OVERVIEW

This EFMP was developed through an integrated process that considered input from many sources including the ideas and aspirations voiced by members of the internal College community, such as faculty, staff, administrators, and students, as well as the ideas and aspirations voiced by residents in the communities that surround the College. These varied sources described a remarkably consistent vision of the qualities desired for Mt. SAC's campus.

This input was used in facilities planning to understand needs , identify objectives, and apply best practices. This chapter describes each of the following five resources that influenced the facilities plan presented in Chapter 10: *Facilities Recommendations* and Chapter 11: *Site Infrastructure and Improvements Recommendations.*

IMPLICATIONS OF THE MASTER PLAN THEMES

Interviews were conducted as primary resources for the development of this EFMP. Approximately 170 faculty, staff, managers, and administrators met twice with members of the master plan consultant team. Chapter 6: *Master Plan Themes* presents a synthesis of this input as well as the Implications for Facilities. A consolidated list of the facilities themes is included in this chapter in the section titled Implications of the Master Plan Themes.

STUDENT FEEDBACK AND COMMUNITY FEEDBACK

Students and members of the public were invited to contribute their recommendations about the factors the College should consider in long-term planning. These two sections summarize the input gathered at student focus group meetings and public meetings.

PROJECTION OF SPACE NEEDS

Facilities recommendations are also based on data. The first of these two data-informed sources is the College's growth forecast, which is used to estimate the amount of space that would be needed to accommodate the projected enrollment. The second of these data-informed sources is California Code of Regulations Title 5 Educational Space Standards. The findings and methodology for using these two resources are described in this chapter in the section titled Projection of Space Needs.

SUSTAINABILITY OBJECTIVES

In support of Mt. SAC's commitment to environmental sustainability, the EFMP process included objectives to guide planning for this key area. These Sustainability Objectives were used to inform the scope and design of facilities and site improvements.

BEST FACILITIES PLANNING PRACTICES

The section titled Best Facilities Planning Practices explains a set of best practices recommended by the EFMP Planning Consultant Team, that were reviewed by the Master Plan Steering Task Force and were presented at other College and community meetings to guide the discussion and validation of the EFMP facilities recommendations.
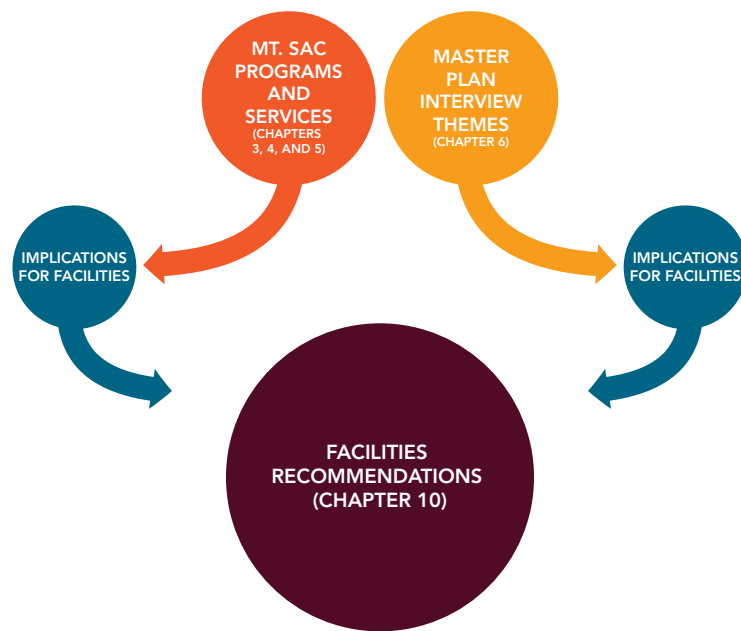
IMPLICATIONS OF THE MASTER PLAN THEMES

The interviews with faculty and staff from every College program and service were conducted by teams that included both educational and facilities planners. This approach helped the planners understand the complex relationship between the ways that Mt. SAC's employees teach and work and the physical attributes of the campus environment. Due to their broad participation and comprehensive nature, these interviews are rich and important sources of input for facilities planning.

Interview participants were asked to identify Challenges and Opportunities that they are currently addressing or anticipate addressing in the coming decade, and to describe the facilities they would need to address those Challenges and Opportunities. Each unit's Challenges and

Opportunities and associated Implications for Facilities are included in Chapter 3: *Instructional Programs*, Chapter 4: *Student Services*, and Chapter 5: *Adminisrative Services and Human Resources*.

The Challenges and Opportunities and Implications for Facilities sections in these three chapters were then analyzed to identify the common programmatic and facilities themes, which are presented in Chapter 6: *Master Plan Themes*. The facilities themes are planning and design ideas that respond to the way that faculty, staff, and administrators see themselves addressing the Challenges and Opportunities they identified. These ideas informed the descriptions of projects that are documented in Chapter 10: *Facilities Recommendations*. Each project

MT. SAC PROGRAMS AND SERVICES (CHAPTERS 3, 4, AND 5)

MASTER PLAN INTERVIEW THEMES (CHAPTER 6)

IMPLICATIONS FOR FACILITIES

IMPLICATIONS FOR FACILITIES

FACILITIES RECOMMENDATIONS (CHAPTER 10)

9.2

description answers the question: How will this project address the Implications for Facilities of the Challenges and Opportunities described in Chapters 3, 4, 5, and 6?

The following is a consolidated list of the facilities themes associated with the programmatic themes for Instruction, Student Services, Administrative Services, and Human Resources.

INSTRUCTION

Active Learning
o   Space allowing for interaction and project work in classrooms and offices
o   Space that is easy to rearrange
o   Space that allows for variety of instructional methods
o   Library space and laboratories for student research and after-hours independent study
o   Classrooms with multiple display walls
o   Outdoor space for technical demonstrations and performances

Flexible Space
o   Flexibility for both instructional and office space
o   Flexibility in the amount and configuration of space
o   Space for larger group activities, such as film viewing, lectures, and exhibits

More Open Computer Laboratories
o   Increased space for Library, Learning Centers, and open access computer laboratories
o   Inclusion of open access time for students

o   Specific software programs for coursework as well as digital library and information literacy resources
o   Access to printers
o   Instructional laboratories for three-hour blocks that can also be scheduled for open hour use

Appropriate Adjacencies
o   Courses sharing resources located together
o   Space for Counseling, Learning Centers, and independent study close to instruction
o   Easy access to Counseling, Library, and Learning Centers
o   Student resources and support located together
o   Multi-use laboratories and storage shared between/among disciplines

Office/Collaboration Space
o   Office complexes with collaboration space, including office space for adjunct faculty
o   Small group rooms and alcoves
o   Easy access for student and faculty interaction
o   Larger space for professional development

Makerspace/Innovation Laboratory
o   Space that is shared between programs and open for all students
o   Space that can house a variety of technology, such as three dimensional printers
o   Space that supports research and innovation
o   Space that can be used for hands-on project work

IMPLICATIONS OF THE MASTER PLAN THEMES *(cont.)*

Outdoor Instructional Space
o   Outdoor laboratories
o   Research space
o   Educational signage for plants, geology, and sustainability initiatives

Simulation and Virtual Reality Laboratories
o   Current and future instructional technology
o   Laboratories that mimic industry settings

Storage and Support Space
o   Storage for instruction with easy access, including access from corridor
o   Laboratory storage and support space

STUDENT SERVICES
Add open computer laboratories
o   Increased space for Library, Learning Centers, and open access computer laboratories
o   Inclusion of open access time for students
o   Specific software programs for coursework
o   Access to printers

Active Learning
o   Space allowing for interaction and project work in classrooms and offices
o   Space that is easy to rearrange
o   Ensure access through the use of Universal Design, compliance with Americans with Disabilities Act standards, ergonomic accommodations, and special accommodations such as service animals

Flexible Space
o   Follow an open space, flexible-with-options model to allow for the fluid rotation of staff members and workstations
o   Flexibility in the amount and configuration of space
o   Space for periodically scheduled activities for larger groups, such as film viewing, lectures, and exhibits

Office/Collaboration Space
o   Office complexes with collaboration space
o   Small group rooms and alcoves
o   Easy access for interactions with students through intuitive wayfinding and branding of services
o   Options for levels of enclosure/privacy integrated within open interaction space
o   Outdoor collaboration space
o   Robust and open access to technological tools

Appropriate Adjacencies
o   Co-locate Student Services to increase student access to and comprehension of the services
o   Space for Counseling, Learning Centers, and independent study close to instruction
o   Student resources and support located together

Large Indoor and Outdoor Assembly Spaces
o   Space that supports a wide variety of activities, such as orientations, workshops, training, recognition events, and group activities
o   Flexible capacities and sizes of space
o   Space that could be used by the community

ADMINISTRATIVE SERVICES AND HUMAN RESOURCES

Flexible and Well-equipped Space

o   Sufficient and well outfitted space for equipment and work activities
o   Flexibility in the amount and configuration of space
o   Building utilities and support systems designed with added capacity for future needs

Office/Work/Collaboration Space

o   Space to meet with, serve, and train students, faculty, and staff
o   More quality office space and workshop space to support increasing staffing
o   Office and support space for sustainability-focused staff and operational systems
o   New Campus Safety facility

Storage and Support Space

o   More secure storage for records, equipment, furniture, and supplies
o   More support space for vehicles, vehicle maintenance, and fuel

Appropriate Adjacencies

o   Satellite Campus Safety office in the campus core
o   Offices for Information Technology and Technical Services staff located near the faculty and staff that they serve

STUDENT FEEDBACK

In late spring 2017 Mt. SAC students were invited to share their perceptions of the College's facilities at one of five focus groups. A total of 57 students discussed the following questions.

Students were asked to think about the campus spaces and facilities they use at Mt. SAC, including parking, buildings, and places to learn, study, eat, hang out, relax, and interact with others. They were then asked the following four questions about these types of spaces:

o   What works well about these spaces?
o   What is missing?
o   What needs work?
o   What are the challenges with these spaces?

Their feedback is organized into the following summary of common themes.

THREE TYPES OF SPACE: VERY QUIET, MODERATE NOISE/GROUP WORK, LOUD/SOCIAL SPACE

Students expressed concern about overcrowding and misuse of spaces on campus. In general, the students want to have ample access to three types of spaces: (a) the silent or very quiet space, which would be used for individual/silent studying; (b) a place with moderate noise (like a coffee shop environment, but not like the dining areas which feel too formal) where students can work either in a group or individually; and (c) a recreation space where students are able to hang out between classes without worrying about interrupting students trying to study.

PARKING

Students were concerned with the lack of parking available on campus and the long distances they have to walk once they are able to find parking.

SECURITY/SAFETY

Students also expressed concern about their safety when walking back to their cars late at night. They would like to see more blue emergency lights around campus, along with more readily available security guards to assist in escorting students to their cars.

WIFI

Inconsistent wifi access and strength was a common concern of focus group participants. They explained that poor wifi connections made both social and scholastic attempts difficult.

ACCESS TO OUTLETS

Participants explained that they often have trouble finding outlets that are both available and in working condition.

FOOD OPTIONS

Food concerns on campus revolved around a few key concepts: cost, time, and EBT/food stamps. Students explained that the food from Mountie Café was too expensive, while the WOW café had better options, but the food took longer to receive. Students also explained that they often have to walk off-campus to buys food at a retailer that accepts EBT/food stamps.

WATER STATIONS

Students would like to see more water refill stations across campus. They are interested in sustainable options and believe water refill stations will promote this initiative.

COMPUTER ACCESS

Students explained that although there are specialized computer laboratories on campus, they have trouble accessing general computers unless they arrive on campus very early in the morning.

The full report of the Student Focus Groups is available at <insert web address>.

COMMUNITY FEEDBACK

In February and March 2017 members of the communities served by Mt. SAC were invited to attend public workshops hosted by members of the Board of Trustees. The workshops introduced the master plan, gathered community feedback, and informed the public about the College's programs and resources. Approximately 90 community members provided feedback during these public workshops.

Each workshop began with a brief presentation about Mt. SAC and an introduction to the master plan project. After the presentation, community members were invited to provide feedback and obtain information at one or more of five stations. Each station featured a different topic:

o   Campus buildings and facilities
o   Transportation and parking
o   Community destinations on campus
o   Educational programs and services
o   General Mt. SAC information

The feedback gathered in these community meetings is organized into the following eight themes that are listed below with sample comments. It is important to note that the comments are based on people's experiences and perceptions, sometimes from many years ago. Their feedback may or may not accurately reflect current conditions on or around the College.

SAFETY
o   Improve lighting and pedestrian-vehicular interface, particularly along Grand Avenue

TOWN/GOWN INTEGRATION
o   Increase connections with neighboring communities, including partnerships with local businesses and invitations to local residents to use College resources

ENERGY EFFICIENCY
o   Modernize campus facilities to reduce Mt. SAC's carbon footprint

SIGNAGE AND WAYFINDING
o   Add prominent gateways or entrances onto campus
o   Add signs to improve internal campus navigation

BUILDING IMPROVEMENTS
o   Add space for career technical education and student life programs
o   Update restrooms across campus

CURRICULUM AND PROGRAMMING
o   Increase support for returning adult students
o   Add job preparation skills, such as interviewing skills

CAMPUS ACCESS
o   Improve pedestrian connectivity to the surrounding residential communities and businesses

PARKING AND TRAFFIC
o   Increase availability and visibility of visitor parking

The full report of the feedback received in the spring 2017 public workshops is available at <insert web address>.

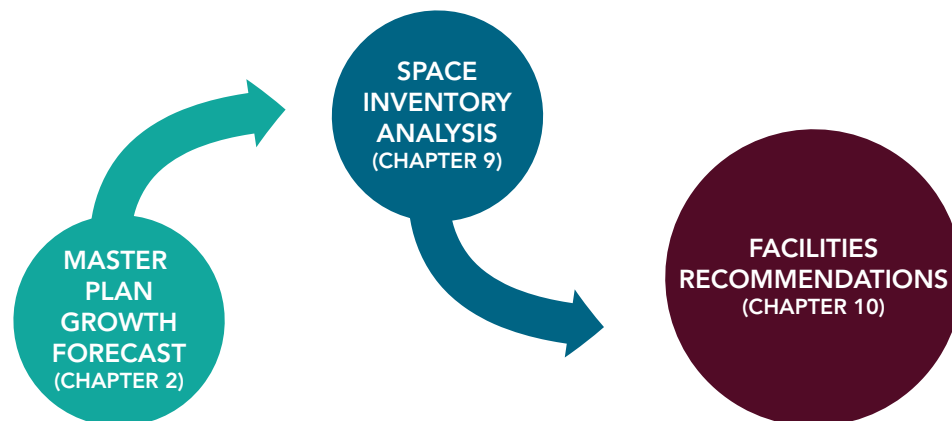Parking

PROJECTION OF SPACE NEEDS

Since the College's mission is to provide higher education opportunities to residents in its communities, College's capacity to serve students must keep pace with population growth in its communities in order to continue to fulfill its mission. The long-range forecast of enrollment connects educational needs and facilities planning, and is the foundation for projecting the amount of assignable space that the College is likely to need during the next decade as well as the capacity of circulation, parking, transportation, and infrastructure systems.

ENROLLMENT GROWTH FORECAST

Mt. SAC's enrollment growth forecast is based on careful consideration of the information in the data portfolio, such as population size and age projections, the economic status of the local region, and historical enrollment trends. High, medium, and low projected growth rates are presented in Chapter 2: *Profile of the College's Communities and Students.*

The analysis in this section translates the enrollment growth forecast into assignable square feet through the application of California Title 5 Educational Code space standards. The projected assignable areas are compared to Mt. SAC's existing inventory of assignable square feet to identify the types of space that may need to be increased.

This quantitative analysis is one of many considerations in facilities planning and does not override the need to plan for the unique needs of programs that are likely to grow in the next decade. This analysis is intended to yield a best guess estimate of the amount of space (square footage) that will be needed in the future. It is not intended to predict space needs in a specified year. Rather, the forecast is predicated upon the College reaching a particular amount of WSCH. The growth forecast projects that the College will reach 477,813 WSCH in fall semester 2027.

MASTER PLAN GROWTH FORECAST (CHAPTER 2)

SPACE INVENTORY ANALYSIS (CHAPTER 9)

FACILITIES RECOMMENDATIONS (CHAPTER 10)

However, the College might reach this level earlier or later than fall semester 2027. Whenever this level of WSCH is attained, the following square footages of space may be needed.

ANALYZING SPACE

Space on a California community college campus is analyzed by comparing the amount of space available with the current and projected student headcount. This comparison is a capacity-to-load ratio: what space is available to serve students (capacity) compared to the number of students to be served (load).

Space capacity/load analysis enables an institution to identify the types of space it needs and the types of space it holds in excess. Space capacity/load analysis typically includes the categories of space listed in Table 1 on page 9.12. Generally, the standard for the quantity of space is proportional to student enrollment. While the state provides standards for utilization for more than 60% of space types on campus, the capacity estimates for non-state standard spaces are based on a combination of factors, the most important being the specific needs of individual institutions identified through educational master planning discussions.

The upper five types of space listed in Table 1 are the capacity/load categories for which utilization and space standards are set by state regulations. The line item in Table 1 for space type "Other" includes a number of spaces on campus that are considered to be in non-capacity load categories. The following spaces are not analyzed by the CCCCO in relation to utilization and efficiency, but are an important part of the College's inventory related to maintenance and operations.

- o   Physical Education (Teaching Gym)
- o   Clinic/Demonstration
- o   Assembly/Exhibition
- o   Food Facilities
- o   Lounge
- o   Merchandise Facilities (Bookstore)
- o   Recreation
- o   Meeting Rooms
- o   Locker Rooms
- o   Data Processing
- o   Physical Plant/Facilities
- o   Health Services

PROJECTION OF SPACE NEEDS *(cont.)*

SPACE UTILIZATION AND PLANNING

To determine the amount of space required to support the programmatic needs of a campus, the enrollment and program forecasts are applied to a set of standards for each type of space.

The required utilization and space standards for classroom, laboratory, office, library, and audio-visual are contained in the California Code of Regulations, Title 5, Chapter 8, Section 57020–57032. These standards refer to the Board of Governors of the California Community Colleges Policy on Utilization and Space Standards dated September 2010.

These space standards, when applied to the total weekly student contact hours (WSCH), produce total capacity requirements that are expressed in assignable square feet (allocated on a per student or per faculty member basis). The space standards and formulas used to determine both existing and future capacity requirements are summarized in Tables 2 and 3 on pages 9.14 and 9.15, respectively.

TABLE 1: ROOM USE CATEGORIES

Space Type	Room Use Numbers	Description
Lecture	100s	Classrooms and support spaces
Laboratories	200s	Laboratories and support spaces
Offices/Conference Room	300s	Offices and support spaces; all offices, including administrative and student services
Library/LRC Study/Tutorial	400s	Library, study and tutorial, and support spaces
Instructional Media AV/TV	530s	AV/TV; Technology and support spaces
Other	520, 540 to 800s	PE, Assembly, Food Service, Lounge, Bookstore, Meeting Rooms, Data Processing, Physical Plant, Health Services

Source: California Community Colleges Chancellor's Office Space Inventory Handbook

Table 2, on page 9.14, is applied to a campus with less than 140,000 WSCH. Table 3 is applied to a campus for 140,000 or more WSCH, such as the Mt. SAC campus.

The standards for teaching laboratories are measured in both assignable square feet per student station and in assignable square feet per 100 WSCH generated. Table 4, on pages 9.16 and 9.17, summarizes these standards.

Each component of these standards is applied to projected enrollment to produce a total assignable square foot (ASF) capacity requirement for each category of space. The sum of these areas represents the total building area requirement for the campus.

The space standards are based on the following assumptions.

o Utilization standards refer to the amount of time rooms and "stations" (such as a desk, laboratory bench, or computer terminal) should be in use. "Utilization" is the amount of time that rooms and stations are actually in use. Utilization standards address utilization on an "hours-per-week" basis

o Classrooms are available 48 hours per 70-hour week for a campus with less than 140,000 WSCH and 53 hours per 70-hour week for a campus with 140,000 or more WSCH and will be occupied, on average, two-thirds of the time. That occupancy percentage might be achieved by having full classrooms two-

thirds of the time and empty classrooms the remaining time.) Thus, the classroom utilization standard is either 32 or 35 weekly hours of station use depending on the total amount of WSCH. The utilization standards for laboratories are lower than the classroom utilization standards

o Office space includes academic offices, student services offices, administrative offices, clerical offices, office service rooms, and conference rooms

o Library and study space includes stacks and staff and reader station space, as well as open computer laboratories that are available most of the time for student use outside of class

o Areas such as the main lobby, elevators, stairs, walled corridors, most restrooms, and areas accommodating building maintenance services are not deemed usable/assignable

PROJECTION OF SPACE NEEDS *(cont.)*

TABLE 2: PRESCRIBED SPACE STANDARDS FOR A CAMPUS WITH LESS THAN 140,000 WSCH

Category	Formula	Rates/ Allowances
Lecture (Classroom)	Assignable Square Feet/Student Station	15
	Station Utilization Rate (occupancy)	66%
	Average hours room/week	48
	Station use/week (hours)	31.68
Laboratory (Teaching Laboratories)	Assignable Square Feet/Student Station	see Table 4
	Station Utilization Rate (occupancy)	85%
	Average hours room/week	27.5
	Station use/work (hours)	23.375
Offices/Conference Room	Assignable Square Feet per Full Time Equivalent instructional staff member	140
Library/LRC/Study	Base Assignable Square Feet Allowance	3,795
	Assignable Square Feet/1st 3,000 DGE	3.83
	Assignable Square Feet/3001–9,000 DGE	3.39
	Assignable Square Feet/DGE>9,000 DGE	2.94
Instructional Media AV/TV and Radio	Base ASF Allowance	3,500
	Assignable Square Feet/1st 3,000 DGE	1.50
	Assignable Square Feet/3001–9,000 DGE	0.75
	Assignable Square Feet/DGE>9,000 DGE	0.25

Source: Board of Governors of the California Community Colleges, Policy on Utilization and Space Standards, September 2010

TABLE 3: PRESCRIBED SPACE STANDARDS FOR A CAMPUS WITH 140,000 OR MORE WSCH

Category	Formula	Rates/ Allowances
Lecture (Classroom)	Assignable Square Feet/Student Station Station Utilization Rate (occupancy) Average hours room/week Station use/week (hours)	15 66% 53 34.98
Laboratory (Teaching Laboratories)	Assignable Square Feet/Student Station Station Utilization Rate (occupancy) Average hours room/week Station use/work (hours)	see Table 4 85% 27.5 23.375
Offices/Conference Room	Assignable Square Feet per Full Time Equivalent instructional staff member	140
Library/LRC/Study	Base Assignable Square Feet Allowance Assignable Square Feet/1st 3,000 DGE Assignable Square Feet/3001–9,000 DGE Assignable Square Feet/DGE>9,000 DGE	3,795 3.83 3.39 2.94
Instructional Media AV/TV and Radio	Base Assignable Square Feet Allowance Assignable Square Feet/1st 3,000 DGE Assignable Square Feet/3001–9,000 DGE Assignable Square Feet/DGE>9,000 DGE	3,500 1.50 0.75 0.25

Source: Board of Governors of the California Community Colleges, Policy on Utilization and Space Standards, September 2010

PROJECTION OF SPACE NEEDS *(cont.)*

TABLE 4: ASSIGNABLE SQUARE FEET (ASF) FOR LABORATORY SPACE

TOP Code	Top Code Division	ASF per 100 WSCH	ASF per Station
0100	Agriculture and Natural Resources	492	115
0115	Agricultural & Forestry Power/Machinery	856	200
0200	Architecture and Environmental Design	257	60
0400	Biological Sciences	235	55
0500	Business and Management	128	30
0600	Communications	214	50
0700	Computer and Information Science	171	40
0800	Education	321	75
0936	Printing and Lithography	342	80
0937	Tool and Machine	385	90
0945	Mechanical Technology	556	130
0947	Diesel Technology	856	200
0948	Automotive Technology	856	200
0950	Aeronautical and Aviation Technology	749	175
0952	Construction Crafts/Trades Technology	749	175
0954	Chemical Technology	556	130
0956	Industrial Technology	385	90
All other 900s	(Engineering)	321	75
1000	Foreign Language	150	35
1200	Health Services	214	50
1300	Consumer Education/Home Economics	257	60
1400	Law	150	35

TABLE 4: ASSIGNABLE SQUARE FEET (ASF) FOR LABORATORY SPACE (CONT.)

TOP Code	Top Code Division	ASF per 100 WSCH	ASF per Station
1500	Humanities	150	35
1600	Library Science	150	35
1700	Mathematics	150	35
1800	Military Studies	214	50
1900	Physical Sciences	257	60
2000	Psychology	150	35
2100	Public Affairs and Service	214	50
2200	Social Sciences	150	35
3000	Commercial Services	214	50
4900	Interdisciplinary	257	60

Source: Board of Governors of the California Community Colleges, Policy on Utilization and Space Standards, September 2010

9.17

PROJECTION OF SPACE NEEDS *(cont.)*

SPACE INVENTORY ANALYSIS

The *Mt. SAC Space Inventory Report* was updated in 2016 and used to analyze the utilization and sufficiency of campus space. Table 5 summarizes the total current inventory of assignable area in each of the capacity load categories of space and compares them with current space needs. Current needs were calculated by applying space planning standards for each type of space in the capacity/load categories to the current enrollment. Mt. SAC currently has 725,845 assignable square feet of space in the five capacity load categories as shown

in the second column of Table 5. The third column shows the capacity-to-load ratio (see glossary for definition). The next column shows the amount of space needed based on Title 5 space standards. The final column shows the net need or surplus of the College's space in each category.

According to Title 5 space standards, the College shows a need for space in four capacity load categories: laboratory, office, library and instructional media; and a surplus of space in one category—classroom (lecture). Based on these standards, the College currently qualifies for an

TABLE 5: 2016 SPACE INVENTORY AND TITLE 5 NEEDS

Space Categories	Current Space Inventory	Capacity-to-Load Ratio	Title 5 Space Needs	Current Space Need (Surplus)
Classroom	170,528	129%	132,192	(38, 336)
Laboratory	286,483	91%	314,816	28,333
Office	178,356	85%	209,831	31,475
Library	80,175	76%	105,493	25,318
Instructional Media	10,303	57%	18,075	7,772
Total	**725,845**		**780,408**	**54,563**

Note: All figures are in assignable square feet, except percentages

Source: Mt. San Antonio Community College District Five-Year Capital Construction Plan, California Education Code, Title 5 §57020

additional 54,563 assignable square feet overall.

FUTURE SPACE NEEDS

This calculation of the College's future space needs is based on the following assumptions about student headcount and Full Time Equivalent Faculty (FTEF) growth.

o   The growth rate of WSCH will be linear and will, on average, be 0.75 percent each year over the next decade.

o   Student headcount will grow at the same rate as WSCH. This implies that the average student load will remain constant over the next ten years. This is important, especially for forecasting library space needs, which are predicated on headcount.

o   FTEF will grow at the same rate as WSCH. This implies that the WSCH per faculty load (FTEF) will remain constant over the next ten years. This is important for forecasting office space, which is predicated on total FTEF.

o   The mix of disciplines generating WSCH in laboratory classes will not change dramatically. Title 5 standards allow different amounts of space for laboratory classes depending on the discipline. For example, diesel mechanic laboratories qualify for 856 assignable square feet per 100 WSCH, while art laboratories qualify for 257 and mathematics laboratories qualify for 150.

The methodology for projecting future space needs is summarized by the following.

o   The fall 2027 enrollment was projected by applying the annual planned growth rate (compounded annually) to the baseline fall 2015 WSCH.

o   Master plan WSCH projections were applied in combination with appropriate space planning standards to result in a total space requirement in ASF by type of space.

o   The "adjusted inventory" was subtracted from the total space requirements described above to yield the net assignable area (ASF) overage or need by type of space for the fall 2027 master plan horizon.

o   The result, net assignable square footage by type of space, served as the basis for developing facilities options for the EFMP.

PROJECTION OF SPACE NEEDS *(cont.)*

Table 6 assumes the completion of three projects described in the Mt. SAC's *Five-Year Capital Construction Plan*. The table adjusts the College's inventory of space to show the remaining space needs after these three projects are completed—Business and Computer Technology Building, Equity Center (temporary), Physical Education Projects: Phase 1 (Athletics Complex East), and Physical Education Projects: Phase 2 (Physical Education Complex).

Table 6 assumes that the projects will be completed as currently designed. Please note that the total square footage of each space type may change somewhat before these buildings

are constructed. Some of the capital construction projects include the removal of existing facilities. The numbers in the table show the net change in space for each project. Space types outside of the five key space categories are not included in this analysis.

In addition to the removal of existing facilities that will be replaced by the four projects shown in Table 6, the EFMP recommends the removal or vacating of space that will be replaced by recommended facilities projects. These are shown under the category of near-term removals in Chapter 10: *Facilities Recommendations*. The amount of existing space that will be removed or vacated with each recommended facilities

TABLE 6: 2027 SPACE INVENTORY AND TITLE 5 NEEDS COUNTING PREVIOUSLY PLANNED PROJECTS

Space Type	Current Space	Business and Computer Tech	Equity Center (Temp)	Athletics Complex East (ACE)	Physical Ed Complex	Cumulative Total	2027 Title 5 Space Needs	2027 Net Space Needs (Surplus)
Classroom	170,528	17,884	-	1,461	-	189,873	144,593	(45, 280)
Laboratory	286,483	4,454	-	2,995	2,400	296,332	344,348	48,016
Office	178,356	4,806	1,906	(1,949)	(1,510)	,181,609	229,514	47,905
Library	80,175	4,529	3,071		-	87,775	112,721	24,946
AV/TV	10,303	-	-		-	10,303	18,844	8,541
Total	**725,845**	**31,673**	**4,977**	**2,507**	**890**	**765,892**	**850,020**	**84,128**

Note: All figures are in assignable square feet

Source: Mt. San Antonio Community College District Five-Year Capital Construction Plan, California Education Code, Title 5 §57020

project is shown on Table 7. The last column of Table 7 shows the total amount of space in each capacity load category that would be addressed in aggregate by new and renovated space provided by the recommended projects. Assuming the completion of Mt. SAC's four planned projects and accounting for space that is recommended to be removed or vacated, a total of XXXXX assignable space is needed for 2027. This amount does not include space to accommodated growth that may occur soon after facilities projects are completed. The potential for near-term growth should be assessed and accommodate when individual projects are programmed and designed.

CONCLUSIONS

The following considerations may contribute to the understanding and use of this Space Inventory Analysis.

1. It is not necessary to remove spaces that are shown to be in surplus. The only space category at Mt. SAC showing a surplus is classroom space. One option to reduce this surplus is to convert some of the classroom space to another space category

2. Another tool useful in facilities planning is a space utilization analysis, which would study how the College is currently using its facilities and offer recommendations for maximizing the use of its space

3. Remodeling to optimize existing space may be a better option than new construction, such as creating large lecture halls, align the numbers of large and small classrooms with class sizes, and repurpose underused laboratories

4. The College could increase its productivity by reviewing and revising, as needed, the practices and policies that are the foundation for the development of class schedules, room assignments, and class size limits

9.21

SUSTAINABILITY OBJECTIVES

Mt. SAC's EFMP process contributed to the College's sustainability planning process by analyzing existing environmental conditions and facilitating discussions among sustainability-focused College committees and organizations. These activities informed and built enthusiasm for the creation of Mt. SAC's first Climate Action Plan, a requirement for signatory members, such as Mt. SAC, of Second Nature's Climate Commitment Program.

The *2017 Climate Action Plan* was prepared concurrently with the EFMP to help coordinate these two plans. As shown below, the *2017 Climate Action Plan* recommends actions in several areas, and these actions are also integrated into the EFMP facilities recommendations. This was accomplished by planning for facilities with an awareness of sustainability objectives and incorporating appropriate strategies within specific projects and project categories as described in Chapter 10: *Facilities Recommendations.*

Each of the following areas have a list of recommendations for ways to achieve such objectives.

FACILITIES-RELATED SOURCES

o   Reduce energy consumption of existing buildings through building efficiencies, adjustment of controls and setpoints, updates to central plant equipment, updates to building HVAC equipment, demand response, and offsetting energy use intensity with renewables

o   Construct new buildings to meet energy use intensity standards of the ARCH 2030 targets

o   Monitor and control energy consumption through a campus-wide energy management system

TRANSPORTATION-RELATED SOURCES

o   Increase availability and convenience of mass transit options by developing an on-campus Transit Center

o   Incentivize commuters to use alternate forms of transportation by providing electric vehicle charging stations, low emission vehicle parking stalls, and carpool parking stalls; continuing bus pass subsidies; developing a Mt. SAC transportation mobile app for students and employees; and providing bike lockers, a bike center, and a bike loan program

INSTITUTIONAL CHANGE

o   Set the goal to achieve net zero greenhouse gas emissions from energy use by 2030

   •   Follow the California Community College Chancellors Office Energy and Sustainability Policy to reduce energy consumption by a minimum of 15% and outperforming statewide energy standards on construction projects

   •   Develop strategies for energy procurement and production that reduce dependence on the State's electricity grid

- Outperform Title 24 Energy Standards by 10% for renovations and 15% for new construction projects

- Offset energy-use with renewable energy technologies

- Mandate that all buildings will be certified at the gold level through the Leadership in Energy and Environmental Design program or achieve the equivalent level of performance

o Set a timeframe to achieve net zero greenhouse gas emissions caused by transportation

- Set target dates to reduce emissions by specific increments

o Set the goal to achieve net zero greenhouse gas emissions caused by waste by 2030

- Divert 95 percent of construction waste by 2020

- Divert 100 percent construction waste by 2030

- Increase the capacity of on-site recycling centers

- Coordinate diversion plans with hauling agencies that handle all waste, including food waste, landscape clippings, metal, cardboard, glass, and aluminum

o Set the goal to achieve net zero greenhouse gas emissions from water use by 2050

- Replace water intensive landscaping with drought tolerant landscaping, synthetic turf in non-athletic areas, and other non-plant materials

- Convert to the use of drip or low-flow irrigation systems where irrigation is needed

- Design buildings to minimize water use

- Design new building and building addition sites that replace existing landscaping to provide space equal to 75 percent of the square footage of the building's footprint, with water conserving landscaping and/or the installation of water meters and other water conservation measures

- Provide meters on site wells to allow for monitoring of water usage

- Treat sewage onsite through a blackwater system

o Set a goal of carbon neutrality by 2050

- Offset greenhouse gas emissions through sequestering (tree planting, RECs, Green Energy, etc.)

SUSTAINABILITY OBJECTIVES *(cont.)*

o Climate Commitment Implementation Committee

- Continue to provide oversight of the *2017 Climate Action Plan* process, including monitoring and reporting progress toward milestones to the College and Second Nature

o Sustainability Committee

- Increase membership from the student body

- Provide input to the *2017 Climate Action Plan*

o Sustainability Task Force

- Continue to coordinate with the President's Office regarding sustainability efforts

- Provide input to the *2017 Climate Action Plan*

o Facilities Advisory Committee

- Provide input in *2017 Climate Action Plan* with regards to sustainable design, maintenance, and operations of the campus buildings, grounds, and infrastructure

ACADEMIC CHANGE AND SUSTAINABILITY RESEARCH

o Under the overarching goal of achieving a campus that functions as a Living Laboratory, the following facilities and landscaping initiatives would help to achieve greenhouse gas reductions, as well as to educate students.

- Sustainability Institute
- Nature Center
- Open Spaces and Programming
- Natural Habitat and Urban Forest

o Incorporate sustainability into curriculum and professional development

- Faculty Credentialing Program and Professional Development Credit Program

- Sustainability Courses and Green Core Classes

COMMUNITY OUTREACH AND OTHER EFFORTS

o Coordinate sustainability education and community outreach programs with community entities such as the Energize Colleges program, the Eagles Club, and the USGBC Inland Empire Chapter

- Examples of potential programs include sustainability-themed tours of the Wildlife Sanctuary and the Farm, drought tolerant landscaping tours, park cleanups, and green job training

Mt. SAC College EFMP EcoCharrette
03/03/2017

VISION + GOALS

The space in-between is what MAKES a campus

A HOLISTIC APPROACH!

BE MINDFUL WHEN WE BUILD AND REBUILD

OPPORTUNITIES FOR SIMPLE PROJECTS w/ QUICK PAYBACKS

SHOWCASE + GO BIG. LEED Platinum Project

GREEN ROOFS + SHADE SEATING + SOLAR HOT WATER + RAINWATER CATCHMENT

LET'S ENVISION A REGENERATIVE FUTURE!

ENERGY EFFICIENCY

NATIVE LANDSCAPE

WILDLIFE SANCTUARY

OPEN SPACE

NATURE CENTER

TREES

MANURE...

DROUGHT TOLERANT LANDSCAPE

CONSISTENCY TRASH + RECYCLING RECEPTACLES

Mt. SAC College EFMP EcoCharrette
03/03/2017

SUSTAINABILITY OPPORTUNITIES

RENE'S GROUP
- Secure Bike Parking
- Clearly Labeled Recycling Receptacles
- A Sustainability Center
- Increase Recycling
- Reliable + Free WiFi @ Transit Center

MIKA'S GROUP
- Permeable Paving
- Secure Bike Parking
- SUSTAINABILITY CENTER
  - ACCESSIBLE TO STUDENTS
  - VISIBLE FROM GRAND
- GRAYWATER in BUILDINGS
- A RECYCLING CENTER — Bins need LIDS
- COMPOSTING
- Operable Windows w/ Sunshades
- SITE LIGHTING
- Alt. Transit

CHISA'S GROUP
- Sustainability Center for Outreach Online + Physical
- Institute — Academic Component
- Waste Reduction Competitions, etc.
- Reduce Water Use
- Minimize concrete parking to allow for groundwater infiltration
- Mt. SAC Sign integrate Solar tech/lighting
- Showcase + Partner w/ Community

MICHAEL'S GROUP
- Wayfinding Signage
- Reclaimed Water
- A Nature Center w/ Raised Viewing
- Electric Vehicle Recharging Station
- Water Bottle Refill Stations
- Light Pollution @ Night
- Connected Comfortable Campus
- Consistent Recycling + Bike Racks
- Auto Flush Toilets + Faucets
- Carpool Parking

We'll integrate this into our overall CAMPUS MASTER PLAN which will carry our work into the FUTURE!

9.25

BEST FACILITIES PLANNING PRACTICES

These best practices are general principles that make sense for planning for facilities at most college campuses. To be effective, they must be applied with an awareness of the unique Challenges and Opportunities facing Mt. SAC's campus. These best practices were recommended by the EFMP Planning Consultant Team to guide the development of facilities planning options and serve as lenses through which the options were evaluated by the Master Plan Steering Task Force and College leadership. Ideally, they will continue to guide ongoing planning and implementation of the EFMP.

MAXIMIZE FUNCTIONAL SPACE AND ELIMINATE NON-FUNCTIONAL SPACE

o   Ensure that spaces are well-equipped and outfitted to support their functions

o   Organize the location and distribution of programs and functions in a logical manner

o   Connect facilities through well-designed links to campus-wide systems and to spaces housing related and supporting functions

o   Remove and replace temporary facilities with permanent facilities in a timely manner

o   Renovate or remove and replace aged and outdated facilities

IMPROVE THE EFFICIENCY/UTILIZATION OF SPACE

o   Align the classroom inventory with class sizes by increasing the proportion of large classrooms and reducing the proportion of small classrooms

o   Assign available space to facilities needs that align with College priorities and goals

o   Build flexible, multi-use, multi-purpose space and space that can be readily reconfigured by occupants

o   Increase the utilization of land by replacing small single-story buildings with multi-story buildings and consolidating open space into usable-sized portions

RIGHT-SIZE THE CAMPUS FOR PROGRAM NEEDS

o   Consider Title 5 space standards as a starting point for right-sizing the campus space inventory

o   Analyze unique program needs in order to right-size specific facilities

o   Develop campus space design standards to accommodate the ways that Mt. SAC intends to teach, work, and deliver services to students

ENHANCE THE CAMPUS LEARNING AND WORKING ENVIRONMENT

o   Create a welcoming, student-focused campus by prioritizing students' needs, comfort, and enjoyment

o   Make every part of the campus a Living Laboratory for intellectual enrichment

o   Design the campus to be a healthy, safe, and secure place to learn and work during both day and night

PROMOTE SUSTAINABLE FACILITIES DESIGN, CONSTRUCTION, AND OPERATIONS

o   Continue to support alternative transportation modes

o   Continue to develop non-potable water and alternative energy systems

o   Continue to develop and implement storm water management plans

o   Develop building and site design standards that support increasingly stringent reductions of the campus carbon footprint and promote a culture of sustainability awareness

SIMPLIFY IMPLEMENTATION

o   When feasible, plan and schedule projects to eliminate the need for temporary housing

o   Locate projects to minimize disruptions to occupants and the campus

o   Phase and schedule projects to prevent reworking of previously completed work

CONNECT TO THE COMMUNITY

o   Work with community partners to understand their perspectives, increase their use of campus facilities, and mitigate negative impacts such as traffic

o   Inform the community of campus development plans and the reasons why new facilities are needed

o   Create an attractive, well-branded campus presence that is a source of pride in the community

o   Explore the opportunity for a community-oriented development and facilities that can have shared usage with the community