A TALE

of

TWO COLLEGES

Contributions to an Interpretive History
of Campus Construction Projects
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INTRODUCTION

Periods of major construction can be both the best of times and the worst of times for academic institutions.

On the positive side, big construction projects can revitalize physical spaces and the programs and people they serve. The process of planning for construction can spark much-needed discussion about common goals and optimum ways of harmonizing facilities and programs with these goals. The new or remodeled facilities may enhance the quality of teaching and learning experiences that take place within them. They may also represent improvement from the additional standpoints of aesthetics, public safety and ecological sustainability. Furthermore, both planning and implementation can strengthen interpersonal relationships, if step by step, people learn to work better with each other to implement a shared vision.

Most obvious on the negative side are the noise, displacement and disruption that inevitably accompany construction projects. However, less visible but longer-term harm may also result. If careful attention is not given to the planning process, it can lead to frustration, bitterness and rancor among all involved. Even with the best of plans, if the construction is not supervised properly, the final product may be defective. Money, time, and other resources may be wasted. If many things go wrong, a major project may actually impair the ability of the institution to carry out its educational mission.

Great sums of money have been spent on construction projects in the California Community College system in the last decade, totaling many billions of dollars statewide. These projects have affected millions of people in the largest system of public higher education in the United States. Future projects are likely to involve similar expenditures of funds and to touch just as many lives.

In addition to affecting what goes on within campus borders, major construction projects also affect the communities beyond them. Community college campuses are often landmarks and focal points for their communities. They often have a deep impact on the appearance and dynamics of these communities. Times of major changes to the campuses are thus also important chapters in local history. Furthermore, because community colleges are public institutions, and because there are so many of them, their campuses together constitute an important part of California's public space. They are an important part of our state’s shared cultural heritage, and changes to them are of more than merely local significance.
Thus major campus construction projects should not be undertaken lightly. Much thought should be given to how to avoid problems and how to follow “best practices.” This would be easier if a written interpretive history of each past project existed. These could then be compared and studied for future benefit. A statewide collection of these reports could be very instructive, indeed. Unfortunately, the sad fact is that few, if any, such documents exist. The important task of writing them has been neglected, to the detriment not only of the campuses where the projects took place but also of the public at large.

Obviously, there is no “perfect” construction project. It is easy to generalize that all will bring a mixture of good and bad results. However, this superficial conclusion does not point the way toward progress. More systematic and comprehensive analyses are needed. Two methods, in particular, have great potential.

Because construction and reconstruction of campuses are common, ongoing and repeated events, there is a great potential for gradual improvement in the way they are carried out, if the lessons learned from each project that is completed are applied to the next one to be undertaken. Determined effort to achieve continual improvement in the elements of this cycle can thus produce what is known as “adaptive management.”

Another approach to improving the results obtained from these projects is the comparative one. Although no two campuses are identical, the common mission of educational institutions gives all of them many similarities. In addition, when a large number of institutions are studied, it is not difficult to find commonalities in specific programs and local environments. When processes and facilities used by similar institutions or programs are studied, it is often clear which are superior. These can serve as models for future planning and construction.

When one considers the number of projects, the number of details involved in each project, and the number of people involved, the challenge of producing a good knowledge base appears overwhelming. However, the large amount of data available, combined with improved communication technology, may make at least the description of some basic trends and principles more feasible now than it has ever been before. In the following pages, the two basic approaches just described are used to provide a hint of what may be gained by applying them more rigorously and on a broader scale.
A BEGINNING

A group of faculty, staff and administrators at Ventura College provided a good example of how to begin. They documented their procedure from the very first planning steps until completion of construction. They then made the information available to other colleges in print and electronic formats and even traveled to other campuses to discuss their experience.

A group of faculty and staff at College of Marin has attempted to follow their example. Although initially the processes at Marin were not as well documented as at Ventura, good records were kept of many actions and results, and many members of the campus community have responded well to the call to participate in the compilation of a history of campus construction.

People from the two colleges have been comparing their experiences from many years. Because the Ventura process started first, a delegation was able to visit Marin and present useful information just as the COM process was beginning. This first visit was followed by other visits to both campuses and to much exchange of facts and ideas.

In the course of gathering information to be used in the planning of their respective projects, personnel from both Ventura and Marin also visited many other campuses. Furthermore, many people currently connected to these two colleges have numerous contacts at others; these have provided much additional useful information. Some of this information has been incorporated into this report. This may give its conclusions broader usefulness. However, determination of the true range of applicability of what is included here must await the production of other colleges' own campus construction histories.
VENTURA COLLEGE

General Information

The Ventura Community College District serves the people of Ventura County, which has a population of approximately 825,000. The district operates Ventura College, founded in 1925, and also the two additional campuses of Moorpark College and Oxnard College. The three colleges have different histories, administrations and campus cultures.

Ventura College is the oldest of the three. It has between 10,000 and 15,000 students. It relocated to its present location in 1955 from its old quarters on part of the land presently occupied by Ventura High School. Most of the buildings built on the new site at that time were of low-quality construction. They had little reinforcing and no insulation. Some have called them “cracker boxes,” and they were expected to last for only a few decades. Yet there followed a long period without any new construction. One new art building had been completed in the 1970's.

Initial Projects

Planning for a new Math and Science building began in the late 1980's. This may be seen as the beginning of the recent “modernization” of the college. The old math and science building was rundown and hazardous. One particular risk was presented by the continued use of a wooden structure for chemistry laboratory exercises. Inadequate space was another problem.

The area dean, who was also an active faculty member, recognized both the need for an improved building and the challenge of getting the money to pay for it in a difficult fiscal environment. Many simply stated that no funds were available. Many of the older faculty, exhausted by the failure of previous attempts, had become resigned to this situation, believing that nothing could change.

However, convinced of the need, the dean, with the help of some of the newer faculty members, began to document the need for a new building. Minimum numbers of square feet required for adequate delivery of different aspects of the teaching program were calculated carefully. The health and safety hazards, obvious to those working in the building on a day to day basis, were communicated to college and district personnel in ways that became impossible to ignore. Thinking “out of the box,” the dean also brought in a faculty member from outside his area, a landscape faculty member from the agriculture department. Need to plan for new equipment in the emerging areas of molecular biology and computer science was extensively discussed. Both the college director of maintenance and the vice president for administrative services joined in support of the project; they were instrumental in passing critical data on to state officials.

Meanwhile, the dean, in addition to continuing to teach as a faculty member, had agreed to serve on a state Chancellor's Office task force. When in 1992 he went to Sacramento to lobby for state funds, he was able to use his contacts there to help him in this effort. Ultimately, he was successful in his quest, securing $82 million in funding in 1993.

As construction began, the dean was also able to put some of his expertise gained from designing and building his own home to use. He conducted weekly walk-throughs at the job site.
However, at one point, the college's management and operations officer cut him out of the process and began to deal directly with the contractor in secret. This led to several expensive errors, such as placing large trusses exactly where the windows were planned to go. These errors were corrected after the expenditure of additional funds, and the building was completed in 1996.

**New Hope and Energy**

The experience of the Math and Science project had broken a logjam in terms of convincing many people on campus that future construction was possible and that they could benefit from getting involved in it. It was the catalyst for new creativity that replaced widespread apathy and overcame institutional paralysis. Not only was the success of the project important, but its problems also ultimately led to positive results. The problems got people thinking about how to overcome them.

**Measure S**

As time passed the idea of a major district-wide reconstruction program developed. Although some residual state funds were available, additional funding was required to carry out the entire program. These were made available when in March of 2002, the voters of Ventura County passed Measure S, which authorized the issuing of $356.3 million of bonds to renovate and expand facilities on the three campuses of the district. Ventura College was able to take advantage of a portion of these funds ($117 million) to complete the Library and Learning Resource Center already planned as well as several additional buildings. Conditions on the other two campuses of the district differed markedly from those at Ventura. Therefore, although their construction projects were financed by some of the same funds used at Ventura, they really require their own separate histories.

**A New Nucleus – The LRC Group**

Encouraged by the implementation of the Math and Science project, a group of faculty, staff and administrators began to investigate the feasibility of renovating the old library building. Initially, it seemed that available state bond funds might cover the construction costs. In June, 1989, preparation of an accreditation report revealed that the college was deficient in tutoring, office and computer space. This justified the expenditure of state funds, which much later were received in the sum of $18 million. However, further studies revealed that little of the outside shell of the old library could be modified to let in the light that a modern library would need. Beginning in 1993, plans for a simple renovation grew into plans for a much more ambitious Learning Resources Center (LRC). However, the funds to complete the larger project were not available at that time and would only come as part of the larger campus reconstruction project. Ultimately, it was Measure S that provided the additional $6 million needed.

Yet in the interim, much useful experience was gained by the committee formed to plant the LRC. Key methods of this group were establishment of a type of inclusive yet decentralized structure, commitment to consensus decision-making, and use of site visits to gather information. All of this came in handy much later, when finally the project was fully funded. Most members of the LRC group volunteered their time, but at least one faculty member with some planning and construction experience was granted 40% release time in January, 2000, to aid in moving the project forward.
Inclusive Structure

In the beginning, those who got involved in the LRC project all agreed that the process was more important than the result. As one participant remarked, “If we wind up with a beautiful building but end up hating one another, what has been accomplished?” Different task forces were set up for different aspects of the project, but all reported to one central group. All told, about 100 people worked on 10 task forces for the LRC. A big positive result was general campus buy-in. Everyone felt, “This is our library.”

Consensus Decision-Making

The dean most involved in the LRC group had a background in consensus decision-making from her graduate studies, and she had also learned how to be an effective facilitator. The LRC group made extensive use of trained facilitators and was able to much of their training itself. Key questions that were always asked when disagreements arose were, “What is the main problem,” and “What could you live with?” Through use of these methods, the LRC group was able to suggest improvements and modifications that allowed them to reach consensus most times. Rarely, when consensus was not reached, a vote was taken.

An interesting example of a disagreement that ultimately resulted in consensus was over that most simple yet potentially very divisive question, “Who gets the view?” From a simple comparison of the height of the new building to its neighboring buildings, it was readily understood that the third floor of the new building would have a good ocean view, that the second floor would have a partial ocean view, and that the first floor would have no ocean view. Early on, it was agreed that faculty offices would occupy the third floor. However, a dispute arose over whether the library or the computer lab would be placed on the second floor.

Ultimately, agreement resulted from the realization that more people would come through the library and see its view. Also, it seemed that people who are looking at computer screens might not pay as much attention to the views through the building's windows. The agreement to put the library on the second floor required greater expense to reinforce the second floor to hold the weight of the library's books, but it was agreed that it was worth the cost because, it would produce a better campus experience for the largest number of people.

Site Visits

The idea of gaining information through site visits was not original with the LRC group, but they evolved their own unique way of conducting them. The group was aware that site visits could be superficial and not reveal users' real opinions about buildings that had been constructed. With specific reference to libraries, they found that many times, library directors would give positive evaluations, while students, classified staff and faculty would mention problems.

For this reason, the site visits the Ventura LRC group made were numerous and more comprehensive. About 7 or 8 site visits were made. Sites included California State University at Northridge, Santa Barbara City College, Pasadena City College and both the Moorpark and Oxnard campuses of the Ventura Community College District. Each visit team included students, staff and faculty from Ventura, and the team would be sure to ask questions of students, faculty and staff from...
the campuses visited. Photos as well as notes would be taken. After each site visit, the visit team would make a full presentation to the large group, sharing notes and blown-up photos, so that all could experience each site as fully as possible. Much discussion always ensued.

Although the architect for the LRC was chosen by the district on the lowest-bid basis, the architect was required to go on all site visits. The dean said it was necessary and was backed up by the president. The architect initially resented this, but “got opened to it” after he realized that his expenses would be paid and that he would actually learn a lot about libraries, having never designed one before. Ultimately, he became as excited about the possibilities as the rest of the group was.

**Good Preparation for the Future**

As mentioned earlier, the planning process for the new library did not immediately result in completion of the LRC project. State funds helped the project to start, but finishing it in a time of rapidly increasing construction costs would have to await the passage of Measure S. However, the library planning process did produce a cohesive group of people and some very useful procedures that proved highly influential in the long run. The “LRC group” was led by one faculty member, one classified staff member and their dean, all of whom had known each other for a long time and who also had good working relationships with the college president and with the college chief of business operations. All had realized the strategic importance of the library as a campus focal point and a facility used by virtually everyone on campus. The idea of using the LRC group’s experience as a basis for the additional construction now contemplated was a logical one.

*Experience Engineering*

In the same month that Measure S was passed, the college president sent the dean and the faculty member most involved in the LRC project to conference in Seattle on the topic of “Experience Engineering.” This was a conference mostly for business administrators and featured presentations by the author of the book by the same name. He had worked for the Disney Corporation, and supplemented this background with local examples from the Pike Place Market and Starbucks’s Coffee. The basic idea was that successful businesses provide their clients with not only a product, but in addition a complete experience that affects many aspects of their perception. Suggestions were provided of how to engineer an environment to create positive responses within people who experienced that environment.

The Ventura team realized that they had already been using much the same approach in their planning for the LRC building. They had started with the goal of creating a space that would encourage studying – in other words a positive learning environment. What they took home from the conference was validation of their approach and some new tools to make them more effective.

Upon their return, they proposed the formation of a campus group that would apply the experience engineering philosophy to the remaining campus construction projects. The college
president enthusiastically endorsed it, as did the chief of business operations. Thus the new group, named the Facilities Oversight Group (FOG) was born. It met for the first time in January, 2005.

The FOG

Like the original LRC group, from which it developed, the FOG was inclusive. All members of the campus community were invited to join. However, although membership on the committee would be open to anyone, to retain membership, each person would have to commit to attending regular meetings for a protracted time period – a process half-jokingly called “trial by ordeal.” The benefit to the members and to the college would be that all who submitted to this trial would be the guiding force behind construction on campus. Initially, the FOG met twice a week, and then after different task forces were established, they met weekly, and the FOG met monthly.

According to campus documents written at that time, “The Facilities Oversight Group oversees and develops the vision of campus facilities, including aesthetics, locations of buildings, blending of new facilities into the current scheme of architecture and student/public expectations and experiences. In addition, the FOG controls, to a great extent, the exterior design of facilities projects, including structural configuration, color schemes, signage, landscape, walkways and general campus orientation. FOG oversees review of the Facility Master Plan.”

Membership was composed of “the lead individual(s) for each facilities project currently in the planning stage, lead people for various task forces (as they come and go), and faculty and classified staff representatives interested in participating.” Members of FOG and the different task forces learned from each other during the process. Most did not need special skills, because conceptual drawings rather than blueprints were used in most meetings.

The FOG met for several years, over which time consensus on many issues was achieved. Overall design criteria for the campus included a uniform color scheme and a general “beachy tech” theme that built on certain attributes for which the Ventura campus was already known. A approach known as “experience engineering” was adopted in which the final student experience of an optimal learning environment became a goal to which all efforts were directed. Valued aspects of this experience were determined to be “collegiate,” “inviting” and “aesthetically pleasing.”

Several methods were employed to reach this conclusion. Students, faculty and staff were invited to go on field trips together to other community college campuses and record their impressions. Faculty administered surveys to students in classes. Examination of other institutions such as UC Santa Barbara, Boise State University, Starbucks and Disneyland provided food for thought and discussion. The overall goal was to describe the desired Ventura College campus in the year 2015.

To direct the construction process, a 20-year Facility Master Plan, a Landscape Master Plan, and a Signage Plan were developed. A clear operational structure for the construction process itself was established. This involved five groups: Facilities Oversight Group, Architects, Facilities Manager, Project Co-Ordinators and several Task Forces. Interaction among these five groups was seen as a continuous, circular, iterative flow of information and decision-making. Separate companies were hired to oversee construction management and bidding. Ultimately, the FOG influenced at least seven major campus construction projects, and most people were happy with the results.
Key to the success of the process was a very high level of trust that existed among the faculty, classified staff and management who participated. This level of trust had been built up over many years of people working together; there had been very little turnover of personnel on campus. This trust, combined with skillful use of diplomacy and cordiality, produced impressive results. As in the original LRC group, consensus decision-making was the norm.

Members of the task force for each building or project (usually at least two from each) were also required to go to all construction meetings for that building or project. These were meetings that included the architects, contractors, construction managers, contract managers and building inspectors. Members of FOG and the different task forces learned from each other during the process. Most did not need special skills, because conceptual drawings rather than blueprints were used in most meetings.

Administrative personnel brought to the FOG valuable data management and communication skills. Among the faculty and staff who participated were people with valuable skills specific to their disciplines. Some of these were in the areas of architecture, construction and computer technology. These faculty were encouraged to put their talents to full use in different projects. At least one member of the faculty was given between 20% and 40% of release time over several years to be able to pay close attention to the first project, the LRC. The total FOG membership varied from 15 to 20 people.

Another aspect of the planning process that facilitated discussion and consensus was its relaxed time frame. Because planning had begun well ahead of the date when funds were expected to be available, there was no rush to make important decisions hastily.

Student Audit of Completed Buildings

A “student audit” was included as part of the planning and construction process. This led to one interesting conclusion. This was that the process had been successful in producing a welcoming environment, but that this had led to an unfortunate dilemma. Some student expectations had been raised to a level above that which the college could satisfy.
Results

Although many parts of Ventura College are still construction zones, much has been completed. Construction of the Library and Learning Resource Center began in August, 2002; it was the first building of the “new era” to open, in January, 2005. It was followed by the Student Services Center in April, 2008, and the Sportsplex in 2009. More recently, these have been joined by the Advanced Technology Center, the General Purpose High Tech Classroom building, the Health Sciences Center and the Performing Arts Complex. The Applied Science Center is expected to open soon.

Most of these projects have benefited from the hard work done by the FOG over the years. However, as faculty retired and others replaced them, there may have been a gradual diminishing of the original collaborative energy and unified vision.

General Campus Environment

A visit in mid-2015 showed notable uniformity in the color of the buildings on the Ventura campus. All were a sandy yellow, which was indeed reminiscent of the beach. There was, however, considerable variation in the architectural styles and materials of the buildings old and new.

Landscaping appeared to be in transition. A simple lawn-and-palm-tree combination typical of much of urban southern California seemed to be giving way to more thoughtful assemblages of native California plants that included manzanitas, sumac, buckwheat and yucca. Meanwhile, a “Gold is the New Green” campaign was underway in the city of Ventura, which encouraged residents to stop watering existing lawns. The landscaping next to the Math and Science building had anticipated this; it seemed to be ahead of the rest of the campus in this respect.

Pathways were functional and unobtrusive. One story from the original planning process indicated that the location of the paths was based on the routes that campus foot traffic normally followed. Careful observation of these patterns came before formal establishment of the pathways.

Science and Mathematics Building

The building itself is longer than high. It is a creamy white with contrasting copper-colored columns and blue windows. It is three stories tall with several different wings. Each wing has laboratories, lecture halls and classrooms. In addition to laboratories for the physical sciences and the life sciences, the building also has a drafting and engineering laboratory and a computer laboratory. Offices for faculty and administrators are on the upper floors.

The new building has clearly enhanced the ability of the departments it houses to conduct their educational programs. Health and safety risks have been resolved. New equipment is being used. The total amount of space is much greater in the new building than in the old one. In conjunction with changes in scheduling, this has allowed more “down time” for each laboratory, making the work of the classified staff easier.
Library and Learning Resources Center (LRC)

Although the planning process had gone very well, when the project went out to bid, the company that won the contract turned out not to be the most desirable builder. This firm had underbid a well-known and reputable local company, but then greatly increased the total cost through a large number of change orders. This practice had been commonly used by the company previously and had resulted in litigation. Nevertheless, the campus group that had successfully carried out the planning process remained vigilant throughout the construction process and succeeded in getting the building built despite numerous obstacles.

At present, the 90,000-square-foot Library and Learning Resources Building occupies a prominent position on campus. Its large sandy tan arch is clearly visible from the main campus entrance and has a pale blue front wall as a background. From the side, its three stories have an imposing bulk, but the general blockiness of the exterior is softened by some cutouts and angled supports (required for seismic safety), as well as its generally warm colors. It was the prime subject of the “Experience Engineering” process. Inside, the stark metal walls are also softened by the same general color scheme, and an airy, verticality has been achieved by having a corridor open from the ground to the roof. All of the interior rooms are spacious. Major goals to make the building inviting and to maximize use of natural light have been realized.

The first floor contains innovative state of the art individual and group study areas. The computer lab has 369 stations, including 72 drop-in computers for student use and seven ‘classroom’ pods (for English, Special Education, Foreign Language, and Nursing). All of the computers have internet access. Also on the first floor are three classrooms, a testing center, a tutoring center, a staff workroom, a multimedia studio, and offices.

On the second floor is the library proper containing 100,000 volume. Its entrance is welcoming and leads people directly to the Reference Desk. In addition to the traditional books in stacks, the library also has study carrels, a magazine/periodical quiet room, and student study rooms. Here are also found a classroom, computer stations for students and community patrons, and printing and copying services.

On the third floor are offices for deans and full-time faculty members. The offices have good views and windows of the open reading area give a wonderful, sweeping vista over the campus and out to the ocean.

The new library building is a cheerful change from the old one, which was dark and uninviting. This is appreciated by both students and staff. There are places for both individual and group student work. A big advantage of the new building is that the amount of space and its configuration encourage student collaboration. The many drop-in computers allow students to meet together to work on projects. Each glassed-in study room can fit up to eight people comfortably and is isolated from outside noise. Overall, the LRC is a comfortable space for students. Yearly surveys have shown that they are happy with what the LRC offers.

Of course, there have been some problems. The large open space has been difficult to heat and cool adequately and it has also allowed noise to carry throughout the building. There are numerous windows that leak when it rains. The bamboo flooring is soft and pits easily from high-heeled shoes.
Student Services Building

Limited funding and structural issues precluded the construction of a new Student Services building. However, the old library was renovated to become the new Student Services Building. The inside was completely rearranged within the original “bungalow style” exterior. Warm reddish wood tones predominate in the interior, and there are open sitting areas for students awaiting attention in counseling, matriculation and other areas. There are now more student services available in the same vicinity. The building's two entryways and wide corridor in the middle facilitate wheelchair access.

Applied Science Building

Planning was originally done for a planetarium. However, as cost estimates began to escalate, the project was shelved. Later, after the Great Recession began, costs began to fall. At this point, the project was resurrected as the Applied Science Building project.

Athletic Facilities

The exception to the rule that all members of the FOG worked well together was one area dean who was overseeing new athletics complex project. He initially refused to attend the FOG meetings, and only after repeated requests by the college president and vice president did he make token appearances. However, he was never engaged in the process. The resulting athletics complex suffered from bad design and construction. There was also question about how much a new stadium was needed in a small city that already had two of them. The district's plans for athletics facilities merited a special mention in a Grand Jury report issued several years later.
Ventura Summary

In summary, three aspects of Ventura College's experience deserve special note. The first was the all-inclusive group formed to direct the whole process. The second was the consensus-based method of making decisions. The third was the ample time given for discussion and the building of consensus. This is a good example of a democratic model of decision-making.

Although democratic decision-making can be slow, it has many benefits. By incorporating the widest range of ideas and expertise, it can produce the best total information base. Ample discussion of different options for action help all to be comfortable with the paths ultimately chosen.

Democratic decision-making is held in high value throughout the world for good reason. It holds the best promise for producing good long-term results. Many civic entities, educational institutions and businesses are governed by inclusive, participatory groups.

It worth mentioning that the other campuses in the district did not follow the Ventura College model. The Moorpark faculty were apathetic and did not want to be involved in the planning process for their campus. Their lack of participation may have been partially compensated by an efficient group of deans. The Oxnard faculty was very young and had no “institutional memory.” Unfortunately, their president, who wanted to spearhead the process, had little experience to rely on.

The democratic process would not have worked without the active participation of faculty, staff and administrators who were fully committed to it. It also required that the group had sufficient technical and interpersonal skills to keep it functional. Ultimately, the group may have suffered from insufficient attention to its own rejuvenation. It could have benefited from more active recruitment and education of new members.

The Ventura College process was thus neither easy or automatic. However, it is well worth emulating for both its physical results and the enhanced sense of community it created. Then again, all this has been said about democracy in general.
COLLEGE OF MARIN

Contacts with Ventura College

A delegation from Ventura College visited Marin near the beginning of COM's Measure C construction period. In historic Fusselman Hall, they gave a well-attended presentation on their college's initial procedures and outcomes. Later, a team from COM visited Ventura College. Subsequent communication enabled many of the important features of the two projects to be described and compared. This comparison has revealed many intriguing similarities and differences.

General Information

The Marin Community College District serves the people of Marin County, which has a population of just over 250,000. The original Kentfield campus in Central Marin was founded in 1926, on land donated by the William Kent Family. The Indian Valley campus was built in 1974 to serve the population of North Marin and possibly to help meet the needs of a greatly increased population of Marin County in general. At that time, there was considerable enthusiasm for massive urban development projects that were later prevented or sharply curtailed.

As the years went on, Marin County's population did not increase at the rate many had envisioned. This was due partly to the failure of Marin to urbanize at a rate comparable to many neighboring counties, and perhaps also partly to aging of the existing Marin population. However, the Marin Community College District now found itself with two campuses in a relatively small county. Many felt that it could not support both campuses, and from time to time, there had been proposals to close or radically re-structure one or both of them. The two colleges together once had a total enrollment about 15,000 decades ago, but this has fallen in recent years. Exact comparisons are clouded by differences in criteria; the figures for full-time students differ from those for simple headcounts of students registered, and numbers of credit students do not include those enrolled in community education courses. There is continuing uncertainty about whether the total population of Marin County will increase, decrease or remain stable in the decades ahead.

A Facility Analysis conducted in 2002 reported that the district's facilities were in worse condition than the majority of California community colleges. It also stated that the cost of bringing them up to modern standards would be close to the cost of new construction. Furthermore, it recognized that it would be difficult to justify major expenditures on both the Kentfield (KTD) and Indian Valley (IVC) campuses.

Five options were presented in the plan. The first was simply to defer repairs and renovation. The second was to raise funds to modernize both campuses. The third was to lease a significant portion of the IVC campus to produce income that could be augmented by additional funds to produce a total sufficient to do limited modernization on both campuses. The third was to sell or lease most of IVC to finance modernization at KTD. The fifth was to lease or sell both campuses to support construction of a campus more centrally located in the county.
The president and board of trustees subsequently eliminated the first two options from consideration. A series of community meetings was then held to explore various options for the two campuses. Among the options discussed was one to build either student or senior housing at the Indian Valley campus. Such housing would have provided a resident population that might make feasible additional course offerings at that campus, which by this time had fallen far behind the Kentfield campus in its offerings to students. Another option presented was to consolidate all the District's activities at one still-to-be-determined site more centrally located in Marin, and then close the existing two campuses.

Regardless of the merits of some of these options, all were immediately attacked by vocal public opponents. After the subsequent publicity, all were withdrawn. At this time, many of the College's faculty and staff lamented the fact that the District had gone public with its plans without having involved them in their formulation. Many felt that the proposals would have been better had this happened, and that college personnel could have subsequently helped to support them in the community. When the president resigned in 2003, the issue was still unresolved.

Measure C Proposal and Passage

Upon the resignation of the president, an interim president was appointed. Discussions about new construction continued. In April, 2004, a new president was named. Some have opined that the fact that she had previously served in district that had also undertaken a major construction program may have been an important reason she was offered the job at COM, yet conversations with faculty at that institution indicate that her involvement in its construction was minimal.

About this time, a large pipe was discovered to be leaking at the IVC campus. This led to a cease and desist order being levied against the District for the pollution that it was causing. Repairing the leak did not turn out to be a small job.

At this juncture, the idea was proposed of issuing general obligation bonds to pay for the pipe replacement and perhaps other projects. Permission to issue the bonds would necessitate the county voters' approval. Here two interesting facts emerged. First, Marin General Hospital was planning to ask voter approval for its own bonds within two years. Second, it would cost the MCCD the same amount of time and money to mount a campaign for approval of a small bond measure or a large one.

There was also discussion of other alternatives to meet District budget challenges at the time. Because many of these did not involve facilities, some members of the campus community advocated a parcel tax instead of a bond issue. However, the administration and board decided to pursue the bond approach.

New construction and/or major remodeling was definitely overdue. The 2002 report had already documented that. There were new questions about seismic safety.

Seeking funds through a bond was a novel approach for the college, since it had never been tried before. It was a big risk, and care was taken that it would not fail; such a failure might negatively affect other public construction projects in the future. A consultant was retained to estimate the amount that the voters of Marin would approve in a bond issue for the District. The answer was that
less than a quarter of a billion dollars would probably be feasible. Although the total needs of the
district were agreed to be in excess of that amount, it was judged too risky to go beyond it. So the bond
measure was written for $249.5 million and quickly put to the voters at the next general election,
avoiding competition with the possible hospital bond measure (which in the end was postponed).

The College of Marin had for a long time been held in very high esteem by the voters of the
county. Some voters were current COM students, while many more had been students in the past, or
had family or friends who had been students. The quality of the faculty and instruction had been
consistently mentioned as reasons for the good reputation. All of this was very important in the
outcome of the election.

Also important were over $200,000 in campaign contributions. By far the largest sector of
donors was the construction industry. Some, but not all, of these donors were later employed on the
project. However, the largest single donation was from the College of Marin Foundation. The state
political action committee of one of the three campus unions also made a financial contribution. Many
employees of the district donated smaller amounts, as did members of the board of trustees and many
local businesses.

The result was an overwhelming victory of Measure “C” in the November, 2004 general
election. Over 63% of the votes cast were in favor of the bond measure. Once the measure had passed,
it was time to implement it. Here surfaced some important problems.

Bond Measure Implementation

Many have pointed out that the language of the bond measure did not mention any specific
projects, but rather stated that its goals were “modernization and replacement of facilities,” including
“classrooms, buildings, laboratories and instructional equipment.” This is actually quite common in
ballot wording for such measures, since little space is actually available on the ballot for full
descriptions. Unfortunately, there was no up-to-date Facilities Plan behind it, nor an Academic Master
Plan to guide it. There did exist a Facilities Committee, composed of representatives of faculty, staff
and administrators. This had made considerable progress in identifying key elements of what a
Facilities Plan should include, but the committee was never given the full responsibility for preparing
such a plan nor the resources to complete it.

There thus ensued a game of “catch-up,” in which detailed plans needed to be formulated. In
the end, an outside consultant was hired to prepare a Facilities Plan; when this was examined by
Facilities Committee members, it was found to consist mostly of “boilerplate” language borrowed from
plans of other colleges.

This highlighted what has remained an important issue – lack of planning before the bond
measure was proposed and passed. Most agree that it would have been far better to have conducted
much more extensive planning beforehand. Disagreement arises over whether this could have
happened.

If one assumes that immediate new construction -- or at least the bond issue to make it feasible
-- was required, then the confusion that followed makes more sense. Because a very long time that had
passed since any major construction had been undertaken on either campus, and because previous administrations had done so little planning for it, the information base for new construction was small. It has also been pointed out that until the bond issue passed, funds were not available to commission studies to expand the information base. Perhaps it was a “unique historical moment” that required bold action.

However, many still question the urgency of the new construction. Others point out that the college's own staff could have done much work in identifying critical needs before the bond language was written. Subsequent events revealed that it would have been ideal to be able to “turn back the clock,” but of course that did not happen.

District Atmosphere

Unfortunately, the construction projects began amid a generally deteriorating college atmosphere. The arrival of many new administrators, the clash of highly visibly personalities and the occurrence of protracted labor disputes, including the longest-running fact-finding process in the history of the California community college system, all contributed to a general lack of collegiality during this period. There was a general lack of trust. Many faculty and staff viewed the beginning of the construction project as the opening of another front in a war against them.

The retirement of the president who initiated the construction program in 2010 led to the hiring of a new president who recognized the seriousness of the divisions that existed and attempted to heal them. He faced the challenge of completing the project he inherited.

Decision-Making Processes

Authority for making decisions about the construction process was concentrated largely in the new president and people chosen by her. The vice president for business services and the management and operations director played especially important roles. A Director of Modernization was hired from outside the college to oversee expenditure of funds. The expertise of such an individual was invaluable in making sure that the District kept within its budget, observed all pertinent regulations, filled out all forms and contracts properly, and completed projects according to schedule. However, many lamented the fact that so much decision-making was centralized in a Director of Modernization who was neither familiar with the functioning of the campus nor accountable to those who were. A construction management company was hired to oversee the construction process itself; many were concerned that its personnel changed frequently. During the course of the entire project, there were two Directors of Modernization and two construction management companies.

As individual projects were designated, students, faculty, staff and administrators were invited to join “user groups,” each of which would discuss planning for one project. However, these groups were only advisory in nature, having no real authority over the projects. Discussion and decision-making were usually very rushed. A common and derisive answer to those who raised questions about how proposed changes would affect the college's instructional program was “The train is leaving the station, so you better get on board.” To many, this meant that the quality and functioning of the college's educational program were secondary to getting old buildings demolished and new ones built. Where the train went did not seem to matter.
Faculty, staff and administrators were invited to participate in the selection processes for architectural and some other firms involved in the projects. Many did participate and did cast their votes when the times came. However, there was no clear requirement for the architects, the construction management firm or the contractors to submit their plans on a regular basis to the user groups. This inhibited the functioning of corrective feedback loops.

Critical Decisions and Constraints

Because it had been agreed that the funds from the bond measure would not be sufficient to cover the cost of all of the construction planned or needed. Some viewed the acquisition of supplementary state funds as possible and necessary to the completion of the projects envisioned. Because the District's eligibility for these funds (and for possible state maintenance funds) would depend on meeting a set formula that included total number of students enrolled and total area of several categories of constructed space in all buildings new and old on both campuses, there was protracted discussion about the wisdom of considering these funds and the process to acquire them in the planning process. It was provisionally decided to set limits on all buildings in order to leave open the later possibility of acquiring state funds.

However, as time went on, low enrollments coupled with the existence of two campuses in a county with a small population made it more clear that acquiring state funding for new construction was an unreachable goal. The observation that “once size fits all” standards may favor larger colleges that can realize certain economies of scale in use of space has never been addressed adequately. Furthermore, as the process went forward, it became clear that the older (some say archaic) state standards, which set maximum sizes for spaces of different uses, were often incompatible with newer federal standards which required spaces of certain minimum sizes to meet the requirements of the Americans with Disabilities Act (ADA). However, for COM's Measure C projects, the space constraints based on the state standards, which were in fact ultimately abandoned, were very important in initial planning and thus in fixing the sizes of the projects planned.

A very important decision, which has sparked serious criticism ever since, was that the overall construction project would reduce rather than maintain or expand the total space available for most academic programs. Plans for different degrees of reduction at times pit different programs against each other in competitions for space; at other times, they threatened to make some programs inviable. There was no campus-wide discussion of what was in effect a “downsizing” of the college. At the least, this reduction in space would obviously impact the functioning of the college's total educational program. Lower quality of educational experiences in smaller spaces was at least a strong possibility. A reduced number of class spaces in the reconstructed college physical plant could also hinder the ability of the college to offer classes at certain popular times such as in the evening; this could have future negative impacts on enrollment. For these reasons, some have charged that the decision to implement the downsizing usurped the curricular authority of the Academic Senate.

Early in the planning process, LEED (Leadership in Energy and Environmental Design) certification for new buildings by the U.S. Green Building Council became one the priorities of the president and Board of Trustees. This did bring the subject of long-term sustainability into the process.
To the extent that LEED certification implies greater overall efficiency in construction and maintenance, this was an important step forward. It is the most widely used third-party certification process. However, some pointed out that it was only one possible avenue towards sustainability and questioned the wisdom of limiting the planning and construction process by one more set of constraints. Others suggested that concerted campus planning for sustainability might yield greater benefits than a building-by-building approach.

Concern was voiced over the projected 30% “soft cost” level for the project as a whole. These are costs that are not for building materials or construction work. Architects' fees and administrative overhead are typical “soft costs.” However, although some state grants for capital projects specify levels as low as 20%, there is wide variation in what is included in “soft costs.” Other districts appear to allot proportions roughly equal to 30% to their “soft costs.”

**Prioritization of Projects**

Seismic safety, the likelihood of the lowest areas of the Kentfield campus being flooded by the end of the century, and needs of the physical plant and academic programs all were issues that had been raised, but the order of priority was by no means clear. Three locations, Kentfield, IVC and the COM Marine Laboratory in Bolinas were all initially slated to be sites of construction.

In the early years, the whole program was known as the “Measure C Construction Project.” However, after some time, this was changed to the “Measure C Modernization Project.” This was due to controversy about the scope of the project. Some felt that the former term implied ambitions beyond the budget available.

One of the first actions taken was to prioritize specific structures for renovation and new construction. A consultant was hired to determine the seismic safety of the buildings on both campuses. On the basis of the consultant's findings, the Administration Center, the Austin Science Center, Dickson Hall, Harlan Center, the Fine Arts Building, and Olney Hall on the Kentfield campus were determined to be at risk and therefore in need of replacement. Another decision that was taken was to prioritize instructional spaces for renovation or new construction. This ruled out major work on the Kentfield Student Services and Learning Resources buildings.

In the end, several projects were given priority on the District's two campuses. On the Kentfield campus, Fusselman Hall, the Performing Arts building and the Diamond Physical Education Complex were to be renovated. They would be joined by a new Science, Mathematics and Central Plant (SMCP) building (later SMN), a new Fine Arts Building and a new Gateway Complex (later Academic Center). There was much discussion about reconstructing or renovating the Learning Resource Center (LRC), but this project did not get priority for the reason mentioned above. On the Indian Valley campus, a new Administration building was to be constructed and the Automotive Technology facilities would be renovated.

For each project, several constraints grew to be of paramount importance. The first three were the state standards, the federal ADA legislation and the LEED certification process mentioned above. was the restrictive maximum area mentioned above. A fourth was the maximum dollar amount allotted per project; this was necessary to ensure that the total Measure C program did not exceed its budget. Within the total budget for each project were separate categories for construction and equipment.
Bolinas Marine Laboratory Controversy

The Bolinas Marine Laboratory had been a center of COM's classes in marine biology and also a local Bolinas community resource since the 1960's. It had fallen into disrepair, and was originally included in the discussion of possible Measure C financed projects. However, there was disagreement about how much work would be needed to bring it into a usable condition.

Some faculty and staff felt that minimum upgrades, such as painting and repair of heating and cooling systems, would be sufficient. Others held that more complete renovation was necessary. This debate took on heightened importance when the state Field Act prohibiting construction or renovation (above the level of minor repairs) of school buildings near an active earthquake fault was extended to community college campuses (although there was later enacted a provision for soliciting “grandfather” exceptions).

Studies were commissioned through the construction management company to determine the amount of renovation needed. These indicated that the amount of renovation required would not be permitted under the Field Act (although this interpretation has later been questioned), and thus the Bolinas Marine Lab was dropped from the list of Measure C projects.

However, there was an incident that caused many in the campus community to doubt much that was being claimed about the Bolinas Marine Lab. The college president officially was engaged in the collective process to map out a better future for the marine lab. However, it was reported that she secretly visited the director of another local marine research center and offered to transfer the college's marine lab to it. This news served to “poison the well” as far as that president, the marine lab and the campus community were concerned. Fallout from this incident may have affected other parts of the modernization process.

Campus-Wide Planning

In Kentfield, discussion of the general campus environment centered around four themes. The first was how best to take advantage of the campus location to the northeast of Mt. Tamalpais and Corte Madera Creek. The second was which existing buildings deserved to be preserved for their historic value. The third was the continuation of the College's original architectural style. The fourth was whether a new general campus style would be set.

For the whole campus, due consideration was given to the impact of the mountain and the creek. The creek receives tidal influence up through its campus reach, and it has flooded parts of the campus in the past. Given the trend toward sea level rise, it was decided to restrict new construction to the higher ground on the creek's left bank. During the winter, the mountain casts a long shadow over the campus; siting buildings further back from the creek would enable them to take greater advantage of natural lighting. Views of the mountain are good from many spots on campus, yet they are blocked by buildings at other points. In general, shared goals were to preserve and to enhance important view lines.

Unfortunately, two buildings that many considered “historic,” Fusselman hall and Dickson Hall, blocked the lines of sight from the central campus. Demolition of these two buildings would have
opened up better views and also allowed a possible expansion of the central campus quad. In the end, Dickson hall came down. However, there was much strong sentiment against razing Fusselman, which ended up being spared.

With only one “historic” building remaining, there would be no clear “prevailing style” to follow on the campus. Most of the original College of Marin buildings had been built in the “Mission Revival” style that had been in vogue at the time. Several individuals lobbied for continuation of this original style, but their efforts were not successful. Although the “Mission Revival” style may be considered a cliché in California, its adoption as the campus architectural standard could have at least avoided the stickiness of getting everyone to agree on a different one.

A new standard might well have been superior to the old one. It could have ensured some minimum degree of harmony among the buildings new and old. However, no standard was developed. Rather, each building was planned as a largely independent project. The result was a mixture of boxes of different shapes, sizes and colors that some say now appear as just so much clutter in front of the impressive backdrop of Mt. Tamalpais and the surrounding hills. Of course, many other campuses also have evolved in such a patchwork manner, but a large number of local residents had hoped better for the College of Marin.

After all, Marin is the county whose Civic Center was designed by Frank Lloyd Wright and which has derived much inspiration from his life and work. As explained in exhibits in the Civic Center, one of his guiding concepts was “organic architecture,” in which “buildings should appear to grow from the site,” and in which “certain dominant forms should be integrated throughout.” This style was “also characterized by the use of natural colors and materials and by the creation of open spaces which highlight and accommodate natural foliage.” In Wright's own words, “The good building is not one that hurts the landscape, but is one that makes the landscape more beautiful than it was before that building was built. In Marin County, you have one of the most beautiful landscapes I have seen, and I am proud to make the buildings of this County characteristic of the beauty of this county.” One is left to wonder what Wright would have thought of the new campus.

One success of the campus planning was the maintenance of a central open area. Although it was given one unusually angled side by the preservation of Fusselman Hall, this area kept its integrity because the line of the northwest side of the Student Services building was taken into consideration in the siting of adjacent new construction.

Outside this open area, some have rightly complained that the campus is dominated by parking lots. The parking lots, poor bus service, lack of facilities for bicycles, and the concrete channel of Corte Madera Creek all combine to produce what could be called an environmentally retrograde campus. However, much of this is due to challenges that must be met by the county and region as whole, and not just by COM.

At the IVC campus, the original campus construction had indeed followed a uniform plan, one stressing exposed wooden beams in an overall rustic pattern. Unfortunately, this was also a style that proved very susceptible to insect damage; this necessitated closing the entire campus at one point. Thus it made little sense to replicate the original construction. However, perhaps some effort could have been made to harmonize new construction with it.
The Charettes

An interesting interlude was the inclusion of one of Marin County's leading local architects in the planning process. He was widely known for his commitment to sustainability, holistic thinking and innovative design. He had had also served previously as State Architect and had a thorough familiarity with the state standards he had helped to write. He was invited to conduct a “charette” for the college to get general community input into the planning and construction process. (A "charette" is an architectural exercise in which different proposals for the use of a space are produced, collected and compared.) However, this exercise took place relatively late in the game, and the conclusions of the “charette” were largely forgotten. Since this effort was an expensive one, many lamented the waste of resources. However, had it occurred earlier, it might well have been a strategic investment.

General Campus Environment

The hilly topography and relative lack of signage make it difficult for a newcomer to navigate the campus. It is not at all obvious from the buildings' appearances what they contain. Perhaps large signs on the buildings themselves could help with this. Additional well-designed gathering spaces and focal points could make the campus more inviting.

Campus Landscaping

Over many years, faculty members and grounds staff responsible for maintaining campus grounds had discussed the difficulties of installing and taking care of campus landscaping and the possibilities for improving it. Many remembered the last big COM campus construction project, when the Austin Science Center had been landscaped at no cost to the district by the college's own Environmental Landscaping Program. Some were also aware of the great success of the landscaping planning for the new campus of the University of California at Santa Barbara, where the landscape materials were chosen not only for their ease of maintenance, but also for their value for classes and students. More recently, Marin County had been one of the centers of a growing movement to harmonize landscaping in built areas with their larger environment.

Thus it was natural for members of the campus community to suggest careful planning of the new landscaping. Early in the process, faculty from the biology and environmental landscaping programs proposed joining with the campus head gardener and the and the project architects to produce landscape plans that would ensure harmony with the overall Marin environment, ease of maintenance and maximum utility for the instructional program. This proposal was rebuffed.

Over the ensuing years, the actual landscape plans were drawn up in secret. Repeated requests to see them were denied. Then, for one building after the other, plans were released with the statement that they could not be changed because “the plants had already been purchased and could not be returned.” At times, these statements were followed by promises to improve the procedure for the “next project,” but the same story repeated itself like clockwork.

Some plants whose names had been furnished to the Director of Modernization in the early
years did appear in different places on campus, but the general campus landscaping developed in a very uneven way. The new landscaping for the refurbished Physical Education building and the generally southern side (first floor) of the new SMN building did emphasize drought-tolerant native plants in harmonious arrangements. However, from the northeastern side of the SMN building past the remodeled Performing Arts building and on to the new Fine Arts building, strange combinations and strange placements of inappropriate plants were more common. Some were not well adapted to the local environment, and some promised maintenance nightmares. Others were good choices for the campus in general, but were planted in the wrong places. Shade-loving ferns were planted in full sun and sun-adapted plants were placed in the shade. The campus gardening staff as well as the faculty repeatedly were shocked by the senseless and wasteful results.

"Living roofs" were incorporated into plans for at least two buildings, the SMN building and the Academic Center. However, there was no consensus about what the major goals of these innovative features would be. This produced confusion about how well they were functioning after they were installed, a point that will be taken up again later.

During this time, the campus community and Marin County had moved forward in promoting environmentally-sound landscaping. The 2008 Countywide Plan recommended native and drought-resistant plants for all public projects. The Marin Municipal Water District developed software for assessing the climatic feasibility of landscaping plans. The college itself signed the Campus Sustainability Pledge.

When the last building of the program was nearing completion, its landscaping plans were finally released. They showed no understanding of the basic principles of ecological design. Plants such as trees from humid sites in Japan and Canada were scheduled to be planted on the most visible corner of the campus in the middle of the summer during a drought year.

When an environmentally-conscious student member of the Measure C Citizens' Advisory Committee questioned the wisdom of the plan, the stock answer was given: the plants had already been purchased and could not be returned. Undeterred, she continued to inquire what could be done.

Fortunately, within the local community there were experienced and generous individuals who were willing to come to the rescue when contacted by faculty and students. A “blue-ribbon panel” of local experts was assembled that included authors of several landscaping books as well as professionals who had pioneered best practices in the local landscaping industry. The committee, working pro bono prepared several improved landscape plans, complete with full-color renditions, and offered help with sourcing plants and securing donations.

Finally, the process that had been proposed years before was tried. Representatives of the panel met with COM faculty, the head of the campus gardening staff, one of the architects and the director of modernization. There was an exchange of ideas. The original inadequate design was not implemented.

However, neither were the best features of the panel's plans. Reasonable native plant species were finally planted, but the diversity was very low and placement was in a linear or grid arrangement, rather than in natural groupings. Although it would have been possible to use a temporary irrigation system with these plants, an expensive permanent system had already been installed. Soil preparation
was minimal, which did not bode well for the long-term health of the landscaping. It seemed to be another case of “too little, too late,” which ended up wasting more resources.

On the positive side, this episode shows that collaboration can produce an improved final outcome. However, on the negative side, it shows that if the people in charge of the process are not capable of utilizing the best information and the best practices available, the optimum quality product will still not be achieved. Unfortunately, the story of the modernization program as read in the campus landscaping is one of expenditure of too much time, effort and money for too little result.

**Physical Education (PE) Complex**

The physical education complex was the first project on the Kentfield campus. Because there had been much discussion about whether to replace or to renovate it, the final result stood as a good example of what renovation could achieve. The swimming pool, offices and classrooms were all refurbished, and some old materials from demolished parts were recycled into newly constructed parts of the complex.

The newly refurbished complex is brighter, airier and more inviting than the old one. This was largely accomplished by adding more large windows. However, the windows did bring the drawback of reduced storage space, because use of more wall space for windows meant fewer space for shelves and closets; this has led to supplies being piled in classrooms and offices. In addition to more light, another goal was to increase natural air circulation in a building that often has many people exercising in it at the same time. More windows might be expected to increase heat on sunny days, but simple solutions were found for this problem. First, the ordinary windows can be opened and closed as needed. Second, one entire east-facing wall can be raised up on a “garage-door” style hinge on warm days. (This effected more efficient cooling than the air conditioning system had been able to provide previously.) A nice view of Mt. Tamalpais was gained by removing a wall at the side of the pool. However, this was accompanied by the loss of the roof covering adjoining it, which resulted in making it difficult to avoid getting wet on a rainy day when someone is going from the front office to the back office area.

A major plus is that it the building has been brought into compliance with current ADA regulations. Also, some new classrooms and offices were added. There is a new Student Athlete Study Center. On the minus side, the new building had fewer lockers and showers for students. It was hoped that it would have lower maintenance costs. There have been some continuing maintenance issues with the pool.

Solar panels were installed on shade structures built over the parking spaces in the renovated parking lot. Although their contribution to the total campus energy budget was expected to be minimal, they are an important symbol of the need to plan for energy sustainability. Some have suggested that the logical next step is to connect them to electric vehicle charging stations.

There was a generally-inclusive planning process, although some faculty and staff complained that they were not getting any compensation for attending all of the meetings while architects were being flown up repeatedly from Los Angeles at the District’s expense.
The story of the track is a strange one. The old track was full of holes, but the president had informed the faculty and staff that bond money could not be used to fund a new track, and that indeed another college had been sanctioned for doing that. A quick telephone call to that college revealed this to be erroneous information, but the track was still not on the list of priority projects. At this juncture, the faculty and staff called the California Division of Occupational Safety and Health (CAL/OSHA) and requested an inspection. Due to unsafe conditions, old track was condemned by CAL/OSHA. A very good new track was then built with bond funds.

Learning Resource Center (LRC) and Student Services (SS) Buildings

Both buildings are examples of classic 1970's style and harmonize with each other on adjacent sides of the campus central quadrangle. Initially, there was much discussion about what a thorough renovation of the LRC and SS buildings could achieve. This LRC building houses the library, the bookstore and a few related student services. The SS building contains the admissions and records office, the cafeteria, Deedy Lounge, and offices for many student activities. The current design of the SS building features a large, open central part which provides light and ventilation to the cafeteria. However, it also allows noise to pass throughout the building and occupies space that is not available for other uses. The current design of the LRC building has the library in a less than optimal space. Several alternative concept drawings were prepared for possible renovations. A field trip to the new Santa Rosa Junior College (SRJC) library building revealed the potential for totally new construction. However, due to costs, in the end changes were limited to new paint and carpeting and a rearrangement of internal spaces within the buildings.

Fine Arts (FA) Building

The demolition of the old Fine Arts Building produced an initial unintended irony. Although one of the reasons given for demolition of the old building had been its seismic weakness, it proved much more difficult to demolish than anticipated. However, once it was gone, the path was clear for the first totally new construction on the Kentfield campus in decades.

In this project, the restrictive space limits led to protracted struggles over important needs that were set against each other. One struggle pitted the total space needed for studio art classes against the need to have restrooms on each floor. In the end, largely because of intervention of a few vocal members of the general public, the bathrooms won out, and the total space for classes suffered. The new building ended up with less class space than the old one.

Much time and effort were then expended to fit the materials, equipment, people and activities fit into the smaller spaces now designated for classes. During this struggle, some programs fared better than others. Sculpture, ceramics and the computer room came out relatively better than the design and printmaking programs; these last saw their space cut by 25%. Unfortunately, this lead to lasting bad feelings among the faculty and staff of the different programs.

Many of the spaces that were built do not function well. Storage is often inadequate. Industrial-quality sinks suitable for art classes were replaced with kitchen sinks that stop up frequently.
The lighting systems are too dim to allow doing good art work at night. The HVAC system alternately makes rooms too hot and too cold. Ventilation is inadequate for painting. The new door locks are of an electric key fob type that often has not worked.

Many lamented the fact that the new building had no gallery. Exposition of artwork is a major part of any fine arts program, and thus the lack of a space for this was an important drawback. To some extent, this was mitigated by the renovation of a gallery space in the neighboring Performing Arts building for display of artwork. However, this is used mainly for visiting art shows. There is no good space to showcase student artwork. A good set of large display cases might remedy this problem.

When the building was completed, the first thing many observers noted was that it had taken the title of the ugliest building on campus away from the old Austin Science Center, opened in 1971 and scheduled for demolition. Its boxy style, bare concrete walls and exposed metalwork combine to produce an effect more often associated with factories than with college campuses. The lack of color, gathering spaces and benches outside initially made the area uninviting.

However, perhaps the worst exterior feature of the building was the lack of covered corridors. This meant that students had to hold their artwork in areas completely exposed to the elements before and after classes. This produced risk of damage to artwork, as well as the hazard of slipping to students, despite the unusually dry years that followed the building's opening.

After re-examination of the original plans for the building, it was found that the entire building may have been rotated to a position that at a considerable angle from that called for in the plans. Several defects of the Fine Arts building have led to litigation.

**Performing Arts (PA) Building**

The Performing Arts building was the second major renovation project on the Kentfield campus. Its overall footprint and height remained largely the same, but its interior saw major modification. The most significant improvement was the James Dunn Theater. Significantly, most of the funds for this part of the project came from private donors. One shortfall was in the lighting for the stage, which was subsequently approved by the campus Instructional Equipment Committee.

There was also an offer of a very large total donation, purportedly in the millions of dollars, for a state-of-the-art music hall, but for some reason, this offer was turned down. The popular performances of music continue to be held downstairs in the Recital Hall, which saw minor changes.

Malfunctions and shortcomings in the building's ventilation and fire safety components later became apparent. Recognition of these defects later led to further litigation against the same firm that designed the Fine Arts building. There have been complaints about the soundproofing and acoustics of the classrooms used for music classes; one faculty member flatly states that they were better before reconstruction.
Science, Mathematics and Nursing (SMN) Building

Initial plans called for a combination of the mathematics and science programs then offered in the Austin Science Center with a centralization of campus heating and cooling facilities dispersed throughout the Kentfield campus. This led to the name Science, Mathematics and Central Plant (SMCP) for the project. Later, in recognition of facilities for the Nursing Program, which would also be housed in the new building, the name was changed to Science, Mathematics and Nursing (SMN).

Geothermal Field

The radical restructuring of the Central Plant facilities offered unique opportunities for innovation. One was the chance to employ a new method of circulating water between underground pipes and those in the buildings. Because the underground environment tends to maintain more constant temperatures than the aerial environment, this method promises savings in energy need to heat and cool water. A large number of bores were made as part of the planning and implementation of the geothermal field process on the campus. One effect generally considered undesirable was the puncturing of a relatively impermeable soil layer that had produced a perched water table; this led to the loss of moisture in the upper soil layers and the death of several campus trees. Some observers pointed out that the Kentfield climate is milder than those in which the geothermal field process has produced significant energy savings, but only long-term analysis will reveal whether it was economically advantageous for COM. This could be a useful project for engineering classes.

Overall Building Challenges

Providing space to house so many different uses was a big challenge. It was clear from the outset that a single story construction, as in the case of the Austin Science Center, would require an enormous footprint that would cover more space on the left bank of Corte Madera Creek than was acceptable. At least three levels would be needed. However, the campus neighbors on Laurel Avenue were wary of tall new buildings on that side of the campus. A compromise was reached in which the new building would have three stories, but that one of these would involve excavation of a hillside to present a lower profile when seen from many points. Total bulk was reduced by adoption of a “three wing” plan with open space between adjacent wings.

Selection of the building architects was a lengthy process with a strange twist at the end. Several different firms initially responded to the call, each touting its experience not only in overall building design, but also in design of specialized spaces such as lecture halls and laboratories. Most brought specialists in these latter areas to their interviews. However, after one company was selected, the college attempted to impose liability for any construction delays on this architectural firm. The firm objected, stating that such delays, if they occurred, should be the responsibility of the contractor hired to do the actual construction. Thus in the end, the firm selected bowed out, and a replacement was found.
Discussion of Renovation Versus New Construction

Many of the people who had worked in the old Austin Science Center advocated its renovation over its replacement. It was true that most agreed that its concrete bunker style was not the most appealing. It also suffered from defects of improper construction that included missing connections between its roof and drainage pipes as well as omissions from its electrical system.

However, most also agreed that it was eminently functional. Its central atrium was spacious and inviting and held strategically-placed offices and common areas for faculty, administrators and classified staff. It had a well-used lecture hall with stepped seating and a front podium with gas, water and electrical connections. Covered walkways led to classrooms, laboratories and offices. It had separate indoor and outdoor work spaces for different activities, including a central greenhouse and a rock preparation area.

The main argument for replacement was one of seismic safety. There was no doubt that some seismic issues existed, but the debate centered around cost and feasibility of retrofitting. A second seismic safety study was ultimately done. It revealed that retrofitting was possible, but that in the end, much would be expended to save what would still be an “old” building. The conclusion ultimately reached was that demolition was preferable.

Yet the Austin Science Center proved to have a second life. When the new SMN building was completed, procedures were soon underway to let the contract for the Austin demolition. However, a faculty-initiated analysis of total campus space needs revealed that if Austin were prematurely demolished, there would be insufficient “swing space” for the occupants of other demolished buildings. Austin ultimately was spared until additional new construction was completed, housing in the interim the college president and language and social science programs.

Field Trips

When Measure C was passed, the faculty and staff working in the old Austin Science Center began to plan a series of field trips to other colleges and universities that had completed recent construction. The twin goals were to discover which new features at these institutions might be most useful at COM and to learn from the processes that produced them. Teams of faculty members from different program areas ultimately visited Santa Rosa Junior College, Sonoma State University, UC Berkeley, College of Mendocino, DeAnza College, Mission College, Sierra College and Diablo Valley College.

The groups saw many significant innovations. On the large scale, they saw outdoor classrooms, “grounds that teach” through their displays of plants, artifacts and drawings, and “buildings that teach” by making visible to students constant information about energy use and other environmental variables. On a somewhat smaller scale, they toured laboratories that included designated spaces for cadavers, museums with attractive exhibit areas and efficient preparation rooms, and compact storage facilities that maximized efficiency in use of space while giving high levels of protected to what was being stored. On the smallest scale, they examined advanced laboratory audiovisual equipment.

They also heard myriad “horror stories” about the different construction processes. On one
An autoclave was installed in a corner where it could never be opened. On another, all of the gas outlets were installed six inches from the ceilings instead of six inches from the floor.

A very interesting story came from a faculty member who had some experience with design and construction. He made a practice of visiting the site of their new building regularly while it was under construction. Sometimes he even took six-packs of beer to give to the workers at the end of the workday. One day, he was going over the plans with one of the workers just as they were getting ready to pour the concrete flooring for one of the laboratories. He saw that the plans called for installation of gas, electrical and water utilities under the flooring, but that none had been installed yet. He called this to their attention, and they wisely held off the pouring of concrete until the utilities had been installed.

Another incident was the battle that developed on one campus between the faculty and staff and the architect hired by the college. The architect's plans called for eminently non-functional laboratory space. Despite repeated meetings, no progress was made. At this point the faculty took up a collection and hired their own architect to produce plans that would produce functional space.

Planning Process

Faculty and staff participated on committees convened to hire architects and in the project “user groups that was supposed to work out the details of internal spaces. However, the limits placed on the total space and budget for the building and the lack of time dedicated to planning both caused major problems. As in other projects, valid needs of the instructional program that had been met in the older building were pitted against each other in absurd ways, and resolution was supposed to happen in an impossible time frame. Because the “user group” had no decision-making authority, and because many suggestions were ignored, many early participants dropped out after having taken the time and effort to organize their thoughts and attend meetings, feeling that they had simply been exploited to provide a false sense of legitimacy a process that they concluded was a sham.

One key decision by the president at this time proved very beneficial in the long run. When the area dean's position became vacant, she followed a faculty suggestion and appointed an engineering faculty member as interim dean. He proved to have the background and commitment for analyzing carefully all of the different iterations of the plans for the building and for suggesting modifications that ultimately greatly improved the project.

A major concern was the low limit placed on the total area for laboratory space. The initial calculations presented to the departments would have made it impossible to continue teaching the programs slated for the spaces. Rigorous documentation of this finally persuaded the persons in charge of the project to modify their plans. Yet the total space was still too small. When combined with ADA requirements, this meant not only smaller class sizes, which might be viewed as benefit, but also a smaller number of total laboratory rooms, which was definitely had a negative impact on the ability to conduct teaching programs. First of all, it reduced flexibility in scheduling, which, especially in a small college, is necessary to accommodate the needs of students who need to fulfill prerequisites that are offered in only one section per semester. Second, it led to a lack of “down time” in the laboratories, which greatly increased the burden on technicians responsible for setting up and taking down materials and equipment for laboratory exercises. Loss of laboratory space should have required mitigation in
the form of hiring of additional technicians; since it did not, both the technicians and the students suffered.

A big blow was the elimination of the planned lecture hall. Because the Austin Science Center had housed the only full-service lecture hall on campus, its demolition and the lack of construction containing a new lecture hall would lead to a major decrease in the ability of the college to carry out its instructional program. An interesting possibility was presented when member of the Larkspur City Council mentioned that they were interested in collaboration with another entity to provide an auditorium-type space that could be made available for local events; however, whether this use could have been compatible with a lecture hall was not clear.

The original plans for the SMCP building also called for a greenhouse either on the roof or as outside ground-floor annex. The greenhouse was also quietly dropped from the plans at one point, without consultation with the faculty and staff who would use it. When it was pointed out that existing instructional programs in plant biology and allied areas could not continue without a greenhouse, a new one was planned on the other side of a parking lot, down a steep slope, in an area that required additional site preparation. This new greenhouse partially made up for the loss of the old one. However, once again, the lack of additional classified staff to care for materials in the new greenhouse and to transport them back and forth between the greenhouse and the laboratories meant that there was a net decrease in the use of important materials in the instructional program.

A somewhat comic interlude came early in the project when teams of people equipped with laptop computers descended on the old Austin Science Center while classes were in session. They announced that they were conducting an inventory of all equipment and that they would put stickers on all of it and enter the stickers' numbers into the computers to produce the inventory. The problem was the “sticker people,” as they became known, did not know where anything was or which objects might present hazards and which did not. One laboratory technician, after seeing the same group of people circle the building for almost an hour, asked them if he could help them. They told him they were looking for a particular room and were lost. Another technician became alarmed when another group began to open containers of radioactive materials, not knowing what they were doing. It is doubtful that this process produced a useful inventory. The irony was that most of the laboratory technicians already had their own inventory systems and could have joined together to produce a much more useful total inventory for much less cost.

Laboratories

There was a very fortuitous coincidence that contributed immensely to the design of the building's laboratory spaces. A most beneficial attribute of the architectural firm finally hired to design the building was that they had a team of of individuals who were highly skilled in producing multiple solutions to challenging design problems and very committed to discussing all of the design details and possibilities with the end users. Also, as noted earlier, for part of the planning period, the interim Division Dean was a faculty member familiar with the needs of the programs. Also, among the active faculty and laboratory technicians were several individuals who had considerable experience in design and construction of building spaces as well as in ordering, installation and operation of laboratory equipment. Furthermore, they were willing to put in long hours of pro bono work to make sure that the final designs and specifications were optimal for the uses for which they were intended. This
ultimately resulted in designs of the new laboratory spaces, fewer though they were, being in most respects superior to the ones they replaced.

Major advantages of the new laboratory spaces include dedicated spaces for cadavers, improved lighting and audiovisual capability, and compliance with ADA requirements. Unfortunately, not everything was built according to plans; this has led to continuing plumbing and electrical problems.

Another problem echoes similar problems elsewhere. Lack of natural ventilation due to windows that do not open, combined with mechanical HVAC (heating, ventilation and air conditioning) systems that do not work well has led to wide temperature fluctuations. This has resulted in discomfort for people and the death of animals and plants maintained for classes. Ironically, one of the site visits conducted during planning for the SMN building featured an explanation of the “environmentally friendly and educational” heating, cooling and ventilation system at the Kirsch Center for Environmental Studies at DeAnza College. This included windows that could open and close along with an electronic system for guiding their use during different kinds of weather. It is unfortunate that this system was not used as a model in the new SMN building. Rather, the system installed was of the same kind that has time and again revealed itself to be wasteful and inadequate, especially in most climates in the San Francisco Bay Area.

Equipment

Another beneficial coincidence was that the construction process began just as the state funding for instructional equipment was drying up during the Great Recession. Measure C really came to the rescue here, since it paid for new microscopes and other equipment needed to equip the new laboratories. These would not have been possible without local bond funds. The audiovisual equipment in the new spaces also benefited from the advice of a long-time classified staff member, who was able to spend the necessary time overseeing planning and implementation of this equipment because he was compensated for it.

Museum

For many years, many people on campus had wondered how the STEM (science, technology, engineering and mathematics) disciplines could be given greater prominence at COM. In the surrounding region, and perhaps in the United States as a whole, science museums had come to play an important role in attracting members of the general public to science and in educating them about it. Fortunately, COM had a long tradition of maintaining fine museum collections and using them in its educational programs. Unfortunately, it did not have the space to carry out these functions well.

In the old Austin Science Center, the Biology Museum and the Geology Museum occupied cramped quarters that doubled in serving both as display and storage areas. This made it very difficult for COM's own students, let alone the general public, to maximize the educational use of its rich legacy.
After visiting other community college science museums, faculty and staff became even more aware of how far behind COM was in this important area. Together with supporters from the surrounding community, they developed a plan with three goals. The first was to separate the display and storage areas. The second was to construct a display area with two compartments, so as to allow constant use without the interruption of closing the entire area for installation and removal of exhibits; this would also allow for use by both COM classes and the general public, including prospective students and potential donors. The third was to make the space available to all STEM disciplines, jointly or in sequence.

As plans for the building advanced, the three goals were addressed in the following way. The storage function would be satisfied by the installation of a modern compact storage system in a designated room. A “small display space” and a “large display space” were designed near to but separated from the storage space. The display spaces would be in a visible corner of the new building that would house all of the STEM disciplines.

The compact storage systems have worked very well. However, a second (outside) door somehow crept into the designs for the storage room. Outside doors are particular bad ideas for this type of facility. This error was pointed out. Yet the door was built anyway. It has since then produced the expected leakage and pest problems.

Development of the plan for the display areas was facilitated by generous contributions by community supporters of the museum. When the museum, like the greenhouse before it, did not appear to be getting sufficient attention from the official design team, they solicited contributions and hired a museum designer well known in the North Bay area. He was largely responsible for the final museum design.

However, when construction was finished, the display spaces were only partially completed. The “small display space” was fully built, but not furnished. The “large display space” had its ceiling and floor finished, but only two of its walls were completed.

Thus the operation of the museum display area remained with the main constraints that it had in the old building. It could not serve multiple groups. Thus integration of the STEM disciplines was hindered, and use of the museum for public exhibits, outreach, fundraising or other purposes was only possible between semesters.

Failure to build out the “large space” negatively affected the cost effectiveness of the completed structure. The cost of returning later to complete the building will certainly be higher than it would have been to complete it all at once. Also, if the “large space” had been built out, this could have freed up the “small space” for occasional use as “swing space” in during critical laboratory examination periods, partially compensating for the loss of laboratory space in the new building.

However, faculty, staff, and the community group that had already contributed much to the process were not deterred. They pledged to redouble their fundraising efforts to furnish the small space and perhaps eventually to build out the large space. Despite the additional obstacle presented by the demise of the College of Marin Foundation, they were successful in making major strides to the final goal; in this, they were assisted by college administration and the new COM Advancement Office.

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Living Roof

A notable innovation in the construction of this building was the installation of a living (“green”) roof. This paralleled a notable regional and national enthusiasm for this feature in new buildings. Unfortunately, as noted previously, living (or “green”) roofs do not all have the same goals.

One hypothesis is that a well-planned living roof can cut total energy costs in a building below what they would be with a conventional roof because it achieves superior insulation. This may be true for humid climates, but the goal may be more difficult to achieve in arid or semi-arid regions.

Another hypothesis is that living roofs can restore wildlife habitat lost to urban development. This has been supported by data collected in various parts of the world. However, achieving this effect requires special attention to roof contour and plant species selection; it also may require more water.

Yet another hypothesis is that living roofs can ameliorate the “heat island” effect of densely urbanized areas. This seems very plausible. However, achieving this effect also depends on plants selected and amount of water used.

One key problem for evaluation of living roofs is that buildings are not usually built in pairs; this makes it very difficult to conduct a controlled experiment of a roof’s efficiency. Another problem is that the performance of each green roof is very site-specific; results from one roof are not automatically applicable to another. A third problem is that realization of maximum benefits from a living roof depends on the establishment of maximum vegetative cover; many times the cover never reaches the extent desired in the plans for the roof.

The living roof on the SMN building has rarely reached 50% cover; thus its efficiency as both insulation and habitat may be much lower than planned. This may be due to inadequate attention to site details and the plant selection process. It may also be due to the lack of care given to the plants after installation of the roof. However, whatever the roof’s efficiency, it may provide a useful educational tool.

Human Resources Option

After construction of the building was finally underway, an unusual event occurred. A proposal was made to change the floor plans so that the college’s Department of Human Resources could join the programs already scheduled to occupy the new building. A complete new set of floor plans was produced. However, ultimately it was decided not to implement them. This added another expense to the project.
Faculty Office Space

There was much concern over the new plans for faculty offices. The new office spaces were less than half the size of the old ones. Without a doubt, some reduction below levels common in the 1970's was made possible by the replacement of much print material by digital formats. However, there was no planning process that examined the uses the office space received and how they could be accommodated in a new design.

The arrangement of the offices also appears to have received little thought. The floor plan is one more common to medical office buildings and hospitals. In fact, it is an exact replica of the one at the nearby Kaiser medical building in downtown San Rafael. This plan serves well the traditional medical protocol in which patients arrive at a central desk, proceed to a central waiting room and then are led individually to the consulting rooms. However, in an educational milieu, students are not escorted individually to see faculty members.

The current layout mixes student study areas and faculty service areas in the same central space. This has already led to confidentiality problems and will probably one day lead to some level of liability for breach of confidentiality. There have also been security issues and issues resulting from heightened concern for security issues.

Another big problem is the lack of office space for adjunct faculty. At the statewide level, there is heightened concern over discrimination and exploitation of adjunct faculty. In the old Austin Science Center, at least adjunct faculty had decent office space. Now, however, adjuncts complain that the new construction has only served to exacerbate an unfortunate divide that everyone agrees should be reduced. Many have no office space at all, while others have been relegated to completely different floors from full-time faculty.

One clear benefit of many new offices and meeting spaces is that they have good views. Particularly from the third floor, the views of Mt. Tamalpais and the surrounding campus are superb. This may have contributed to enhanced morale on the part of those who are able to use these spaces.

Outdoor Workspace

There is an innovative outside classroom/study area that features benches and tables. An adjacent workspace lined with lockers is available for anthropology and geology/geography classes; it was designed with extensive faculty and staff input. A retractable roof or an arbor could have made the outdoor classroom more useful in a wider range of weather conditions; it remains to be seen how much use it will get in its current form.

Entrance and Overall Appearance

The use of a special red siding gives the building a pleasing warm appearance that the old Austin Science Center lacked, although there has been some concern about exterior durability. Major success was achieved in minimizing the impact of a three-story building and in assuaging neighbors' concerns about it. A secondary northwest entrance is convenient to the new bridge across Corte Madera Creek.
The green roof offered a progressive design element. As mentioned above, this may turn out to be merely symbolic. However, it is possible that improvements in the green roof may lead to its greater efficiency in the future.

The main entrance to the SMN building has been photographed frequently since the building's opening. An impressive circular open space focuses attention on double doors situated squarely under the highest part of the building's facade. A person arriving for the first time at the building is clearly drawn toward the entry. However, immediately behind the grand entry on the inside is a blank space with a vending machine. There is no atrium, no receptionist, no transition from the outside to the inside. Many new students have been confused by this situation, and a great opportunity for welcoming and orientation was lost by its construction.

Fusselman Hall

The renovation of Fusselman Hall presented a unique challenge. One objective was to modernize it, while another was to preserve its historic character. Both of the two objectives apparently have been met as well as possible.

New Academic Center (NAC)

The original name of this building, Gateway Complex, indicated the high hopes that many had for impressing the public with a special building at the highly visible intersection of Sir Francis Drake Boulevard and College Avenue. Some wanted a replica of the original Harlan Hall, complete with the tower that was a local landmark between 1929 and 1969. There was some initial discussion of retail space in the new project. (There had been in fact a taqueria in one part of its footprint.) However, controversy and budgetary constraints finally led to the conception of a lower-profile building, which was renamed the New Academic Center.

As in the case of the SMN building, the hillside location presented both a challenge and an opportunity. The final plans took advantage of the situation to produce a two-story building without a disturbingly high profile. The building has a cool and sterile feel rather than a warm and welcoming one; in this respect, it has been compared to a cellblock or to a terminal at San Francisco International Airport. However, it does have an openness that works to its advantage.

In particular, the large courtyard in the center of the complex provides a space that has much potential. It could be an area for students, faculty and staff to get together informally before and after classes or even on days when classes are not in session.

The purpose of the NAC remained much the same as that of the Gateway Complex. It was destined to house the offices of campus administrators and social science and humanities faculty, provide useful meeting rooms, and offer modern classrooms, again primarily for the social sciences and humanities. From all accounts, the small classrooms and mid-size meeting rooms are light, airy and inviting and very functional.
The large meeting room has not worked so well for all of the uses to which it has been put. In the absence of any real campus lecture hall, it has been pressed into service for that use. However, it is all at one level and wider laterally than from front to back. This impairs visibility for students and detracts from their classroom experiences. There are also no up-front water and gas utilities for the faculty, which makes teaching some subjects more difficult.

Much controversy has revolved around the installation of a new security system in this building. The new technology of key fobs replaced the traditional metal keys, at considerable cost. While it is widely accepted that loss and theft of old-fashioned keys do represent important security risks, there are also other solutions, such as keypads. Early on, there were many problems with the new system. However, in this case, as with other new technologies, time will tell whether the choice made was a wise one.

Indian Valley Campus

Since its establishment in 1971, most of the IVC campus had remained covered with native oak woodland vegetation. Campus buildings were restricted to three groups, the Pomo Cluster, the Miwok Cluster and the Ohlone Cluster. Each had a parking lot, and at the west end of the developed portion of the campus was the swimming pool. The original style was purposefully rustic and diffuse, and recalled a trend of the time best exemplified by the UC Santa Cruz campus.

However, because the original exposed wood construction of the buildings had presented major maintenance problems, one original idea was to tear down everything except the administration building and the Pomo Cluster. However, it soon became clear that the existing programs could not be accommodated by such a greatly reduced infrastructure.

Revised plans focused on upgrading the facilities in the Pomo Cluster and constructing a new Main Building close to the entrance to the campus. Programs slated to benefit from the Pomo Cluster remodel were Automotive Technology and Automobile Collision. The new Main Building would house most student services.

Automotive Technology

The Auto Tech and Auto Collision faculty and staff began to have “user group” meetings together with the division dean, the district Director of Modernization, the architect and the local representative of the construction management company. Unfortunately, the division dean and the Director of Modernization began to monopolize the process. Faculty and staff who made suggestions not to their liking simply were not invited to subsequent meetings.

An early problem was the application of an erroneous TOP (taxonomy of programs) code in the calculation of the allowable square feet for the state formula. One of the faculty noticed this and brought it to the attention of the Director of Modernization, to no avail. He knew that this error would reduce the space by more than 50%, which would make it impossible to conduct the program in the remodeled building. For this reason, he traveled to Sacramento to meet with state officials and rectify the error. The late correction of the error caused major changes in the budget for the building, in the amount of millions of dollars.
Unfortunately, there were also major errors in the construction process. The concrete for the floor was poured at excessive temperatures; this resulted in extensive cracking of the surface, creating safety hazards. Attempts to remedy the situation, mostly unsuccessful, led to cost overruns that in turn resulted in the elimination of the protective finish planned for the floor; this led to everyday work leaving permanent stains. The electrical system was erroneously installed with inadequate current for the program's equipment. Rectification of this error was very expensive; these additional costs were offset by a 15% reduction in the program's equipment budget.

One critical problem in much of the overall Measure C process was exemplified by problems in ordering equipment for these programs. Often a choice must be made whether to solicit bids from multiple suppliers or to specify one particular supplier of a product. In many cases, an open bidding process can lower total costs, but it can also result in materials of unacceptably low quality. Ideally, faculty, staff and other personnel would be engaged in continuous dialogue as the decision-making process proceeds. With the Measure C program, often this did not happen.

The auto collision rack was a piece of equipment so large and specialized that the shop had to be built around it; obviously, in this case substitution was not possible. Also, a particular rack and its attachments were both specified by the faculty to be most economically purchased together. However, the Director of Modernization decided to postpone purchase of the attachments, an action that ultimately resulted in higher total costs.

New Main Building

In some respects, the new main Building presented greater challenges. It would house many diverse programs and student services. These included Admissions, Counseling, Court Reporting, Dental Assisting and Medical Assisting. In addition, a much larger number of students would be potential users of this building. However, the architect charged with designing the interior spaces was equal to the challenge.

He first met with the diverse members of the “user group” and then insisted on visiting each program and operation as it was functioning in the space it then occupied in the old facility. Through several iterations, steadily improving plans were produced. Then an almost unimaginable event took place.

The dean and Director of Modernization abruptly confiscated the plans and refused to let any other members of the “users' group” see them any more. They forbid further contact among the architect and members of the “users' group” and even attempted to restrict activities of the campus representative of the construction management company, who had offered to mediate. The architect protested strongly, stating that he could not perform his job adequately in isolation. After the good progress that had been made with the “users' group,” he added that his experience with the dean and Director of Modernization had been the worst experience of his career.

In light of this history, it is not surprising that the end results were not good. Security was compromised when the line of sight between Counseling and Admissions was cut. Neither of these important student services had enough space, with students and providers of important services for
them being compressed “cheek-to-jowl” or worse. Activities generating noise were housed next to those needing quiet. Adjunct faculty were jammed several to a cubicle upstairs, where they simply could not see students at the same time. Medical Assisting initially was left with no hot water. However, as if to prove the old adage that it is an ill wind that blows nobody good, the Dental Assisting program saw a huge improvement in its facilities.

The building as a whole is a large box, neither particularly offensive nor extremely attractive. It was built with windows that could not open and equipped with an overpowering and poorly regulated HVAC (heating, ventilation and air conditioning) system that led to intolerable extremes of heat and cold. These may have contributed in turn to floor and ceiling tiles coming unglued shortly after the building opened. Many windows were installed in the wrong places, producing unacceptable glare on computer screens. Due to budget constraints, shade awnings originally planned for the back of the building were never installed; consequently, this area heated up excessively, and the tables placed outside behind the building were rarely used.

Marin Summary

There is no question that the glister and gleam of new construction has raised the profile of the college in the community at large. It may also have stimulated hopes for future improvement; perhaps it has unleashed the creativity that may help to achieve it. Yet it is essential to probe beneath the surface and attempt an objective evaluation of the results of the Measure C modernization project. They were decidedly mixed and highly uneven across the two campuses. There were both gains and losses. Unfortunately, after the expenditure of $249.5 million, it is not possible to say unequivocally that there was a clear gain in functionality across all buildings and programs. This raises the question, “What went wrong?”

The first answer that comes to mind is found in the expression “Haste makes waste.” Because so little prior planning had been done, and because the college was in a state of chaos, it was very difficult to get the project started. Then it seemed that there was a desire to see major construction done fast. Consequently, the planning and implementation process was much too rushed, and in retrospect, it definitely resulted in a final overall product of lower quality than would have been possible with more careful planning, better review of the plans and better monitoring of their implementation. Of course, the “unique historical moment” may have produced extenuating circumstances.

One justification might be encapsulated in the contrary expression “Seize the day.” The project did solve the original problem of the leaking pipe. It also brought the campus more completely up to current seismic safety standards and into ADA compliance. If a major earthquake had occurred while the old buildings were still being used, some might have faulted the college for not having done anything to prevent whatever damage might have been sustained. However, there is also a middle ground between rushing and not doing anything at all.
An unexpected result of the timing of the project was that it benefited from some of the effects of the Great Recession that began in 2008; this also provided benefits. Bonds were refinanced at lower interest rates and some of the bids received at this time came in below estimates. Also, this major public project put food on the table for many construction workers during tough financial times.

However, a more serious defect of the modernization project was that COM's decision-making process followed an **autocratic model**. There was no all-inclusive process to insure that the project would bring maximum benefit to the people who would be using the facilities it would leave behind. Historically, one of the chief advantages of this type of autocratic decision-making has been its greater speed. Unfortunately, it also has often been associated with the collateral damage of secrecy, waste, fraud and inefficiency. In the Marin case, it also left behind a trail of bad feelings between people and widespread disillusionment with the process.

Although the overall model was autocratic, the various exceptions that have been mentioned shine as rays of light in an overall atmosphere of darkness. They reinforce the idea that groups of individuals who develop trust and are committed to sharing of information and collaborative decision-making can make positive contributions even in difficult settings.

The College of Marin's experience with the Measure C construction project is an important one. Although the approval of the bond measure is laudable, the procedures used in its implementation produced an example that other colleges – and the College of Marin itself – should avoid repeating.
THE CONTEXT OF OTHER INSTITUTIONS

Background

In the latter half of the Nineteenth Century and the first half of the Twentieth, the United States government, the various state governments, and many local jurisdictions invested heavily in education. In many instances, different entities vied with each other to produce superior educational facilities, with the associated “bragging rights.” The land-grant state university system and the California community college system are proud results of this process. It is no coincidence that the U.S. educational system began to attract people from all over the world, and that the California economy became one of the strongest and most diversified in the nation.

However, well before the year 2000, federal and state investment in education first stagnated and then shrunk. Within California, one bright spot in this generally gloomy picture has been the willingness of local jurisdictions to tax themselves to support educational institutions within their boundaries. Among the beneficiaries have been community colleges. Parcel taxes and bond measures have played a key role in preventing deterioration and beginning upgrading of many colleges. Their passage is eminently newsworthy and should be commended.

There are those who attack all such measures as excesses. However, in the context of the state and national funding for education, they are essential. It is true that their passage does mean higher tax burdens for local residents. Yet the opponents of these measures would do well to direct some of their energy toward the state and federal governments in order to get them to increase spending for education; this could in time lead to reduced local taxes.

Dollar Amounts

Total dollar amounts of bond measures vary widely, as do the sizes and economic status of their districts. The College of Marin's requests of $249 million in 2004's Measure C and of $215 million in 2016 seem well in line with those of other colleges, as does Ventura College's $356 million amount for Measure S in 2002. In the San Francisco Bay Area, the San Mateo Community College District benefits from a $201 million bond measure in 2001 and a $468 million bond measure in 2005, in addition to a parcel tax estimated to generate $6 million annually for four years. Voters passed a $498 million measure for the Chabot and Las Positas Community College District in 2004. In the North Bay, Sonoma County voters passed a $251 million bond measure in 2002 and a $410 million measure in 2014, both benefiting Santa Rosa Junior College.

The College of Marin does stand out as a smaller institution than the others in terms of total numbers of students it currently serves. However, the people of Marin also have indicated repeatedly that they want to maintain two campuses; this precludes the economies of scale that one campus would allow. There is also a base level of investment needed to maintain an institution of high quality and diversified programs, whatever the size. The people of Marin also have voiced their desire for this kind of a college.

The upshot is that the people of Marin will probably always have to pay more per student than
will residents of community college districts serving larger, more centralized populations. Yet by doing so, they will reap the considerable social and environmental benefits that such a decentralized system provides. Time will tell whether the people of Marin will create the political reality to match the economic one.

**Quality**

On the other side of the coin is the question of whether taxpayers are getting top value for their dollars. A definitive answer to this question must await detailed analyses of all of the projects. Yet some preliminary observations can be made. They indicate that much of the investment made has been worthwhile but that improvements in quality control are possible.

Glowing press reports from each project indicate major progress. New features of specific buildings are described. Contributions to specific programs are recounted. “Happy stories” abound. These happy stories are generally based on solid achievements.

Yet there is another side. There is a long trail of litigation that has followed campus construction projects up and down California. One often hears charges that the taxpayers “got fleeced” or “were taken to the cleaners” in this project or that. “Horror stories” similar to those mentioned earlier in this report are not difficult to uncover. There appears to be a pattern behind these stories.

However, this should not be interpreted to mean that there has been in fact massive fraud or that the construction industry is seriously at fault. Rather, in most cases of complaints, the colleges themselves should be taken to task for failing to be vigilant in ensuring that they are getting the highest quality product for their money. They fail to take advantage of their best judges of quality – the faculty, staff and long-time administrators who have been and will be using their facilities and equipment.

Most contractors are honest and reputable. However, they are in business to make a profit. Also, even if they are doing their best, the myriad steps and pieces of information involved in planning and construction create situations in which it is easy for even the best-intentioned individuals to make errors. Constant vigilance by a large number of knowledgeable people is a great way to prevent them. “Two heads are better than one.”

The colleges that suffer the most in construction projects are likely to be those that have paid the least attention to establishing communication, decision-making, and inspection processes that take maximum advantage of their greatest resources – the in-house expertise that resides in the people whom they hired long ago and who have been working to sustain and improve their programs year in and year out. “Citizens' Oversight Committees” are mentioned frequently as safeguards against fraud and waste. Yet because they usually do not have members with deep experience in the functioning of the colleges, although they may prevent obvious fraud, they are incapable of preventing waste because they cannot recognize it.

One analogy has been used to describe an all-too-common approach. When people decide to buy clothes or groceries or other products, they normally ask knowledgeable salespeople for advice. However, the final decision about what to buy remains with the buyer. Some colleges seem to have
forgotten this, letting the sellers tell them what to buy. If this is the case, they should not be surprised when they are “sold a bill of goods.” They should have driven better bargains.

**Institutional Differences**

Aside from differences in instructional programs and student populations within the community college system, some differences among systems are worthwhile mentioning. The state university systems tend to have larger campuses as well as larger construction projects. Local school districts serve smaller constituencies and may have greater uniformity in their instructional needs. Institutions devoted solely to research generally have the most specialized needs.

In this last category is one institution whose experience may prove useful for construction projects in the sciences. The National Marine Fisheries Service (NMFS) decided several years ago to relocate one of its centers for research from Tiburon to Santa Cruz. At the time it was operating in Marin, it had between 20 and 25 researchers, one of whom later taught at COM. When the decision was made, the laboratory director designated one of the researchers to be the principal liaison between the center and the architects and other contractors working on the new facility. For this he received between 2/3 to ¾ reassigned time; he was expected to keep a close watch on every phase of planning and construction. The results were appreciated by all.

**Sustainability**

Improving sustainability should be a major goal of all construction projects, public or private. Among educational institutions in California, two stand out. In the University of California system, UC Santa Barbara has won many awards for sustainability, from the time it opened to the present. In the California Community College system, DeAnza College in Cupertino is the standout, especially its Kirsch Center for Environmental Studies.
RECOMMENDATIONS FOR FUTURE PROJECTS

The information presented in this report, preliminary though it is, suggests clear recommendations for colleges that want to achieve the highest efficiency and satisfaction from their construction projects. Following is a short list of ten basic recommendations.


This should be open to all administrators, classified staff, faculty who have the interest and dedication to participate. Meetings should be at regular intervals. Ground rules should be agreed upon to prevent any one person or group from monopolizing discussions. Decision-making by consensus should be an important goal. Qualified facilitators should be used. A wide range of information and viewpoints should be actively sought. Information brought in by hired consultants should be valued to supplement but not supplant “in-house” experience. At least one member from the inclusive council should attend all other meetings related to campus construction.

2. Allow Sufficient Time for the Project.

A minimum of one year should be dedicated to forming the decision-making group and to conducting initial discussions about the form and scope of the program. Field trips or fact-finding missions to other institutions should be part of the planning process. There should be no rush to sign contracts or to start construction.

3. Build Trust.

Just as important as the structures are the people involved in them. While working on the project together will help to build trust among the participants, this process is so important that it should not be left to chance. Other shared activities, possibly of a social or reflective nature, may be essential in making progress. Energy expended in such activities may have a real payoff when difficult decisions need to be made further down the line. Once trust is built, a campus “institutional memory” may help to perpetuate it. However, there should be active efforts to involve new members and pass on accumulated experience to them.


Transparency and open communication are essential to the building and maintenance of trust. In the past, the sheer amount of information transmitted during construction projects may have limited its distribution. However, advances in in electronic communication technology have largely removed this constraint. There has been rapid progress in development of digital project management software. This can greatly widen the circle of people who have access to important information, and the result is that a larger number of eyes can check for errors and a larger number of minds can suggest improvements. It is significant that software originally developed to combat corruption in construction projects in
developing countries is now being used in many other settings simply to increase efficiency.

Digital methods could also be used to keep the surrounding community better updated on the progress of projects. Many local school districts have sent out frequent mailers with detailed information on the progress of their construction projects. The larger constituencies of the community college districts may make it impractical to achieve this level of communication with print media, but perhaps they could offer sign-ups for community member who want frequent electronic reports.

Marin County has led the way in budget transparency. It is one of a group of counties that has put its entire budget on line. This is an example well worth following.

5. Develop a Long-Range Campus Master Plan and Update It Regularly.

This should be the first charge of the planning group. The plan should be comprehensive, including buildings, open spaces, pathways, lighting, landscaping and all other important features of the campus environment. It should be developed in harmony with existing county and community master plans. It should place a priority on sustainability. It should be organic rather than fixed, with a built-in schedule of updates. This will maximize synergy among subsequent projects and avoid possibilities that they will be working at cross-purposes.

In general, large universities are the academic institutions noted for producing master plans, and even they do not always follow them. However, all institutions that do have master plans are more likely to achieve better results for less money that those who allow development in different areas of their campuses to proceed in an uncoordinated, haphazard fashion. Furthermore, the goal of sustainability cannot be achieved without the adoption of more holistic views of development.

Marin County is a great example of the success that can be achieved by innovative, large-scale planning. Its Countywide Plan first achieved national recognition in the 1970's for its bold approach to harmonize urban areas, agricultural areas and parks and preserves. In its subsequent iterations, it has continued to provide a good overall framework for changes in all areas of the county. It could be a good model for the development of other Master Plans.

6. Develop Creative, Strategic and Realistic Financial Budgets

Once a long-range plan is in place, it becomes easier to fit specific projects into it. Creative thinking can then explore what is the most logical sequence for projects and where the funding will come from for each piece. “Leveraging” can be an efficient tool to complete projects that would not be possible with only one funding source. For example, a bond-financed construction program can provide naming opportunities for private donors. Bond funds and private donations can then be used as matching funds for state and federal grants.

This may make feasible strategic investments that may yield larger long-term economies even though they may have larger up-front costs. Colleges thus may be more able to avoid the pitfall of being “penny wise but pound foolish.”
On the other side, it is important to discuss building in realistic allowances for inflation. This will allow projects to be completed within budgets. Just as importantly, it will allow them to be completed with all of the features originally promised both to taxpayers and to the end users.

7. Develop Creative, Strategic and Realistic Space Allocations

It is important to discuss early the full range of possible constraints. These may include exclusion of risky terrain, compliance with ADA regulations, applicability of state funding formulas and solicitation of third party certification such as LEED. Not all constraints are equally reasonable or flexible. Some may not be worthwhile adopting, and others may be impossible to avoid. However, often more flexibility exists than is apparent on the surface, and for this reason experienced personnel should be sought out to explain innovative approaches. Positives and negatives of all tradeoffs should be thoroughly vetted by end users.

8. Select Campus Monitors for Detailed Planning, Inspection, Trouble-Shooting and Follow-up.

For each building or project, at least one “end user” faculty or classified staff member should be designated the “point-person” for that project. Ideally, this person would already have some experience in design or construction or in areas clearly related to the project, such as engineering, architecture, landscaping, laboratory equipment purchase and maintenance, or audiovisual equipment installation and maintenance. Each monitor should receive compensation in order to be able to dedicate sufficient time and energy to this important task. A minimum of 0.5 FTE of release time for each building seems reasonable.


Monitors should be required to give approval for initial plans and for all modifications of plans. Monitors should pay special attention to deciding where specifications and bids will be used and should be involved in reviewing bids or specifications of contractors and subcontractors. Once construction starts, each monitor should visit the job site frequently, inspect what has already been done, and inquire about the next steps, communicating regularly with contractors and subcontractors to ensure that what is contained in the plans is actually implemented.

10. Conduct Final Evaluation and Write Project History

Conduct thorough evaluation of project, including user audits, to complete the loop of adaptive management. Commission a local “history” of the project. Contributors should include not only those intimately involved in the process, but also at least one historian experienced in use of oral and written sources.
A BROADER VISION

Efficiency in use of resources thus far has only been considered in its narrow context – how to achieve the highest quality buildings and grounds at the lowest cost. However, the overall goal of a college is education. Ultimately, campus construction projects will only provide their greatest benefits when they are seen as educational experiences. These projects include aspects of architecture, economics, engineering, environmental science, history, political science, sociology…. and many other subjects, which, not coincidentally, are the names of disciplines taught at the same colleges where the construction projects take place. When the colleges fully integrate into these projects the students, faculty and staff involved in the teaching and learning of these disciplines, then and only then will they have truly fulfilled their educational mission.
INFORMATION SOURCES

This report was compiled by Paul da Silva of the College of Marin. As mentioned in the Introduction, it is a preliminary effort undertaken with the hope of inspiring the writing of a more complete document. At best, this would be done by a team of people experienced in oral and written historical research methods. Although not necessarily endorsing the conclusions of this report, the following people generously contributed important information, and their contributions are gratefully acknowledged. They are likely to be good sources of information should a more detailed and rigorous project be undertaken in the future. Apologies are also extended to those whose names are not included; space and memory are both admitted to be significant constraints. Responsibility for any errors is accepted by the compiler.

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