despite increased demand; expect further cost avoidance and savings when planning for FY2022.

**Managed IT risk mitigation** efforts with rollout of Multi-Factor Authentication for mission-critical applications and mandated Cybersecurity Awareness training in order to better protect data and privacy

# Office of General Counsel

***Providing internal legal guidance & support on issues related to university operations - "Coordination, Collaboration, Cooperation, Communications & Collegiality"***

**Legal spend cost efficiencies** through revised standard retainer agreement for external legal services including a clause which triggers discounts upon certain legal spend being met.

**Title IX Compliance**

- Initiated system-wide contract for Title IX training relative to the new regulations; including membership with access to various training materials for the campuses in addition to the training of University employees
- Established a Title IX Coordinator group which meets weekly to discuss Title IX issues raised among the campuses. This allowed for the sharing of forms, policies, resources and other information providing more consistency.

**Support intellectual property** by filing select provisional patent applications avoiding outside counsel fees saving the University at least $3,000 for each filing

# System-wide Enterprise Risk Management Program

***University's System-wide Enterprise Risk Management Program is a valuable tool for Efficiency and Effectiveness***

- The University's system-wide enterprise risk management (ERM) program works collaboratively across the campuses to identify and assess risk, and develop and implement risk mitigation strategies
- The ERM program leverages knowledge and expertise across the system to identify and address risks that are common across the university
  - Fosters sharing of information, best practices and lessons learned
  - Averts duplication of effort
- The University invoked the ERM framework to coordinate system-wide response to COVID
  - Streamlined decision-making
  - Collaborative development of minimum standards and guidance for campus operations

# UMass Online

***Meeting the online educational needs of people locally, nationally, and internationally by offering accredited educational programs via interactive, Internet-based learning systems***

UMass Online renegotiated both the Blackboard Learning Management System (LMS) contract and Pearson Extended Help Desk contract providing approximately $1.3M in savings to the University over three years.

***Blackboard Learn -*** Blackboard Learn is an online Learning Management System (LMS) which helps to deliver and facilitate nearly all online courses throughout the University.

- As a result of this upgrade, the campuses will have a better user experience in the following areas:
  - Zero downtime – eliminates the need for system outages for service windows
  - Automatic bug fixes/updates monthly
  - Access to Blackboard data for advanced, timely reporting
  - Greater scalability and system reliability

# UMass Building Authority

***Management of campus residential and academic construction projects and providing financing for construction, repair and renovation of existing campus facilities***

**Debt Refunding**

- Debt refunding in 2020 generated a total of $17.95 million of present value savings, with total cash flow savings of $21.37 million
- For FY21, the refunding provided for $5.4 million of net savings
- UMBA successfully refinanced $200.1 million of outstanding bonds on a taxable advance refunding basis at a True Interest Cost (TIC) of 2.78%

| Campus | Total Cash Flow Savings |
|---|---|
| Amherst | $6.3 million |
| Boston | $6.2 million |
| Dartmouth | $0.9 million |
| Lowell | $6.0 million |
| Medical School | $2.0 million |
| **Total** | **$21.4 million** |

- Current market environment has presented UMBA with the opportunity to refinance outstanding variable rate bonds with fixed rate bonds
- UMBA continually explores refunding opportunities looking for efficiency in our bond portfolio

# What's Next?

# UPST Targets for FY21 and Beyond

- To continue achieving its mission of providing "better, faster, cheaper" services to the University, the UPST is working on various projects that can be summarized under the following key themes:
  - Spend Under Management & Revenue Generation
  - Process Cycle Time Improvement
  - Enhanced Visibility (Request Status and Processes)
  - Proactive Communication, Campus Engagement and Training
  - Enhanced Supplier Diversity practices (automation & engagement)
  - Improved software asset management practices

# UPST Project Pipeline by Key Themes

***With over 50 projects identified to optimize UPST services to UMass, the following have been prioritized for the next 12 -18 months.***

| | |
|---|---|
| **Increase Spend Under Management & Revenue Generation** | • Revenue Generation Opportunities<br>• Contract Management Process Automation<br>• Group Purchasing Organization (GPO) Contracts Leverage |
| **Process Cycle Time Improvement** | • Supplier Registration (TSM) Phase II<br>• Exception to Competitive Procurement Process Streamlining & Automation<br>• Purchase Order Change Order Process Automation |
| **Enhanced Request Status Visibility** | • Build Automated Spend Analytics<br>• Additional Supplier Catalog Enablement<br>• Bidding/Sourcing Process Automation |
| **Proactive Communication, Engagement and Training** | • UMass –wide Procurement Policy Harmonization (Phase 1)<br>• UPST Website and Knowledge Management Revamp |

# Shared Services Opportunities

- In order to respond to the historic time of disruption in higher education, driven by demographics and lingering impacts of COVID-19, the University remains committed to pursing innovative models to manage operations and delivering a world-class education to our students
- Partnering with Accenture provided insights into shared services models across higher education; evaluation of potential applicability to the University
- Through examination, UMass has achieved and continues to demonstrate multiple examples of shared services across numerous administrative areas
- Recognition across the University that work remains to continually evaluate shared services models to better maximize financial resources for the benefit of our students and the Commonwealth

# Future of Shared Services

## Achieved Shared Services at UMass based on industry standards

- ✓ Procurement
- ✓ Accounts Payable
- ✓ Treasury
- ✓ Internal Audit
- ✓ General Counsel
- ✓ New construction project management
- ✓ Government Relations
- ✓ IT Infrastructure management
- ✓ Networking
- ✓ Data Center Management (BDL)

## Exploring Implementation at UMass

- Payroll Services

# Shared Services: Payroll Services

***Key Opportunities:***

### Align roles
- Define roles and responsibilities to support payroll across PO A&F, UITS, and campuses
- Design a hybrid services model with shared services for system-wide payroll services and campuses for localized processes
- Measure and report results

### Improve processes
- Standardize and automate business processes
- Establish customer-centric approach using technology and data
- Harmonize policies

### Prepare for future technology
- Payroll focus is critical to prepare for a future replacement of PeopleSoft ERP
- Work done now will pay dividends in the short and long term

***Progress to Date:***

### Deep dive/plan completed
- Key challenges with current payroll model:
  - Roles not aligned
  - Processes not standardized
  - Bi-weekly payroll effort is fractionalized
  - Time & labor processes/technology vary

### Future state design phase underway
- 10 campus team members
- Completed 18 current state review sessions with campuses to validate challenges & opportunities
- Prioritize areas of future focus

### Payroll Governance Committee established
- VCs of A&F, HR, and UITS leadership
- Meeting monthly to provide feedback & direction

# Conclusion

- Over the past decade, UMass has demonstrated a strong record of achieving efficiencies and cultivated a culture focused on financial stewardship

- The first successful year of UPST in operation has illustrated the potential for savings opportunities leveraged by the university system and fostered the development of projects being prepared for implementation

- UMass continued commitment to efficiency and effectiveness improvements across administrative areas is fueled by the need to re-invest savings back to academic programs and ensuring continued affordability for our students

# Appendices

A. Methodologies & Definitions

B. Legacy E&E Project Listing

C. UPST E&E Project Listing

# Appendix A: Methodologies & Definitions

# Savings Calculation Methodology

## Cost Savings = Cost Reduction + Cost Avoided

**Unified Procurement Services Team**
**Procurement Savings Calculation Method since Nov. 2019**

**Cost Reduction***

a. Cost reduction from competitive sourcing (1st year)
b. Cost reduction from negotiations (1st year)
c. Reduction in amount of goods/services used

**Cost Avoided***

a. Cost avoidance from competitive sourcing (future years)
b. Cost avoidance from negotiations (future years)
c. Cost avoidance from in-contract intervention
d. Reduction in rates for goods/services

* Definitions in Appendix

# UPST Savings Definitions

**Cost Reduction**

- **Procurement Cost Reduction** – A cost reduction opportunity that is generated from the competitive bidding process (first year only). Baseline (market) Spend minus Actual Spend
- **Negotiated Cost Reduction** – An avoided cost as a result of the issuance of Best and Final Offers, Sole-Source negotiations, or post-procurement/post-award negotiations (first year only). Baseline (market) Spend minus Actual Spend
- **Volume Reductions** – Reducing the amount of a good or service used. Cost reduction captured in this category includes projects that intentionally seek volume reductions through direct action (e.g., demand management). Baseline (budgeted) Spend minus Actual Spend

**Cost Avoided**

- **Procurement Cost Avoidance** – A cost reduction opportunity that is generated from the competitive bidding process that would be typically realized in future fiscal years. This also includes additional product/services included beyond the requirements and may be reported in the first year. Baseline (market) spend minus Actual Spend
- **Negotiated Cost Avoidance** – An avoided cost generated as a result of the issuance of Best and Final Offers, Sole-Source negotiations, or post-procurement/post-award negotiations that would typically be realized in future fiscal years. This also included additional product/services included beyond the requirements and may be reported in the first year Baseline(market) spend minus Actual Spend
- **In-Contract Cost Avoidance** – A cost reduction opportunity produced as a result of the intervention of a purchasing official in responding to contractor requests for increases in prices, market fluctuations, indices' upward alterations, etc.
- **Rate Reductions** – Obtaining lower rates or prices for goods, services, and construction

# UPST Category Savings Impact - Definitions

- **Baseline Spend:** The average price of bids/proposals received in response to a solicitation which also represents the then-current market price. When that is not available a relevant price index or the initially proposed cost from a supplier should be used.
- **Actual Spend:** Represents the lowest responsive and responsible bidder or accepted offered price
- **Savings:** The difference between the Baseline Spend and Actual Spend is the Savings (amount of Cost Reduction and Cost Avoided avoidance to be reported)

Definitions align with NASPO definitions for savings impact

# UPST Cost Savings Methodology – Assumptions

- Procurement Cost Reductions and Avoidances can be most effectively obtained by fair and open based competition;
- The average price of bids/proposals received in response to a solicitation represents the then-current market price or "Baseline Spend." When that is not available a relevant price index or the initially proposed cost from a supplier should be used
- The lowest responsive and responsible bidder or accepted offered price represents the "Actual Spend"
- The difference between the Baseline Spend and the Actual Spend is the amount of Cost Reduction and Cost Avoided avoidance to be reported.
- Cost Avoided in Future Fiscal years will be tracked, but only Costs Avoided in the Current Fiscal Year will be Reported

# Appendix B:
# Legacy E&E Project Listing

| Category | Project Title | Description | Cost Avoidance | Cost Savings |
|---|---|---|---|---|
| University - IT | Adobe | Prepare for System wide bid process 2/13. Update 12/5/14: Three year contact completed, total annual cost avoidance $39,000. Improved product offering, Adobe Creative Cloud. all campuses and System Officve participating excepting the Medical School. | $ 123.00 | $ 39.00 |
| University - IT | Anti Virus Software | Centralized contract completed | $ 20.00 | $ 10.00 |
| University - IT | Apple System wide agreement | Work with Apple by and all campuses to create a University wide agreement that provides an enhanced level of dicounting and standadrd business terms | $ - | $ 90.00 |
| University - IT | Atomic Learning | Training software currently being bid by A, B, D, L | $ 35.00 | $ 4.00 |
| University - IT | Automated Testing Tools | Software tool that allows "scripts" to be written to automate testing typically performed manually by application developers/specialists. Testing needs to be performed anytime there is a softward update, fix, patch, etc. Savings relate to productivity gains and are categorized as cost avoidance. Total savings adjusted for upfront license cost of $34K and annual maintenace of $11K. This is a preliminary savings estimate and will be updated as the product matures. | $ 254.60 | $ - |
| University - IT | Business Intelligence | Dashboard development and upgrade for SUMMIT (Financials, HR and Student Administration) | $ 90.00 | $ - |
| University - IT | Checkpoint Security Software | Negotiated savings on university contract, savings thus far limited to Lowell and Dartmouth. Preferred university wide agreement available for use by other campuses. Existing cost not used, avoidance savings relates to projected spend vs. final negotiated deal. | $ 187.00 | $ - |
| University - IT | Cognos Transition & Mobius Retirement | "Build SA dashboards<br>Retire Mobius report system with XML Publisher, PeopleSoft Report Manager & Summit dashboards" | $ 1,000.00 | $ - |
| University - IT | Dell (KACE End Point Software) | Negotiated 4 year savings off of state contract. Included in the deal were an additional 13,100 licenses, 4 additional servers (2 virtual; 2 physical), two weeks on-site training and 24 hours jump start training. The licenses and training were value added as part of the deal. Existing cost below excludes Lowell (no spend PY). Lowell generated cost avoidance savings based on their projected cost before system deal negotiated. Cost avoidance includes $38K of avoided 4th year mainteance and $68K of avoided product costs. Campus savings spread equally, Healey to revisit. | $ 106.00 | $ 12.00 |
| University - IT | Desktop & Laptop | Usave programs through Dell and Lenovo. Discounts range from 25% to 36% off standard configuations with non-standard at 28%. Savings analysis assumes 25% in the interest of conservatism. Update 12/5/14: Contracts improved as a result of presence in Buyways resulting in an additional savings of $355,000 during fiscal 2105. System wide bid process to be initiated for 2016 | $ 2,955.00 | $ 300.00 |
| University - IT | Document Imaging Program | Implement for Undergraduate Admissions | $ - | $ 614.00 |
| University - IT | DTR Boston Data Center Move | UMSO must move its Disaster Recovery components from Boston to UMA as part of the Data Center Optimization plan | $ - | $ - |
| University - IT | Echo 360 Contract Re-negotiation | | $ 150.00 | $ - |
| University - IT | EMC | Work with vendor to structure a system-wide contract that leverages combined buying power of the University. Secondary effort will focus on standardizing equipment where advantageous to do so. | $ 300.00 | $ 50.00 |
| University - IT | EMC Data Domain (Accunet) | Consolidation of storage backup functionality to Data Domain from both Avamar and Data Domain. | $ 769.00 | $ 109.00 |
| University - IT | Entersys | Work with vendor to structure a system-wide contract that leverages combined buying power of the University. Secondary effort will focus on standardizing equipment where advantageous to do so. | $ - | $ - |
| University - IT | Fujitsu | Work with vendor to structure a system-wide contract that leverages combined buying power of the University. Secondary effort will focus on standardizing equipment where advantageous to do so. | $ - | $ - |
| University - IT | Fujitsu Maintenance | Reduced maintenance negotiated. Renewal amount $8,000 per year with Fujitsu; negotiated a three year deal with Fujitsu for $13,500 resulting in savings of $10,500 during over three years. Used availability of maintenance from competitor (Oracle) as leverage in the negotiation. Existing cost below includes entire contract term. | $ 7.00 | $ 3.50 |
| University - IT | Help Desk Migration to STAT | Migrate Help Desk ticketing system to STAT from Heat, a Front Range product, and eliminate annual Heat maintenance contract. | $ - | $ 8.00 |
| University - IT | IBM | Work with vendor to structure a system-wide contract that leverages combined buying power of the University. Secondary effort will focus on standardizing equipment where advantageous to do so. | $ - | $ - |
| University - IT | IBM (SPSS) | Goal is to increase access across the University while reducing cost per usage. Update 12/5/14: System wide contract completed. Additional investment to include all campuese covered under University site license. additional product and access for students, faculty. System contract resulted in one year cost avoidance of $50,000 | $ 40.00 | $ - |
| University - IT | Identity Finder (Data Loss Prevention) | Purchased Identify Finder software tool to support data loss prevention related to personally identifiable information (PII). Rollout includes all campuses to varying degrees of completeness. Ongoing effort. Since March 2014 18 million sensitive records have been discovered; of those, 9.5 million have been remediated. While it is difficulat to estimate avoided costs related to the remediated records, the Ponemon Research Organization estimated that it costs an organization about $211 per breached record related to providing credit counseling & protection services in addition to liability related costs. This would translate to a $2B avoided cost related to the 9.5 million remediated records. No cost avoidance dollar figures entered given the volatile and uncertain nature of this risk. | $ - | $ - |

| Category | Project Title | Description | Cost Avoidance | Cost Savings |
|---|---|---|---|---|
| University - IT | Identity Management Update | "Enhance security and auditing<br>Continuation of Single Signon<br>Ease of use and management<br>Cost savings from above" | $ 150.00 | $ - |
| University - IT | Integration Partners | Optical infrastructure HW and SW related to Umassnet rollout. | $ 300.00 | $ - |
| University - IT | International Office | Software application to integrate with the Student and Exchange Vistor Information System (SEVIS) | $ - | $ - |
| University - IT | IT Reseller RFP | Issue RFP for University wide IT reseller services (exclusive of laptop/desktop, Microsoft and Adobe-products currently under contract ) update 12/5/14: contract awarded to Gov Connection. | $ 384.00 | $ 64.00 |
| University - IT | IT Staff Augmentation Bid | University-wide bid for IT staff augmentation services including pre-defined job families with not-to-exceed rates; early pay discounts; and volume hour discounts. | $ 300.00 | $ 38.00 |
| University - IT | Juniper | Work with vendor to structure a system-wide contract that leverages combined buying power of the University. Secondary effort will focus on standardizing equipment where advantageous to do so. | $ - | $ - |
| University - IT | Lecture Capture software (Echo360) | Standardize lecture capture software license across all campuses converting to a site license agreement | $ 780.00 | $ - |
| University - IT | Lenovo | 2 extension of the Lenovo agreement with additional 3% discount on Lenovo equipment | $ - | $ - |
| University - IT | Lenovo Self Maintainer | Entered into a "self-maintainer" agreement for Lenovo desktop/laptop purchases within SO whereby Lenovo ships parts to UITS for local repair vs. sending out a Lenovo technician and/or returning device to a "repair depot" for processing. Mainly applies to laptop purchases. Self-maintainer agreement results in $70 per repair payment from Lenovo for laptops (slightly less for desktops/peripherals). In addition, precludes the need to purchase up-front on-site warranty option costing $63.20 for laptops (existing cost ID'd below). Also avoids productivity loss (approximately 9 days) for "repair depot" processing. The start-up fee of $1000 for this program was waived, in addition to a bi-annual fee of $500. See attached spreadsheet for details. | $ 26.00 | $ - |
| University - IT | License & Maintenance Reductions - Ongoing | Reduction in HW/SW maintenance related to eliminated or reduced products including: Citrix, Retrofit, EIR, Oracle & Business Objects | $ 300.00 | $ 150.00 |
| University - IT | License & Maintenance Reductions - Ongoing | Reduction in HW/SW maintenance related to eliminated or reduced products including: Xerox, EMC, Mobius, temp help | $ - | $ 400.00 |
| University - IT | License & Maintenance Reductions - Ongoing | Reduction in HW/SW maintenance related to eliminated or reduced products including: small equipment purchases, Brigadoon, Temp Help, Cognos. | $ - | $ 91.00 |
| University - IT | Lightspeed Maintenance | Network maintenance reduced by analyzing # of network elements and taking action to reduce, in addition to negotiated loyalty discount. | $ 6.00 | $ 9.00 |
| University - IT | Math Works (Mat Lab) | 5 campuses utlizing software (no use System Office). Update 12/5/14: Year two of contract, cost avoidance based on umlimited license vs. cost of individual campus licenses $30,000 | $ 129.00 | $ - |
| University - IT | Metrics & PPM Programs | The metrics and portfolio project mgt programs are efficiency and quality improvement focused. By measuring progress against various KPI's and improved project mgt techniques, it is expected that this will improve UITS's overall ability to deliver quality services in a time manner. | $ - | $ - |
| University - IT | Microsoft Licensing | Complete an RFP for Microsoft licensing through re-seller (MIcroSoft does not deal directly). This would include all campuses for immediate contracting and Amherst rolling into contract when current campus expires 6/2013. | $ 106.00 | $ 64.00 |
| University - IT | Mobile Computing | "Enhancement of the student experience by providing utilities of information not currently accessible in one place such as bus tracking, campus maps, directories by building, news and push messages<br>Efficient and timely access to PeopleSoft data<br>Marketing tools (walking tours, alumni news, sports)" | $ - | $ - |
| University - IT | Mobile device Optimization | Conslidate all existing University mobile devices into a shared/pooled minutes program with existing carriers: completed 5/13 | $ 1,584.00 | $ 528.00 |
| University - IT | New Applicant Tracking System | Implement a new applicant tracking system to improve and enrich information capture & access to information to enhance decision making and provide for a more competitive recruiting process | $ - | $ 100.00 |
| University - IT | Oracle Licensing Re-Negotiation | | $ 204.00 | $ - |
| University - IT | Oracle Maintenance Savings | Negotiated a 2% renewal increase cap on all Oracle software license/maintenance renewals. Renewals typically average 3%. This was negotiated as part of a purchase deal for additional IDM-related licenses. Total FY15 (end of year) Oracle software maintenance base is $3,204,878, renewal cap calculated over 3 years. See attached spreadsheet for savings calculations. | $ 192.98 | $ - |
| University - IT | Qualtrics - Survey Tool | | $ 70.00 | $ 10.00 |
| University - IT | Safari Books | Purchased subscription to online technical resource data provider for $25K in an effort to reduce employee travel & training costs. | $ 15.00 | $ - |
| University - IT | Security Operations Center (SOC) | Implement and maintain, in accordance with Board policy, a comprehensive and proactive oriented information security program for the University spanning all campuses | $ 330.00 | $ - |
| University - IT | Server/Storage Architecture | Change in server & storage architecture resulting in reduced hardware maintenance costs. | $ 1,130.00 | $ - |
| University - IT | Shared Services Portal Expansion | Tool to improve internal University communications | $ 10.00 | $ - |
| University - IT | Student Success Outcomes | "Allows campuses to better analyze and predict ""at-risk"" students Proactive measures can be utilized to assist student population and turn the risk into a success" | $ - | $ - |

| Category | Project Title | Description | Cost Avoidance | Cost Savings |
|---|---|---|---|---|
| University - IT | Systems Administration Improvements: System Monitoring; EMC VPLEX Technology; Network Global Site Selection; Ticket System Consolidation. | System monitoring improvemens leads to much less time identifying root cause of system and application issues with improved ability to idenify issues before users are impacted. VPLEX technology allows for increased up time for users while systems concurrently being upgraded. Site selection works in conjunction with DR site to simplify user access to critical systems. Ticketing system migrated all work intake to single system greatly enhancing work flow and communications across the organization. | $ - | $ - |
| University - IT | Telepresence | Develop a reliable, cost-effective videoconferencing solution for fixed and mobile devices to enhance the student experience with guest lecturing, faculty virtual office hours and specialized intra-campus course offerings | $ 300.00 | $ - |
| University - IT | Terra Dotta Risk Management System | To provide a single University enterprise repository of initial information such as emergency contract and medical info for students, faculty & staff who travel domestically & abroad. | $ - | $ - |
| University - IT | Terra Dotta Study Abroad System | To provide BDL Study Abroad offices with a web-based application where students, staff, faculty and parents will find the information on study abroad opportunities. | $ - | $ - |
| University - IT | UITS Applications Management Re-Organization | Reorganization of the Business Intelligence and Applications Management areas (HCM, FIN & Student) to better align resources and work flow, and improve overall productivity, service levels and work output. See attached email for additional information. No dollar savings identified, this is a soft benefit E&E item. | $ - | $ - |
| University - IT | UMassNet | Provide scalable, cost-effective reliable high-capacity networking connectivity between campuses to the Internet, Internet2 and MGHPCC | $ - | $ - |
| University - IT | UMOL Blackboard Learn9 LMS Implementation | Support UMOL campus migration from current Blackboard Vista LMS to Blackboard Learn9 | $ - | $ - |
| University - IT | Virtual Computing Labs (VCL) | Provide a software solution that allows students, faculty and staff to reserve and use software any time and anywhere through a web browser | $ 570.00 | $ - |
| University - IT | Virtual Desktop Initiative (VDI) | Provides for file sharing across the desktop/laptop of common software packages served over the network/internet | $ - | $ - |
| University - IT | Virtualization Strategy | Strategic shift to virtualized computer processing (racks & blades) versus traditional big box server approach. | $ 1,281.00 | $ - |
| University - IT | VM Ware | | $ 1,005.00 | |
| University - IT | Document Imaging Program Financila Aid | Created electronic workflow for campus financial aid offices, including intergration points with peoplesoft and integration with 3rd party vendors | $ 188.00 | |
| University - IT | Employment Verification | Automated employment verification process with Equifax | $ 55.00 | $ 60.00 |
| University - IT | Dashboard development-multiple | Built multiple dashboards :asset mgt, time approval, security admin , spend analysis to improve reporting-data manmgement efficieny | $ 196.00 | |
| University - IT | Immigration Dahboard | Coordinating multiple sources of immigration reporting into single dashboard | $ 95.00 | $ 80.00 |
| University - IT | Microsoft Contract Renegotiation | Migration to new contract model | | |
| University - IT | Digital Signature RFP | System wide bid to be completed FY20 | | |
| University - IT | Anti Virus Software Bid | Final contract being negotaited | | |
| University - IT | IBM (SPSS) Renewal | 5 % system discount | $ 30.00 | |
| University - IT | Mathworks 1 year extension | New contract to be developed for FY20 | $ 86.00 | |
| University - IT | Mobile device management 2 year contract extension | Piloted purchasing module unsuccessfully | $ 960.00 | |
| University - IT | Qualtrics - Survey Tool Extension | 3 year extnsion completed | | |
| University - IT | Turn it in-softwrae | 1 year extension -10% system discount | $ 9.00 | |
| University-Facilities | Roof Repair & maintenance- Pilot | Develop contract for roof repair and maintenance to provide extended warranties on selected roofs and extend roof life. Amherst $448,000 investment extewnded roof life for targeted replacements | $ 5,200.00 | |
| University-Facilities | Deferred Maintenance | Develop and implement strategies to address deferred maintenance-metrics created to compare planned service vs. reactive service | | |
| University-Facilities | Facilities Operations Metrics | Development of standard metrics related to facilities operations | | |
| University-Facilities | Custodial Services | Development of standard best practices for custodial services. Amherst implemntation of custodial best practices has resulted in $1M cost reduction | $ 1,000.00 | |
| University-Facilities | Fleet Management Program | Review of fleet management programs; evaluation of the University-wide fleet management contract with Enterprise. Amherst, Lowell, Medical School utizing agreemnt. 25% reduction in maintennace. 3 year leases provide budgeting certainty | | |
| University-Facilities | Trade Contracts | Development of standard University-wide trade contracts . Contracts completed for commissioning and retro commissioning though UMBA | | |
| University-Facilities | Preventive Maintenance | Standardized preventive maintenance practices | | |
| University-Facilities | Public/Private Parternships | Review of Public/Private Partnerships . Craete standrds/guidelines for P3 moving forwrad | | |
| University-Facilities | Facilities systems review | Forum to share current utlization/integration of facilites systems and create roadmap moving forwrad -best practice sharing | | |
| University-Facilities | Program reduce paper towel use | Evaluating hand dryer systems and potential savings opprotunities | | |
| University - Purchasing | Athletics Advertising | University-wide contract w/ office supply vendors for advertising. Revenue generation for the University | $ - | $ 1,200.00 |
| University - Purchasing | Copier/Printer Maintenance- Program goal converst to single vendor, multi functional devices. Aligh system for full bid process FY20 | Xerox awarded system-wide agreement. | $ 3,200.00 | $ 800.00 |
| University - Purchasing | Dorm furniture-establish system wide contract | system wide agreement for dorm furniture utilizing expertise of facility, resident life mamangers. Form user/evaluation committee | $ - | $ 150.00 |
| University - Purchasing | Dorm Mattress Bid | 3 campuses combined dorm mattress purchases for 3 year period. | $ 180.00 | $ 30.00 |

| Category | Project Title | Description | Cost Avoidance | Cost Savings |
|---|---|---|---|---|
| University - Purchasing | Elevator Maintenance Contract Re-bid | Contract rebid and awarded -Fy16-Fy20 | $ 2,860.00 | $ - |
| University - Purchasing | Elevator Maintenance-includes 4 campuses: Lowell, Boston, Amherst, Dartmouth | Otis Elevator awarded University-wide contract | $ 678.00 | $ 650.00 |
| University - Purchasing | Executive Search Services | Implementing to all departments within System Office (Beginning July 2016) | $ 270.00 | $ 90.00 |
| University - Purchasing | IT staff augmentation | Pre-qualifed list of companies (suppliers). Agreed upon terms and conditions | $ 35.00 | $ - |
| University - Purchasing | Lab Supplies- Bid two primary vendors. Contract awarded to Fisher. | Fisher Scientific awarded system-wide contract for lab supplies/distribution. | $ 800.00 | $ 200.00 |
| University - Purchasing | Lab Supplies- Bid two primary vendors. Contract awarded to Fisher. | Fisher Scientific awarded system-wide contract for lab supplies/distribution. | $ 160.00 | $ 160.00 |
| University - Purchasing | Lab supplies re-bid | Exclusive Fisher | $ 3,000.00 | $ 1,004.00 |
| University - Purchasing | Multi-year financial planning tool | Complete contrac t for software planning tool that allows consistency in financila planning across all campuses. Contract completed with PFM consulting. Allows for campus and system level roll-up of finanacial projections. RFP process completed, low bidder not selected, however average bid price was $310k annual vs. contracted price of $200k annual. | $ 550.00 | $ - |
| University - Purchasing | Office Supplies-includes all five campuses and the System Office | University-wide contract w/ WB Mason for office supplies. | $ 895.00 | $ - |
| University - Purchasing | Office Supplies-includes all five campuses and the System Office | Contract rebid effective for FY20-Fy23 | $ 4,317.00 | $ 1,200.00 |
| University - Purchasing | Temporary help services | Bid being awarded 1/19 | $ 25.00 | $ - |
| University - Purchasing | Travel services. Implement travel services to include travel agency, negotaited air, hotel, auto rental contracts | Implement managed travel program | | $ 768.00 |
| University - Purchasing | Vehicle leasing- contract completed 8/13. | Replace existing campus owned vehicles with leased vehicles | $ - | $ - |
| University - Purchasing | Waste stream management | Complete consulting contract to evaluate current waste stream mangement practices across the university system, including solid, hazardous waste and recyucliing services | $ 130.00 | $ 130.00 |
| University - Purchasing | Campus Audits phone & cable | Implementged campus audits of phone and cable charges; President's Office, Dartmouth, additional campuses to be implemented | $ 18.00 | $ 111.00 |
| University - Purchasing | eBuilder- Facilities project management software | Lowell bid , all campuses may use, savings projections for Lowell implementation | $ 41.0 | |
| University - Purchasing | Automated Bidding Tool-Bonfire | Bonfire tool implemented for automated bidding process | | |
| University - Purchasing | AP Audit-Spendmend | Medical School led, recults for Medical School, Dartmouth, President's Office | | $ 14.00 |
| University - Purchasing | Digital Architecture -Curriculog | | | |
| University - Purchasing | R&D software-Kuali | Amherst, Boston activated, other campuses evaluating | $ 114.00 | |
| University - Purchasing | Student Forms -Campus Logic | Boston, Dartmouth, Lowell | $ 134.00 | |
| University - Energy | Add DDC conrols to Donahue, Sheehy | Add DDC BAS controls to three residence halls | $ - | $ - |
| University - Energy | AEP | Total Campus AEP | $ 2,400.00 | $ - |
| University - Energy | Complete ETIC, HSSB, North Campus Garage | Two New LEED Constuction buildings plus a parking garage | $ - | $ - |
| University - Energy | Electricity Bid | 4 campus combined bid for electricity supply. | $ 11,255.00 | $ - |
| University - Energy | energy & natural gas procurement | Bid process and hedging startegy for electrcity and natural gas supply | $ - | $ 226.00 |
| University - Energy | Energy conservation effort | Multi -faceted energy conservation program | $ 2,400.00 | $ - |
| University - Energy | Energy efficiency projects | UMMS received $8.5m in incentives from National Grid, resulting projects will generate $6.8m future elctric savings | $ - | $ 6,800.00 |
| University - Energy | Energy performance project | $40m energy performance project implemmneted by NORESCO and managed through DCAM | $ 1,600.00 | $ - |
| University - Energy | Energy procurement | Bid process and hedging startegy for electrcity and natural gas supply | $ - | $ 1,180.00 |
| University - Energy | Gas turbine generator upgrade | | $ - | $ 1,425.00 |
| University - Energy | Hadley Horse Farm Solar PV | 2 MW Solar PV Field. Combination Net Metering / Research Project. | $ - | $ - |
| University - Energy | ICC BAS and update to new vav boxes | Update BAS to new DDC web based system | $ - | $ - |
| University - Energy | ICC fuel switch from electric to nat. gas heat | Replace older Rooftop makeup air unit using nat. gas instead of electric heat. | $ - | $ - |
| University - Energy | Install Energy Efficient Chiller - Weed | Remove Absorber and reduce GHGs and energy by replaing with Magnetic Levitation Chiller. | $ - | $ - |
| University - Energy | Install North Campus Boiler Plant | Deferred Maintenance/ Energy Project -installing 2 new dual fuel boilers, combustion controls and BAS, economizers, steam turbine BFP and Variable Speed BFPs. We will have capability to burn ULSD and Nat. Gas on all three boilers. | $ - | $ - |
| University - Energy | Installation new boiler | | $ - | $ 165.00 |
| University - Energy | Lamp replacement project | Repalcement of 1,700 T8 florescent lamps | $ - | $ 159.00 |
| University - Energy | Lighting Occupancy Sensors Library, Gorman Dorm Steam Line Replacement, CHP Gas Compressor Motor Eff. | Annual energy reduction project | $ 1,140.00 | $ 570.00 |
| University - Energy | LNG Temporary Facility | Operational 12/2012 | $ - | $ 2,300.00 |
| University - Energy | Mutiple Lighting upgrades | Olney, Olsen, Ball, Univ. Ave Exterior | $ - | $ - |
| University - Energy | Natural gas procurement-bid process | | $ 362.00 | $ - |
| University - Energy | Photovoltaic arrays installation | Installation on the Tripp Athletic Center | $ - | $ 150.00 |

| Category | Project Title | Description | Cost Avoidance | Cost Savings |
|---|---|---|---|---|
| University - Energy | Regional Anaerobic Digester | A DCAMM and MADEP effort to install a Regional Anaerobic Digester for the Amherst area on University property. | $ - | $ - |
| University - Energy | Replace Zamboni Boilers, add VFDs to AHUs and retroCx HVAC units and controls | Reduce heat and electricity by improving energy efficiency | $ - | $ - |
| University - Energy | Solar/Net Metering Contract | Reduction in energy spend through credit earned from contractual support of solar development. | $ 8,939.00 | $ - |
| University - Energy | Solar/Net Metering Contract | Reduction in energy spend through credit earned from contractual support of solar development. | $ 1,035.00 | $ - |
| University - Energy | Solar/Net Metering Contract | Reduction in energy spend through credit earned from contractual support of solar development. | $ 4,475.00 | $ - |
| University - Energy | Solar/Net Metering Contract | Reduction in energy spend through credit earned from contractual support of solar development. | $ 2,711.00 | $ - |
| University - Energy | Steam trap repair and replacement program | Replace approx 200 traps in Coburn and Mahoney and additional areas on north campus. | $ - | $ - |
| University - Energy | Wind turbine project | | $ 125.00 | $ - |
| University - Energy | Battery storage project-UMA | Battery energy storage facility for redundancy-back-up | | |
| University - Energy | Battery/solar project UMB | Battery energy storage facility for redundancy-back-up | | |
| University - Energy | Solar parking canopy project-UMA | | | |
| University - Library | Elsevier - Complete sytem wide agreement for electronic journals | Renegotaited for 2018-2023-savings upadted | $ 656.00 | $ - |
| University - Library | EBSCO-Bid | System bid for subscription services | | |
| University - Library | Equalize Access to Resources, common library platforms, shared staffing models | Lowell to Pilot "Open Athens" platform (inter campus privileging- relevant FTE licensing- student performance metrics ) | | |
| University - Library | Complete subscriptions analysis | Analyze current journals, remove duplicates , create new contract modeling | | |
| **Total** | | | **$ 77,534** | **$ 22,316** |
| | | **Grand Total** | **$** | **99,849** |

# Appendix C:
# UPST E&E Project Listing

| Spend Category | Project | Total Savings |
|---|---|---|
| Capital | Pinanski Parking Lot Improvements | 1,285,464 |
| Capital | McCormack Hall Roof Replacement | 1,109,000 |
| Capital | Quinn Bldg Roof Replacement | 834,899 |
| Capital | Costello Basketball Suite | 396,478 |
| Capital | Brett Renovations, Phase II | 350,322 |
| Capital | Construction of 7th Floor Clinical Wing | 298,559 |
| Capital | Concordia Fire Sprinklers & Roof | 289,325 |
| Capital | Research Equipment | 231,000 |
| Capital | Ball Hall Fire Alarm Upgrades | 200,305 |
| Capital | All Other Projects - Under $200K | 2,273,151 |
| MRO | Security Enhancement Services | 200,139 |
| MRO | Summer Janitorial | 29,218 |
| MRO | Statewide Water Treatment Services | 17,410 |
| MRO | Gas Chromatograph, Mass Spectrometer | 3,606 |
| General Services & Supplies | Transportation Contract Adjustments | 4,200,000 |
| General Services & Supplies | Contract Renegotiation with On-line Journals Provider | 327,593 |
| General Services & Supplies | Pouring Rights Project | 178,600 |
| General Services & Supplies | Revenue Generated from a Food & Beverage Contract | 78,600 |
| General Services & Supplies | Animal Medicine Protective Clothing | 18,340 |
| General Services & Supplies | Water Tunnels Project | 17,845 |
| General Services & Supplies | Room Darkening Shades | 4,827 |
| Professional Services | System-wide COVID-19 Testing | 755,000 |
| Professional Services | Admin Staff Review for CNS | 297,200 |
| Professional Services | Property Recovery | 124,644 |
| Professional Services | Costello Athletic Center Branding | 67,705 |
| Professional Services | Pest Services | 16,833 |
| Professional Services | Courier Services | 4,000 |
| Professional Services | Carpet Replacement | 1,001 |
| Professional Services | Development of on-line ordering platform | 700 |
| IT/ Telecommunications | Network Maintenance - Additional Services | 1,000,000 |
| IT/ Telecommunications | Hardware Provider MSA Negotiation | 773,000 |
| IT/ Telecommunications | ERP (Financial) System License Negotiation | 454,119 |
| IT/ Telecommunications | Network Maintenance | 440,000 |
| IT/ Telecommunications | Amherst Network Switch Maint. Cost Savings | 423,789 |
| IT/ Telecommunications | Procurement System Contract Renewal | 391,392 |
| IT/ Telecommunications | Digital Storage System Negotiation | 165,000 |
| IT/ Telecommunications | Lecture Capture Platform Negotiation | 129,000 |
| IT/ Telecommunications | All Other Projects - Under $100K | 497,498 |
| Media & Advertising | Media Agency Contract | 623,342 |
| **Total** | | **18,508,903** |

**Note: Active and ongoing energy projects are excluded from the project listing**