

# YOSEMITE COMMUNITY COLLEGE DISTRICT

## TOTAL COST OF OWNERSHIP-FACILITIES PLAN

DRAFT NOVEMBER 13, 2018



**YOSEMITE COMMUNITY COLLEGE DISTRICT  
TOTAL COST OF OWNERSHIP PLAN**

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# SECTION 1- EXECUTIVE SUMMARY

## Introduction

The Yosemite Community College District (YCCD) staff reviewed several Total Cost of Ownership (TCO) models from other community college districts throughout the state. To meet time constraints and mitigate costs, the decision was made to use a combination of industry standards plans, best practices, and templates for YCCD's TCO document. However, the narrative, data and recommendations have been revised to reflect conditions found at Central Services, Columbia College, and Modesto Junior College (MJC).

The Yosemite Community College District is implementing a TCO process to establish a data driven procedure to assure adequate, well maintained capital assets to meet the educational mission of the District. The TCO process considers all costs associated with an asset from acquisition to demolition, including facility development, annual operations, and long-term management.

The TCO plan for the YCCD provides information and an awareness of all costs expended over the life-cycle of a building. The TCO is a data driven document that establishes guidelines and factual costs to assist in future budgeting and funding decisions at Columbia College, Modesto Junior College, and Central Services. For the purposes of this study, Central Services is included within MJC West Campus and MJC East Campus facilities data, which are referenced as "Modesto Area". The data within the TCO ensures that all facilities costs are considered from conceptual planning, date of occupancy of the facility, through the life-cycle and demolition of a building. Within the TCO, the Total Cost projection for each building has been added, which breaks down the cost to operate, maintain and refurbish each building by identifying the dollar per gross square foot value associated with each asset. Data provided in the plan compares and contrasts utility costs between years and includes an assessment of custodial, maintenance and grounds staffing. The TCO will be implemented in all future planning of new facilities by the Yosemite Community College District.

The Yosemite Community College District has identified the following goals in the TCO:

- Establish total costs for each building to evaluate the costs per gross square foot for future planning of specific buildings
- Establish a planning document for future budgeting and financial decisions
- Establish a method to evaluate the life cycle costs of facilities for operations and maintenance
- Establish a definable standard of care for custodial, maintenance and grounds staffing
- Establish operational cost benchmarks and goals for improvement
- Establish data for long-term funding needs for facility repair, renovation and upgrades

## Key Findings

The key findings explained in detail in this TCO are as follows:

- The custodial evaluation for both colleges indicates a level of service between APPA (the profession organization formerly known as the Association of Physical Plant Administrators) standards Level 4 (Moderate Dinginess) and Level 3 (Casual Inattention). Bringing both colleges to a Level 3 standard of custodial service would require the addition of approximately 11 custodians.
- Maintenance staff at both colleges meets or exceeds the APPA Level 3 (Managed Care) standard.
- The grounds staffing at both colleges meets the APPA Level 3 (Moderate Level of Maintenance) standard.
- Operating expenses have increased from \$0.51/GSF to \$0.77/GSF at MJC since 2010 and from \$0.61/GSF to \$0.99/GSF at Columbia College during the same time period.
- The 2017 APPA national EUI performance benchmark is 114 indicating the colleges are more energy efficient than the APPA national averages. Fluctuation in temperatures and energy rates have an impact on the overall energy costs.

- Industry standard is that an institution should plan on investing 1-2% of current replacement value of total building assets per year for maintenance, renovation or replacement projects. YCCD has been able to achieve this standard for the last ten years due to Measure E bond funds. Moving forward, YCCD would need to invest \$6-13 million annually to meet this standard.

## SECTION 2- BACKGROUND INFORMATION

With the passage of the \$326M Measure E Bond in 2004, the Yosemite Community College District embarked on a program to provide new and/or updated facilities at Modesto Junior College East and West Campuses and Columbia College. The program was developed through the combination of educational program needs and sustainability guidelines. The Educational Program defined space needs from which the 2004 Facility Master Plan was developed. Infrastructure system improvements were developed as part of the Facilities Master Plan, including upgrades and expansions to the overall campus roadway and utility systems.

The recently adopted 2014 Accreditation Standards of the Accrediting Commission for Community and Junior Colleges- Western Association of Schools (ACCJC) instituted accreditation standards for development and long-term management of a college's physical assets. The relevant standards are from Section III- Physical Resources:

### III - PHYSICAL RESOURCES

1. The institution assures safe and sufficient physical resources at all locations where it offers courses, programs, and learning support services. They are constructed and maintained to assure access, safety, security, and a healthful learning and working environment.
2. The institution plans, acquires or builds, maintains, and upgrades or replaces its physical resources, including facilities, equipment, land, and other assets, in a manner that assures effective utilization and the continuing quality necessary to support its programs and services and achieve its mission.
3. To assure the feasibility and effectiveness of physical resources in supporting institutional programs and services, the institution plans and evaluates its facilities and equipment on a regular basis, taking utilization and other relevant data into account.
4. Long-range capital plans support institutional improvement goals and reflect projections of the TCO of new facilities and equipment.

Since the adoption of these new standards by the ACCJC, the District has demonstrated full compliance in its implementation of Measure E. However, the District is implementing a TCO program to formalize the process of planning and managing the development and long-term operational costs of the District's physical assets. The District has funded new facility development from local and state bond sources. Annual operating expenses, including maintenance and operations staff, expenses and utilities, are funded from annual General Fund allocations. Major repairs, renovations and updates have been funded from state programs and Measure E bond funds. Regardless of funding source, all investment in District assets are accounted for through the District Fund Budgets. This centralized accounting system provides a means to transparently identify, track and report on total investment in District facilities.

## SECTION 3- TOTAL COST OF OWNERSHIP DEFINITIONS

The TCO process considers all costs associated with an asset from acquisition to demolition. TCO provides a means to evaluate initial development costs with long-term operational costs and ongoing repairs, renovations and upgrades. The TCO process provides data to compare the District's costs to operate, maintain and refurbish with state and national averages to identify areas for potential improvement. The TCO provides estimates of future costs to operate and maintain facilities providing information to inform future budgeting and funding decisions. Integral to the TCO process is the assessment of custodial, maintenance and grounds staffing levels needed to maintain

facilities to the standard of care desired by the District and the Colleges.

The TCO process provides a structured means to measure the effectiveness of the programs implemented and to chart program improvements. The TCO program focuses on three primary facility ownership phases:

- Facility Development- Planning, Design, Construction
- Annual Operations – Maintenance and Operations staffing, building utilities, maintenance costs, repairs.
- Long-Term Management- Scheduled Maintenance, Renovation, Updating and Reuse.



The APPA (formally the Association of Physical Plant Administrators) has developed a number of Key Performance Factors that can be evaluated and tracked to judge performance against local and national performance of peer organizations. Some of these Key Performance Factors are:

#### Facility Planning

- Building Utilization Capacity/Load Ratio
- Project Development Cost per Square Foot
- Custodial Staff per Building Gross Square Foot
- Maintenance Staff per Building Gross Square Foot
- Grounds Staff per Acre
- Electrical- Cost and Use per Gross Square Feet
- Natural Gas- Cost and Use per Gross Square Feet
- Use Intensity- Total Energy Use per Gross Square Feet
- Total Utility Cost per Gross Square Feet
- Annual expense for maintenance and custodial materials, supplies and vendors

#### Long-Term Management

- Facility Condition- Facility Condition Assessment
- Facility Condition- Amount of Scheduled Maintenance
- Average investment for Renovation, Upgrades, Repurpose

## DEFINITIONS

The facilities management industry has developed some standardized terms and definitions relating to the TCO. An APPA partnership published a Glossary and Definitions of Terms associated with the TCO Management. In addition, the California State Community College Chancellor's Office has defined terms relating to the ownership and operation of community college facilities. Some of the key terms are:



## **Total Cost of Ownership (TCO)-Lifecycle Cost Management**

TCO is a dollar per gross square foot value (\$/GSF) associated with a facility. It is a calculation of all facilities-specific costs (not including furnishings or non-facility specific equipment) divided by estimated lifespan of the building (30 to 50 years) and the total gross area.

Facilities-specific costs include all construction, preservation, maintenance, and operations costs. TCO is a strategic asset management practice that considers all costs of operations and maintenance, and other costs, in addition to acquisition costs. TCO, therefore includes the representation of the sum total of the present value of all direct, indirect, recurring and non-recurring costs incurred or estimated to be incurred in the design, development, production, operation, and maintenance of a facility/structure/asset over its anticipated lifespan. This is also inclusive of site/utilities, new construction, scheduled maintenance, preventive/routine maintenance, renovation, compliance, capital renewal and occupancy costs. Land values are specifically excluded.

## **Capacity/Load Ratio**

The Capacity to Load ratio is an indicator used to determine how efficiently available space is being used. The California Community College Chancellor's Office's (CCCCO) FUSION system lists the Capacity Load Ratio for five key space types for each college in the state. The Cap Load Ratio compares the amount of educational space required to support a college's enrollment as measured by weekly student contact hours (WSCH) with the CCCC's established utilization factor for lecture, laboratory, office, library and Audio/Visual spaces on the college campus. The calculations are based on assignable square feet, which is a measure of the space within a building that can be used for instruction. It does not include hallways, mechanical spaces or other non-educational space. A 100% Cap Load Ratio indicates that the available space matches the needs of the student classroom hours. A Cap Load Ratio exceeding 100% indicates more available space than needed to support the calculated need.

$$\text{Capacity Ratio} = \frac{\text{Actual Assignable Square Footage}}{\text{Calculated Required Square Footage (based on student population)}}$$

## **Lifecycle Cost Analysis**

Lifecycle Cost Analysis is an estimating procedure used to determine the cost of facility system/component renewal based on the average useful life of an individual component. This procedure is typically based upon visual observations, via a facilities conditions assessment/audit, to determine the remaining useful life of a system and the development of cost models for the facility. This process enables multi-year budgeting of future replacement costs and timing for replacement.

## **Facility Operating Cost per Gross Square Foot (GSF)**

The Facility Operating Cost per GSF is an asset management practice that considers the yearly costs of facilities operations and maintenance per gross square foot of space using the APPA Facility Operating Gross Square Foot national averages as a Performance Indicator. The annual costs are evaluated on a square foot basis:

- Custodial Costs
- Grounds Keeping Costs
- Maintenance Costs
- Energy Use
- Utility Costs
- Facility Maintenance Expenses (including the annual costs of materials, equipment, service providers to maintain the facilities)

## **Energy Usage**

This performance indicator is expressed as a ratio of British Thermal Units (BTUs) for each Gross Square Foot (GSF) of facility, group of facilities, site or portfolio. This indicator represents a universal energy consumption metric that is commonly considered a worldwide standard. This energy usage metric can be tracked over a given period of time to measure changes and variances of energy usage. Major factors that affect BTU per gross square foot are outside ambient temperature, building load changes, and building envelope and equipment efficiencies. The total energy usage includes the amount of energy it takes for heating, cooling, lighting and equipment operation per

grosssquare foot. The indicator is traditionally represented as total energy consumed annually or monthly. All fuels and electricity are converted to their respective heat, or BTU content, for the purpose of totaling all energy consumed.

$$\text{Energy Usage} = \frac{\text{British Thermal Units} = \text{BTUs}}{\text{Gross Area} = \text{GSF}}$$

### **Energy/Utility Terms**

Terms used when listing energy usage include:

KBTU- Thousand British Thermal Units

MBTU- Million British Thermal Units

kW- Kilo Watts- Thousand Watts (electrical power) MW-Mega Watt (million watts)

kWh- Kilo Watt Hours (electrical energy usage)

MWH-Mega Watt (million watt) Hours (electrical energy usage)

CCF- One Hundred (C) Cubic Feet- Water Measure, 748 gallons

### **Normal/Routine Maintenance and Minor Repairs (Work Order Plan in progress)**

This applies to work activities that are cyclical, planned activities funded through the annual budget cycle, and done to continue or achieve either the originally anticipated life of a fixed asset (i.e., buildings and fixed equipment), or an established suitable level of performance. Normal/routine maintenance is performed on capital assets such as buildings and fixed equipment to help them reach their originally anticipated life. Deficiency items are typically low in cost to correct and are normally accomplished as part of the annual Operation and Maintenance (O&M) funds. Normal/routine maintenance excludes activities that expand the capacity of an asset, or otherwise upgrade the asset to serve needs greater than, or different from, those originally intended.

### **Repair(s)**

Repairs refer to work that is performed to return equipment to service after a failure, or to make its operation more efficient. This is the restoration of a facility or component thereof to such condition that it may be effectively utilized for its designated purposes by overhaul, reprocessing, or replacement of constituent parts or materials that have deteriorated by action of the elements or usage and have not been corrected through maintenance.

### **Preventive Maintenance**

Preventive Maintenance (PM) consists of a series of maintenance requirements that provide a basis for planning, scheduling, and executing scheduled maintenance, which is planned versus corrective in nature. The purpose of PM is to improve equipment life, to avoid any unplanned maintenance activity and minimize equipment breakdowns. These PM activities can be defined through a Maintenance Plan (MP) or Work Order Plan. The purpose of a Maintenance Plan is to describe the best means to maximize equipment operational availability, while minimizing equipment downtime. Once developed, the MP will typically identify PM task descriptions and schedules, troubleshooting, corrective maintenance (repair) task descriptions, spare parts identification, stock (quantity), and any unique storage requirements. This information will be incorporated into the manual, both as tabular data and text.

### **Scheduled Maintenance**

Scheduled Maintenance is the total dollar amount of existing maintenance repairs and required replacements (capital renewal), not accomplished when they should have been, not funded in the current fiscal year or otherwise delayed to the future. These needs are typically quantified by a comprehensive facilities condition assessment/audit of buildings, grounds, fixed equipment and infrastructure and have not been scheduled to be accomplished in the current budget cycle and thereby are postponed until future funding budget cycles. For calculation of facility condition index (FCI) values, scheduled maintenance does not include code generated renovation or renovation for a new use.

### **Facility Condition Assessment (FCA)/Audit**

A Facility Condition Assessment Audit is the structured development of a profile of existing facilities conditions, typically placed in an electronic database format, and populated with detailed facility condition inspection

information. A detailed FCA typically involves an assessment team of three professionals (architect, mechanical engineer, electrical engineer). The assessment team depends upon robust, scalable methodologies to assure accurate and consistent information. It is recommended that a FCA be done on a regular basis, approximately every three years, or to conduct a portion of the overall portfolio annually. The FCA identifies existing deficient conditions (requirements), in a logical grouping, with priorities, and associated recommended corrections and corrective costs. Costs are generally based upon industry standard cost databases (e.g., Building News, Craftsman Book Company, Richardson General Construction Estimating Standards, RSMeans).

### **Facility Condition Index (FCI)**

A Facility Condition Index is a comparative industry indicator/benchmark used to indicate the relative physical condition of a facility or group of buildings. The FCI is expressed as a ratio of the cost of remedying existing deficiencies (scheduled maintenance (SM)) and capital renewal (CR) requirements to the current replacement value (CRV), i.e.,  $FCI = (SM+CR)/CRV$ . The FCI provides a corresponding rule of thumb for the annual reinvestment rate or reserve account to prevent further accumulation of scheduled maintenance deficiencies. The FCI value is a snapshot in time, calculated on a periodic basis. The FCI is represented on a scale 0% to 100%, with higher FCI values, representing poorer facility conditions. A “fair to good facility” is generally expressed as having an FCI of less than 20%.

### **Facilities Deterioration Rate**

Each element in a facility has an effective useful life. The replacement of these elements over time may be expressed as a percentage of current total building replacement value per year. A benchmark deterioration rate for a reasonably well maintained facility is approximately 1-2% of the total building replacement value per annum.

### **Current Replacement Value (CRV)**

The CRV is the total expenditure in current dollars required to replace any facility at the institution, inclusive of construction costs, design costs, project management costs and project administrative costs. Construction costs are calculated as replacement in function vs. in-kind. The value of design (10%), project management (5%), and administrative costs (5%) can be estimated at 20% of the construction cost.

### **Recapitalization/Reinvestment Rate**

A facility, system, or component with existing deficiencies will deteriorate at a faster rate than a component that is in good condition. The recapitalization or reinvestment rate is the level of annual funding for facility renewal and scheduled maintenance expressed as a percentage of facility replacement values. Altering the recapitalization/reinvestment rate has direct impact upon the facility condition index (FCI) and associated scheduled maintenance levels over time.

### **Adaptation/Renovation/Modernization**

The adaptation/renovation/modernization of facilities includes any improvement, addition or expansion of facilities by work performed to change the interior alignment of space or the physical characteristics of an existing facility so it can be used more effectively, be adapted for new use, or comply with existing codes. This includes the total amount of expenditures required to meet evolving technological, programmatic or regulatory demands.

### **APPA Maintenance, Custodial and Grounds Level of Care Standards**

APPA has defined standards for five levels of care for the maintenance of facilities and grounds in conjunction with their Key Performance Indicators. The standards can be used by institutions to develop staffing levels based on the institutions desired level of care for each of the three areas of facility maintenance. The standards are described as follows:



Element	Level 1	Level 2	Level 3	Level 4	Level 5
Maintenance	Showpiece Facility	Comprehensive Stewardship	Managed Care	Reactive Management	Crisis Response
Custodial	Orderly Spotlessness	Ordinary Tidiness	Casual Inattention	Moderate Dinginess	Unkempt Neglect
Grounds	Well-Manicured Landscape	High Level of Maintenance	Moderate Level of Maintenance	Moderately Low Level of Maintenance	Minimum Level of Maintenance

## SECTION 4- TOTAL COST OF OWNERSHIP PROGRAM

The District’s adoption of a TCO program recognizes the need to formalize and integrate a number of current independent facility development and operations initiatives and programs. The TCO Program provides a number of benefits to the District including:

- Providing a structured approach to the stewardship of the District’s assets
- Providing benchmarks to measure facility operations performance against goals and identifying opportunities for improvement
- Creating a proactive rather than reactive approach to project development and facility operation
- Providing an objective means to set custodial, maintenance and grounds staffing using defined standards of care.
- Developing performance information to establish facility operating budgets
- Identifying long-term funding needs and sources to support a structured facility renovation and replacement program

The District’s Total Cost of Operation program is divided into three major elements:

- **Facility Development Cost**- the cost of planning, designing, constructing, and furnishing new facilities.
- **Annual Operating Costs**- the cost of staff, utilities, and maintenance and operations expenses to maintain the facilities in operating condition with buildings and grounds clean and maintained.
- **Long-Term Investment Costs** – the costs of planned and scheduled maintenance, renovation and replacement and facility repurpose and upgrades.

### SECTION 4.1 -FACILITY DEVELOPMENT COST

The TCO process begins with the initial planning of a new facility or renovation of existing facilities. While the Facility Development Cost typically only represents 10%-15% of the TCO, the cost must be well managed to assure long-term value of the facility.

The District uses an integrated master planning approach that aligns the Educational Master Plan with the Facility

Master Plan. The Educational Master Plan is developed from educational program reviews that articulate needed and desired facility attributes to support the projected educational program. Facility projects define how space needs will be met through new facilities or renovation of existing space. The Facility Master Plan combines facility projects with supporting infrastructure improvements, adding scheduled maintenance needs, upgrades required by code or technology and management. The plans include:

- Educational Master Plan for Modesto Junior College (MJC),
- Educational Master Plan for Columbia College/Strategic Goal and Objectives (CC),
- Facilities Masterplan for both campuses
- District-wide Facilities Assessment and Central Services Master Plan
- Scheduled Maintenance Plan

Once a project is approved by the Board of Trustees, a project team is assembled to define the project. The project team includes user groups, designers, facility development management, college management, operations and maintenance staff. The project definition includes educational programs' unique space requirements and special needs, cost, budget, schedule and specialized operation and maintenance requirements.

### **Facility Development Process**

The process to plan, design, construct, commission and open a new facility includes:

- Develop the facility space program to meet the Educational Plan - define space needs by assessing anticipated student enrollment usage (WSCH), Capacity to Load Ratio, multi-use space, special equipment, room and furnishings requirements and long-term care of the facility.
- Evaluate the impact of the new facility on the Capacity to Load Ratio by calculating the Capacity to Load Ratio when the space will be available for use.
- Evaluate the impact of the new facility on the campus infrastructure, including the cost to expand or modify campus utilities or services to support the new or remodeled facility.
- Evaluate options to integrate renovation, upgrades or scheduled maintenance projects, including planned or identified adjacent renovation or scheduled maintenance projects or required upgrades in the new space project.
- Define the project including specific use, budget, schedule and level of quality - Develop the project budget and schedule based on the space program, and the quality based on District and campus standards.
- Develop and evaluate Life Cycle Cost Model- evaluate options for development using long-term life cycle cost including operations cost rather than first cost only.
- Direct the design team to integrate District standards of materials and systems into the design, including equipment, materials and systems to reduce maintenance and operations training and spare parts inventory.
- Perform Value Engineering as systems are selected, update Life Cycle cost analysis, as necessary, and evaluate major systems for performance against cost to select the best value, not just the lowest initial cost.
- Use national sustainability guidelines such as LEED and California Building Code-CAL Green during the design and construction phases. Identify goals and integrate certification choices in the planning and design process.
- Develop and evaluate current landscape and incorporate drought-tolerant plantings throughout the campus.
- Manage the design process by performing detailed reviews at each design milestone to confirm compliance with program, design basis and project budget. Reviews should include representatives from user groups, Maintenance & Operations, Campus Safety, Information Technology and college administration.
- Select the appropriate contracting method and comply with all public contracting regulations to select building general contractor.

- Inspect the construction work to ensure compliance with design and codes. Test and document by maintaining a structured inspection process with comprehensive testing.
- Commission building systems to ensure performance of integrated systems. Employ expanding commissioning involving the commissioning agent throughout the design and construction to provide another long-term operations perspective in the development process.
- Collect, organize As-Built documents, warranties, operations manuals spare parts records as the facility is being constructed.
- Develop operations plan that includes custodial and maintenance staffing as well as specialized service contractors consistent with levels of maintenance acceptable to the Colleges.
- Establish preventative maintenance and scheduled maintenance scope, timing and budget involving maintenance and operations staff in the design and construction process for training and operations planning.

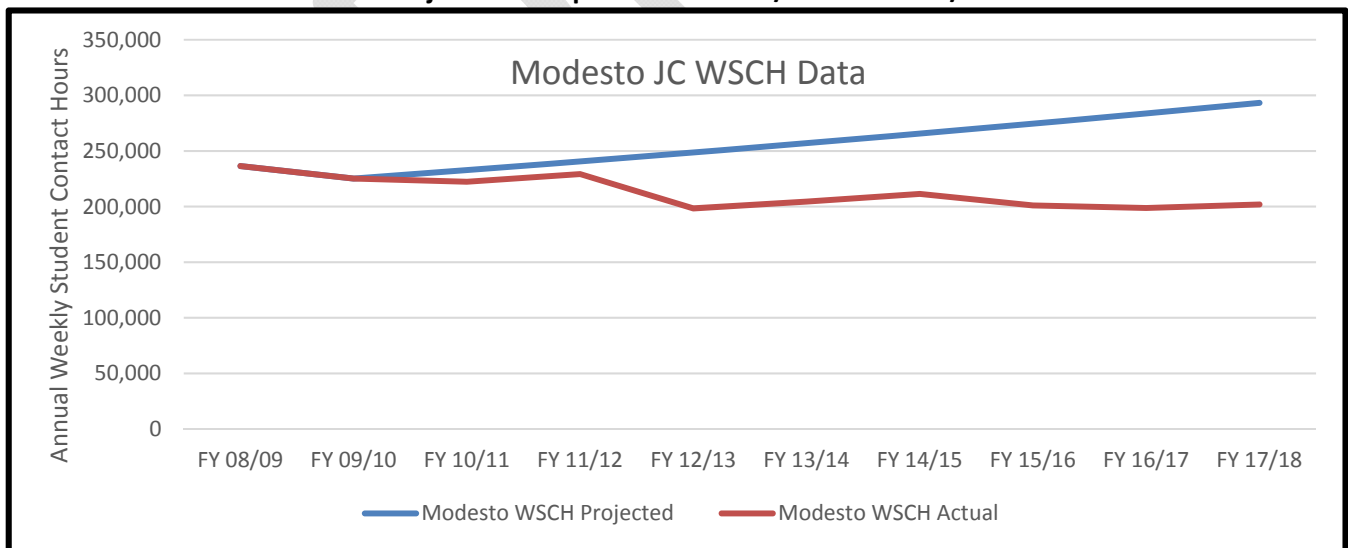
**Capacity to Load Ratios**

Part of the new space or renovation decision is an evaluation of the effective use of existing facility assets. The California Community College System has established the Capacity to Load Ratio (Cap Load Ratio) as the state standard for effective space utilization on community college campuses. The Cap Load Ratio compares space required to support student enrollment calculated using Weekly Student Contact Hours (WSCH) by the type of space (classroom or laboratory) compared to amount of that type of space existing on campus. A Cap Load Ratio of 100% indicates the effective use of available space. Either new or remodeled space solutions should result in an improvement of the Cap Load Ratio at project completion. The Capacity Load Ratio is a key Performance Metric.

**Modesto Junior College Cap Load Ratios**

The Modesto Junior College bond program focused on development of new space to replace aging facilities and accommodate a growing student population at the College. As State funding and student enrollment dipped during difficult economic times, some newer programs did not grow as anticipated and aging facilities have not been removed resulting in an excess of classroom and office space.

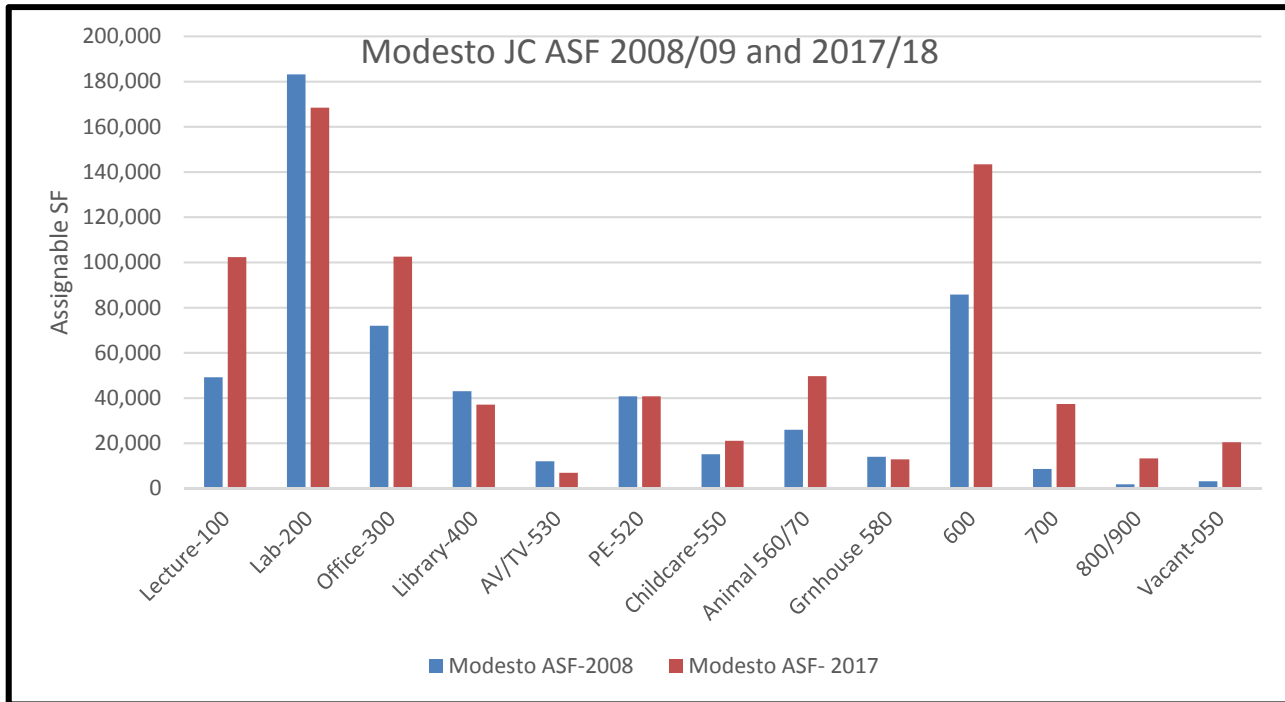
**Chart 4.1.A- Modesto JC WSCH Projection Comparison- FY 2008/09 to FY 2017/18**



**Table 4.1.A Modesto Junior College Capacity Load Ratio FY 2008/09 and FY 2017/18**

	Modesto JC 2008/09	Modesto JC 2017/18
Lecture	69%	186%
Laboratory	99%	98%
Office	107%	183%
Library	64%	67%
Audio Visual/ TV	71%	44%

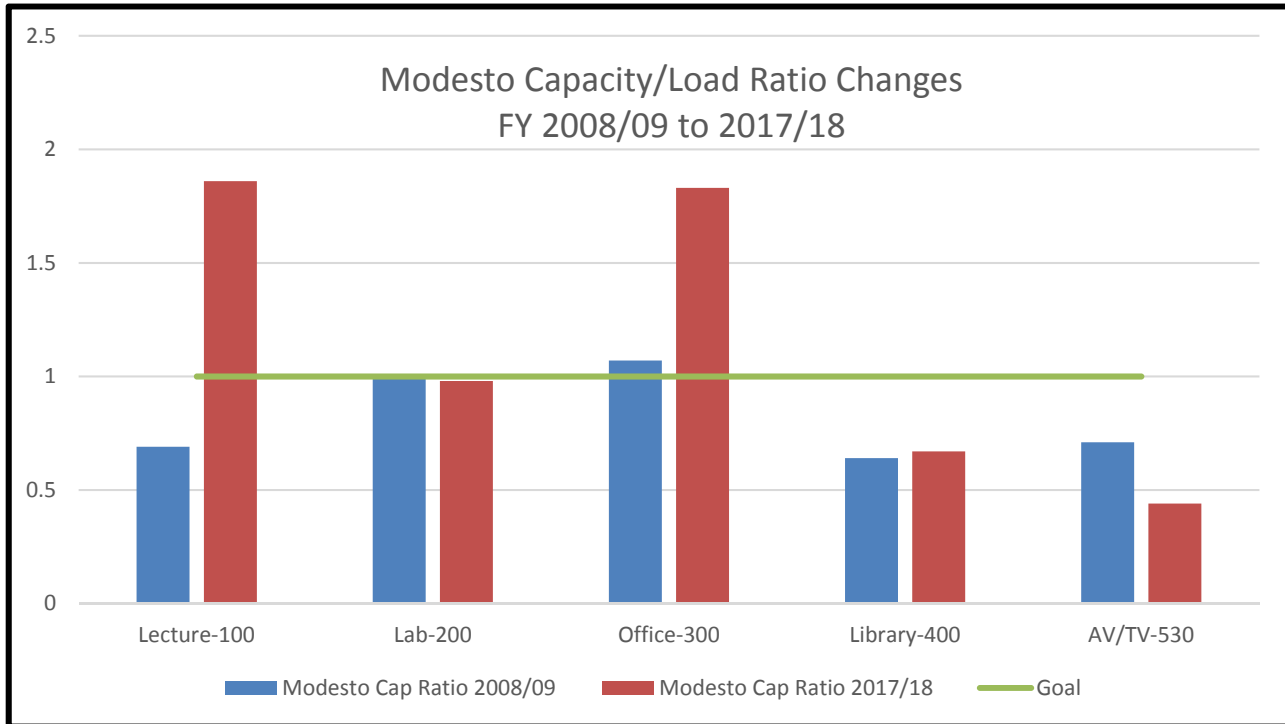
**Chart 4.1.B Modesto JC ASF Distribution FY 2008/09 and FY 2017/18**



The comparison of the assignable square feet (ASF) between the beginning of the bond projects in FY 2008/09 and the end in FY 2016/17 indicates a focus on expanded classroom and offices. The amount of laboratory space remained fairly consistent. The addition of the new Performing Arts Center increased the 600 space type

As illustrated in the following chart the additional classroom and office space resulted in capacity load ratios significantly exceeding 100% in lecture and office spaces.

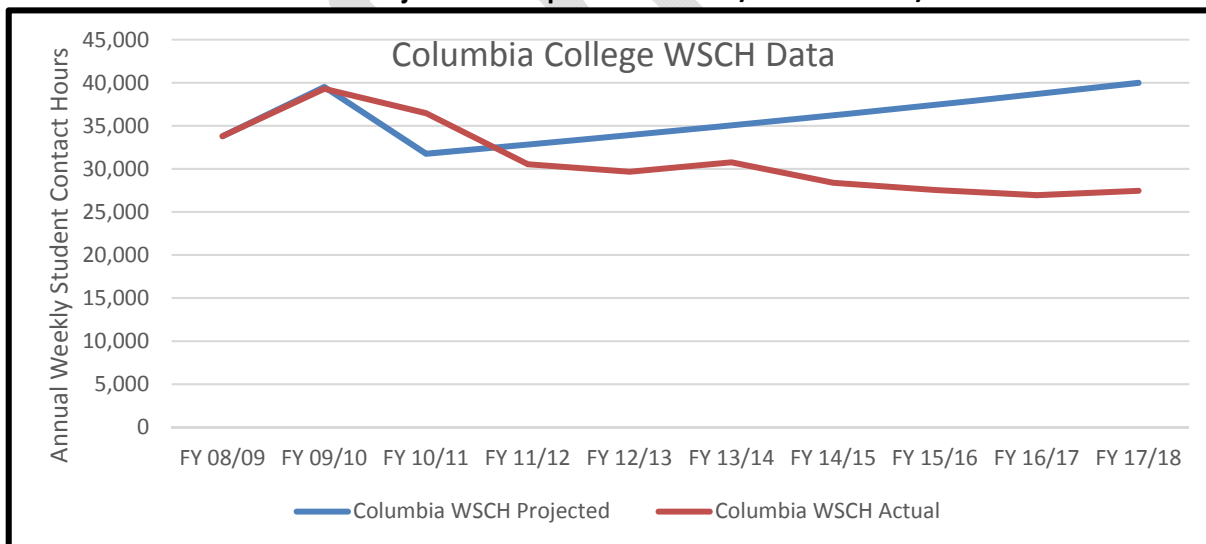
**Chart 4.1.C- Modesto JC Capacity Ratio Comparison- FY 2008/09 to FY 2017/18**



**Columbia College Capacity Load Ratios**

The Columbia College bond program balanced renovation and limited additional new space. The Educational Plan anticipated that the high capacity load ratios would gradually reduce with increased student enrollment. For example, the College anticipated a high capacity load ratio in lecture space in FY 2008/09 would decrease due to enrollment growth through FY 2017/18; however, this anticipated enrollment growth did not occur, resulting in a continuing overbuilt status in FY 2017/18 in all space types except AV/TV

**Chart 4.1.D- Columbia WSCH Projection Comparison FY 2008/09 to FY 2017/18**

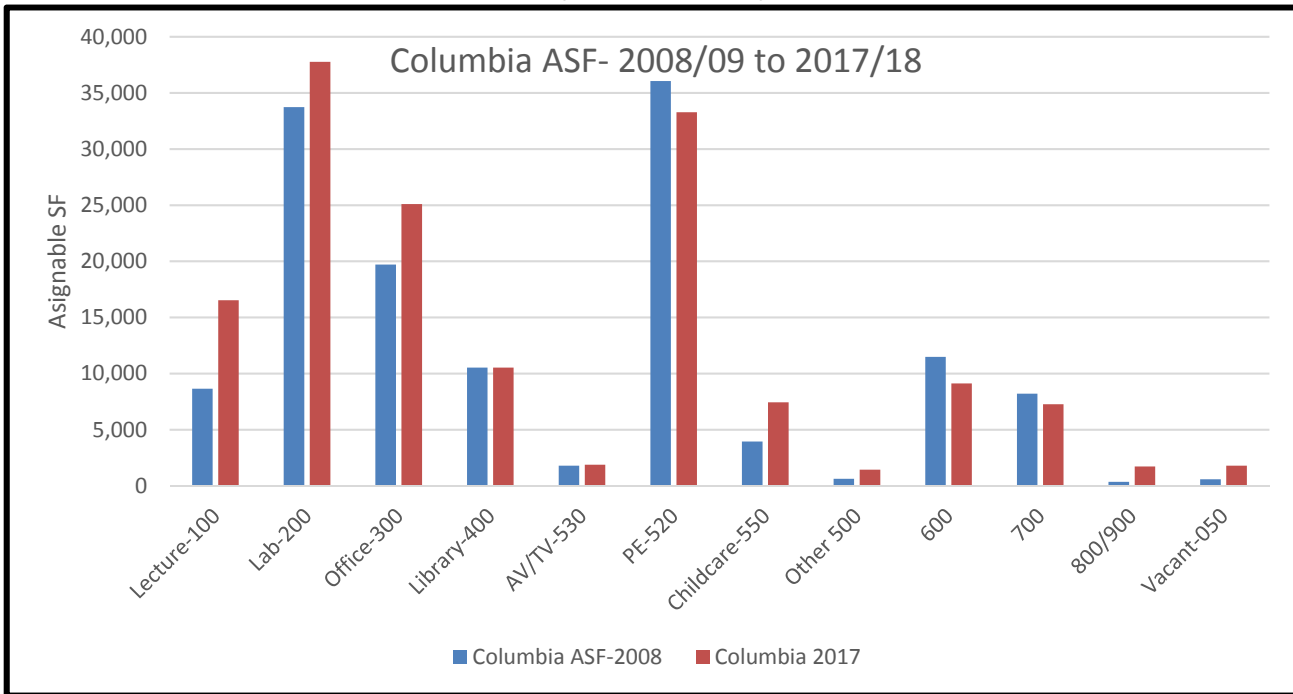




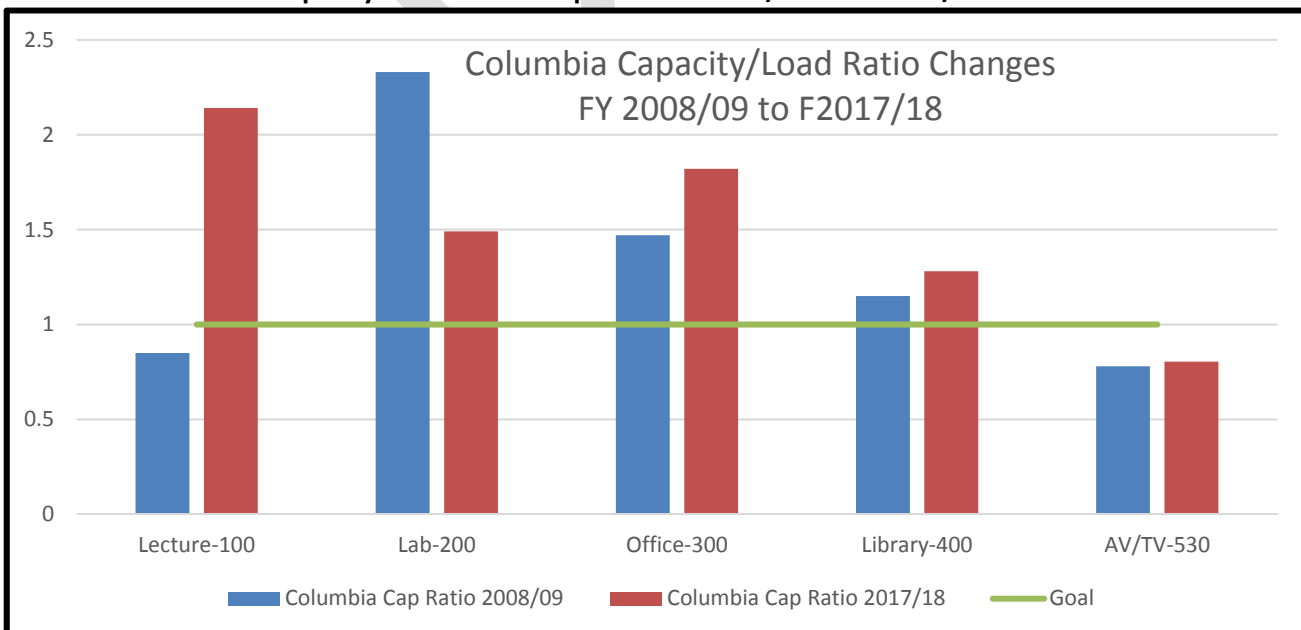
**Table 4.1.B- Columbia College Capacity Load Ratio Comparison FY 2008/09 and FY 2017/18**

	Columbia FY 2008/09	Columbia FY 2017/18
Lecture	85%	214%
Laboratory	233%	149%
Office	147%	182%
Library	115%	128%
Audio Visual/TV	78%	80%

**Chart 4.1.E Columbia ASF Distribution FY 2008/09 and FY 2017/18**



**Chart 4.1.F- Columbia Capacity Load Ratio Comparison FY 2008/09 to FY 2017/18**



## SECTION 4.2- ANNUAL OPERATIONS COST

The Annual Operations Cost includes costs to operate, repair and maintain District Facilities, including:

- Maintenance and operations staff wages including maintenance, custodial, grounds and management staff,
- Utilities including gas, electrical, water and sewer, trash and recycling
- Facilities maintenance expenses including materials, parts and service vendors

The Annual Cost analysis groups information into two groups:

- 1) Modesto Area facilities including the Modesto Junior College East and West Campus and the Central Services office
- 2) Columbia College

The custodial staffing analysis is based on only buildings maintained by custodial staff. Buildings not included in the custodial analysis include buildings closed for renovation, inactive buildings, the fire tower, and animal-related facilities. However, all these facilities are included in maintenance staffing, M&O expenses and all utility evaluations.

### **Maintenance and Operations (M&O) Staffing**

The staffing evaluation begins with the 2017 M&O organization chart showing the M&O staffing and management and administration staff Districtwide. The M&O organization is a Central Services resource that is assigned to the colleges. The M&O staff in Modesto move between the Modesto JC East and West campuses and Central Service facilities as needed and their time at each work location is not tracked. Therefore, this analysis combines the Modesto JC East and West campuses and Central Services facilities in a single group noted as the Modesto Area. Each college has a full-time campus M&O manager to coordinate the M&O operations on the campus. The M&O staff also includes part time/on-call custodial and grounds staff to respond to workload changes and backfill full-time employees due to vacation and sick leave. The Maintenance and Operations organization has maintained essentially the same staffing levels for the past 10 years.

The Association of Physical Plant Administrators (APPA) has developed staffing guidelines for maintenance, custodial and grounds staff based on building space type and use intensity. The guidelines suggest staffing levels for APPA's five defined Service Level levels. The five levels range from Level 1- excellent to Level 5- marginal or poor. APPA and others have developed calculators that calculate staffing for each of the five APPA levels based on a building configuration and type of space and intensity of use. Many institutions establish the APPA Level 3 as the benchmark to gage their staffing levels.

This report used a calculation tool developed by Goshen College. The facilities staff at Goshen College created an Excel spreadsheet to develop a macro-model for custodial staffing for each of the five APPA service levels:

- Level 1- Orderly Spotlessness
- Level 2- Ordinary Tidiness
- Level 3- Casual Inattention
- Level 4- Moderate Dinginess
- Level 5- Unkempt Neglect

The spreadsheet combines the APPA standard task hour matrix with specific characteristics of the facilities. The facilities are defined by square feet by use type and flooring materials. The spreadsheet sets a Level 2 for restrooms and cafeterias, level 4 for non-student areas such as storage and utility area. The remaining spaces are calculated at Levels 1 to 5 to compare staffing levels. The spreadsheet calculates staffing for all five APPA levels of custodial staffing. Input to the model combines California Community College defined assignable square footage spaces based on the educational use category with lobbies, corridors and other non-assignable space to calculate Gross Square Feet (GSF). The model adds adjustments for areas of heavy use and various flooring types.

APPA custodial staffing is calculated as full-time equivalents. The APPA staffing numbers also do not include administrative, clerical or support staff. The custodial staffing evaluation indicates a predicted Service Level between

APPA Level 3 (Casual Inattention) and 4, (Moderate Dinginess) for both the Modesto Area and Columbia College.

**TABLE 4.2.A- Calculated Custodial Staffing Levels and Actual Staffing**

	Level 1	Level 2	Level 3	Level 4	Level 5	Actual FY 16/17
Modesto Area	104.0	58.1	43.8	34.0	28.5	35.5
Columbia	24.5	12.3	10.5	7.5	6.8	7
Total			53.9	41.5		43.5

**Custodial Staffing per Gross Square Feet**

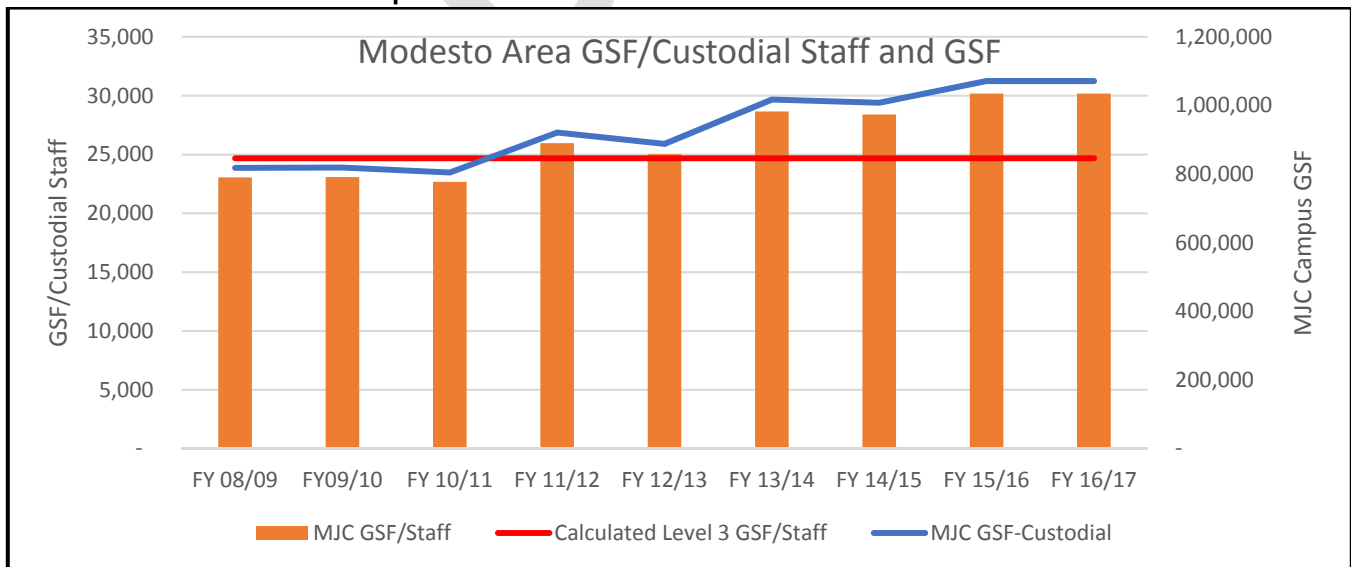
A key performance indicator is the total building gross square feet divided by the number of custodial staff. The higher the gross square feet per staff, the lower the level of cleanliness and maintenance. Adding new buildings without adding staff has increased the work load of the custodial and maintenance staff. The current custodial staffing is below the APPA Service Level 3 performance level.

The charts below illustrate as new buildings were added to both campuses without adding custodial staff, their workload increased and the level of service or level of care decreased. Over the past 10 years the GSF maintained by custodial staff has increased by 30% from 23,053 GSF/staff to 30,177. This can be compared to the calculated Level 3 (Casual Inattention) service level of 25,000 GSF/custodian. Similarly, custodians at Columbia work load has increased by 35% over the past 10 years from 25,961 GSF/custodian to 35,027 GSF/staff. This can be compared to the calculated Level 3 service level of 23,300 GSF/custodian.

**Table 4.2.B- Modesto Area Custodial Staff per Gross Square Feet Historical data**

Modesto	FY 08/09	FY09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
Gross SF	818,389	819,349	804,815	921,455	888,290	1,017,379	1,007,779	1,071,280	1,071,280
Custodial	35.5	35.5	35.5	35.5	35.5	35.5	35.5	35.5	35.5
GSF/Custodian	23,053	23,080	22,671	25,956	25,022	28,659	28,388	30,177	30,177

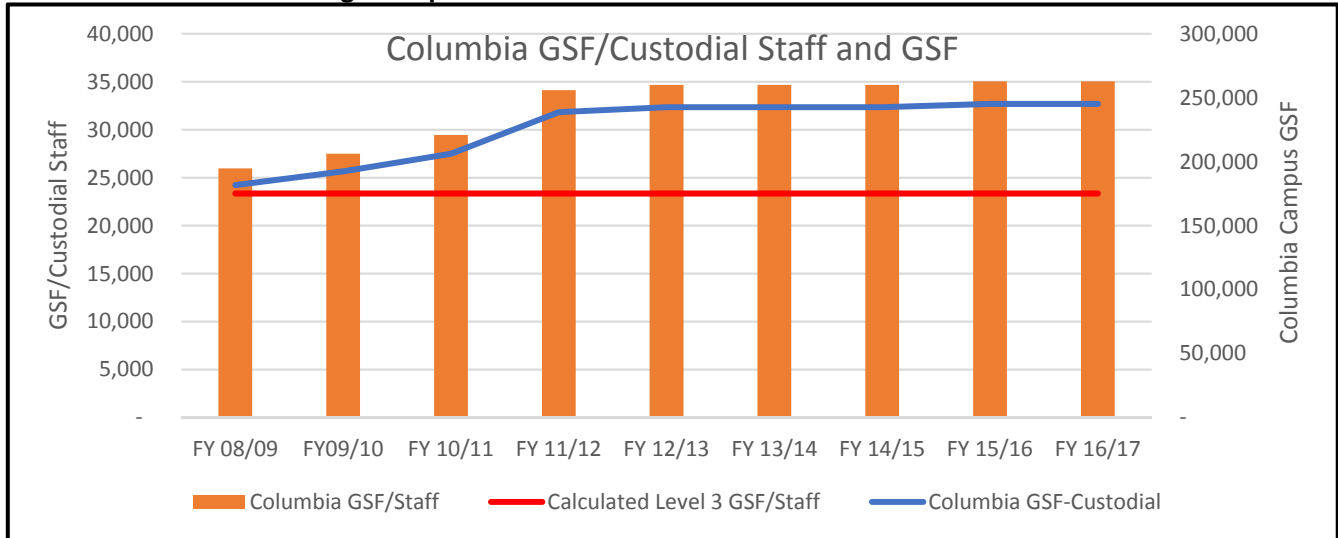
**Chart 4.2.A- Modesto Area GSF per Custodian Historical data**



**Table 4.2.C- Columbia Custodial Staff per Gross Square Feet Historical Data**

Columbia	FY 08/09	FY09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
Gross SF	181,725	192,463	206,174	238,763	242,643	242,643	242,643	245,187	245,187
Custodial	7	7	7	7	7	7	7	7	7
GSF/Staff	25,961	27,495	29,453	34,109	34,663	34,663	34,663	35,027	35,027

**Chart 4.2.B- Columbia College GSF per Custodian Historical Data**



**Maintenance Staffing Per Gross Square Feet**

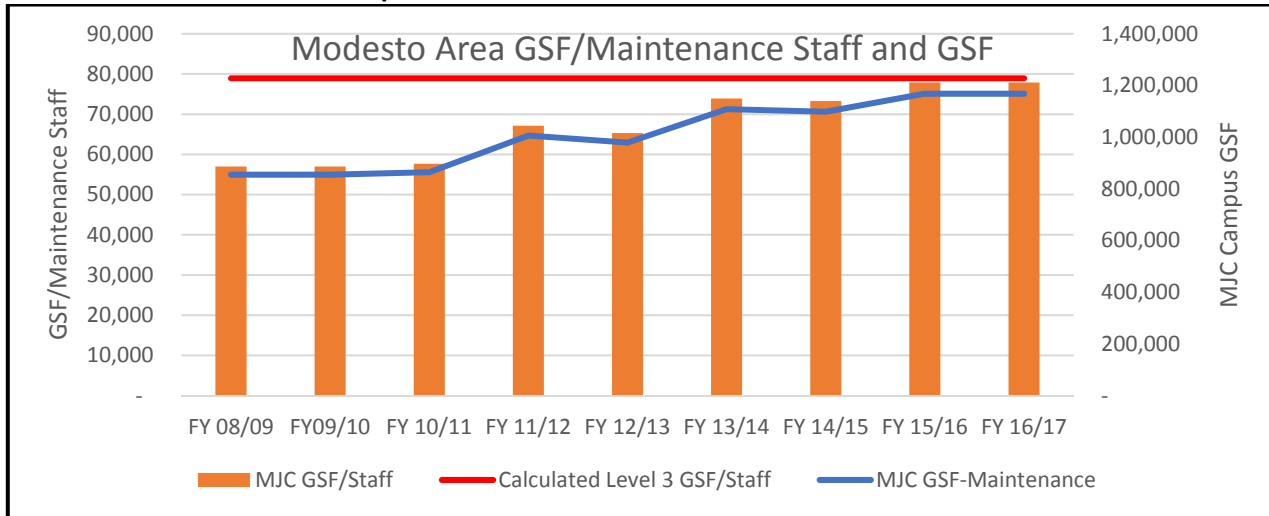
Staffing projections for maintenance and ground staff were calculated using APPA based calculations and the specific type of space, intensity of use with adjustments for the age of the facility. The maintenance staffing indicates staffing at a Service Level 3 (Managed Care).

The graphic below indicates maintenance staffing approached Level 2 (Comprehensive Stewardship) at the beginning of the period and gradually decreased to a Level 3 (Managed Care). Previously, the District maintenance staff handled major renovation work that would have typically been contracted out, in addition to the normal daily repair and minor maintenance work. For example, the painting crew repainted the exterior and interior of multiple buildings. As a result, the maintenance staffing exceeded a Level 3 in FY 08/09, but as space was added, and staffing remained the same, the staffing approached Level 4 (Reactive Management) in FY 16/17. The maintenance staffing at Columbia continues to exceed Level 3; however, this is largely due to the small staff size.

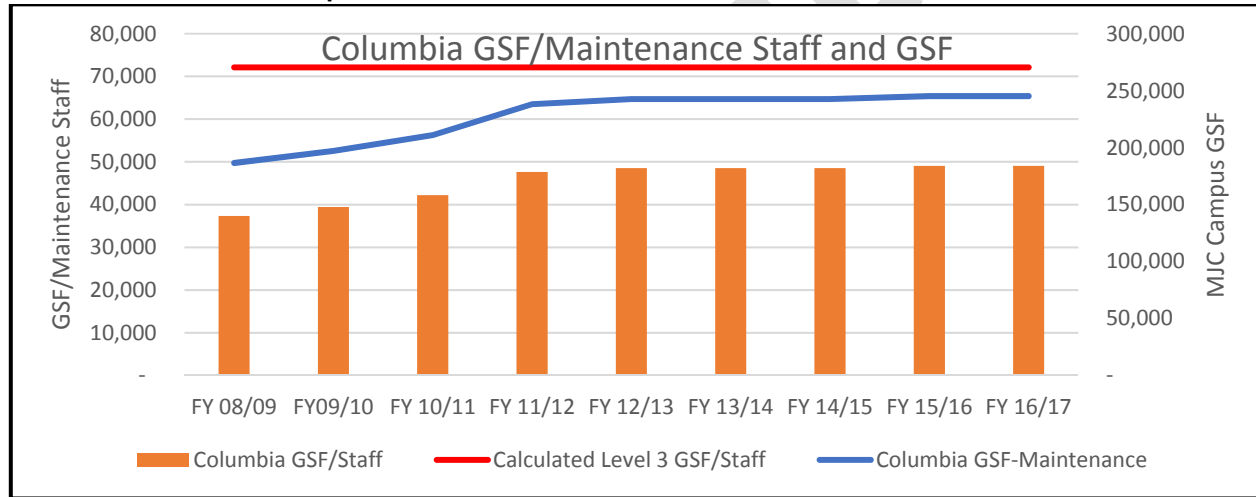
**Table 4.2.D APPA Calculated Maintenance Staff and actual FY 2016/17**

Maintenance	Level 1	Level 2	Level 3	Level 4	Level 5	Actual 16/17
Modesto Area	27.6	21.2	14.8	10.6	7.4	15
Columbia	5.7	4.5	3.4	2.3	1.1	5
Combined	33.3	25.7	18.2	12.9	8.5	20

**Chart 4.2.C Modesto Area GSF per Maintenance Staff Historical Data**



**Chart 4.2.D Columbia GSF per Maintenance Staff Historical Data**



**Grounds Staffing Levels**

The grounds staff maintains the exterior grounds including the hardscape such as sidewalks and landscaping including lawn, shrubs, trees and flowering plants. The Modesto East campus is 58 acres, the Modesto West campus is 167 acres and the Columbia campus is 280 acres. The grounds staff is also responsible for the maintenance of the athletic fields. The athletic field maintenance includes mowing, irrigation, striping and repairs after events. The APPA spreadsheet calculated current staffing levels meet a Level 3 service level (Moderate Level of Maintenance).

**Table 4.2.E- APPA Model Calculated Grounds FTE Staff**

Grounds Staff	Level 1	Level 2	Level 3	Level 4	Level 5	Actual 16/17
Modesto Area	25.7	14.7	11.3	5.9	3	10
Columbia	4	2.8	2	1.5	0.6	2

**Calculated Combined Colleges M&O Staffing Levels**

The following table summarizes the calculated staffing levels combining the models for custodial, maintenance and grounds. The staffing models are based on Full Time Equivalent positions. Extra work includes exterior clean up performed by custodial staff in addition to the interior custodial activities. The last column contains the actual Modesto Area and Columbia actual staffing for FY 2016/17. These M&O staffing numbers do not include managers, supervisors and administrative staff.



**TABLE 4.2.F- Modesto Area APPA Calculated M&O Staffing Levels and Actual**

Modesto Area	Level 1	Level 2	Level 3	Level 4	Level 5	Actual 16/17
Maintenance	27.6	21.2	14.8	10.6	7.4	15
Custodial	104	58.1	43.8	34	28.5	35.5
Grounds	25.7	14.7	11.3	5.9	3	10

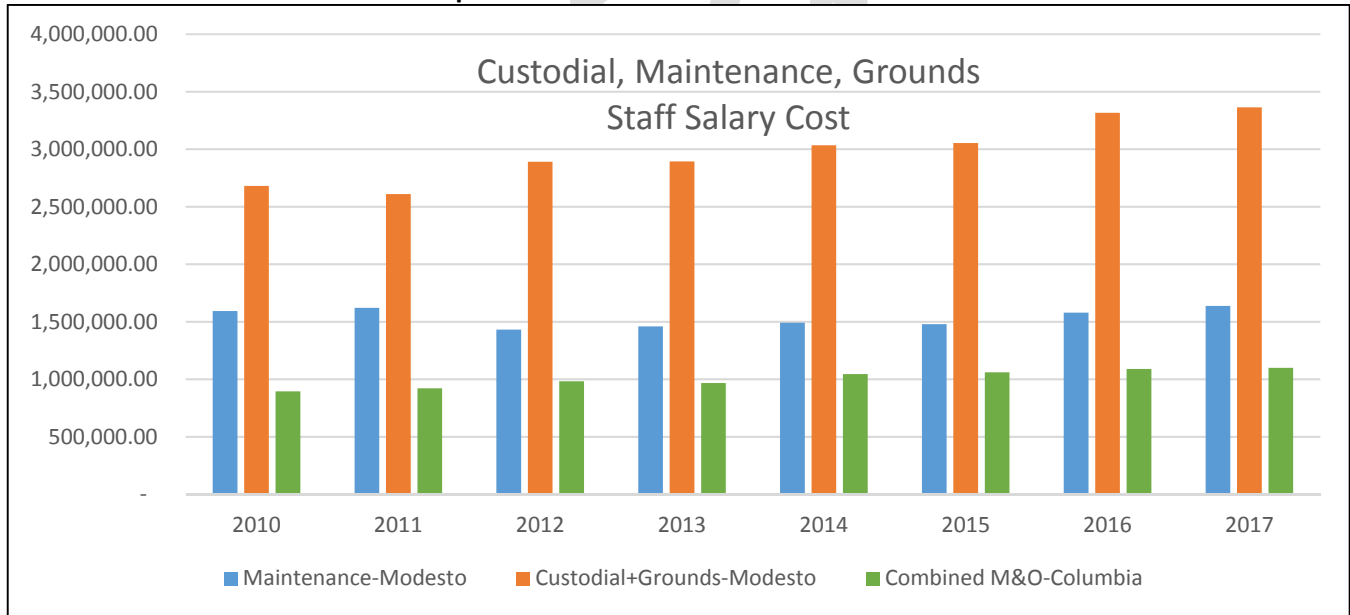
**Table 4.2.G- Columbia APPA Calculated M&O Staffing Levels and Actual**

Columbia	Level 1	Level 2	Level 3	Level 4	Level 5	Actual 16/17
Maintenance	5.7	4.5	3.4	2.3	1.1	5
Custodial	24.5	12.3	10.5	7.5	6.8	7
Grounds	4	2.8	2	1.5	0.6	2

**Total Maintenance and Operations Staff Cost**

The total cost of Maintenance and Operations staff is a key performance indicator. The M&O staff are accounted within three account codes. The maintenance staff for Modesto JC and District facilities are in account code 7150. Custodial and Grounds staff for Modesto JC and the District are in account code 8150. All Maintenance, Custodial and Grounds staff at Columbia College are in account 9150. The following staff cost includes salary, fringe benefits, overtime for regular classified staff, supervisors, managers and hourly staff. The charts and tables indicate consistent staffing levels with increased costs due to normal salary step and range increases.

**Chart 4.2.E Total Maintenance and Operations Staff Costs**



**Table 4.2.H- Total Modesto JC+ District M&O Staff Cost and Unit Cost**

Modesto JC + District	2012/13	2013/14	2014/15	2015/16	2016/17
Gross SF	979,175	1,108,264	1,098,664	1,168,265	1,168,265
Custodial + Grounds	\$2,892,898	\$3,034,158	\$3,053,872	\$3,315,830	\$3,363,588
Maintenance	\$1,459,420	\$1,490,688	\$1,479,119	\$1,578,313	\$1,637,631
Management	\$521,414	\$562,448	\$526,913	\$511,356	\$462,400
Admin/Clerical/Movers	\$349,347	\$366,177	\$365,323	\$361,673	\$382,025
Management	\$521,414	\$562,448	\$526,913	\$511,356	\$462,400
Total	\$5,223,079	\$5,453,470	\$5,425,227	\$5,767,173	\$5,845,644
Cost /GSF	\$ 5.33	\$ 4.92	\$ 4.94	\$ 4.94	\$ 5.00

**Table 4.2.I- Total Columbia M&O Staff Cost and Unit Cost**

Columbia	2012/13	2013/14	2014/15	2015/16	2016/17
Gross SF	242,643	242,643	242,643	245,187	245,187
M&O Staff	\$966,111	\$1,044,442	\$1,059,861	\$1,089,568	\$1,098,746
Admin/Clerical	\$48,809	\$55,626	\$55,875	\$63,563	\$72,845
Management	\$198,031	\$207,490	\$213,243	\$205,971	\$214,816
Total	\$1,164,142	\$1,251,932	\$1,273,104	\$1,295,539	\$1,313,562
Cost/GSF	\$ 4.80	\$ 5.16	\$ 5.25	\$ 5.28	\$ 5.36

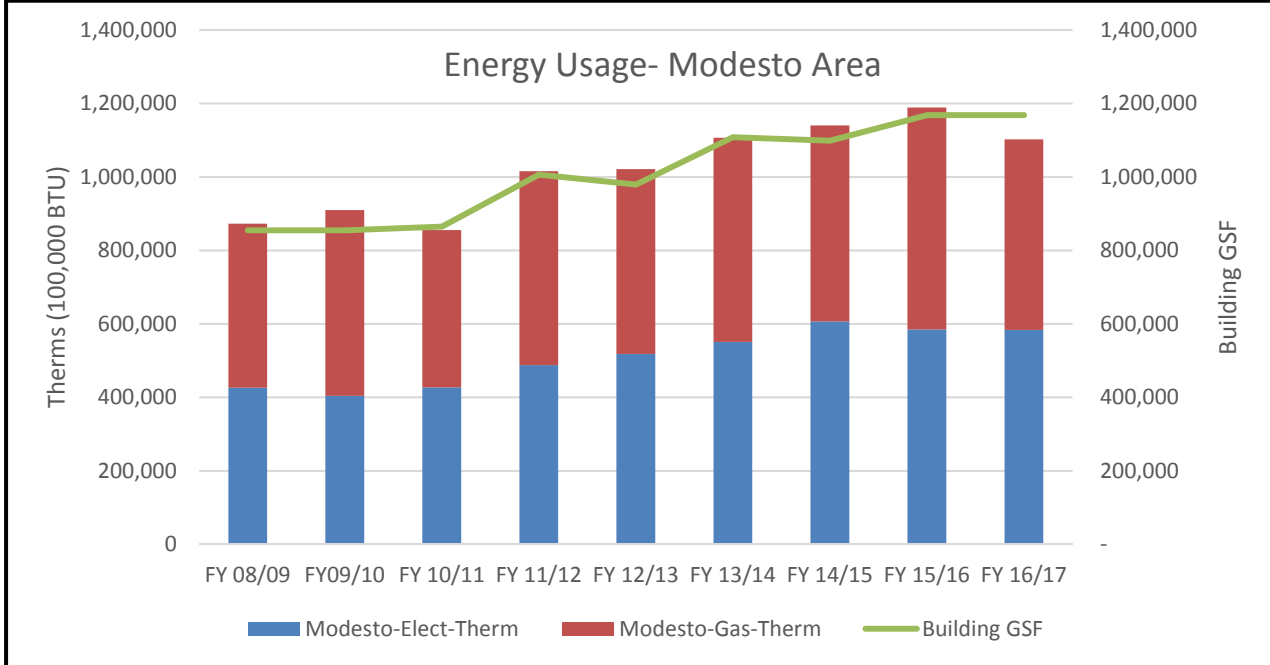
## SECTION 4.2.1- UTILITY COSTS – ENERGY USE AND COST

### Energy Sources Overview

Each college obtains energy from multiple energy companies with some on-site photovoltaic generation. The Modesto JC campuses purchased electrical energy from Modesto Irrigation District, natural gas through SPURR (School Project for Utility Rate Reduction) a Joint Powers Authority that provides access to the wholesale gas market to California educational institutions. Columbia College purchased electrical energy from Tuolumne Public Power Agency (TPPA) and propane from various vendors. The building GSF only includes those buildings in active use, buildings under renovation are not included in the Building GSF for this model.

Electrical energy use increase tracked with increased building square footage until 2015/16 and 2016/17 as the addition of on-site photovoltaic generation reduced the amount of energy from utility sources. The natural gas usage was significantly influenced by weather conditions in addition to the new buildings.

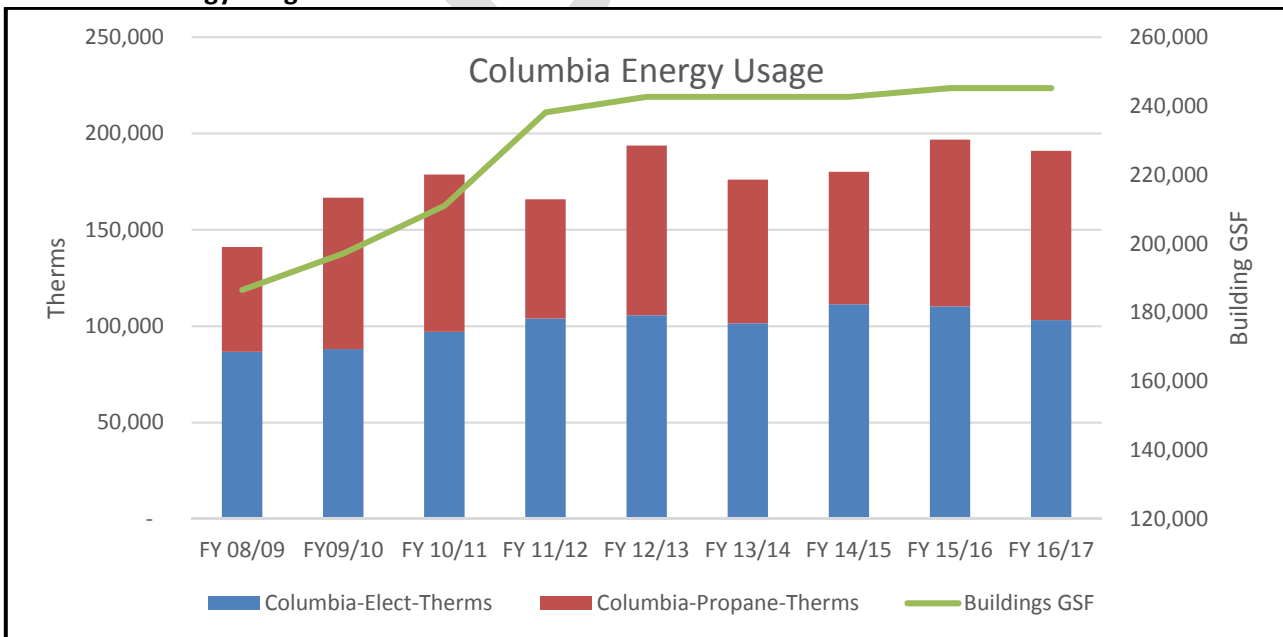
**Modesto Area Energy Source and Use**  
**Chart 4.2.F Energy Usage Modesto Operations**



**Table 4.2.J- Modesto Area Historical Energy Use**

Modesto Area	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
Gross SF	1,006,524	979,175	1,108,264	1,098,664	1,168,265	1,168,265
MID MWh in MBTU	487,547	518,093	550,678	606,717	584,804	583,542
SPURR MBTU	299,689	274,798	555,781	533,392	603,883	518,576
DGS MBTU	228,456	228,456				
Total Utility MBTU	1,015,692	1,021,347	1,106,459	1,140,109	1,188,687	1,102,118

**Columbia Energy Source and Use**  
**Chart 4.2.G Energy Usage Columbia**



**Table 4.2.K- Columbia Energy Use**

Columbia	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
Gross SF	238,163	242,643	242,643	242,643	245,187	245,187
Elec MWh in MBTU	103,930	105,612	101,450	111,367	110,256	103,092
Propane MBTU	61,920	88,097	74,547	68,693	86,535	87,876
Total Energy MBTU	165,850	193,709	175,997	180,060	196,791	190,968

Columbia College’s electrical energy use decreased slightly over time despite an approximately 3% increase in gross square footage. As with Modesto area facilities, utilities fluctuate and are influenced by weather conditions. A possible decrease may be attributed to the on-site photovoltaic generation.

### Energy Use Intensity

Energy Use Intensity (EUI) is a key performance benchmark. EUI is calculated as the total energy use in Million British Thermal Units (MBTU) divided by Building Gross Square Feet. The EUI difference between the two colleges can be ascribed to the warmer climate at Modesto requiring more air conditioning energy than the foothill climate at Columbia and longer hours of operation at the Modesto JC facilities. The 2017 APPA national EUI performance benchmark is 114; indicating the Colleges are more energy efficient than the APPA national averages.

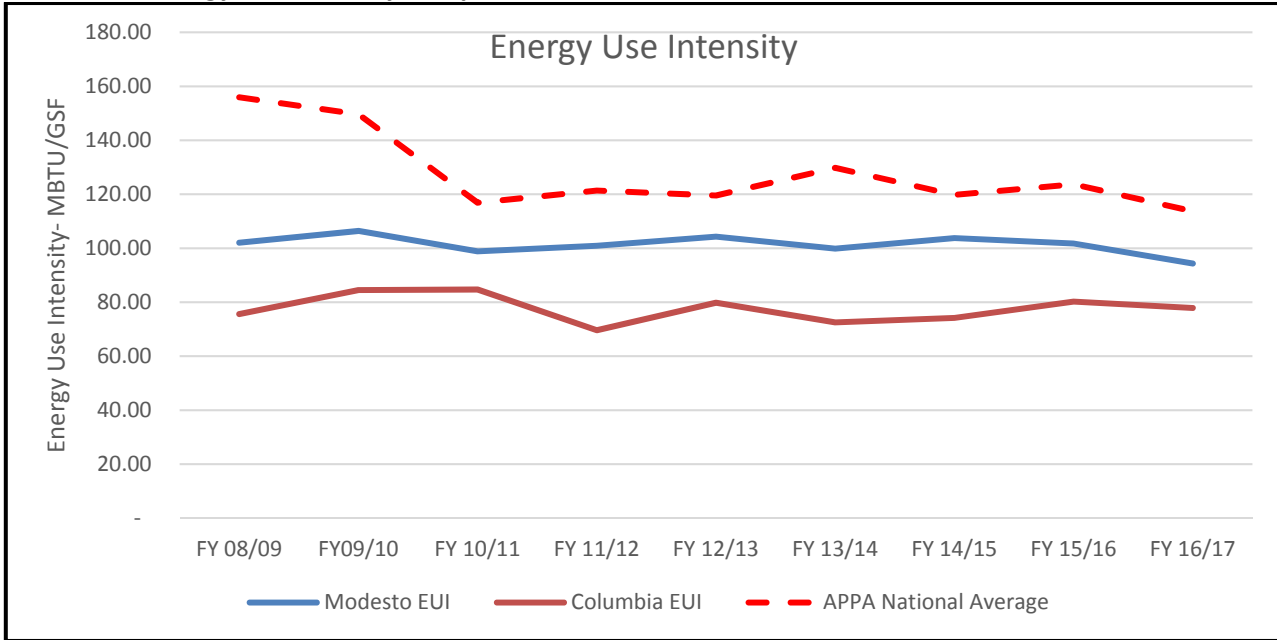
**Table 4.2.L- Modesto Area Energy Use Intensity**

	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
MJC+ Dist Gross SF	1,006,524	979,175	1,108,264	1,098,664	1,168,265	1,168,265
Total MBTU	1,015,692	1,021,347	1,106,459	1,140,109	1,188,687	1,102,118
EUI	101	104	100	104	102	94

**Table 4.2.M- Columbia Energy Use Intensity**

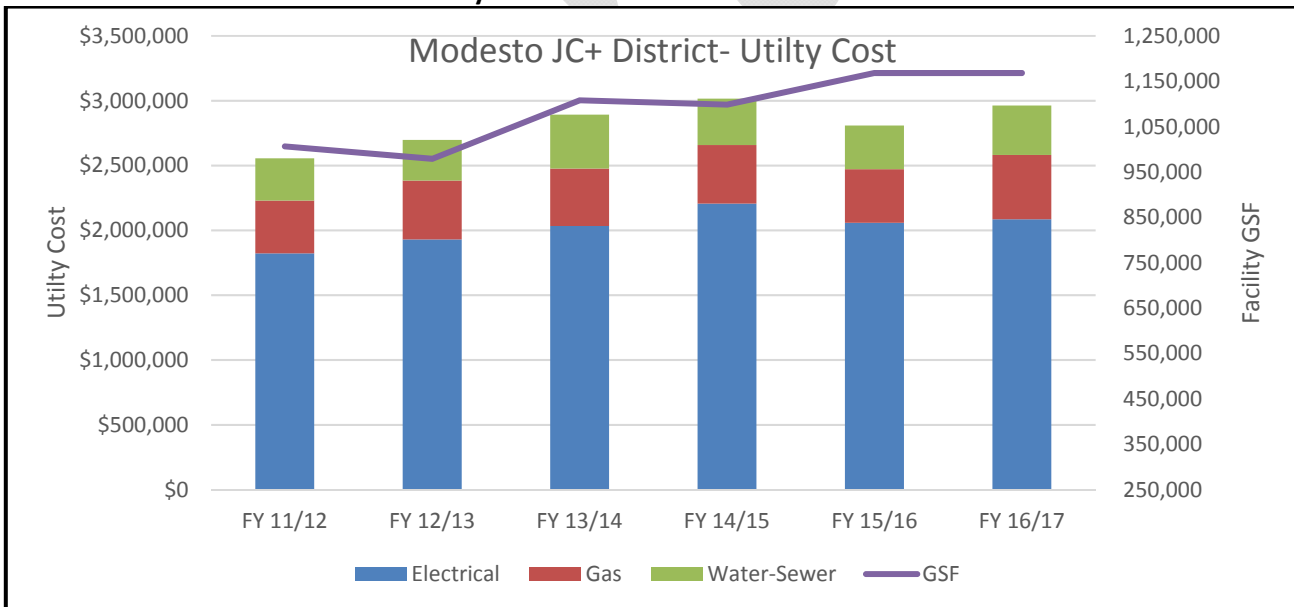
	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
Columbia GSF	238,163	242,643	242,643	242,643	245,187	245,187
Total MBTU	165,850	193,709	175,997	180,060	196,791	190,968
EUI	70	80	73	74	80	78

**Chart 4.2.H Energy Use Intensity Comparison**



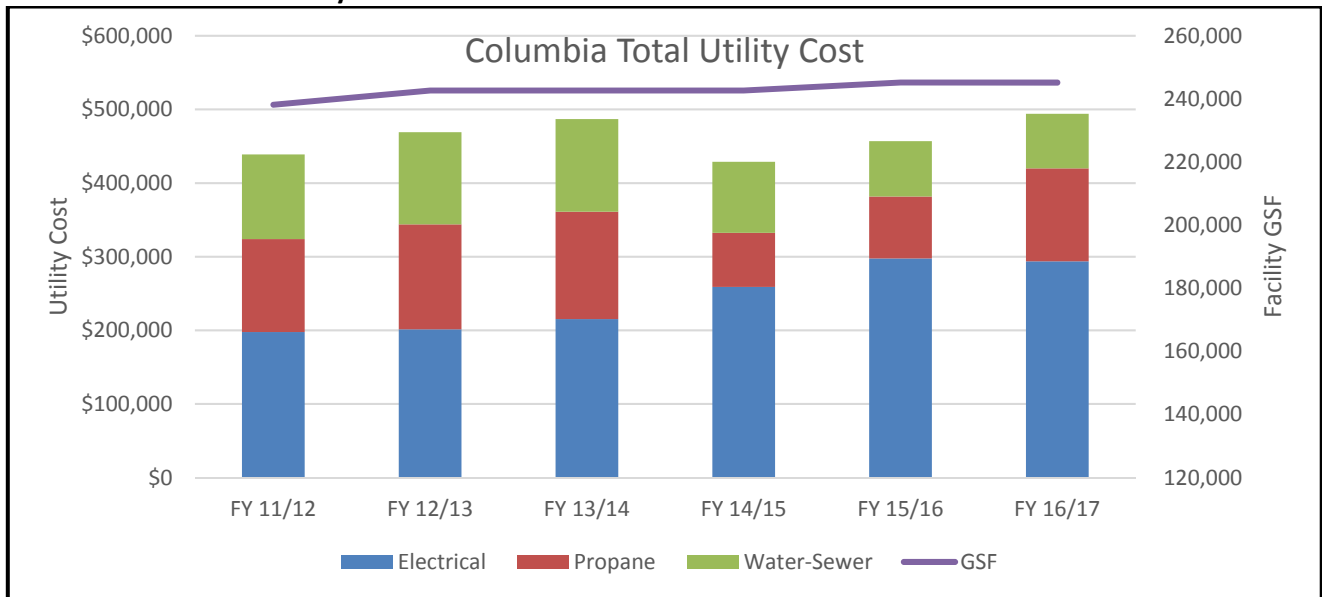
While energy use intensity has declined over time, the cost of energy per square foot has increased over time. In Modesto, MID has kept electric rates very stable over the past 5 years, however, TPPA at Columbia has increased the electrical kWh rate by 50% over the same time. Gas prices fluctuate greatly with demand and weather. The cost for propane at Columbia is significantly higher than natural gas used at Modesto. Water and sewer costs between the campuses are similar and both show impact of the drought.

**Chart 4.2.I- Modesto JC + District Utility Cost Distribution**





**Chart 4.2.J- Columbia Utility Cost Distribution**



**Table 4.2.N- Modesto Area Energy Cost per GSF**

Modesto Area	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
Gross SF	1,006,524	979,175	1,108,264	1,098,664	1,168,265	1,168,265
Elect \$\$	\$1,822,913	\$1,930,000	\$2,033,237	\$2,206,079	\$2,058,476	\$2,084,723
SPURR Gas \$\$	\$236,913	\$232,602	\$442,971	\$452,116	\$412,820	\$496,864
DGS Gas \$\$	\$169,329	\$221,401				
Energy \$\$	\$2,229,155	\$2,384,003	\$2,476,209	\$2,658,195	\$2,471,297	\$2,581,587
Energy \$\$/GSF	\$ 2.21	\$ 2.43	\$ 2.23	\$ 2.42	\$ 2.12	\$ 2.21

**Table 4.2.O- Columbia Energy Cost per GSF**

Columbia	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
Gross SF	238,163	242,643	242,643	242,643	245,187	245,187
Elect \$\$	\$197,536	\$201,316	\$215,285	\$258,898	\$297,459	\$293,565
Gas \$\$	\$126,388	\$142,516	\$145,827	\$73,406	\$84,234	\$126,418
Energy \$\$	\$323,924	\$343,832	\$361,112	\$332,304	\$381,693	\$419,983
Energy/GSF	\$1.36	\$1.42	\$1.49	\$1.37	\$1.56	\$1.71

**Table 4.2.O1- Modesto Area Utility Unit Cost Comparison**

Modesto Area	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
Elec \$/KWH	\$0.128	\$0.127	\$0.126	\$0.124	\$0.120	\$0.122
Gas \$/Therm	\$0.95	\$0.86	\$0.63	\$0.81	\$0.77	\$0.82
Water \$/CCF	\$2.49	\$2.57	\$2.47	\$2.20	\$3.06	\$3.83

**Table 4.2.O2- Columbia Utility Unit Cost Comparison**

Columbia	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
Elec \$/KWH	\$0.065	\$0.065	\$0.072	\$0.079	\$0.092	\$0.097
Gas \$/Therm	\$2.04	\$1.62	\$1.96	\$1.07	\$0.97	\$1.44
Water \$/CCF	\$3.90	\$3.81	\$3.73	\$4.38	\$2.90	\$2.95

**UTILITY COSTS- Water/Sewer**

The cost of water and sewer represents approximately 15% of the utility cost for the colleges.

**Table 4.2.P- Modesto Area Water and Sewer Costs per GSF**

Modesto Area	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
Gross Square Feet	1,006,524	979,175	1,108,264	1,098,664	1,168,265	1,168,265
Domestic Water	\$326,305	\$313,642	\$416,282	\$356,996	\$337,182	\$380,810
Cost/GSF	\$0.32	\$0.32	\$0.38	\$0.32	\$0.29	\$0.33

**Table 4.2.Q- Columbia Water and Sewer Costs per GSF**

Columbia	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
Gross Square Feet	238,163	242,643	242,643	242,643	245,187	245,187
Total Cost	\$114,904	\$125,179	\$125,756	\$96,485	\$75,203	\$74,089
Total Cost/GSF	\$0.48	\$0.52	\$0.52	\$0.40	\$0.31	\$0.30

**Total Utility Cost Per Gross Square Foot**

The total utility cost per gross square foot is an APPA performance benchmark.

The tables below show that MJC's Total Utility Cost Per Square Foot has been reduced to 2011-12 levels, whereas Columbia's has increased almost 10%. This is due to the almost 50% increase in TPPA's electrical rates at Columbia College compared to the very stable MID electrical rates at MJC.

**Table 4.2.R- Modesto Area Total Utility Cost per Gross Square Foot**

Modesto Area	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
Electrical/ GSF	\$1.81	\$1.97	\$1.83	\$2.01	\$1.76	\$1.78
Nat Gas/GSF	\$0.40	\$0.46	\$0.40	\$0.41	\$0.35	\$0.43
Water/GSF	\$0.32	\$0.32	\$0.38	\$0.32	\$0.29	\$0.33
Total Cost/GSF	\$2.54	\$2.76	\$2.61	\$2.74	\$2.40	\$2.54

**Table 4.2.S- Columbia Total Utility Cost per Gross Square Foot**

Columbia	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
Electrical/ GSF	\$0.83	\$0.83	\$0.89	\$1.07	\$1.21	\$1.20
Nat Gas/GSF	\$0.53	\$0.59	\$0.60	\$0.30	\$0.34	\$0.52
Water/GSF	\$0.48	\$0.52	\$0.52	\$0.40	\$0.31	\$0.30
Total Cost/GSF	\$1.84	\$1.93	\$2.01	\$1.77	\$1.86	\$2.02

## SECTION 4.2.2- MAINTENANCE AND OPERATIONS OPERATING EXPENSE

The Maintenance and Operations expense includes materials and supplies for the maintenance, custodial and grounds departments. It also includes service contracts for specialized equipment such as elevators and the automatic fire sprinkler systems and contracts for large repair projects. The expenses include operation, repair and replacement parts of the District Transportation vehicles and M&O equipment.

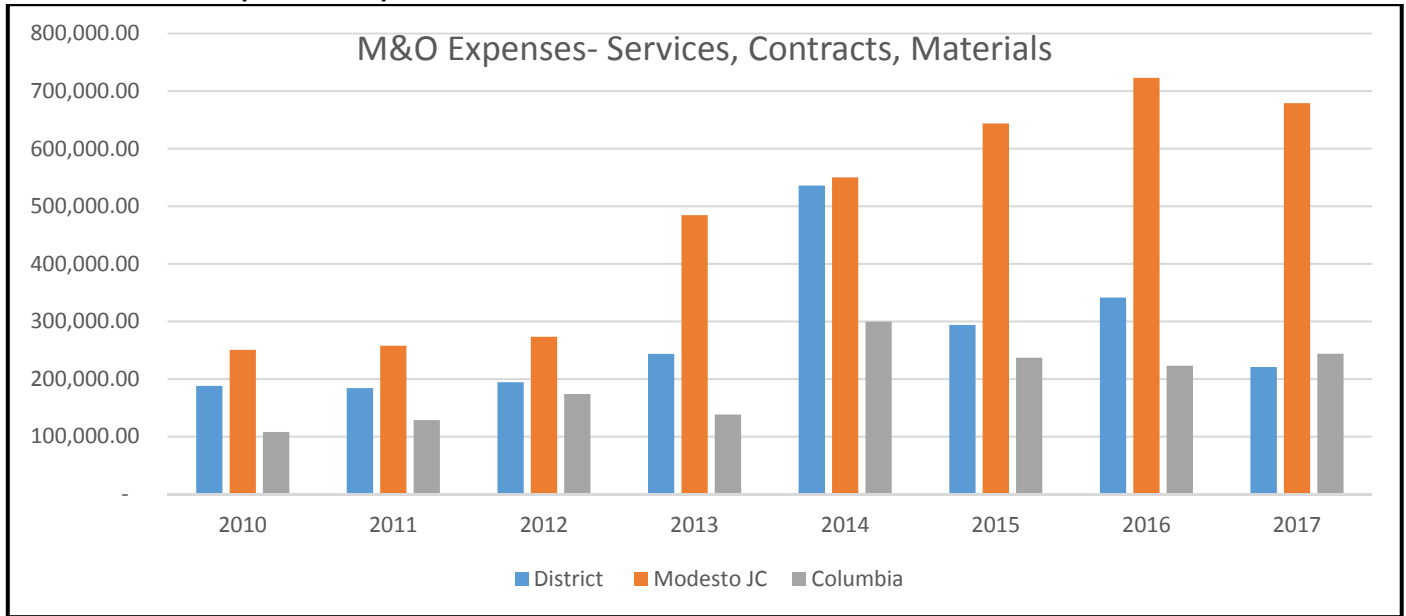
These costs are charged to District, Modesto JC and Columbia M&O account codes. The M&O expense costs dipped during the reduced District budgets. The expenses fluctuate depending upon available budget, the addition of service agreements and supplies such as paper products for new buildings, and large equipment repair expenses that are not consistent year-to-year.

**Table 4.2.T- M&O Operations Expense Modesto Area and Columbia**

	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
<b>Modesto GSF</b>	864,752	1,006,524	979,175	1,108,264	1,098,664	1,168,265	1,168,265
District	\$184,135	\$194,599	\$243,579	\$536,023	\$293,810	\$341,384	\$220,862
Modesto JC	\$257,898	\$273,509	\$484,584	\$550,155	\$643,841	\$722,950	\$678,940
Total	\$442,033	\$468,108	\$728,163	\$1,086,178	\$937,652	\$1,064,334	\$899,801
Cost/GSF	\$0.51	\$0.47	\$0.74	\$0.98	\$0.85	\$0.91	\$0.77

	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
<b>Columbia GSF</b>	210,974	238,163	242,643	242,643	242,643	245,187	245,187
Columbia	\$128,558	\$173,929	\$138,256	\$299,381	\$237,099	\$223,237	\$243,925
Cost/GSF	\$0.61	\$0.73	\$0.57	\$1.23	\$0.98	\$0.91	\$0.99

**Chart 4.2.K M&O Operation Expenses Historical Data**



### SECTION 4.2.3- TOTAL ANNUAL OPERATING COSTS

The total Annual Cost of Operations combines M&O staffing, M&O operating expenses and utility costs for a total annual cost to operate and maintain the campus facilities, grounds and utility systems. The total annual cost per gross square foot is an estimate of the needed increase to the District’s annual operating budget to operate any new facility.

The table below shows that while the MJC and District office square footage has increased by 16% since 2011-12, the amount spent on M&O staff per square foot has decreased. This largely illustrates that the same number of staff are cleaning and maintaining more square footage as was shown in Section 4.2. The amount per square foot for M&O expenses has decreased by 64% and, as noted previously, the utilities at MJC are the same as in 2011-12.

**Table 4.2.U- Modesto JC + District Total Cost of Operations per Gross Square Foot**

MJC +Dist	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
MJC +Dist GSF	1,006,524	979,175	1,108,264	1,098,664	1,168,265	1,168,265
M&O Staff	\$5.16	\$5.33	\$4.92	\$4.94	\$4.94	\$5.00
M&O Expense	\$0.47	\$0.74	\$0.98	\$0.85	\$0.91	\$0.77
Utilities	\$2.54	\$2.76	\$2.61	\$2.74	\$2.40	\$2.54
<b>Total</b>	<b>\$8.17</b>	<b>\$8.83</b>	<b>\$8.51</b>	<b>\$8.54</b>	<b>\$8.25</b>	<b>\$8.31</b>

Columbia College’s gross square footage has increased slightly since 2011-12 and the college’s M&O cost per square foot has increased by approximately 9%; however, the smaller size of Columbia prevents the economies of scale achieved at MJC. M&O expenses at CC increased by only 36%. As noted previously, the utility expenditures at CC have increased largely due to increased electrical rates.

**Table 4.2.V- Columbia Total Cost of Operations per Gross Square Foot**

Columbia	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
Columbia GSF	238,163	242,643	242,643	242,643	245,187	245,187
M&O Staff	\$4.93	\$4.80	\$5.16	\$5.25	\$5.28	\$5.36
M&O Expense	\$0.73	\$0.57	\$1.23	\$0.98	\$0.91	\$0.99
Utilities	\$1.84	\$1.93	\$2.01	\$1.77	\$1.86	\$2.02
<b>Total</b>	<b>\$7.50</b>	<b>\$7.30</b>	<b>\$8.40</b>	<b>\$7.99</b>	<b>\$8.06</b>	<b>\$8.37</b>

## SECTION 4.3- LONG TERM INVESTMENT

Maintenance programs repair and maintain existing facilities over time. As the buildings age, multiple elements reach the end of their useful life and must be replaced rather than repaired through a major renovation or replacement of major systems such as roofing, renovation or repurpose of the building spaces or replacement of the entire building. Studies have determined that an institution should plan on investing 1%-2% of the Current Replacement Value (CRV) of the total assets per year for major maintenance, renovation or replacement projects.

### MAJOR MAINTENANCE

Major Maintenance expense includes scheduled maintenance. This work involves projects or programs to restore damaged systems or replace worn out major systems such as roofing replacement or HVAC whole equipment replacement. The estimated amount of Scheduled Maintenance is listed in the 2015 Facility Condition Assessment report posted in the FUSION site. Modesto Junior College (MJC) totals \$94,110,158 and Columbia totals \$23,811,959 to replace building systems that have exceeded their useful life. The Facility Condition Index (FCI) percentage, comparing estimated major maintenance value to current replacement value, is a key performance indicator. According to the 2015 Facility Condition Assessment report, MJC has a FCI of 17.8% and Columbia's FCI is 20.5%. The magnitude of these numbers may be overstated as the District has continued to renovate campus facilities since this 2015 survey. The District's last assessment was in 2015, and another will be completed in the next cycle of assessments beginning in 2019.

### RENOVATION, REPURPOSE AND UPGRADES

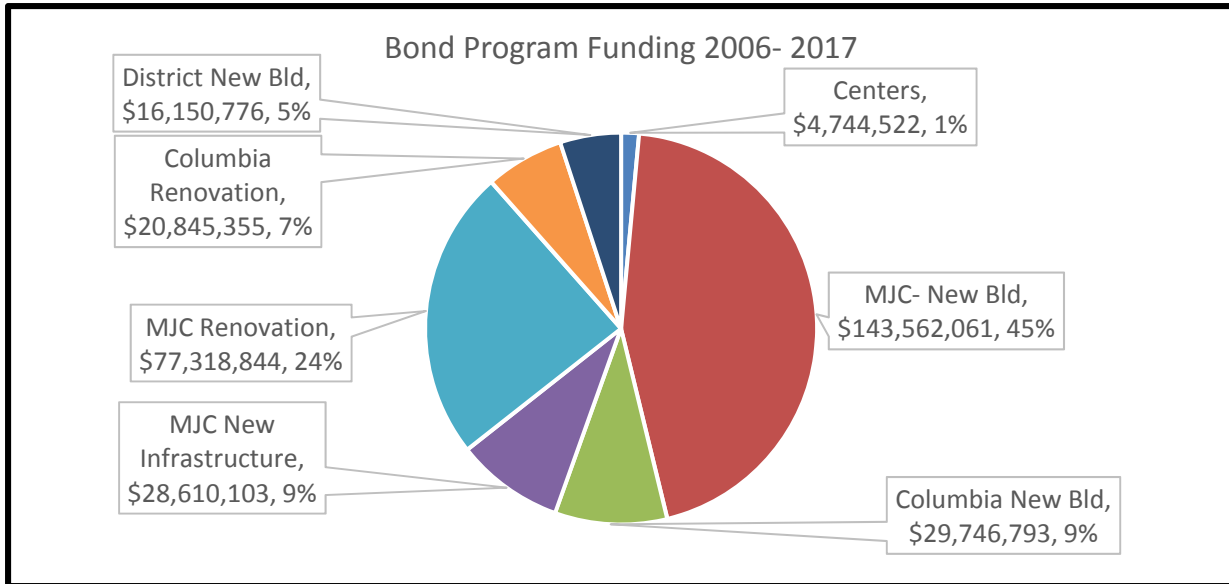
Renovation, repurpose and upgrade project funding is needed to adapt facilities to new programs, improve performance and upgrade to meet new code mandated requirements. In addition, the Measure E program developed campus wide infrastructure projects, expanded the transportation network, and upgraded the technology infrastructure and Fire/Life-Safety systems.

### INVESTMENT IN FACILITIES

The Facilities Master Plan incorporated Major Repair, Repurpose and Upgrade work into renovation projects at each campus. Combining the Renovation/Repair projects, the District invested an average of \$9M per year or 1.7% of the Modesto JC East and West campus Current Replacement Value of \$527M over the 10 year bond program and at Columbia College an average of \$2.4M per year or 2.1% of the \$116M CRV. This investment rate matches industry averages for ongoing investment to maintain facilities for their effective use.



**Chart 4.3.A- Measure E Investment**



The following tables illustrate the District’s commitment to upgrading existing facilities over the 10 year bond program. This investment rate matches industry averages for ongoing investment to maintain and renovate facilities for effective use. The investment eliminated most of the significant scheduled maintenance, upgraded the campus buildings to current codes and technology standards, and repurposed spaces vacated after the construction of new facilities.

**Table 4.3.A- Modesto JC 10 year Long-Term Renovation Investment**

Modesto JC	
Bond Funds (fund 42)	
Renovation	\$77,318,844
Sched Maintenance	\$12,975,975
Total Investment	\$90,294,819
10 year Average	\$9,029,482
Current Replace	
Value	\$526,634,127
Annual Investment	1.7%

**Table 4.3.B Columbia 10 year Long-Term Renovation Investment**

Columbia	
Bond Funds	
Renovation	\$20,845,355
Sched Maintenance	\$3,755,596
Total Investment	\$24,600,951
10 year Average	\$2,460,095
Current Replace	
Value	\$116,201,370
Annual Investment	2.1%

# SECTION 5- PERFORMANCE REVIEW

## Section 5.1- Performance Benchmarks

The District will annually evaluate its performance against key performance indicators. They will compare against year over year performance and against benchmarks maintained by governmental agencies and statewide and national peers.

The following table lists key FY 2016/17 Modesto Area and Columbia College data and performance benchmarks with appropriate comparison benchmarks. APPA standards provide national averages for the table listed below. The high custodial staff cost may be attributed to some institutions selecting level 5 of cleanliness as their standard and higher salaries for our region compared to national averages.

The cap load ratios listed below are from FY 2017/18, highlighted in gray. The high percentage for Modesto and Columbia is due to anticipated growth not being achieved and aging facilities not removed from inventory, resulting in an excess of classroom and office space.

**Table 5.1.A Key Performance Indicator Comparisons**

Benchmark	Modesto	Columbia	Comparison	Data Source
Energy Cost/GSF	\$2.21	\$1.71	\$2.06	APPA
Energy Use Intensity (MBTU/GSF)	94	78	114	APPA
Custodial Staff Cost/GSF	3.11	3.02	\$1.46	APPA
Maintenance Staff Cost/GSF	1.51	1.76	\$1.67	APPA
GSF/ Maintenance Staff	77,884	49,037	75,376	APPA
GSF/ Custodial Staff	30,177	35,027	35,638	APPA
Facility Condition Index	19.87%	20.49%	18%	APPA
Annual Re-Investment	1.70%	2.10%	2.00%	APPA
Cap Load Ratio- Lecture	186%	214%	100%	CCCCO
Cap Load Ratio- Lab	98%	149%	100%	CCCCO
Cap Load Ratio- Office	183%	182%	100%	CCCCO

## Section 5.2- Performance to Accreditation Section 3 Standards

The District will develop specific action steps and processes in conjunction with Accreditation review

Item 1- Develop and maintain adequate safe and secure facilities to support the educational needs of the institution.

Item 2- Develop and maintain facilities to assure effective utilization and continuing quality.

Item 3- Perform periodic re-evaluation to assure effectiveness of resources.

Item 4- Develop long term capital plans using Total Cost of Ownership.

## SECTION 6- ACTION PLAN

The Yosemite Community College District is implementing a TCO Program to provide a methodology that provides data driven information to facilitate well maintained facility assets. The TCO program establishes policy, data sources, benchmarks and goals for each of the three TCO elements.

*Some suggestions for the action plan are listed below:*

### Project Development

**Objective**—The Facilities Master Plan shall align with the Educational Master Plan/Strategic Goals and Objectives for Columbia College and the Education Master Plan for Modesto Junior College that will flex for input from Program Reviews. The CCCC CO Cap Load Ratio shall be evaluated before any new facility space is developed in response to Educational Program changed space needs. Every project that adds space to a campus shall complete a Life Cycle Cost analysis. Life Cycle Cost analysis will assist in the decision to remodel or build new for new programs.

**Data Sources** – CCCC CO Cap Load Ratio, Life Cycle Cost, Association of Physical Plant Administrators (APPA) Staffing Recommendations, APPA Key Performance Indicators

**Funding** - Measure E Bond Funds, State Scheduled Maintenance, Strong Workforce, State Capital Outlay Funds

- Goals** -
- Cap Ratio = 100% for Classroom, Laboratory and Office spaces
  - Energy Use Intensity (EUI)—Continue to reduce(EUI)
  - APPA Staffing Analysis=Align District Maintenance and Operations staffing and required budgets with projections of capital improvement plans
  - New Facilities= LEED Silver Certification minimum (*below is Certified, above is Gold and Platinum*)
  - District Standards=Expand and Update all District Standards for maintenance and cost savings
  - 5-year Capital Plan=Align with Facilities Master Plan

### Annual Operating Costs

**Objective**—The District shall maintain M&O staffing for maintenance, custodial and grounds staff to meet or exceed APPA Level 3 performance, adjusting staffing as facility configurations change. (*This needs to be discussed for overall effect to the budget and to align with the campus desired level of service*).

Data Sources- APPA Standards, Utility Costs, M&O department Costs, Energy Star Regional Averages

**Funding** - Annual District Budget. The current Budget Allocation Model will be revised to reflect that annual

Maintenance and Operations cost is a function of total building square footage rather than student enrollment to ensure adequate M&O funding to maintain the desired APPA Level 3 performance. *(Discussion)*

- Goals -** M&O Staffing= Maintain APPA Level 3 staffing levels *(Discussion)*
- Energy Cost= Continue trending lower energy usage and costs per GSF
- Water Cost= Continue trending lower water usage per GSF
- M&O Expenses=Trend lower repair costs due to new preventative maintenance program Annual
- Operating Costs= Trend lower
- M&O Work Order response time=Continue to reduce response and resolution time

### Long Term Management

**Objective**—The District will identify and track scheduled maintenance projects. They may be a separate project or incorporated into Strong Workforce or Capital Outlay renovation projects. The District will develop and maintain a Scheduled Maintenance program. The District will develop campus wide projects to upgrade and update building and utility systems to address code and operation changes. The District will continue to pursue outside funding sources for sustainability related upgrades and improvements.

**Data Sources** - Facilities Assessment Report, State Scheduled Maintenance Project List, Facilities Master Plan

**Funding** - State Scheduled Maintenance Funds, Strong Workforce, State Capital Outlay

- Goals -** Facilities Assessment Report = State Scheduled Maintenance amounts continue to trend downward
- Scheduled Maintenance=Funded annually
- Measure E – Renovation and Replacement expenditures allocated by project lists and approval of Scheduled Maintenance projects
- Assess funding shortfalls for scheduled maintenance and the possibility of a new bond measure which includes an amount for long-term small capital outlay projects.

# APPENDIX A

Columbia - Individual Major Buildings 10 year Total Cost of Ownership

Draft

Yosemite Community College District - Columbia

Total Cost of Ownership Projections -By Building

BUCKEYE (BUSINESS)

Building Number 907

Factors

Current Replacement Value	2015	\$2,689,568
Assignable SF		3,130
Gross SF		5,585
Major Repair Percentage	1.5%	
FCI		37.94%
Current Repair Cost	2015	\$1,020,388
Annual Escalation- Labor+ Mat	3.0%	
Annual Escalation -Utilities	4.0%	

Year Built		1969	
Last Renovation			
Elect	\$/GSF	\$ 1.20	\$ 1.20
Nat Gas	\$/GSF	\$ 0.52	\$ 0.52
Water/Sew	\$/GSF	\$ 0.30	\$ 0.30
M&O Staff	\$/GSF	\$ 5.36	\$ 6.29
M&O Expen	\$/GSF	\$ 0.99	\$ 0.99
Total		\$ 8.37	\$ 9.30

Calculated Staffing (FTE)		
	Level 3	Level 4
Custodial	0.27	0.24
Maintenance	0.09	0.08

Building Name BUCKEYE (BUSINESS)

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year TCO
Current Replacement Value	2,689,568											2,689,568
Annual Costs												
Utility- Electric	6,702	6,970	7,249	7,539	7,840	8,154	8,480	8,819	9,172	9,539	9,921	90,386
Utility- Gas	2,904	3,020	3,141	3,267	3,398	3,533	3,675	3,822	3,975	4,134	4,299	39,167
Utility- Water	1,676	1,743	1,812	1,885	1,960	2,039	2,120	2,205	2,293	2,385	2,480	22,596
M&O Staff	35,131	36,185	37,271	38,389	39,540	40,727	41,948	43,207	44,503	45,838	47,213	449,953
Misc Expense	5,529	5,695	5,866	6,042	6,223	6,410	6,602	6,800	7,004	7,214	7,431	70,816
Total Annual Expenses	51,942	53,613	55,339	57,121	58,962	60,862	62,825	64,853	66,947	69,110	71,344	672,918
Long Term												
Major Repair	40,344	41,554	42,800	44,084	45,407	46,769	48,172	49,617	51,106	52,639	54,218	516,712
Renovation/Upgrades												
Total Cost of Ownership	2,781,854	95,167	98,139	101,205	104,369	107,632	110,998	114,470	118,053	121,749	125,562	3,879,198

Yosemite Community College District - Columbia  
 Total Cost of Ownership Projections -By Building  
 FIR (INTERDISCIPL.)

Building Number 922

Factors

Current Replacement Value	2015	\$3,785,140
Assignable SF		5,319
Gross SF		7,860
Major Repair Percentage	1.5%	
FCI		48.06%
Current Repair Cost	2015	\$1,818,962
Annual Escalation- Labor+ Mat	3.0%	
Annual Escalation -Utilities	4.0%	

Year Built		1976	
Last Renovation			
Elect	\$/GSF	\$ 1.20	\$ 1.20
Nat Gas	\$/GSF	\$ 0.52	\$ 0.52
Water/Sew	\$/GSF	\$ 0.30	\$ 0.30
M&O Staff	\$/GSF	\$ 5.36	\$ 5.48
M&O Expen	\$/GSF	\$ 0.99	\$ 0.99
Total		\$ 8.37	\$ 8.49

Calculated Staffing (FTE)		
	Level 3	Level 4
Custodial	0.33	0.26
Maintenance	0.11	0.09

Building Name FIR (INTERDISCIPL.)

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year TCO
Current Replacement Value	3,785,140											3,785,140
Annual Costs												
Utility- Electric	9,432	9,809	10,202	10,610	11,034	11,475	11,934	12,412	12,908	13,425	13,962	127,203
Utility- Gas	4,087	4,251	4,421	4,598	4,781	4,973	5,172	5,378	5,594	5,817	6,050	55,121
Utility- Water	2,358	2,452	2,550	2,652	2,759	2,869	2,984	3,103	3,227	3,356	3,490	31,801
M&O Staff	43,041	44,332	45,662	47,032	48,443	49,896	51,393	52,935	54,523	56,159	57,843	551,260
Misc Expense	7,781	8,015	8,255	8,503	8,758	9,021	9,291	9,570	9,857	10,153	10,458	99,663
Total Annual Expenses	66,700	68,859	71,090	73,395	75,775	78,234	80,774	83,398	86,109	88,910	91,803	865,048
Long Term												
Major Repair	56,777	58,480	60,235	62,042	63,903	65,820	67,795	69,829	71,924	74,081	76,304	727,190
Renovation/Upgrades												
Total Cost of Ownership	3,908,617	127,340	131,325	135,437	139,678	144,054	148,569	153,227	158,033	162,991	168,107	5,377,378



Yosemite Community College District - Columbia  
 Total Cost of Ownership Projections -By Building

MANZANITA (LRC)

Building Number 912

Factors

Current Replacement Value	2015	\$14,513,816
Assignable SF		22,222
Gross SF		31,183
Major Repair Percentage	1.5%	
FCI		34.33%
Current Repair Cost	2015	\$4,982,752
Annual Escalation- Labor+ Mat	3.0%	
Annual Escalation -Utilities	4.0%	

Year Built		2017	
Last Renovation			
Elect	\$/GSF	\$ 1.20	\$ 1.20
Nat Gas	\$/GSF	\$ 0.52	\$ 0.52
Water/Sew	\$/GSF	\$ 0.30	\$ 0.30
M&O Staff	\$/GSF	\$ 5.36	\$ 4.77
M&O Expen	\$/GSF	\$ 0.99	\$ 0.99
Total		\$ 8.37	\$ 7.78

Calculated Staffing (FTE)		
	Level 3	Level 4
Custodial	1.12	0.97
Maintenance	0.36	0.32

Building Name MANZANITA (LRC)

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year TCO
Current Replacement Value	14,513,816											14,513,816
Annual Costs												
Utility- Electric	37,420	38,916	40,473	42,092	43,776	45,527	47,348	49,242	51,211	53,260	55,390	504,654
Utility- Gas	16,215	16,864	17,538	18,240	18,969	19,728	20,517	21,338	22,192	23,079	24,002	218,683
Utility- Water	9,355	9,729	10,118	10,523	10,944	11,382	11,837	12,310	12,803	13,315	13,848	126,163
M&O Staff	148,699	153,160	157,755	162,487	167,362	172,383	177,554	182,881	188,367	194,018	199,839	1,904,507
Misc Expense	30,871	31,797	32,751	33,734	34,746	35,788	36,862	37,968	39,107	40,280	41,488	395,392
Total Annual Expenses	242,560	250,467	258,636	267,076	275,797	284,808	294,118	303,739	313,680	323,952	334,567	3,149,399
Long Term												
Major Repair	217,707	224,238	230,966	237,895	245,031	252,382	259,954	267,752	275,785	284,059	292,580	2,788,350
Renovation/Upgrades												
Total Cost of Ownership	14,974,083	474,705	489,601	504,971	520,828	537,190	554,072	571,491	589,465	608,011	627,148	20,451,564

Yosemite Community College District - Columbia  
 Total Cost of Ownership Projections -By Building

OAK PAVILION

Building Number 927

Factors

Current Replacement Value	2015	\$32,684,704
Assignable SF		34,550
Gross SF		51,026
Major Repair Percentage	1.5%	
FCI		15.87%
Current Repair Cost	2015	\$5,187,940
Annual Escalation- Labor+ Mat	3.0%	
Annual Escalation -Utilities	4.0%	

Year Built		1991	
Last Renovation			
Elect	\$/GSF	\$ 1.20	\$ 1.20
Nat Gas	\$/GSF	\$ 0.52	\$ 0.52
Water/Sew	\$/GSF	\$ 0.30	\$ 0.30
M&O Staff	\$/GSF	\$ 5.36	\$ 5.53
M&O Expen	\$/GSF	\$ 0.99	\$ 0.99
Total		\$ 8.37	\$ 8.54

Calculated Staffing (FTE)		
	Level 3	Level 4
Custodial	2.13	1.90
Maintenance	0.69	0.61

Building Name OAK PAVILION

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year TCO
Current Replacement Value	32,684,704											32,684,704
Annual Costs												
Utility- Electric	61,231	63,680	66,228	68,877	71,632	74,497	77,477	80,576	83,799	87,151	90,637	825,785
Utility- Gas	26,534	27,595	28,699	29,847	31,040	32,282	33,573	34,916	36,313	37,765	39,276	357,840
Utility- Water	15,308	15,920	16,557	17,219	17,908	18,624	19,369	20,144	20,950	21,788	22,659	206,446
M&O Staff	282,002	290,462	299,176	308,151	317,395	326,917	336,725	346,827	357,231	367,948	378,987	3,611,820
Misc Expense	50,516	52,031	53,592	55,200	56,856	58,562	60,318	62,128	63,992	65,912	67,889	646,995
Total Annual Expenses	435,590	449,688	464,251	479,293	494,832	510,882	527,463	544,591	562,285	580,564	599,448	5,648,888
Long Term												
Major Repair	490,271	504,979	520,128	535,732	551,804	568,358	585,409	602,971	621,060	639,692	658,883	6,279,285
Renovation/Upgrades												
Total Cost of Ownership	33,610,565	954,667	984,379	1,015,025	1,046,635	1,079,240	1,112,872	1,147,562	1,183,345	1,220,256	1,258,331	44,612,877

Yosemite Community College District - Columbia  
 Total Cost of Ownership Projections -By Building

PUBLIC SAFETY CENTER

Building Number 931

Factors

Current Replacement Value	2015	\$2,823,948
Assignable SF		3,962
Gross SF		5,774
Major Repair Percentage	1.5%	
FCI		0.00%
Current Repair Cost	2015	\$0
Annual Escalation- Labor+ Mat	3.0%	
Annual Escalation -Utilities	4.0%	

Year Built		1971	
Last Renovation		2009	
Elect	\$/GSF	\$ 1.20	\$ 1.20
Nat Gas	\$/GSF	\$ 0.52	\$ 0.52
Water/Sew	\$/GSF	\$ 0.30	\$ 0.30
M&O Staff	\$/GSF	\$ 5.36	\$ 8.27
M&O Expen	\$/GSF	\$ 0.99	\$ 0.99
Total		\$ 8.37	\$ 11.28

Calculated Staffing (FTE)		
	Level 3	Level 4
Custodial	0.36	0.31
Maintenance	0.12	0.10

Building Name PUBLIC SAFETY CENTER

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year TCO
Current Replacement Value	2,823,948											2,823,948
Annual Costs												
Utility- Electric	6,929	7,206	7,494	7,794	8,106	8,430	8,767	9,118	9,483	9,862	10,256	93,444
Utility- Gas	3,002	3,123	3,247	3,377	3,512	3,653	3,799	3,951	4,109	4,273	4,444	40,493
Utility- Water	1,732	1,801	1,874	1,948	2,026	2,107	2,192	2,279	2,371	2,465	2,564	23,361
M&O Staff	47,750	49,182	50,658	52,178	53,743	55,355	57,016	58,726	60,488	62,303	64,172	611,570
Misc Expense	5,716	5,888	6,064	6,246	6,434	6,627	6,826	7,030	7,241	7,458	7,682	73,213
Total Annual Expenses	65,130	67,200	69,337	71,544	73,821	76,172	78,599	81,105	83,692	86,362	89,119	842,080
Long Term												
Major Repair	42,359	43,630	44,939	46,287	47,676	49,106	50,579	52,096	53,659	55,269	56,927	542,528
Renovation/Upgrades												
Total Cost of Ownership	2,931,437	110,830	114,276	117,831	121,497	125,278	129,178	133,201	137,351	141,631	146,046	4,208,557

Yosemite Community College District - Columbia  
 Total Cost of Ownership Projections -By Building  
 SEQUOIA (LIFE SCI)

Building Number 925

Factors

Current Replacement Value	2015	\$3,971,508
Assignable SF		6,150
Gross SF		8,247
Major Repair Percentage	1.5%	
FCI		64.38%
Current Repair Cost	2015	\$2,556,956
Annual Escalation- Labor+ Mat	3.0%	
Annual Escalation -Utilities	4.0%	

Year Built		1977	
Last Renovation		2013	
Elect	\$/GSF	\$ 1.20	\$ 1.20
Nat Gas	\$/GSF	\$ 0.52	\$ 0.52
Water/Sew	\$/GSF	\$ 0.30	\$ 0.30
M&O Staff	\$/GSF	\$ 5.36	\$ 3.98
M&O Expen	\$/GSF	\$ 0.99	\$ 0.99
Total		\$ 8.37	\$ 6.99

Calculated Staffing (FTE)		
	Level 3	Level 4
Custodial	0.25	0.19
Maintenance	0.08	0.06

Building Name SEQUOIA (LIFE SCI)

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year TCO
Current Replacement Value	3,971,508											3,971,508
Annual Costs												
Utility- Electric	9,896	10,292	10,704	11,132	11,577	12,040	12,522	13,023	13,544	14,086	14,649	133,466
Utility- Gas	4,288	4,460	4,638	4,824	5,017	5,218	5,426	5,643	5,869	6,104	6,348	57,835
Utility- Water	2,474	2,573	2,676	2,783	2,894	3,010	3,131	3,256	3,386	3,521	3,662	33,367
M&O Staff	32,843	33,828	34,843	35,888	36,965	38,074	39,216	40,393	41,604	42,853	44,138	420,645
Misc Expense	8,165	8,409	8,662	8,922	9,189	9,465	9,749	10,041	10,343	10,653	10,972	104,570
Total Annual Expenses	57,666	59,563	61,523	63,549	65,643	67,807	70,044	72,356	74,746	77,216	79,770	749,883
Long Term												
Major Repair	59,573	61,360	63,201	65,097	67,050	69,061	71,133	73,267	75,465	77,729	80,061	762,994
Renovation/Upgrades												
Total Cost of Ownership	4,088,747	120,923	124,724	128,646	132,692	136,868	141,177	145,623	150,211	154,945	159,830	5,484,385

Yosemite Community College District - Columbia  
 Total Cost of Ownership Projections -By Building  
 SUGAR PINE

Building Number 938

Factors

Current Replacement Value	2015	\$18,418,977
Assignable SF		17,098
Gross SF		32,589
Major Repair Percentage	1.5%	
FCI		0.07%
Current Repair Cost	2015	\$13,338
Annual Escalation- Labor+ Mat	3.0%	
Annual Escalation -Utilities	4.0%	

Year Built		2011	
Last Renovation			
Elect	\$/GSF	\$ 1.20	\$ 1.20
Nat Gas	\$/GSF	\$ 0.52	\$ 0.52
Water/Sew	\$/GSF	\$ 0.30	\$ 0.30
M&O Staff	\$/GSF	\$ 5.36	\$ 5.49
M&O Expen	\$/GSF	\$ 0.99	\$ 0.99
Total		\$ 8.37	\$ 8.50

Calculated Staffing (FTE)		
	Level 3	Level 4
Custodial	1.35	0.96
Maintenance	0.44	0.31

Building Name SUGAR PINE

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year TCO
Current Replacement Value	18,418,977											18,418,977
Annual Costs												
Utility- Electric	39,107	40,671	42,298	43,990	45,749	47,579	49,483	51,462	53,520	55,661	57,888	527,408
Utility- Gas	16,946	17,624	18,329	19,062	19,825	20,618	21,442	22,300	23,192	24,120	25,085	228,543
Utility- Water	9,777	10,168	10,574	10,997	11,437	11,895	12,371	12,865	13,380	13,915	14,472	131,852
M&O Staff	179,029	184,400	189,932	195,630	201,498	207,543	213,770	220,183	226,788	233,592	240,600	2,292,964
Misc Expense	32,263	33,231	34,228	35,255	36,312	37,402	38,524	39,680	40,870	42,096	43,359	413,219
Total Annual Expenses	277,122	286,094	295,361	304,934	314,822	325,037	335,589	346,490	357,751	369,384	381,403	3,593,987
Long Term												
Major Repair	276,285	284,573	293,110	301,904	310,961	320,290	329,898	339,795	349,989	360,489	371,303	3,538,597
Renovation/Upgrades												
Total Cost of Ownership	18,972,383	570,667	588,471	606,838	625,783	645,327	665,488	686,285	707,740	729,873	752,706	25,551,561

Yosemite Community College District - Columbia  
 Total Cost of Ownership Projections -By Building  
 TAMARACK HALL(LRC/MEDIA)

Building Number 929

Factors

Current Replacement Value	2015	\$11,315,669
Assignable SF		15,678
Gross SF		20,021
Major Repair Percentage	1.5%	
FCI		0.12%
Current Repair Cost	2015	\$13,603
Annual Escalation- Labor+ Mat	3.0%	
Annual Escalation -Utilities	4.0%	

Year Built		2003	
Last Renovation			
Elect	\$/GSF	\$ 1.20	\$ 1.20
Nat Gas	\$/GSF	\$ 0.52	\$ 0.52
Water/Sew	\$/GSF	\$ 0.30	\$ 0.30
M&O Staff	\$/GSF	\$ 5.36	\$ 3.87
M&O Expen	\$/GSF	\$ 0.99	\$ 0.99
Total		\$ 8.37	\$ 6.88

Calculated Staffing (FTE)		
	Level 3	Level 4
Custodial	0.59	0.45
Maintenance	0.19	0.15

Building Name TAMARACK HALL(LRC/MEDIA)

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year TCO
Current Replacement Value	11,315,669											11,315,669
Annual Costs												
Utility- Electric	24,025	24,986	25,986	27,025	28,106	29,230	30,400	31,616	32,880	34,195	35,563	324,012
Utility- Gas	10,411	10,827	11,260	11,711	12,179	12,666	13,173	13,700	14,248	14,818	15,411	140,405
Utility- Water	6,006	6,247	6,496	6,756	7,027	7,308	7,600	7,904	8,220	8,549	8,891	81,003
M&O Staff	77,564	79,891	82,287	84,756	87,299	89,918	92,615	95,394	98,255	101,203	104,239	993,420
Misc Expense	19,821	20,415	21,028	21,659	22,308	22,978	23,667	24,377	25,108	25,862	26,637	253,861
Total Annual Expenses	137,827	142,366	147,058	151,907	156,919	162,100	167,455	172,990	178,712	184,627	190,741	1,792,701
Long Term												
Major Repair	169,735	174,827	180,072	185,474	191,038	196,769	202,673	208,753	215,015	221,466	228,110	2,173,932
Renovation/Upgrades												
Total Cost of Ownership	11,623,231	317,193	327,130	337,381	347,957	358,869	370,127	381,743	393,727	406,093	418,851	15,282,302

## APPENDIX B

Modesto Junior College - Individual Major Buildings 10 year Total Cost of Ownership

Draft



Yosemite Community College District - Modesto Junior College

Total Cost of Ownership Projections -By Building

ANSEL ADAMS HALL(N. HALL

Building Number 46

Factors

Current Replacement Value	2015	\$11,758,872
Assignable SF		15,206
Gross SF		23,546
Major Repair Percentage	1.5%	
FCI		36.22%
Current Repair Cost	2015	\$4,259,510
Annual Escalation- Labor+ Mat	3.0%	
Annual Escalation -Utilities	4.0%	

Year Built		1974	
Last Renovation			
Elect	\$/GSF	\$ 1.78	\$ 1.78
Nat Gas	\$/GSF	\$ 0.43	\$ 0.43
Water/Sew	\$/GSF	\$ 0.33	\$ 0.33
M&O Staff	\$/GSF	\$ 5.00	\$ 6.13
M&O Expen	\$/GSF	\$ 0.77	\$ 0.77
Total		\$ 8.31	\$ 9.44

Calculated Staffing (FTE)		
	Level 3	Level 4
Custodial	1.17	0.89
Maintenance	0.37	0.28

Building Name ANSEL ADAMS HALL(N. HALL

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year TCO
Current Replacement Value	11,758,872											11,758,872
Annual Costs												
Utility- Electric	41,912	43,588	45,332	47,145	49,031	50,992	53,032	55,153	57,359	59,654	62,040	565,238
Utility- Gas	10,007	10,407	10,824	11,257	11,707	12,175	12,662	13,169	13,695	14,243	14,813	134,959
Utility- Water	7,770	8,081	8,404	8,740	9,090	9,454	9,832	10,225	10,634	11,059	11,502	104,791
M&O Staff	144,421	148,754	153,217	157,813	162,548	167,424	172,447	177,620	182,949	188,437	194,090	1,849,720
Misc Expense	18,130	18,674	19,235	19,812	20,406	21,018	21,649	22,298	22,967	23,656	24,366	232,211
Total Annual Expenses	222,241	229,505	237,011	244,767	252,781	261,063	269,621	278,465	287,604	297,050	306,811	2,886,919
Long Term												
Major Repair	176,383	181,675	187,125	192,739	198,521	204,476	210,611	216,929	223,437	230,140	237,044	2,259,079
Renovation/Upgrades												
Total Cost of Ownership	12,157,496	411,180	424,136	437,505	451,302	465,539	480,232	495,394	511,041	527,189	543,855	16,904,870

Yosemite Community College District - Modesto Junior College  
 Total Cost of Ownership Projections -By Building

ART

Building Number 7

Factors

Current Replacement Value	2015	\$10,608,255
Assignable SF		14,251
Gross SF		21,242
Major Repair Percentage	1.5%	
FCI		43.59%
Current Repair Cost	2015	\$4,624,559
Annual Escalation- Labor+ Mat	3.0%	
Annual Escalation -Utilities	4.0%	

Year Built		1964	
Last Renovation			
Elect	\$/GSF	\$ 1.78	\$ 1.78
Nat Gas	\$/GSF	\$ 0.43	\$ 0.43
Water/Sew	\$/GSF	\$ 0.33	\$ 0.33
M&O Staff	\$/GSF	\$ 5.00	\$ 3.98
M&O Expen	\$/GSF	\$ 0.77	\$ 0.77
Total		\$ 8.31	\$ 7.28

Calculated Staffing (FTE)		
	Level 3	Level 4
Custodial	0.68	0.55
Maintenance	0.21	0.17

Building Name ART

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year TCO
Current Replacement Value	10,608,255											10,608,255
Annual Costs												
Utility- Electric	37,811	39,323	40,896	42,532	44,233	46,003	47,843	49,756	51,747	53,817	55,969	509,929
Utility- Gas	9,028	9,389	9,765	10,155	10,561	10,984	11,423	11,880	12,355	12,849	13,363	121,753
Utility- Water	7,010	7,290	7,582	7,885	8,201	8,529	8,870	9,224	9,593	9,977	10,376	94,537
M&O Staff	84,472	87,006	89,616	92,305	95,074	97,926	100,864	103,890	107,007	110,217	113,523	1,081,900
Misc Expense	16,356	16,847	17,352	17,873	18,409	18,961	19,530	20,116	20,720	21,341	21,982	209,489
Total Annual Expenses	154,677	159,856	165,211	170,750	176,478	182,403	188,530	194,867	201,422	208,201	215,214	2,017,608
Long Term												
Major Repair	159,124	163,898	168,814	173,879	179,095	184,468	190,002	195,702	201,573	207,620	213,849	2,038,025
Renovation/Upgrades												
Total Cost of Ownership	10,922,055	323,753	334,026	344,629	355,574	366,871	378,532	390,569	402,995	415,822	429,063	14,663,888

Yosemite Community College District - Modesto Junior College

Total Cost of Ownership Projections -By Building

CENTER FOR ADVANCED TECH

Building Number 21

Factors

Current Replacement Value	2015	\$28,296,503
Assignable SF		31,641
Gross SF		56,661
Major Repair Percentage	1.5%	
FCI		0.00%
Current Repair Cost	2015	\$0
Annual Escalation- Labor+ Mat	3.0%	
Annual Escalation -Utilities	4.0%	

Year Built		1958	
Last Renovation		2015	
Elect	\$/GSF	\$ 1.78	\$ 1.78
Nat Gas	\$/GSF	\$ 0.43	\$ 0.43
Water/Sew	\$/GSF	\$ 0.33	\$ 0.33
M&O Staff	\$/GSF	\$ 5.00	\$ 4.76
M&O Expen	\$/GSF	\$ 0.77	\$ 0.77
Total		\$ 8.31	\$ 8.07

Calculated Staffing (FTE)		
	Level 3	Level 4
Custodial	2.19	1.58
Maintenance	0.68	0.49

Building Name CENTER FOR ADVANCED TECH

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year TCO
Current Replacement Value	28,296,503											28,296,503
Annual Costs												
Utility- Electric	100,857	104,891	109,086	113,450	117,988	122,707	127,616	132,720	138,029	143,550	149,292	1,360,187
Utility- Gas	24,081	25,044	26,046	27,088	28,171	29,298	30,470	31,689	32,956	34,275	35,646	324,764
Utility- Water	18,698	19,446	20,224	21,033	21,874	22,749	23,659	24,605	25,590	26,613	27,678	252,170
M&O Staff	269,876	277,973	286,312	294,901	303,748	312,861	322,247	331,914	341,871	352,127	362,691	3,456,522
Misc Expense	43,629	44,938	46,286	47,675	49,105	50,578	52,095	53,658	55,268	56,926	58,634	558,791
Total Annual Expenses	457,141	472,292	487,954	504,146	520,886	538,193	556,087	574,587	593,714	613,492	633,941	5,952,433
Long Term												
Major Repair	424,448	437,181	450,296	463,805	477,719	492,051	506,813	522,017	537,677	553,808	570,422	5,436,238
Renovation/Upgrades												
Total Cost of Ownership	29,178,092	909,473	938,251	967,952	998,606	1,030,244	1,062,899	1,096,604	1,131,392	1,167,299	1,204,363	39,685,174

Yosemite Community College District - Modesto Junior College

Total Cost of Ownership Projections -By Building

CLASSROOM ANNEX

Building Number 71

Factors

Current Replacement Value	2015	\$2,013,434
Assignable SF		3,282
Gross SF		3,787
Major Repair Percentage	1.5%	
FCI		37.96%
Current Repair Cost	2015	\$764,237
Annual Escalation- Labor+ Mat	3.0%	
Annual Escalation -Utilities	4.0%	

Year Built		1978	
Last Renovation			
Elect	\$/GSF	\$ 1.78	\$ 1.78
Nat Gas	\$/GSF	\$ 0.43	\$ 0.43
Water/Sew	\$/GSF	\$ 0.33	\$ 0.33
M&O Staff	\$/GSF	\$ 5.00	\$ 3.67
M&O Expen	\$/GSF	\$ 0.77	\$ 0.77
Total		\$ 8.31	\$ 6.98

Calculated Staffing (FTE)		
	Level 3	Level 4
Custodial	0.11	0.08
Maintenance	0.04	0.03

Building Name CLASSROOM ANNEX

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year TCO
Current Replacement Value	2,013,434											2,013,434
Annual Costs												
Utility- Electric	6,741	7,010	7,291	7,583	7,886	8,201	8,529	8,871	9,225	9,594	9,978	90,910
Utility- Gas	1,609	1,674	1,741	1,810	1,883	1,958	2,036	2,118	2,203	2,291	2,382	21,706
Utility- Water	1,250	1,300	1,352	1,406	1,462	1,520	1,581	1,645	1,710	1,779	1,850	16,854
M&O Staff	13,906	14,323	14,753	15,196	15,651	16,121	16,605	17,103	17,616	18,144	18,689	178,107
Misc Expense	2,916	3,003	3,094	3,186	3,282	3,380	3,482	3,586	3,694	3,805	3,919	37,347
Total Annual Expenses	26,422	27,311	28,230	29,181	30,164	31,181	32,234	33,322	34,448	35,613	36,818	344,924
Long Term												
Major Repair	30,202	31,108	32,041	33,002	33,992	35,012	36,062	37,144	38,258	39,406	40,588	386,815
Renovation/Upgrades												
Total Cost of Ownership	2,070,058	58,418	60,271	62,183	64,156	66,193	68,296	70,466	72,706	75,019	77,406	2,745,173

Yosemite Community College District - Modesto Junior College

Total Cost of Ownership Projections -By Building

EL CAPITAN CTR (CABARET)

Building Number 68

Factors

Current Replacement Value	2015	\$5,071,350
Assignable SF		9,045
Gross SF		11,546
Major Repair Percentage	1.5%	
FCI		38.85%
Current Repair Cost	2015	\$1,970,027
Annual Escalation- Labor+ Mat	3.0%	
Annual Escalation -Utilities	4.0%	

Year Built		1976	
Last Renovation			
Elect	\$/GSF	\$ 1.78	\$ 1.78
Nat Gas	\$/GSF	\$ 0.43	\$ 0.43
Water/Sew	\$/GSF	\$ 0.33	\$ 0.33
M&O Staff	\$/GSF	\$ 5.00	\$ 4.93
M&O Expen	\$/GSF	\$ 0.77	\$ 0.77
Total		\$ 8.31	\$ 8.23

Calculated Staffing (FTE)		
	Level 3	Level 4
Custodial	0.46	0.38
Maintenance	0.14	0.12

Building Name EL CAPITAN CTR (CABARET)

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year TCO
Current Replacement Value	5,071,350											5,071,350
Annual Costs												
Utility- Electric	20,552	21,374	22,229	23,118	24,043	25,005	26,005	27,045	28,127	29,252	30,422	277,170
Utility- Gas	4,907	5,103	5,307	5,520	5,741	5,970	6,209	6,457	6,716	6,984	7,264	66,178
Utility- Water	3,810	3,963	4,121	4,286	4,457	4,636	4,821	5,014	5,214	5,423	5,640	51,385
M&O Staff	56,889	58,596	60,354	62,165	64,030	65,950	67,929	69,967	72,066	74,228	76,455	728,628
Misc Expense	8,890	9,157	9,432	9,715	10,006	10,306	10,616	10,934	11,262	11,600	11,948	113,867
Total Annual Expenses	95,049	98,193	101,443	104,803	108,277	111,867	115,579	119,417	123,385	127,487	131,728	1,237,228
Long Term												
Major Repair	76,070	78,352	80,703	83,124	85,618	88,186	90,832	93,557	96,364	99,254	102,232	974,292
Renovation/Upgrades												
Total Cost of Ownership	5,242,469	176,545	182,146	187,927	193,894	200,053	206,411	212,974	219,748	226,741	233,960	7,282,870

Yosemite Community College District - Modesto Junior College  
 Total Cost of Ownership Projections -By Building

ELECTRONICS

Building Number 6

Factors

Current Replacement Value	2015	\$8,475,351
Assignable SF		12,232
Gross SF		15,941
Major Repair Percentage	1.5%	
FCI		34.00%
Current Repair Cost	2015	\$2,881,326
Annual Escalation- Labor+ Mat	3.0%	
Annual Escalation -Utilities	4.0%	

Year Built		1965	
Last Renovation			
Elect	\$/GSF	\$ 1.78	\$ 1.78
Nat Gas	\$/GSF	\$ 0.43	\$ 0.43
Water/Sew	\$/GSF	\$ 0.33	\$ 0.33
M&O Staff	\$/GSF	\$ 5.00	\$ 4.31
M&O Expen	\$/GSF	\$ 0.77	\$ 0.77
Total		\$ 8.31	\$ 7.61

Calculated Staffing (FTE)		
	Level 3	Level 4
Custodial	0.56	0.44
Maintenance	0.17	0.14

Building Name ELECTRONICS

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year TCO
Current Replacement Value	8,475,351											8,475,351
Annual Costs												
Utility- Electric	28,375	29,510	30,690	31,918	33,195	34,523	35,903	37,340	38,833	40,386	42,002	382,675
Utility- Gas	6,775	7,046	7,328	7,621	7,926	8,243	8,572	8,915	9,272	9,643	10,029	91,369
Utility- Water	5,261	5,471	5,690	5,917	6,154	6,400	6,656	6,922	7,199	7,487	7,787	70,945
M&O Staff	68,677	70,738	72,860	75,045	77,297	79,616	82,004	84,464	86,998	89,608	92,296	879,604
Misc Expense	12,275	12,643	13,022	13,413	13,815	14,230	14,656	15,096	15,549	16,016	16,496	157,210
Total Annual Expenses	121,362	125,407	129,590	133,914	138,386	143,011	147,793	152,738	157,852	163,140	168,610	1,581,804
Long Term												
Major Repair	127,130	130,944	134,873	138,919	143,086	147,379	151,800	156,354	161,045	165,876	170,852	1,628,259
Renovation/Upgrades												
Total Cost of Ownership	8,723,844	256,351	264,462	272,833	281,473	290,390	299,593	309,092	318,897	329,017	339,462	11,685,414

Yosemite Community College District - Modesto Junior College  
 Total Cost of Ownership Projections -By Building

FIRE TRAINING CT

Building Number 105

Factors

Current Replacement Value	2015	\$6,458,195
Assignable SF		7,415
Gross SF		12,147
Major Repair Percentage	1.5%	
FCI		11.13%
Current Repair Cost	2015	\$719,013
Annual Escalation- Labor+ Mat	3.0%	
Annual Escalation -Utilities	4.0%	

Year Built		1993	
Last Renovation			
Elect	\$/GSF	\$ 1.78	\$ 1.78
Nat Gas	\$/GSF	\$ 0.43	\$ 0.43
Water/Sew	\$/GSF	\$ 0.33	\$ 0.33
M&O Staff	\$/GSF	\$ 5.00	\$ 4.34
M&O Expen	\$/GSF	\$ 0.77	\$ 0.77
Total		\$ 8.31	\$ 7.65

Calculated Staffing (FTE)		
	Level 3	Level 4
Custodial	0.43	0.33
Maintenance	0.13	0.10

Building Name FIRE TRAINING CT

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year TCO
Current Replacement Value	6,458,195											6,458,195
Annual Costs												
Utility- Electric	21,622	22,487	23,386	24,321	25,294	26,306	27,358	28,453	29,591	30,774	32,005	291,597
Utility- Gas	5,162	5,369	5,584	5,807	6,039	6,281	6,532	6,793	7,065	7,348	7,642	69,623
Utility- Water	4,009	4,169	4,336	4,509	4,689	4,877	5,072	5,275	5,486	5,705	5,934	54,060
M&O Staff	52,720	54,301	55,930	57,608	59,336	61,116	62,950	64,838	66,784	68,787	70,851	675,222
Misc Expense	9,353	9,634	9,923	10,220	10,527	10,843	11,168	11,503	11,848	12,204	12,570	119,794
Total Annual Expenses	92,865	95,959	99,158	102,466	105,887	109,423	113,081	116,863	120,774	124,818	129,001	1,210,296
Long Term												
Major Repair	96,873	99,779	102,772	105,856	109,031	112,302	115,671	119,141	122,716	126,397	130,189	1,240,729
Renovation/Upgrades												
Total Cost of Ownership	6,647,934	195,738	201,931	208,322	214,918	221,726	228,752	236,004	243,490	251,216	259,190	8,909,220



Yosemite Community College District - Modesto Junior College  
 Total Cost of Ownership Projections -By Building

FORUM

Building Number 35

Factors

Current Replacement Value	2015	\$6,794,743
Assignable SF		9,835
Gross SF		12,780
Major Repair Percentage	1.5%	
FCI		31.95%
Current Repair Cost	2015	\$2,171,068
Annual Escalation- Labor+ Mat	3.0%	
Annual Escalation -Utilities	4.0%	

Year Built		1971	
Last Renovation			
Elect	\$/GSF	\$ 1.78	\$ 1.78
Nat Gas	\$/GSF	\$ 0.43	\$ 0.43
Water/Sew	\$/GSF	\$ 0.33	\$ 0.33
M&O Staff	\$/GSF	\$ 5.00	\$ 4.85
M&O Expen	\$/GSF	\$ 0.77	\$ 0.77
Total		\$ 8.31	\$ 8.16

Calculated Staffing (FTE)		
	Level 3	Level 4
Custodial	0.50	0.39
Maintenance	0.16	0.12

Building Name FORUM

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year TCO
Current Replacement Value	6,794,743											6,794,743
Annual Costs												
Utility- Electric	22,748	23,658	24,605	25,589	26,612	27,677	28,784	29,935	31,133	32,378	33,673	306,793
Utility- Gas	5,432	5,649	5,875	6,110	6,354	6,608	6,873	7,147	7,433	7,731	8,040	73,251
Utility- Water	4,217	4,386	4,562	4,744	4,934	5,131	5,336	5,550	5,772	6,003	6,243	56,877
M&O Staff	62,033	63,894	65,811	67,785	69,819	71,913	74,071	76,293	78,581	80,939	83,367	794,505
Misc Expense	9,841	10,136	10,440	10,753	11,076	11,408	11,750	12,103	12,466	12,840	13,225	126,036
Total Annual Expenses	104,271	107,723	111,292	114,981	118,795	122,737	126,814	131,028	135,385	139,890	144,548	1,357,462
Long Term												
Major Repair	101,921	104,979	108,128	111,372	114,713	118,155	121,699	125,350	129,111	132,984	136,973	1,305,385
Renovation/Upgrades												
Total Cost of Ownership	7,000,935	212,702	219,420	226,353	233,508	240,892	248,513	256,378	264,496	272,874	281,521	9,457,590

Yosemite Community College District - Modesto Junior College  
 Total Cost of Ownership Projections -By Building

FOUNDERS HALL

Building Number 34

Factors

Current Replacement Value	2015	\$34,711,796
Assignable SF		46,845
Gross SF		69,507
Major Repair Percentage	1.5%	
FCI		44.79%
Current Repair Cost	2015	\$15,548,912
Annual Escalation- Labor+ Mat	3.0%	
Annual Escalation -Utilities	4.0%	

Year Built		1971	
Last Renovation		2011	
Elect	\$/GSF	\$ 1.78	\$ 1.78
Nat Gas	\$/GSF	\$ 0.43	\$ 0.43
Water/Sew	\$/GSF	\$ 0.33	\$ 0.33
M&O Staff	\$/GSF	\$ 5.00	\$ 5.29
M&O Expen	\$/GSF	\$ 0.77	\$ 0.77
Total		\$ 8.31	\$ 8.59

Calculated Staffing (FTE)		
	Level 3	Level 4
Custodial	2.98	2.32
Maintenance	0.93	0.73

Building Name FOUNDERS HALL

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year TCO
Current Replacement Value	34,711,796											34,711,796
Annual Costs												
Utility- Electric	123,722	128,671	133,818	139,171	144,738	150,527	156,548	162,810	169,323	176,096	183,139	1,668,565
Utility- Gas	29,540	30,722	31,951	33,229	34,558	35,941	37,378	38,873	40,428	42,045	43,727	398,393
Utility- Water	22,937	23,855	24,809	25,801	26,833	27,907	29,023	30,184	31,391	32,647	33,953	309,341
M&O Staff	367,608	378,637	389,996	401,695	413,746	426,159	438,943	452,112	465,675	479,645	494,035	4,708,251
Misc Expense	53,520	55,126	56,780	58,483	60,238	62,045	63,906	65,823	67,798	69,832	71,927	685,478
Total Annual Expenses	597,329	617,011	637,354	658,380	680,113	702,578	725,799	749,803	774,615	800,265	826,781	7,770,028
Long Term												
Major Repair	520,677	536,297	552,386	568,958	586,026	603,607	621,715	640,367	659,578	679,365	699,746	6,668,724
Renovation/Upgrades												
Total Cost of Ownership	35,829,802	1,153,308	1,189,740	1,227,338	1,266,140	1,306,185	1,347,515	1,390,170	1,434,193	1,479,631	1,526,527	49,150,548

Yosemite Community College District - Modesto Junior College  
 Total Cost of Ownership Projections -By Building

GLACIER HALL

Building Number 123

Factors

Current Replacement Value	2015	\$17,987,889
Assignable SF		24,519
Gross SF		36,019
Major Repair Percentage	1.5%	
FCI		0.00%
Current Repair Cost	2015	\$0
Annual Escalation- Labor+ Mat	3.0%	
Annual Escalation -Utilities	4.0%	

Year Built		2011	
Last Renovation			
Elect	\$/GSF	\$ 1.78	\$ 1.78
Nat Gas	\$/GSF	\$ 0.43	\$ 0.43
Water/Sew	\$/GSF	\$ 0.33	\$ 0.33
M&O Staff	\$/GSF	\$ 5.00	\$ 5.45
M&O Expen	\$/GSF	\$ 0.77	\$ 0.77
Total		\$ 8.31	\$ 8.76

Calculated Staffing (FTE)		
	Level 3	Level 4
Custodial	1.59	1.18
Maintenance	0.50	0.37

Building Name GLACIER HALL

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year TCO
Current Replacement Value	17,987,889											17,987,889
Annual Costs												
Utility- Electric	64,114	66,678	69,346	72,119	75,004	78,004	81,124	84,369	87,744	91,254	94,904	864,662
Utility- Gas	15,308	15,920	16,557	17,220	17,908	18,625	19,370	20,144	20,950	21,788	22,660	206,450
Utility- Water	11,886	12,362	12,856	13,370	13,905	14,461	15,040	15,642	16,267	16,918	17,595	160,302
M&O Staff	196,445	202,338	208,408	214,661	221,100	227,733	234,565	241,602	248,850	256,316	264,005	2,516,025
Misc Expense	27,735	28,567	29,424	30,306	31,216	32,152	33,117	34,110	35,133	36,187	37,273	355,219
Total Annual Expenses	315,488	325,865	336,591	347,676	359,134	370,976	383,216	395,868	408,945	422,463	436,437	4,102,659
Long Term												
Major Repair	269,818	277,913	286,250	294,838	303,683	312,793	322,177	331,843	341,798	352,052	362,613	3,455,778
Renovation/Upgrades												
Total Cost of Ownership	18,573,195	603,778	622,841	642,514	662,817	683,769	705,393	727,710	750,743	774,515	799,050	25,546,325

Yosemite Community College District - Modesto Junior College

Total Cost of Ownership Projections -By Building

GYMNASIUM

Building Number 67

Factors

Current Replacement Value	2015	\$17,650,004
Assignable SF		23,171
Gross SF		29,032
Major Repair Percentage	1.5%	
FCI		36.90%
Current Repair Cost	2015	\$6,513,169
Annual Escalation- Labor+ Mat	3.0%	
Annual Escalation -Utilities	4.0%	

Year Built		1976	
Last Renovation		1976	
Elect	\$/GSF	\$ 1.78	\$ 1.78
Nat Gas	\$/GSF	\$ 0.43	\$ 0.43
Water/Sew	\$/GSF	\$ 0.33	\$ 0.33
M&O Staff	\$/GSF	\$ 5.00	\$ 2.14
M&O Expen	\$/GSF	\$ 0.77	\$ 0.77
Total		\$ 8.31	\$ 5.44

Calculated Staffing (FTE)		
	Level 3	Level 4
Custodial	0.50	0.31
Maintenance	0.16	0.10

Building Name GYMNASIUM

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year TCO
Current Replacement Value	17,650,004											17,650,004
Annual Costs												
Utility- Electric	51,677	53,744	55,894	58,130	60,455	62,873	65,388	68,003	70,723	73,552	76,495	696,934
Utility- Gas	12,339	12,832	13,345	13,879	14,434	15,012	15,612	16,237	16,886	17,562	18,264	166,403
Utility- Water	9,581	9,964	10,362	10,777	11,208	11,656	12,122	12,607	13,112	13,636	14,182	129,207
M&O Staff	61,994	63,854	65,769	67,742	69,775	71,868	74,024	76,245	78,532	80,888	83,315	794,005
Misc Expense	22,355	23,025	23,716	24,428	25,160	25,915	26,693	27,493	28,318	29,168	30,043	286,314
Total Annual Expenses	157,945	163,419	169,087	174,956	181,032	187,324	193,839	200,585	207,572	214,806	222,298	2,072,862
Long Term												
Major Repair	264,750	272,693	280,873	289,300	297,979	306,918	316,125	325,609	335,377	345,439	355,802	3,390,865
Renovation/Upgrades												
Total Cost of Ownership	18,072,699	436,111	449,960	464,255	479,011	494,242	509,965	526,195	542,949	560,245	578,100	23,113,731

Yosemite Community College District - Modesto Junior College

Total Cost of Ownership Projections -By Building

JOHN MUIR H ALL(SO.HALL)

Building Number 63

Factors

Current Replacement Value	2015	\$21,681,451
Assignable SF		27,001
Gross SF		43,415
Major Repair Percentage	1.5%	
FCI		35.25%
Current Repair Cost	2015	\$7,643,669
Annual Escalation- Labor+ Mat	3.0%	
Annual Escalation -Utilities	4.0%	

Year Built		1975	
Last Renovation			
Elect	\$/GSF	\$ 1.78	\$ 1.78
Nat Gas	\$/GSF	\$ 0.43	\$ 0.43
Water/Sew	\$/GSF	\$ 0.33	\$ 0.33
M&O Staff	\$/GSF	\$ 5.00	\$ 3.55
M&O Expen	\$/GSF	\$ 0.77	\$ 0.77
Total		\$ 8.31	\$ 6.85

Calculated Staffing (FTE)		
	Level 3	Level 4
Custodial	1.25	0.95
Maintenance	0.39	0.30

Building Name JOHN MUIR H ALL(SO.HALL)

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year TCO
Current Replacement Value	21,681,451											21,681,451
Annual Costs												
Utility- Electric	77,279	80,370	83,585	86,928	90,405	94,021	97,782	101,693	105,761	109,992	114,391	1,042,208
Utility- Gas	18,451	19,189	19,957	20,755	21,585	22,449	23,347	24,281	25,252	26,262	27,313	248,842
Utility- Water	14,327	14,900	15,496	16,116	16,761	17,431	18,128	18,853	19,607	20,392	21,207	193,218
M&O Staff	154,090	158,712	163,474	168,378	173,429	178,632	183,991	189,511	195,196	201,052	207,084	1,973,549
Misc Expense	33,430	34,432	35,465	36,529	37,625	38,754	39,917	41,114	42,348	43,618	44,927	428,159
Total Annual Expenses	297,576	307,604	317,977	328,706	339,806	351,287	363,165	375,452	388,164	401,315	414,921	3,885,975
Long Term												
Major Repair	325,222	334,978	345,028	355,379	366,040	377,021	388,332	399,982	411,981	424,341	437,071	4,165,374
Renovation/Upgrades												
Total Cost of Ownership	22,304,249	642,582	663,005	684,085	705,846	728,308	751,497	775,434	800,146	825,656	851,992	29,732,800

Yosemite Community College District - Modesto Junior College  
 Total Cost of Ownership Projections -By Building

LIBRARY

Building Number 40

Factors

Current Replacement Value	2015	\$28,993,682
Assignable SF		36,472
Gross SF		51,299
Major Repair Percentage	1.5%	
FCI		6.09%
Current Repair Cost	2015	\$1,764,364
Annual Escalation- Labor+ Mat	3.0%	
Annual Escalation -Utilities	4.0%	

Year Built		1935	
Last Renovation		2013	
Elect	\$/GSF	\$ 1.78	\$ 1.78
Nat Gas	\$/GSF	\$ 0.43	\$ 0.43
Water/Sew	\$/GSF	\$ 0.33	\$ 0.33
M&O Staff	\$/GSF	\$ 5.00	\$ 2.49
M&O Expen	\$/GSF	\$ 0.77	\$ 0.77
Total		\$ 8.31	\$ 5.80

Calculated Staffing (FTE)		
	Level 3	Level 4
Custodial	1.04	0.76
Maintenance	0.32	0.24

Building Name LIBRARY

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year TCO
Current Replacement Value	28,993,682											28,993,682
Annual Costs												
Utility- Electric	91,312	94,965	98,763	102,714	106,822	111,095	115,539	120,161	124,967	129,966	135,164	1,231,469
Utility- Gas	21,802	22,674	23,581	24,524	25,505	26,526	27,587	28,690	29,838	31,031	32,272	294,030
Utility- Water	16,929	17,606	18,310	19,042	19,804	20,596	21,420	22,277	23,168	24,095	25,059	228,306
M&O Staff	127,895	131,732	135,684	139,754	143,947	148,265	152,713	157,294	162,013	166,874	171,880	1,638,050
Misc Expense	39,500	40,685	41,906	43,163	44,458	45,792	47,165	48,580	50,038	51,539	53,085	505,911
Total Annual Expenses	297,438	307,662	318,244	329,198	340,536	352,274	364,424	377,002	390,024	403,504	417,460	3,897,766
Long Term												
Major Repair	434,905	447,952	461,391	475,233	489,490	504,174	519,300	534,879	550,925	567,453	584,476	5,570,177
Renovation/Upgrades												
Total Cost of Ownership	29,726,025	755,614	779,635	804,430	830,026	856,448	883,724	911,881	940,949	970,957	1,001,936	38,461,625

Yosemite Community College District - Modesto Junior College

Total Cost of Ownership Projections -By Building

MARY STUART ROGERS ST LR

Building Number 113

Factors

Current Replacement Value	2015	\$11,787,583
Assignable SF		16,183
Gross SF		20,759
Major Repair Percentage	1.5%	
FCI		0.11%
Current Repair Cost	2015	\$13,338
Annual Escalation- Labor+ Mat	3.0%	
Annual Escalation -Utilities	4.0%	

Year Built		2005	
Last Renovation			
Elect	\$/GSF	\$ 1.78	\$ 1.78
Nat Gas	\$/GSF	\$ 0.43	\$ 0.43
Water/Sew	\$/GSF	\$ 0.33	\$ 0.33
M&O Staff	\$/GSF	\$ 5.00	\$ 5.38
M&O Expen	\$/GSF	\$ 0.77	\$ 0.77
Total		\$ 8.31	\$ 8.69

Calculated Staffing (FTE)		
	Level 3	Level 4
Custodial	0.91	2.90
Maintenance	0.28	0.91

Building Name MARY STUART ROGERS ST LR

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year TCO
Current Replacement Value	11,787,583											11,787,583
Annual Costs												
Utility- Electric	36,951	38,429	39,966	41,565	43,227	44,957	46,755	48,625	50,570	52,593	54,697	498,334
Utility- Gas	8,823	9,175	9,542	9,924	10,321	10,734	11,163	11,610	12,074	12,557	13,060	118,984
Utility- Water	6,850	7,124	7,409	7,706	8,014	8,335	8,668	9,015	9,375	9,750	10,140	92,388
M&O Staff	111,726	115,078	118,531	122,087	125,749	129,522	133,407	137,410	141,532	145,778	150,151	1,430,970
Misc Expense	15,984	16,464	16,958	17,467	17,991	18,530	19,086	19,659	20,249	20,856	21,482	204,725
Total Annual Expenses	180,335	186,271	192,407	198,748	205,302	212,077	219,080	226,318	233,800	241,534	249,529	2,345,402
Long Term												
Major Repair	176,814	182,118	187,582	193,209	199,005	204,976	211,125	217,459	223,982	230,702	237,623	2,264,594
Renovation/Upgrades												
Total Cost of Ownership	12,144,732	368,389	379,988	391,957	404,308	417,053	430,205	443,777	457,782	472,236	487,152	16,397,579



Yosemite Community College District - Modesto Junior College

Total Cost of Ownership Projections -By Building

MORRIS MEMORIAL ADM

Building Number 28

Factors

Current Replacement Value	2015	\$10,779,791
Assignable SF		14,232
Gross SF		23,285
Major Repair Percentage	1.5%	
FCI		26.85%
Current Repair Cost	2015	\$2,894,834
Annual Escalation- Labor+ Mat	3.0%	
Annual Escalation -Utilities	4.0%	

Year Built		1968	
Last Renovation		Average	Ajusted
Elect	\$/GSF	\$ 1.78	\$ 1.78
Nat Gas	\$/GSF	\$ 0.43	\$ 0.43
Water/Sew	\$/GSF	\$ 0.33	\$ 0.33
M&O Staff	\$/GSF	\$ 5.00	\$ 5.18
M&O Expen	\$/GSF	\$ 0.77	\$ 0.77
Total		\$ 8.31	\$ 8.49

Calculated Staffing (FTE)		
	Level 3	Level 4
Custodial	0.98	0.76
Maintenance	0.31	0.24

Building Name MORRIS MEMORIAL ADM

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year TCO
Current Replacement Value	10,779,791											10,779,791
Annual Costs												
Utility- Electric	41,447	43,105	44,829	46,623	48,487	50,427	52,444	54,542	56,723	58,992	61,352	558,973
Utility- Gas	9,896	10,292	10,704	11,132	11,577	12,040	12,522	13,023	13,544	14,085	14,649	133,463
Utility- Water	7,684	7,991	8,311	8,644	8,989	9,349	9,723	10,112	10,516	10,937	11,374	103,630
M&O Staff	120,721	124,342	128,073	131,915	135,872	139,948	144,147	148,471	152,925	157,513	162,238	1,546,166
Misc Expense	17,929	18,467	19,021	19,592	20,180	20,785	21,409	22,051	22,712	23,394	24,096	229,637
Total Annual Expenses	197,678	204,198	210,938	217,905	225,106	232,549	240,244	248,198	256,421	264,921	273,709	2,571,868
Long Term												
Major Repair	161,697	166,548	171,544	176,691	181,991	187,451	193,075	198,867	204,833	210,978	217,307	2,070,980
Renovation/Upgrades												
Total Cost of Ownership	11,139,165	370,746	382,482	394,595	407,097	420,000	433,319	447,065	461,254	475,899	491,016	15,422,639

Yosemite Community College District - Modesto Junior College  
 Total Cost of Ownership Projections -By Building

MUSIC

Building Number 14

Factors

Current Replacement Value	2015	\$9,994,333
Assignable SF		10,284
Gross SF		18,798
Major Repair Percentage	1.5%	
FCI		57.97%
Current Repair Cost	2015	\$5,793,762
Annual Escalation- Labor+ Mat	3.0%	
Annual Escalation -Utilities	4.0%	

Year Built		1956	
Last Renovation		Average	Adjusted
Elect	\$/GSF	\$ 1.78	\$ 1.78
Nat Gas	\$/GSF	\$ 0.43	\$ 0.43
Water/Sew	\$/GSF	\$ 0.33	\$ 0.33
M&O Staff	\$/GSF	\$ 5.00	\$ 5.23
M&O Expen	\$/GSF	\$ 0.77	\$ 0.77
Total		\$ 8.31	\$ 8.53

Calculated Staffing (FTE)		
	Level 3	Level 4
Custodial	0.80	0.63
Maintenance	0.25	0.20

Building Name MUSIC

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year TCO
Current Replacement Value	9,994,333											9,994,333
Annual Costs												
Utility- Electric	33,460	34,799	36,191	37,638	39,144	40,710	42,338	44,032	45,793	47,625	49,530	451,259
Utility- Gas	7,989	8,309	8,641	8,987	9,346	9,720	10,109	10,513	10,934	11,371	11,826	107,744
Utility- Water	6,203	6,451	6,710	6,978	7,257	7,547	7,849	8,163	8,490	8,829	9,182	83,660
M&O Staff	98,226	101,173	104,208	107,334	110,554	113,871	117,287	120,806	124,430	128,163	132,008	1,258,062
Misc Expense	14,474	14,909	15,356	15,817	16,291	16,780	17,283	17,802	18,336	18,886	19,452	185,386
Total Annual Expenses	160,354	165,641	171,106	176,754	182,593	188,628	194,867	201,316	207,982	214,874	221,998	2,086,112
Long Term												
Major Repair	149,915	154,412	159,045	163,816	168,731	173,793	179,006	184,377	189,908	195,605	201,473	1,920,081
Renovation/Upgrades												
Total Cost of Ownership	10,304,601	320,053	330,150	340,570	351,323	362,421	373,873	385,692	397,890	410,479	423,472	14,000,525

Yosemite Community College District - Modesto Junior College

Total Cost of Ownership Projections -By Building

PERFORMING ARTS & MEDIA

Building Number 4

Factors

Current Replacement Value	2015	\$29,741,207
Assignable SF		32,583
Gross SF		54,527
Major Repair Percentage	1.5%	
FCI		0.97%
Current Repair Cost	2015	\$289,755
Annual Escalation- Labor+ Mat	3.0%	
Annual Escalation -Utilities	4.0%	

Year Built		1959	
Last Renovation		2008	Adjusted
Elect	\$/GSF	\$ 1.78	\$ 1.78
Nat Gas	\$/GSF	\$ 0.43	\$ 0.43
Water/Sew	\$/GSF	\$ 0.33	\$ 0.33
M&O Staff	\$/GSF	\$ 5.00	\$ 5.02
M&O Expen	\$/GSF	\$ 0.77	\$ 0.77
Total		\$ 8.31	\$ 8.32

Calculated Staffing (FTE)		
	Level 3	Level 4
Custodial	2.22	1.84
Maintenance	0.69	0.58

Building Name PERFORMING ARTS & MEDIA

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year TCO
Current Replacement Value	29,741,207											29,741,207
Annual Costs												
Utility- Electric	97,058	100,940	104,978	109,177	113,544	118,086	122,809	127,722	132,831	138,144	143,670	1,308,959
Utility- Gas	23,174	24,101	25,065	26,068	27,110	28,195	29,322	30,495	31,715	32,984	34,303	312,532
Utility- Water	17,994	18,714	19,462	20,241	21,050	21,892	22,768	23,679	24,626	25,611	26,635	242,672
M&O Staff	273,660	281,870	290,326	299,036	308,007	317,247	326,765	336,568	346,665	357,065	367,776	3,504,984
Misc Expense	41,986	43,245	44,543	45,879	47,255	48,673	50,133	51,637	53,186	54,782	56,425	537,745
Total Annual Expenses	453,872	468,870	484,374	500,400	516,967	534,093	551,798	570,101	589,023	608,585	628,810	5,906,894
Long Term												
Major Repair	446,118	459,502	473,287	487,485	502,110	517,173	532,688	548,669	565,129	582,083	599,545	5,713,790
Renovation/Upgrades												
Total Cost of Ownership	30,641,197	928,372	957,661	987,886	1,019,077	1,051,266	1,084,486	1,118,770	1,154,152	1,190,668	1,228,355	41,361,890

Yosemite Community College District - Modesto Junior College

Total Cost of Ownership Projections -By Building

SCIENCE COMMUNITY CENTER

Building Number 134

Factors

Current Replacement Value	2015	\$53,649,516
Assignable SF		66,378
Gross SF		109,632
Major Repair Percentage	1.5%	
FCI		0.10%
Current Repair Cost	2015	\$53,351
Annual Escalation- Labor+ Mat	3.0%	
Annual Escalation -Utilities	4.0%	

Year Built		2013	
Last Renovation			
Elect	\$/GSF	\$ 1.78	\$ 1.78
Nat Gas	\$/GSF	\$ 0.43	\$ 0.43
Water/Sew	\$/GSF	\$ 0.33	\$ 0.33
M&O Staff	\$/GSF	\$ 5.00	\$ 5.70
M&O Expen	\$/GSF	\$ 0.77	\$ 0.77
Total		\$ 8.31	\$ 9.00

Calculated Staffing (FTE)		
	Level 3	Level 4
Custodial	5.06	3.88
Maintenance	1.58	1.21

Building Name SCIENCE COMMUNITY CENTER

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year TCO
Current Replacement Value	53,649,516											53,649,516
Annual Costs												
Utility- Electric	195,145	202,951	211,069	219,512	228,292	237,424	246,921	256,797	267,069	277,752	288,862	2,631,794
Utility- Gas	46,594	48,457	50,396	52,411	54,508	56,688	58,956	61,314	63,767	66,317	68,970	628,378
Utility- Water	36,179	37,626	39,131	40,696	42,324	44,017	45,777	47,609	49,513	51,493	53,553	487,917
M&O Staff	624,582	643,320	662,619	682,498	702,973	724,062	745,784	768,157	791,202	814,938	839,386	7,999,519
Misc Expense	84,417	86,949	89,558	92,244	95,012	97,862	100,798	103,822	106,936	110,145	113,449	1,081,191
Total Annual Expenses	986,916	1,019,302	1,052,772	1,087,361	1,123,108	1,160,052	1,198,235	1,237,699	1,278,487	1,320,645	1,364,220	12,828,798
Long Term												
Major Repair	804,743	828,885	853,752	879,364	905,745	932,917	960,905	989,732	1,019,424	1,050,007	1,081,507	10,306,981
Renovation/Upgrades												
Total Cost of Ownership	55,441,174	1,848,187	1,906,523	1,966,725	2,028,853	2,092,970	2,159,140	2,227,431	2,297,911	2,370,652	2,445,727	76,785,294

Yosemite Community College District - Modesto Junior College

Total Cost of Ownership Projections -By Building

SIERRA HALL (SIERRA B)

Building Number 29

Factors

Current Replacement Value	2015	\$25,838,956
Assignable SF		33,312
Gross SF		51,740
Major Repair Percentage	1.5%	
FCI		0.00%
Current Repair Cost	2015	\$0
Annual Escalation- Labor+ Mat	3.0%	
Annual Escalation -Utilities	4.0%	

Year Built		2002	
Last Renovation			
Elect	\$/GSF	\$ 1.78	\$ 1.78
Nat Gas	\$/GSF	\$ 0.43	\$ 0.43
Water/Sew	\$/GSF	\$ 0.33	\$ 0.33
M&O Staff	\$/GSF	\$ 5.00	\$ 5.80
M&O Expen	\$/GSF	\$ 0.77	\$ 0.77
Total		\$ 8.31	\$ 9.11

Calculated Staffing (FTE)		
	Level 3	Level 4
Custodial	2.43	1.93
Maintenance	0.76	0.60

Building Name SIERRA HALL (SIERRA B)

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year TCO
Current Replacement Value	25,838,956											25,838,956
Annual Costs												
Utility- Electric	92,097	95,781	99,612	103,597	107,741	112,050	116,532	121,194	126,041	131,083	136,326	1,242,055
Utility- Gas	21,990	22,869	23,784	24,735	25,725	26,754	27,824	28,937	30,094	31,298	32,550	296,558
Utility- Water	17,074	17,757	18,467	19,206	19,974	20,773	21,604	22,468	23,367	24,302	25,274	230,269
M&O Staff	300,102	309,105	318,378	327,930	337,768	347,901	358,338	369,088	380,160	391,565	403,312	3,843,646
Misc Expense	39,840	41,035	42,266	43,534	44,840	46,185	47,571	48,998	50,468	51,982	53,541	510,260
Total Annual Expenses	471,103	486,547	502,508	519,002	536,047	553,663	571,869	590,684	610,131	630,230	651,004	6,122,788
Long Term												
Major Repair	387,584	399,212	411,188	423,524	436,230	449,316	462,796	476,680	490,980	505,710	520,881	4,964,101
Renovation/Upgrades												
Total Cost of Ownership	26,697,643	885,759	913,696	942,526	972,277	1,002,980	1,034,665	1,067,364	1,101,111	1,135,940	1,171,885	36,925,845

Yosemite Community College District - Modesto Junior College

Total Cost of Ownership Projections -By Building

STUDENT CENTER EAST

Building Number 23

Factors

Current Replacement Value	2015	\$19,372,598
Assignable SF		25,782
Gross SF		34,814
Major Repair Percentage	1.5%	
FCI		37.75%
Current Repair Cost	2015	\$7,312,625
Annual Escalation- Labor+ Mat	3.0%	
Annual Escalation -Utilities	4.0%	

Year Built		1965	
Last Renovation		Average	Adjusted
Elect	\$/GSF	\$ 1.78	\$ 1.78
Nat Gas	\$/GSF	\$ 0.43	\$ 0.43
Water/Sew	\$/GSF	\$ 0.33	\$ 0.33
M&O Staff	\$/GSF	\$ 5.00	\$ 5.48
M&O Expen	\$/GSF	\$ 0.77	\$ 0.77
Total		\$ 8.31	\$ 8.79

Calculated Staffing (FTE)		
	Level 3	Level 4
Custodial	1.55	1.13
Maintenance	0.48	0.35

Building Name STUDENT CENTER EAST

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year TCO
Current Replacement Value	19,372,598											19,372,598
Annual Costs												
Utility- Electric	61,969	64,448	67,026	69,707	72,495	75,395	78,410	81,547	84,809	88,201	91,729	835,735
Utility- Gas	14,796	15,388	16,003	16,643	17,309	18,002	18,722	19,470	20,249	21,059	21,902	199,543
Utility- Water	11,489	11,948	12,426	12,923	13,440	13,978	14,537	15,118	15,723	16,352	17,006	154,940
M&O Staff	190,840	196,566	202,463	208,537	214,793	221,236	227,874	234,710	241,751	249,004	256,474	2,444,246
Misc Expense	26,807	27,611	28,439	29,292	30,171	31,076	32,009	32,969	33,958	34,977	36,026	343,336
Total Annual Expenses	305,901	315,960	326,357	337,102	348,208	359,687	371,551	383,814	396,490	409,593	423,136	3,977,799
Long Term												
Major Repair	290,589	299,307	308,286	317,534	327,060	336,872	346,978	357,388	368,109	379,153	390,527	3,721,804
Renovation/Upgrades												
Total Cost of Ownership	19,969,088	615,267	634,643	654,637	675,268	696,559	718,529	741,202	764,599	788,745	813,664	27,072,202

Yosemite Community College District - Modesto Junior College

Total Cost of Ownership Projections -By Building

STUDENT SERVICES BUILDIN

Building Number 132

Factors

Current Replacement Value	2015	\$13,599,529
Assignable SF		13,806
Gross SF		23,950
Major Repair Percentage	1.5%	
FCI		0.00%
Current Repair Cost	2015	\$0
Annual Escalation- Labor+ Mat	3.0%	
Annual Escalation -Utilities	4.0%	

Year Built		2012	
Last Renovation			
Elect	\$/GSF	\$ 1.78	\$ 1.78
Nat Gas	\$/GSF	\$ 0.43	\$ 0.43
Water/Sew	\$/GSF	\$ 0.33	\$ 0.33
M&O Staff	\$/GSF	\$ 5.00	\$ 4.56
M&O Expen	\$/GSF	\$ 0.77	\$ 0.77
Total		\$ 8.31	\$ 7.86

Calculated Staffing (FTE)		
	Level 3	Level 4
Custodial	0.88	0.72
Maintenance	0.28	0.22

Building Name STUDENT SERVICES BUILDIN

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year TCO
Current Replacement Value	13,599,529											13,599,529
Annual Costs												
Utility- Electric	42,631	44,336	46,110	47,954	49,872	51,867	53,942	56,099	58,343	60,677	63,104	574,937
Utility- Gas	10,179	10,586	11,009	11,450	11,908	12,384	12,879	13,395	13,930	14,488	15,067	137,274
Utility- Water	7,904	8,220	8,548	8,890	9,246	9,616	10,000	10,400	10,816	11,249	11,699	106,589
M&O Staff	109,187	112,462	115,836	119,311	122,891	126,577	130,375	134,286	138,314	142,464	146,738	1,398,441
Misc Expense	18,442	18,995	19,565	20,152	20,756	21,379	22,020	22,681	23,361	24,062	24,784	236,195
Total Annual Expenses	188,341	194,599	201,068	207,757	214,673	221,823	229,216	236,861	244,766	252,940	261,392	2,453,436
Long Term												
Major Repair	203,993	210,113	216,416	222,909	229,596	236,484	243,578	250,886	258,412	266,165	274,149	2,612,700
Renovation/Upgrades												
Total Cost of Ownership	13,991,863	404,712	417,484	430,666	444,268	458,307	472,795	487,747	503,178	519,104	535,542	18,665,665

Yosemite Community College District - Modesto Junior College

Total Cost of Ownership Projections -By Building

TENAYA COMPLEX (N. AUTO)

Building Number 49

Factors

Current Replacement Value	2015	\$6,642,759
Assignable SF		22,670
Gross SF		24,869
Major Repair Percentage	1.5%	
FCI		95.36%
Current Repair Cost	2015	\$6,334,527
Annual Escalation- Labor+ Mat	3.0%	
Annual Escalation -Utilities	4.0%	

Year Built		1974	
Last Renovation			Adjusted
Elect	\$/GSF	\$ 1.78	\$ 1.78
Nat Gas	\$/GSF	\$ 0.43	\$ 0.43
Water/Sew	\$/GSF	\$ 0.33	\$ 0.33
M&O Staff	\$/GSF	\$ 5.00	\$ 3.49
M&O Expen	\$/GSF	\$ 0.77	\$ 0.77
Total		\$ 8.31	\$ 6.80

Calculated Staffing (FTE)		
	Level 3	Level 4
Custodial	0.70	0.52
Maintenance	0.22	0.16

Building Name TENAYA COMPLEX (N. AUTO)

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year TCO
Current Replacement Value	6,642,759											6,642,759
Annual Costs												
Utility- Electric	44,267	46,037	47,879	49,794	51,786	53,857	56,012	58,252	60,582	63,005	65,526	596,998
Utility- Gas	10,569	10,992	11,432	11,889	12,365	12,859	13,374	13,909	14,465	15,043	15,645	142,542
Utility- Water	8,207	8,535	8,876	9,232	9,601	9,985	10,384	10,800	11,232	11,681	12,148	110,679
M&O Staff	86,870	89,476	92,161	94,925	97,773	100,706	103,728	106,839	110,045	113,346	116,746	1,112,616
Misc Expense	19,149	19,724	20,315	20,925	21,553	22,199	22,865	23,551	24,258	24,985	25,735	245,258
Total Annual Expenses	169,062	174,765	180,663	186,765	193,077	199,607	206,362	213,351	220,581	228,061	235,800	2,208,093
Long Term												
Major Repair	99,641	102,631	105,710	108,881	112,147	115,512	118,977	122,546	126,223	130,009	133,910	1,276,186
Renovation/Upgrades												
Total Cost of Ownership	6,911,462	277,395	286,373	295,646	305,224	315,119	325,339	335,897	346,803	358,070	369,710	10,127,038



Yosemite Community College District - Modesto Junior College

Total Cost of Ownership Projections -By Building

YOSEMITE HALL (SIERRA A)

Building Number

30

Factors

Current Replacement Value	2015	\$25,839,455
Assignable SF		34,931
Gross SF		51,741
Major Repair Percentage	1.5%	
FCI		0.13%
Current Repair Cost	2015	\$33,362
Annual Escalation- Labor+ Mat	3.0%	
Annual Escalation -Utilities	4.0%	

Year Built		2002	
Last Renovation			Adjusted
Elect	\$/GSF	\$ 1.78	\$ 1.78
Nat Gas	\$/GSF	\$ 0.43	\$ 0.43
Water/Sew	\$/GSF	\$ 0.33	\$ 0.33
M&O Staff	\$/GSF	\$ 5.00	\$ 4.64
M&O Expen	\$/GSF	\$ 0.77	\$ 0.77
Total		\$ 8.31	\$ 7.94

Calculated Staffing (FTE)

	Level 3	Level 4
Custodial	1.95	1.56
Maintenance	0.61	0.49

Building Name

YOSEMITE HALL (SIERRA A)

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year TCO
Current Replacement Value	25,839,455											25,839,455
Annual Costs												
Utility- Electric	92,099	95,783	99,614	103,599	107,743	112,052	116,535	121,196	126,044	131,086	136,329	1,242,079
Utility- Gas	21,990	22,870	23,784	24,736	25,725	26,754	27,824	28,937	30,095	31,299	32,550	296,564
Utility- Water	17,075	17,758	18,468	19,207	19,975	20,774	21,605	22,469	23,368	24,302	25,274	230,273
M&O Staff	240,045	247,247	254,664	262,304	270,173	278,278	286,627	295,226	304,082	313,205	322,601	3,074,453
Misc Expense	39,841	41,036	42,267	43,535	44,841	46,186	47,572	48,999	50,469	51,983	53,542	510,270
Total Annual Expenses	411,049	424,693	438,797	453,380	468,457	484,045	500,162	516,827	534,057	551,874	570,297	5,353,639
Long Term												
Major Repair	387,592	399,220	411,196	423,532	436,238	449,325	462,805	476,689	490,990	505,719	520,891	4,964,197
Renovation/Upgrades												
Total Cost of Ownership	26,638,097	823,912	849,994	876,912	904,695	933,370	962,967	993,516	1,025,047	1,057,594	1,091,188	36,157,291

# APPENDIX C

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**Section 5**

Table 5.1.A - Key Performance Indicator Comparisons

Draft