



TOTAL COST OF OWNERSHIP (TCO)

Implementing TCO for Maintenance

Introduction

Santa Barbara City College (SBCC), an Aspen prize winner for community college excellence, opened its door in the fall of 1946. Called Santa Barbara Junior College from its inception, the Santa Barbara Board of Education formally changed the name to Santa Barbara City College in July 1959. Also in the summer of 1959, the institution moved to its present and permanent location on the Santa Barbara Mesa, the former site of the University of California, Santa Barbara. The 74-acre campus is located on a bluff overlooking Santa Barbara Harbor and the Pacific Ocean.

Santa Barbara City College had been successful with the passage of several facilities bonds: 1) 1969 construction bond; 2) 1973 land acquisition bond that ensured the college would have a single, consolidated Mesa campus; and 3) 2008 bond to build the new West Campus, modernize several buildings, improve safety and security, and remove modular buildings. Since 2008, the college has not received voter approval for additional bonds to fund modernization and new construction.

Except for the West Campus building, all other buildings on the campus were built between 1939 and 1977. While modernization has occurred to many of these buildings, a comprehensive review of each building and its condition should serve the college in gathering information to develop a plan to maintain all facilities to an acceptable level. The total cost of ownership (TCO) approach provides useful information to the college community to assist in the decision-making process of categorizing campus facilities in its life cycle. The information will better inform the college of resources needed to procure, maintain, and repair its facilities for maximum efficiency and effectiveness.

The new 2024 ACCJC Standard 3.8 states, “The institution constructs and maintains physical resources to support and sustain educational services and operational functions. The institution ensures safe and effective physical resources at all locations where it offers instruction, student services, and/or learning supports.” Considering this, the TCO approach is designed to be a valuable tool for an institution to maximize financial resources and provides a holistic view of costs associated with an asset. This enables better decision-making, cost reduction, and long-term planning that will provide the college the opportunity to meet this Standard. This same approach can also be used for information technology planning.

The implementation of the TCO will enable Santa Barbara City College to improve facility planning, utilization, maintenance, repair, and replacement to support student success in its signature programs.

TOTAL COST OF OWNERSHIP

The definition of total cost of ownership (TCO) according to APPA (formerly Association of Physical Plant Administrators) is: *APPA Total Cost of Ownership (TCO) is a holistic approach to maximizing return on investment of managed physical assets that includes the summation of all known and estimated costs to include first, recurring, renewal/replacement, and end-of-useful life costs revised at critical decision points to aid in life-cycle asset management decisions.* (APPA.org)

TCO aligns an organization's mission with its investment strategy for an asset's lifecycle including all related infrastructure and business process costs. The objective of TCO is to maximize Return on Investment (ROI) for the effective and sustainable use of capital resources by improving the owner's resource allocation decision making processes in owning/occupying a facility over the entire lifecycle (first, recurring, renewal/replacement, and end-of-useful life) (*Source: APPA TCO Framework*).

The implementation of a Total Cost of Ownership (TCO) process involves the gathering of data to ensure facility assets are adequate and well-maintained to meet the educational mission of the District. The TCO approach takes into consideration all costs associated with owning and occupying a facility over the entire life-cycle (acquisition to demolition), and allows the opportunity to evaluate initial development cost with long term operational cost and ongoing repair, renovation, and upgrades to optimize the value of the facility. As part of this process, future operating and maintenance costs are projected for the District to make budgeting and funding decisions, which includes the staffing needed for custodial, maintenance, and grounds to maintain facilities to the desired level of care by the District.

Operations and Maintenance (Recurring)

Operations and maintenance are daily and periodic costs to maintain the facility. Regardless of current funding and staffing levels along with the efficiency and effectiveness of managing those resources, there are well established benchmarks for estimating preferable maintenance cost allocations. Since the TCO model will be applied to new and renovated facilities, the operating costs that best preserve those capital investments will be utilized.

Daily costs include cleaning, trash removal, litter control, grounds and landscaping, and other routine maintenance that is performed daily to keep the building operational.

Periodic costs include critical maintenance (occasional breakage repair), preventive maintenance and other activities which are performed to keep the facility in good operating order.

- Lease/Rental
- Maintenance
- Operations
- Overhead and Administration

Operating Yearly (APPA M & O)

This cost represents all applicable costs to date related to any preventive, predictive, proactive, and corrective maintenance, as well as repairs, and other asset-related operational costs, such as utilities. Operational costs should include applicable custodial, grounds, security, pest control, and other direct asset operational costs. Utility costs include applicable electricity, natural gas, fuel oil, water and wastewater, reclaimed water, steam, chilled water, renewables, and information technology and telecom associated with building maintenance systems.

Capital Renewal Cost (APPA Renewal)

This cost category includes major repairs, asset replacement/renewal, improvements, and other unique capital asset costs. Determining the most accurate placement of costs may be based on policy, government regulations, or board governing guidelines as determined achievable by the organization.

First Costs 75 Years (APPA End of Life)

The first cost, the original/initial cost of an asset, amortized over the anticipated useful life of a facility estimated at 75 years.

Total Cost of Ownership (APPA TCO)

TCO aligns an organization’s mission with its investment strategy for an asset’s lifecycle including all related infrastructure and business process costs. The objective of TCO is to maximize return on investment (ROI) for the effective and sustainable use of capital resources by improving owners’ resource allocation decision making processes in owning/occupying a facility over the entire lifecycle (first, recurring, renewal/replacement, and end-of-useful life).

The chart below is indicative of the 2022-2023 expense data, which are incorporated into the TCO template as the “Operating Yearly Cost.” Moving forward, these expenses will need to be updated to reflect inflation and other applicable cost increases, including escalation of costs.

	Employee	\$	GSF	\$Per GSF
Utilities		2,117,527	730,018	\$ 2.90
Maintenance	6	1,075,431	730,018	\$ 1.47
Custodial/Grounds & Facilities	39	2,907,515	730,018	\$ 3.98
Total	45	6,100,473		\$ 8.36
			Maintainable SQ.FT	
Grounds		-	5,538,218	\$ -
Total yearly cost				\$ 8.36

Project Name	Year Built	GSF	Temp Space	Net GSF	Project Cost w/o Equipments & Prog. Mgmt	Operating Yearly Cost \$ 8.36	Capital Renewal Cost 0.015	First Cost 75 Years	Total Cost of Ownership
ADMINISTRATION	1939	76454		76454	\$34,578,769.72	\$ 639,155	\$ 518,682	\$ 461,050	\$ 1,618,887
BUSINESS COMM.	1940	35466		35466	\$15,720,593.20	\$ 296,496	\$ 235,809	\$ 209,608	\$ 741,913
CAMPUS BOOKSTORE	1941	18283		18283	\$9,898,577.65	\$ 152,846	\$ 148,479	\$ 131,981	\$ 433,306
CAMPUS CENTER	1942	30384		30384	\$18,674,346.73	\$ 254,010	\$ 280,115	\$ 248,991	\$ 783,117
CHILDRENS CENTER	1977	5588		5588	\$2,669,947.69	\$ 46,716	\$ 40,049	\$ 35,599	\$ 122,364
COSMETOLOGY ACADEMY	1943	10723		10723	\$2,969,364.00	\$ 89,644	\$ 44,540	\$ 39,592	\$ 173,776
DRAMA/MUSIC	1944	46325		46325	\$12,873,188.93	\$ 387,277	\$ 193,098	\$ 171,643	\$ 752,017
EARTH + BIO SCIENCE	1945	46541		46541	\$14,911,443.76	\$ 389,083	\$ 223,672	\$ 198,819	\$ 811,574
ENGLISH SECOND LANGUAGE	1971	5200		5200	\$1,707,375.67	\$ 43,472	\$ 25,611	\$ 22,765	\$ 91,848
FIELD HOUSE	1946	5515		5515	\$2,997,988.51	\$ 46,105	\$ 44,970	\$ 39,973	\$ 131,048
HUMANITIES	1947	45762		45762	\$22,532,208.74	\$ 382,570	\$ 337,983	\$ 300,429	\$ 1,020,983
INTERDISCIPLINARY	1948	39147		39147	\$19,099,598.43	\$ 327,269	\$ 286,494	\$ 254,661	\$ 868,424
LEARNING RESOURCE CTR	1949	52327		52327	\$26,768,207.61	\$ 437,454	\$ 401,523	\$ 356,909	\$ 1,195,886
MARINE TECHNOLOGY	1950	9623		9623	\$5,033,671.79	\$ 80,448	\$ 75,505	\$ 67,116	\$ 223,069
OCCUPATIONAL EDUC	1951	18389		18389	\$9,619,057.52	\$ 153,732	\$ 144,286	\$ 128,254	\$ 426,272
PHYSICAL EDUCATION	1952	64894		64894	\$40,943,434.33	\$ 542,514	\$ 614,152	\$ 545,912	\$ 1,702,578
PHYSICAL SCIENCE	1953	22767		22767	\$12,098,069.15	\$ 190,332	\$ 181,471	\$ 161,308	\$ 533,111
PHYSICAL SCIENCE LECTURE	1954	3883		3883	\$2,119,007.56	\$ 32,462	\$ 31,785	\$ 28,253	\$ 92,500
STUDENT SERVICES	1955	43038		43038	\$2,119,007.56	\$ 359,798	\$ 31,785	\$ 28,253	\$ 419,836
WEST CAMPUS CENTER	1957	30000		30000	\$18,050,767.19	\$ 250,800	\$ 270,762	\$ 240,677	\$ 762,238
ALL WOOD FRAME Bldgs. TOTAL 24 - Except Bldgs. No. 5 & 14		29519		29519	\$34,337,474.00	\$ 246,779	\$ 515,062	\$ 457,833	\$ 1,219,674
Small Buildings Total 19 buildings		8208		8208	\$4,042,408.00	\$ 68,619	\$ 60,636	\$ 53,899	\$ 183,154
SCHOTT CENTER MAIN	1935	20072		20072	\$9,590,406.00	\$ 167,802	\$ 143,856	\$ 127,872	\$ 439,530
SCHOTT CENTER BLDGS. 36 TO 39 & BLDGS. 40 TO 45 TOTAL	1983 -1989	7499		7499	\$1,726,831.00	\$ 62,692	\$ 25,902	\$ 23,024	\$ 111,619
WAKE CENTER BLDGS 25 TO 30 TOTAL	1956	38352		38352	\$20,274,042.00	\$ 320,623	\$ 304,111	\$ 270,321	\$ 895,054
WAKE CENTER SMALL BLDGS. 31 TO 47 TOTAL	1991 TO 2010	16059		16059	\$5,045,819.00	\$ 134,253	\$ 75,687	\$ 67,278	\$ 277,218
TOTAL SB Campus/Schott Center/Wake Center		730,018		730018	\$ 350,401,606	\$ 6,102,950	\$ 5,256,024	\$ 4,672,021	\$ 16,030,996

\$2,907,515.00 - Cutodial, Grounds & Facilities Expenses

These expenses needs to be seperated for TCO Calculations.

Grounds - Maintainable Sq. ft. Estimated

Total

Notes:

1. The Operating Cost/Year = \$8.36 x GSF using Santa Barbara College 2022-23 Data. APPA data was \$5.72 and was not used.
2. Capital Renewal = \$0.015 x CRV with 1.5% of current replacement value per year as an established standard
3. First Cost is amortized over anticipated life of facility estimated as 75 years
4. These calculations do not factor in inflation adjustments
5. The project cost is derived from FUSION - Facilities Condition Index replacement value.

IMPLEMENTING TOTAL COST OF OWNERSHIP FOR MAINTENANCE

Santa Barbara City College completed its analysis of the total cost of ownership of its facilities. The TCO chart indicates the amount of funding needed by the college to maintain its buildings. To implement the TCO for maintenance of the physical facility assets, the district would combine the “Operating Yearly M&O Cost” and the “Capital Renewal Cost” as a method of determining the funding needed to maintain the facilities to an APPA standard Level 3 “Managed Care.”

APPA Maintenance Standards (This chart is detailed further in Appendix A on Page 10.)

Element	Level 1	Level 2	Level 3	Level 4	Level 5
Maintenance	Showpiece Facility <i>(Fully functional; excellent condition)</i>	Comprehensive Stewardship <i>(Usually functional; in operating condition)</i>	Managed Care <i>(Mostly functional; occasional breakdown)</i>	Reactive Management <i>(Frequent breakdowns; inoperative)</i>	Crisis Management <i>(Routine breakdowns; inoperative)</i>

These best practices can be examined through the resources needed for maintaining the buildings on campus and through the detailing of the TCO Operating Yearly Cost and the TCO annual Capital Renewal Cost:

Operating Yearly = \$6,102,950

Capital Renewal = \$5,256,024

ANNUAL TOTAL = \$11,358,974

The Operating Yearly Cost is funded through the unrestricted general fund, whereas the Capital Renewal Cost can be funded through a combination of the unrestricted general fund, scheduled maintenance, and/or bond funds. It is essential for the district to budget for the capital renewal costs to preserve the condition of its assets.

Operating Yearly Cost

The yearly operating cost figure was arrived at by taking the amount spent on all activities in M & O (Maintenance and Operations), including personnel, each year and dividing that amount by the number of gross square feet of buildings that make up the campus. On Page 5, the TCO indicates that SBCC annual spending on M & O has been:

Operating Yearly = \$6,102,950

APPA defines Operating Yearly M & O as a critical aspect of managing and maintaining the physical infrastructure of an organization. It refers to the annual budget allocated for the ongoing upkeep and repair of buildings, grounds, and equipment. This budget covers various expenses related to the daily operation and management of facilities.

There are six key components of the operating costs of M & O:

1. Labor Costs

This is the largest portion of the operating budget. It includes wages, benefits, and training for maintenance staff responsible for routine upkeep, repairs, and day-to-day operations.

2. Maintenance Supplies and Materials.

This is the budget allocation for maintenance supplies and materials. This includes items such as cleaning agents, tools and equipment, spare parts, lubricants, and other consumables required for the tasks of repairing and maintaining the facility.

3. Utilities:

This is the cost of electricity, water, gas, and heating/cooling systems. These costs should be accurately budgeted and tracked to identify changes and ensure efficient use of resources, as well as identifying areas for potential energy savings.

4. Equipment and Machinery:

This is the cost to maintenance and repair specialized equipment and machinery, such as HVAC systems, elevators, boilers, and generators that require a separate budget. This ensures that funds are available for inspections, preventive maintenance, and repairs that are required to assure optimal performance in buildings and minimizes downtime.

5. Contracted Services: Depending on the size and complexity of the facility, it may be necessary to outsource certain services, such as pest control, or specialized equipment maintenance. These contracted services should be budgeted accordingly to ensure the facility's needs are met while staying within the allocated budget.

Maintenance activities that include major replacement of equipment or building components are not part of the annual budget for maintenance. These costs require a budget outside of the annual maintenance budget. The TCO mechanism to capture this information is the capital expenditure budget and it is detailed in the Capital Renewal Cost component of the TCO.

Capital Renewal Cost

TCO Capital Renewal Cost refers to the total expenses incurred in maintaining and upgrading capital assets over their entire lifecycle. This encompasses not only the initial purchasing cost but also includes ongoing maintenance, repairs, and eventual replacements. Understanding TCO capital renewal costs is crucial for the district to make informed financial decisions and ensure the longevity and efficiency of SBCC assets that can be accurately budgeted for the long-term expenses associated with these assets. This holistic view helps in preventing unexpected financial burdens and allows for strategic planning to optimize asset performance and durability.

The calculation of TCO Capital Renewal Cost involves assessing the initial purchase price, estimated lifespan, maintenance and repair expenses, as well as potential upgrade or replacement costs over time. By analyzing these factors comprehensively, the district can determine the true cost implications of their capital assets.

On Page 5, the TCO indicates that annual spending on M & O should be:

Capital Renewal = \$5,256,024

Capital renewal expenditure typically involves funding budgeted for the purpose of maintaining and upgrading the physical assets of an institution. It involves such activities as renovating buildings, replacing outdated equipment, upgrading systems, repairing infrastructure, and addressing deferred maintenance. The key objective behind capital renewal expenditure is to extend the life cycle of assets and avoid costly emergency repairs or replacements. By investing in regular maintenance and improvements, the district reduces the risk of major breakdowns, increases energy efficiency, enhances safety, and provides a better environment for building occupants.

To effectively allocate capital renewal expenditures, an organization typically follows a systematic approach. This involves conducting condition assessments of facilities to identify areas in need of repair or restoration. The assessment can be accomplished through periodic (typically annually) inspections, facility audits, computerized maintenance management systems (CMMS), and enlisting the services of professional consultants.

Once the condition assessment is complete, the SBCC should prioritize capital renewal projects based on the severity of the issues identified and the available budget. This prioritization ensures that critical repairs and enhancements are addressed first, followed by less urgent or discretionary projects. In some cases, institutions may choose to phase out their capital renewal expenditure over a specific period, aligning it with long-term financial planning. This phased approach allows the district to spread out costs over time and implement projects in a more strategic and manageable manner. Additionally, documenting and communicating capital renewal

projects to stakeholders, board members, and building occupants, helps in gaining support and generating a shared understanding of the importance of these investments.

An examination of the TCO, and as illustrated in the chart in Appendix C on Page 18, there is an indication that the district should have budgeted over \$5 million for Capital Renewal Costs in fiscal year 2024. As shown in the chart, the lack of renovation and major repairs has affected the SBCC facilities condition index (FCI). While most of the buildings have incurred renovations and/or upgrades, there has been considerable time since these investments. The FCI indicates that 15 of the 26 buildings listed have an FCI over 50%, which means they are in poor condition. The chart indicates there are some funds available for renovations and upgrades, but these funds are not likely to cover the amount needed to bring these buildings into good working condition. Had the district budgeted several million dollars annually for the needed repairs and renovations over the last decade, the buildings would likely better meet the expectations of college stakeholders.

TCO Operating Yearly Costs and Capital Renewal Costs play a pivotal role in financial planning and asset management. By evaluating the complete cost picture of capital assets, the district can make informed decisions that drive efficiency, longevity, and financial stability that involves proactively investing in the preservation and improvement of physical infrastructure. A systematic approach to condition assessments, prioritization, phased implementation, with effective tracking and reporting, is key to effectively managing the physical assets of Santa Barbara City College.

APPENDIX A

Custodial, Maintenance, and Grounds Staffing per Gross Square Feet

As mentioned earlier, the staffing needed for custodial, maintenance, and grounds to maintain facilities to the desired level of care by the District is a key performance indicator. The higher the gross square feet per staff the lower level of attention.

There is a level of care standards that APPA has established for maintenance, custodial, and grounds. The standards can be used by institutions to develop staffing levels based on the institution’s desired level of care for each of the three areas of maintenance, custodial, and grounds.

Note: Staffing benchmarks for maintenance, custodial, and grounds vary by location, condition, size, and type of facility and require a separate study.

Element	Level 1	Level 2	Level 3	Level 4	Level 5
Maintenance	Showpiece Facility <i>(Fully functional; excellent condition)</i>	Comprehensive Stewardship <i>(Usually functional; in operating condition)</i>	Managed Care <i>(Mostly functional; occasional breakdown)</i>	Reactive Management <i>(Frequent breakdowns; inoperative)</i>	Crisis Management <i>(Routine breakdowns; inoperative)</i>
Custodial	Orderly Spotlessness <i>(Highest level; corporate suite)</i>	Ordinary Tidiness <i>(Typical level; cleaning is maintained; no dirt buildup)</i>	Casual Inattention <i>(Lower expectation; not totally acceptable)</i>	Moderate Dinginess <i>(Becoming unacceptable; dirt is visible)</i>	Unkempt Neglect <i>(Unacceptable; always dirty)</i>
Grounds	Well-Manicured Landscape <i>(State-of-the-art, high-quality maintenance)</i>	High Level of Maintenance <i>(Well-developed public areas)</i>	Moderate Level of Maintenance <i>(Areas not regularly maintained; maybe issues with budgets and staffing)</i>	Moderately Low Level of Maintenance <i>(Not regularly maintained; attention only with safety hazards)</i>	Minimum Level of Maintenance <i>(No regular maintenance; only on demand)</i>

APPA MAINTENANCE STANDARDS (Detailed)

Level 1: Showpiece

Facility Maintenance activities appear highly focused. Typically, equipment and building components are fully functional and in excellent condition. Service and maintenance calls are responded to immediately. Buildings and equipment are regularly upgraded, keeping them current with modern standards and usage.

Level 2: Comprehensive Stewardship

Maintenance activities appear to be somewhat organized, but they remain people dependent. Equipment and building components are usually functional and in operating condition. Service and maintenance calls are responded to in a timely manner. Buildings and equipment are regularly updated, keeping them current with modern standards and usage.

Level 3: Managed Care

Maintenance activities appear to be somewhat organized, but they remain people-dependent. Equipment and building components are mostly functional, but they suffer occasional breakdowns. Service and maintenance call response time are variable and sporadic without apparent cause. Buildings and equipment are periodically upgraded to current standards and usage, but not enough to control the effects of normal usage and deterioration.

Level 4: Reactive Management

Maintenance activities appear to be somewhat chaotic and are people-dependent. Equipment and building components are frequently broken and inoperative. Service and maintenance calls are typically not responded to in a timely manner. Normal usage and deterioration continue unabated, making buildings and equipment inadequate to meet present usage needs.

Level 5: Crisis Response

Maintenance activities appear chaotic and without direction. Equipment and building components are routinely broken and inoperative. Services and maintenance calls are never responded to in a timely manner. Normal usage and deterioration continue unabated, making buildings and equipment inadequate to meet present usage needs.

APPA CUSTODIAL STANDARDS

Level 1: Orderly

This level establishes cleaning at the highest level. It was Spotlessness developed for the corporate suite, the donated building, or the historical focal point. This is show-quality cleaning for that prime facility.

- Floors and base moldings shine and/or are bright and clean; colors are fresh. There is no buildup in corners or along walls.
- All vertical and horizontal surfaces have a freshly cleaned or polished appearance and have no accumulation of dust, dirt, marks, streaks, smudges, or fingerprints.
- Washroom and shower tile and fixtures gleam and are odor free. Supplies are adequate.
- Trash containers and pencil sharpeners are empty, clean, and odor-free.

Level 2: Ordinary

This level is the base upon which this study is established. Tidiness is the level at which cleaning should be maintained. Lower levels for washrooms, changing/locker rooms and similar type facilities are not acceptable.

- Floors and base moldings shine and/or are bright and clean. There is no buildup in corners or along walls, but there can be up to two days' worth of dirt, dust, stains, or streaks.
- All vertical and horizontal surfaces are clean, but marks, dust, smudges, and fingerprints are noticeable with close observation.
- Washroom and shower tile and fixtures gleam and are odor free. Supplies are adequate.
- Trash containers and pencil sharpeners are empty, clean, and odor-free.

Level 3: Casual

This level reflects the first budget cut, or some other staffing- related Inattention problem. It is a lowering of normal expectations. While not totally acceptable, it has yet to reach an unacceptable level of cleanliness.

- Floors are swept clean, but upon observation dust, dirt, and stains, as well as a buildup of dirt, dust and/or floor finish in corners and along walls can be seen.
- There are dull spots and/or matted carpet in walking lanes and streaks and splashes on base molding.
- All vertical and horizontal surfaces have obvious dust, dirt, marks, smudges, and fingerprints.
- Lamps all work and all fixtures are clean.
- Trash containers and pencil sharpeners are empty, clean, and odor-free.

Level 4: Moderate

This level reflects the second budget cut, or some other significant Dinginess staffing-related problem. Areas are becoming unacceptable. People begin to accept an environment lacking normal cleanliness. In fact, the facility begins to constantly look like it requires a good “spring cleaning.”

- Floors are swept clean but are dull. Colors are dingy and there is an obvious buildup of dust, dirt and/or floor finish in corners and along walls. Molding is dull and contains streaks and splashes.
- All vertical and horizontal surfaces have conspicuous dust, dirt, smudges, fingerprints, and marks that will be difficult to remove.
- Less than 5 percent of lamps are burned out and fixtures are dingy.
- Trash containers and pencil sharpeners have old trash and shavings. They are stained and marked. Trash cans smell sour.

Level 5: Unkempt

Neglect - this is the final and lowest level. The trucking industry would call this “just-in-time cleaning.” The facility is always dirty, with cleaning accomplished at an unacceptable level.

- Floors and carpets are dirty and have visible wear and/or pitting. Colors are faded and dingy and there is a conspicuous buildup of dirt, dust and/or floor finish in corners and along walls. The base molding is dirty, stained, and streaked. Gum, stains, dirt dust balls, and trash is broadcast.
- All vertical and horizontal surfaces have major accumulations of dust, dirt, smudges, and fingerprints, as well as damage. It is evident that no maintenance or cleaning is done on these surfaces.
- More than 5 percent of lamps are burned out and fixtures are dirty with dust balls and flies.
- Trash containers and pencil sharpeners overflow. They are stained and marked. Trash containers smell sour.

APPA GROUNDS STANDARDS

LEVEL 1

State-of-the-art maintenance applied to a high-quality diverse landscape. Associated with high-traffic urban areas, such as public squares, malls, government grounds, or college/university campuses.

- Turf Care: Grass mowed according to species and variety, at least once every 5 days, as often as every 3 days. Aeration required at least 4 times per year. Reseeding as needed. Weed control to no more than 1% of surface.
- Fertilizer: Adequate fertilizer applied to plant species according to their optimum requirements.
- Irrigation: Sprinklers irrigated by electronic automatic controls. Frequency follows rain fall, temperature, season length, and demands of individual plant species.
- Litter Control: Minimum of once per day, seven days per week. No overflowing receptacles.
- Pruning: Frequency dictated by species, length of growing season, design concept also a controlling factor i.e., using clipped method versus natural-style hedges.
- Disease and Pest: Controlling objective to anticipate and avoid public awareness of any problem.
- Surfaces: Sweeping and cleaning frequency as such that at no time does accumulation of debris distract from look or safety of the area.
- Repairs: Done immediately when problems are discovered.
- Inspections: A staff member conducts inspections daily.

LEVEL 2

High-level maintenance. Associated with well-developed public areas, malls, government grounds, or college/university campuses. Recommended level for most organizations.

- Turf Care: Grass cut once every 5 days. Aeration is required no less than 2 times per year. Reseeding when spots are present. Weed control to no more than 5% of surface.
- Fertilizer: Adequate fertilizer level to ensure all plants are healthy and growing vigorously.
- Irrigation: Sprinklers irrigated by electronic automatic controls. Frequency follows rain fall, temperature, season length, and demands of individual plant species.
- Litter Control: Minimum of once per day, 5 days per week. Accumulation depends on the size of container available to public.
- Pruning: Usually done at least once per season, species planted may dictate more frequent attention.
- Disease and Pest Control: Done when disease or pest are inflicting noticeable damage or reducing vigorous plant material growth.
- Surfaces: Should be kept clean, repaired or replaced when their condition has noticeable deterioration.
- Repairs: Done whenever safety, function, or appearance is in question.

- Inspections: A staff member conducts inspections daily when regular staff is scheduled.

LEVEL 3

Moderate-level maintenance. Associated with locations that have moderate to low levels of development or visitation, or with operations that, because of budget restrictions, cannot afford a high level of maintenance.

- Turf Care: Grass cut at least once every 10 days. Normally not aerated unless turf indicates need. Reseeding done only when major bare spots appear. Weed control to no more than 15% of surface.
- Fertilizer: Applied only when plant vigor seems to be low. Low-level application done once per year.
- Irrigation: Depends on climate. Areas with more than 25 inches per year rely on natural rainfall. Areas with less than 25 inches per year have some form of supplemental irrigation, normally 2 to 3 times per week.
- Litter Control: Minimum service of 2 to 3 times per week.
- Pruning: When required for health or reasonable appearance.
- Disease and Pest Control: Done only to address epidemics or serious complaints.
- Surfaces: Cleaned on complaint basis. Repaired or replaced as budget allows.
- Repairs: Done whenever safety or function is in question.
- Inspections: Inspections are conducted once per week.

LEVEL 4

Moderate to low-level maintenance. Associated with locations affected by budget restrictions that cannot afford a high level of maintenance.

- Turf Care: Low-frequency mowing schedule based on species. Low growing grasses may not be mowed, high grasses receive periodic mowing. Weed control limited to legal requirements for noxious weeds.
- Fertilizer: No fertilization.
- Irrigation: No irrigation.
- Litter Control: Once per week or less, complaints may increase level above one servicing.
- Pruning: No regular trimming. Safety or damage from weather may dictate actual work schedule.
- Disease and Pest Control: None, except where the problem is epidemic and epidemic conditions threaten resources or the public.
- Surfaces: Replaced or repaired when safety is a concern and budget is available.
- Repairs: Done whenever safety or function is in question.
- Inspections: Conducted once per month.

LEVEL 5

Minimum-level maintenance. Associated with locations that have severe budget restrictions.

- Turf Care: Low-frequency mowing schedule based on species. Low growing grasses may not be mowed, high grasses receive periodic mowing. Weed control limited to legal requirements for noxious weeds.
- Fertilizer: No fertilization.
- Irrigation: No irrigation.
- Litter Control: On demand or complaint basis.
- Pruning: No pruning unless safety is involved.
- Disease and Pest Control: No control except in epidemic or safety situations.
- Surfaces: Serviced only when safety is a consideration.
- Repairs: Done whenever safety or function is in question.
- Inspections: Inspections are conducted once per month.

APPENDIX B

The TCO template can assist the district in maintenance staffing and other maintenance expenses for new buildings. Depending on the nature and utilization of the building, estimates can be increased or decreased based upon the building coming online (i.e., gymnasium, classroom, offices, etc.).

Example Scenario

XYZ District is proposing to build a new classroom/laboratory building. The construction cost of the proposed building is \$10,000,000 and is adding 20,000 ASF to the college's inventory. The plans also include 20,000 square feet of new landscaping and turf.

Project Name – New Classroom/lab building

Year Built – Date

GSF – 20,000

Project Cost - \$10,000,000

Operating Year Cost – Multiply 20,000 x **Operating Yearly Cost** of \$8.36 = \$167,200

Capital Renewable Cost – Multiply **Project Cost** of \$10,000,000 x **Capital Renewal Cost** \$0.015 = \$150,000

First Cost – Divide **Project Cost** \$10,000,000/**First Cost (75 Years)** 75 = \$133,000

Total Cost of Ownership - \$167,500 + \$150,000 + 133,000 = \$450,200

Project Name	Year Built	GSF	Project Cost	Operating Yearly Cost \$8.36	Capital Renewable Cost \$0.015	First Cost (75 years) (4)	Total Cost of Ownership (TCO) (2+3+4)
New Classroom/lab building	Date	20,000	\$10,000,000	\$167,200	\$150,000	\$133,000	\$450,200

APPENDIX C

Santa Barbara City College Building Maintenance Matrix

Building	Year Built	Year Renovated	FCI	Gross Sq Ft	2024 Capital Renewal Costs	FY	Current Balance Scheduled Maintenance	Current Balance Equipment
ADMINISTRATION	1939	1991	59.35%	76454	\$518,681.55	2022-23		\$1,895,111.00
BUSINESS COMM.	1940	2001	9.96%	35466	\$235,808.90	18-19 Schd Main	\$239,345.00	
CAMPUS BOOKSTORE	1941	1993	11.54%	18283	\$148,478.66	19-20 Schd Main	\$96,262.00	
CAMPUS CENTER	1942	1983	61.01%	30384	\$280,115.20	21-22 Schd Main	\$5,166,233.00	
CHILDRENS CENTER	1977		61.78%	5588	\$40,049.22	District Projects	\$3,304,193.00	
COSMETOLOGY ACADEMY	1943	1974	58.86%	10723	\$44,540.46	Stad Turf	\$351,780.00	
DRAMA/MUSIC	1944	2011	50.51%	46325	\$193,097.83	Classrooms	\$294,161.00	
EARTH + BIO SCIENCE	1945	1996	61.25%	46541	\$223,671.66	State Maint	\$7,087,438.00	
ENGLISH SECOND LANGUAGE	1971	2014	117.04%	5200	\$25,610.64		\$16,539,412.00	
FIELD HOUSE	1946	1997	9.95%	5515	\$44,969.83			
HUMANITIES	1947	2014	66.97%	45762	\$337,983.13			
INTERDISCIPLINARY	1948	2013	15.67%	39147	\$286,493.98			
LEARNING RESOURCE CTR	1949	1997	18.09%	52327	\$401,523.11			
MARINE TECHNOLOGY	1950	1997	61.41%	9623	\$75,505.08			
OCCUPATIONAL EDUC	1951	2013	60.18%	18389	\$144,285.86			
PHYSICAL EDUCATION	1952	2014	55.23%	64894	\$614,151.51			
PHYSICAL SCIENCE	1953		61.24%	22767	\$181,471.04			
PHYSICAL SCIENCE LECTURE	1954	2015	54.70%	3883	\$31,785.11			
STUDENT SERVICES	1955	2000	57.68%	43038	\$31,785.11			
WEST CAMPUS CENTER	1957	2018	0.00%	30000	\$270,761.51			
ALL WOOD FRAME BLDGS. TOTAL 24 - EXCEPT BLDGS. NO. 5 & 14				29519	\$515,062.11			
SMALL BUILDINGS TOTAL 19				8208	\$60,636.12			
SCHOTT CENTER MAIN	1935	1981	29.91%	20072	\$143,856.09			
SCHOTT CENTER BLDGS 36 to 45	1983 -1989			7499	\$25,902.47			
WAKE CENTER BLDGS 25 to 30	1956	1981	58.01%	38352	\$304,110.63			
WAKE CENTER SMALL BLDGS 31 to 47	991 TO 2010			16059	\$75,687.29			
TOTAL				730018	\$5,256,024.09			
			FCI Color Code					
Source: CW/P TCO Analysis Report; CW/P Consultant's Report)			*below 5% excellent					
			**below 10% good					
			***10% to 50% fair					
			****Above 50% poor					

Source: April 23 Board Meeting Materials