The How To of TCO

Total Cost of Ownership

Purpose: Total Cost of Ownership (TCO) provides information on the overall operating costs of the specific facility studied. The TCO information can be used as a planning tool for both budget purposes and providing necessary renovation data, or the need for new construction. This study can be prepared in a detailed format including all aspects of purchasing, building, staffing and operating a specific building, or the TCO could be prepared at a more summary level of information. Each choice would depend on the need of the study. This how to manual will provide documentation on how to begin a TCO and the tools necessary for expansion to a detailed level of study. A reasonable knowledge of Excel will be needed to complete the TCO document.

Riverside City College Total Cost of Ownership (TCO) Arrangement

Riverside City College has the Total Cost of Ownership (TCO) broken out into 4 distinct categories as follows:

1. **Space Management -** This category is the decision-making point of remodel/repurpose of existing facility, replacement or new construction. Information contained in this section focuses on Planning & Development, Utilization and Programming needs.

2. **Project Delivery Management –** This category addresses the design, construction & Start up/commissioning costs associated with Capital projects.

3. **Operations Management –** This category addresses operations (salaries and benefits of all staff, supplies, services, equipment and technology), Planned Maintenance, and User Requested Needs and repairs.

4. **Capital Asset Management –** This category addresses capital renewal, replacements, Improvements, retrofits/Upgrade and Disposal.

In order to fully assess College Capital Project decisions, all four sections of the TCO must be completed in its entirety. For the purposes of stainability, an annual review plus assessment of an applied TCO must be completed by the Physical Resources Advisory Group (PRAG) and submitted to the Resources Development and Administrative Services Leadership Council (RDAS&LC) for acceptance. Thereafter, the results will be provided as information to the Strategic Planning Executive Council (SPEC).

TCO Summary: As stated this is the summary document that pulls essential information from the 4 categories detailed above. To start fill in the name of the facility being studied, this is chosen from a drop down menu that is pulling from the included *Fusion Gross Square Footage by Location Data Tab*. The data on this tab needs to be maintained and updated as facilities might change on campus. Choosing the **Name of Facility** will auto populate the **State Inventory Building Number, Year Built, Age of Facility, Last Addition, Gross Square Footage (GSF), and Assignable Square Footage (ASF).** ***On the four subsequent tabs if the Name of Facility field is blank there will be other fields on that page displaying a #N/A. Once the Name is chosen the #N/A will change to the correct data.***

All other data on this Summary will automatically pull from the other active tabs:

- **Weekly Student Contact Hour Capacity (WSCH)** pulls from the *Space Management Tab*
- *Project Delivery Management* pulls project totals from the *Project Delivery Management Tab*
- **Operations Management** (Operations, Planned Maintenance, User Requested Needs and Repairs) pulls from the *Operations Mgmt. Tab*
- **Capital Asset Management** – (Capital Renewal, Replacements, Improvements, Retrofits/Upgrade and Disposal) pulls total data costs from the *Capital Asset Mgmt. Tab*
- **TCO Assessment by PRAG (Physical Resource Advisory Group)** provides a recommendation based on outcomes of TCO data.
- **Project Recommendation** will need to be chosen from the drop down menu.
- **Total Cost of Ownership Pie Chart** will adjust itself based on the completed data that is pulled together on the *Charting Tab.*

Space Management: Begin by providing general information about the project. Who is the requestor, Department/Division, Project Title, and the Planning Year. Choose from the dropdown menu if the project New, Replacement, Remodel/Repurpose or Existing and fill in the date. Once again fill in the **Name of Facility** and the following spaces will auto populate, the **State Inventory Building Number, Year Build, Age of Facility, Last Addition, Gross Square Footage (GSF), Assignable Square Footage (ASF), and the efficiency percentage (ASF/GSF).**

Add Space Management Data:

- **Project Description** is a free form field to be used for describing the scope of the project. Depending on the length of this text the row height may need be adjusted.

- **Project Justification** is a free form field to be used for providing justification for the project overall or each area of remodel work to be completed. Rows may be inserted here to allow for more specificity that may be tied to different project areas. Depending on the length of this text the row height may need to be adjusted.

- **Condition and Efficiencies of Building** will be used to describe the Present Condition of the building. Rows may be added and deleted based on overall need and project size. Choose from the drop down menu to select the area of the building that will be discussed. Maintenance and Operations (M&O) will need to be utilized as a source of data for this section, include data provided by M&O in backup spreadsheets. Add descriptions and comments in the free form field. Depending on the length of this text the row height may need to be adjusted. Please note that the State Chancellor's Office completes a facility assessment every three (3) years for all physical structures on campus within this range. This assessment is entered into FUSION and describes building deficiencies and the estimated costs to repair, which can be used for remodel/repurpose or renovation discussions regarding capital assets.

- **Renovation Section includes Estimated Cost to Fully Renovate Building**. This data can be found in FUSION, along with the recent renovation information, dates, and costs. This section will require access to the FUSION system, as well as, a good working knowledge of moving around on this site. Maintenance and Operations (M&O) will need to be utilized as a source of data for this section, include data provided by M&O in backup spreadsheets. Describing the Renovation section is a free form field the can be expanded as needed.

- **Energy Efficiencies** is sectioned off to address multiple areas of each building energy needs, rows may be added or deleted as needed. Choose from a drop down menu for the specific energy area to be discussed. Describing the Energy Efficiency section is a free form field the can be expanded as needed. Maintenance and Operations (M&O) will need to be utilized as a source of data for this section, include data provided by M&O in backup spreadsheets. Please note that the State Chancellor's Office completes a facility assessment every three (3) years for all physical structures on campus within this range. This assessment is entered into FUSION and describes building deficiencies and the estimated costs to repair, which

can be used for remodel/repurpose or renovation discussions regarding capital assets.

- **Sustainability** is a free form field to add comments that describe and discuss the overall buildings energy sustainability. This free form field can be expanded as needed.

- **Square Footage Data**: Gross, Assignable and Efficiency are automatically populated when the *Name of Facility* is chosen at the top of this page; data is pulling from the FUSION table.

- **Programs/Services Housed in the Facility** is a free form field, use this area to list all instructional programs and support services housed in the building.

- **Analysis of Interior Space:** Classroom, Laboratory, Office, Library, AV/TV, Physical Education, Assembly, Inactive and Other Space data is automatically populated when the *Name of Facility* is chosen at the top of this page; data is pulling from the FUSION table. Free form fields are provided to provide additional information about space usage.

- **Capacity Load Ration/ Utilization of Facility**: Capacity –to-load ratios establish a measure of the "effectiveness" of the utilization of certain spaces on campus. Essentially the ratios in the TCO compare what the existing space in the college inventory can support to the actual demand for the space. Enter the classroom and laboratory use in hours.

- **Weekly Student Contact Hour Capacity (WSCH)**: WSCH represents a total number of hours faculty contacted students in a department, division, or an institution. The TCO should contain the maximum capacity, current capacity and currently generated WSCH by program or discipline.

Project Delivery Management: Begin by providing general information about the project. Who is the requestor, Department/Division, Project Title, Planning Year, and fill in the date.

- **Total Project Cost (Capital Outlay)** is a breakdown of One-Time Costs. These costs can be provided as budget, estimated at the decision making point, or if the building remodel/renovation is in progress, or provided as actual costs if the project has been completed and finally provide estimated costs for secondary effects. Amounts should be defined as Design Costs, Construction/Acquisition Costs, Architecture/Engineering Soft Costs, Start-up/Commissioning Costs and Site

Improvement.   Chose New or Remodel from the dropdown menu on the right side, and add the one-time costs as appropriate for each section. Totals are set to calculate for this section.

- **Project Funding Sources** provides project budget amounts and the source of the project budget; State Funding, Local Funding (including donations), Grant Funding and College Contribution (budgeted resources); add the budget information as defined along with any grant or resource definition to the right if necessary. Totals are set to calculate for this section.

- **Funding Sources Over / Under Project Costs** calculates if the project is within the budget parameters for design, construction and start-up commissioning.

Operations Management: Begin by providing general information about the project. Who is the requestor, Department/Division, Project Title, Planning Year, and fill in the date. This tab calculates Operation Management Costs by including Salaries and Benefits for staff working in the facility, Faculty and Counselor Equipment Costs, Supplies, Services and Equipment costs, Technology costs and Annual Operating costs.

- **Salaries and Benefits** are added to this section first by position classification; either Certificated Administrator/Manager, Classified Manager, Full-Time Classified, Permanent Part-Time Classified (add position #1, #2, #3 etc. for multiple managers or classified positons) , Full Time Faculty or Full Time Counselor/Librarian.
  o Select the Job Title from the drop down menu for each line that a position is identified. By selecting the job title, the ongoing salary and benefits will calculate based on current salary schedules and benefit ratings (current thru the FY 15-16 contract year), Step 1, plus fixed costs and health and welfare. Add or delete rows here as needed, copy row formatting into any added new rows.
  o Faculty positions are calculated based on total FTE, at a salary placement of H-6, plus fixed costs and health and welfare. Add additional rows for total faculty FTE by discipline *(i.e. Nursing, Math, Chemistry, and Physical Science)* and once again copy formatting from the previous rows.
  o Counselor/Librarian positions are calculated based on total FTE at a placement of H-6 as well, plus fixed costs and health and welfare.
  o Student Employees are calculated at a total number of estimated hours at $9.00 per hour, plus fixed costs.
  o Associated Faculty are added by discipline and calculated by total overall FTE, at the highest hourly rate of Group 3, Step 3, plus fixed costs.
  o Salaries and Benefits are totaled at the end of the staffing section.

- **New FT Faculty & Counselor Equipment Allocation** will need to be calculated based on any NEW faculty or counselor positions added to the previous year' base faculty count.

- **Supplies, Services and Equipment:** Operating supplies, services and equipment should be added here, but added by department/discipline. If this project TCO is not a new building then all costs should be recorded in the Ongoing Column. Backup spreadsheets can be added to the project file in order to accurately inventory and list all supplies, services and operating equipment (equipment here should be different than technology equipment) necessary for the operating of all departments within this building.

- **Technology:** Data here is pulled from the Technology Estimator Tab, and is inclusive of Computer Hardware/Software and IMC Equipment.

- **Operating Expenses - Buildings:** is compiling all Building Maintenance and Utility costs, inclusive of Custodial Services, Security Services, Grounds, Mandated Costs, Telephone, Waste Hauling, etc. On a separate tab within this file all building operational contracts should be tracked and calculated for annual adjustments, as well as tabs for annual costing and projections for utilities, telephone and cell phones, custodial and grounds costs. All back up spreadsheets should be totaled and feed into this Operating Expenses tab.

- **Capital Asset Management:** Begin by providing general information about the project. Who is the requestor, Department/Division, Project Title, Planning Year, and fill in the date. This tab is a summary of data collected from various sources, including Facilities for a complete listing of building equipment (i.e. HVAC, elevators, lighting, roof, etc.), furniture and classroom equipment based on life cycle. Separate tabs should be completed to gather all data and summarize into the Capital Asset Management tab. Also included here will be construction costs, related to swing space, demolition and moving costs, etc. All totals here are brought forward to the *Summary Tab*.

- **TCO Assessment by PRAG** will be used by shared governance college committees to grade the validity of each proposed project, as well as, to review operating costs for a current facility. Approval Date of this Assessment will be transferred to the *Summary Tab.*

- **Technology Estimator** provides a tool to estimate the annualized cost of technology items when estimated life cycles are included in the calculations. Additionally this estimator provides a look at upgrade, replacement costs, warranties, software licenses and training costs. Data collected here is transferred to the *Operations Management Tab.*

- **Reference Tables and Schedules that must be included:**

Administrator Job Titles	Classified Job Titles
Short Term Non Classified Titles	TCP Full Time Faculty
TCP Full Time Counselors	Student Employment
Instructional Sections	M&O Standards
FUSION GSF by Location	