

ESTIMATING

/ MARKET TRENDS SUMMARY / 2013

HMC Architects

Civic/Justice
Community College
Healthcare
K-12
University

Our survey analysis identified a range of trends. Some appeared to be specific to a market or industry, while others were consistently heard. The Universal Outlook section reports on the trends that are consistent across all markets, while market-specific trends are addressed in accompanying chapters: civic/justice, community college, healthcare, K–12 education, and university.

01	/ PURPOSE
06	/ UNIVERSAL OUTLOOK
26	/ CIVIC/JUSTICE
40	/ COMMUNITY COLLEGE
54	/ HEALTHCARE
68	/ K-12 EDUCATION
82	/ UNIVERSITY
100	/ ACKNOWLEDGEMENT
102	/ ABOUT HMC

[➤ Request a printed copy](#)

Universal Outlook

/ LISTENING / MARKET TRENDS SUMMARY

hmcarchitects.com

Purpose

With a 73-year history of dedicated service to our clients, HMC Architects' success has been largely due to our ability to listen and respond to the evolving needs of our valued clients. This notion of evolution has never been as vital as it is in today's changing economic times. We are inundated daily with news about the challenges of the local and interconnected global economy and this is impacting all aspects of our daily decisions. At HMC, we are committed to maintaining our focus on better solutions that continue to adapt and support the missions of our clients and continue to invest in our abilities to better serve our legacy and emerging valued clients.

During the third quarter of 2012, we began a client outreach "Market Survey" to better understand what critical drivers are influencing how our clients deliver on their services

or core mission, and to discern how that translates into how we design or re-design the spaces where they conduct business. It is apparent that the design and construction industry is in a state of significant change; whether it be change driven by economic pressures, technology advancement, frustration from processes that all too often create adverse working conditions, or for other reasons. What we do know is that in order to best respond to this change, we must better understand why our clients are asking for change.

It should be noted, that HMC's purpose in conducting these interviews was solely focused on better understanding our client's long-term concerns and issues and we were not asking about issues/performance specific to HMC.

Methodology

With the purpose to better understand and serve our clients, HMC conducted 30 interviews with legacy or emerging clients representing the core markets that we serve (healthcare, education, and civic/justice). Key criteria for the interview candidates required them to be owners or key decision-makers with a significant or sophisticated facility portfolio and with current and long-term needs related to the design and construction industry. It should also be noted that HMC is a Western United States architectural firm and our clients are primarily within that region and most notably California.

Because our goal was to ask our survey participants to think about the future and respond with some of the more challenging issues that are keeping them awake at night, we felt it was important to conduct these interviews in person to encourage the most thoughtful responses to our survey questions. All but one of the surveys were conducted via in-person interviews.

We are appreciative of the time and thoughtful responses we received from all our participants and will be utilizing the comprehensive results in the development of our 5-year strategic plan, which is currently being finalized.

30 interviews
Healthcare /
Education /
Civic & Justice

Think about the future

Participating Organizations

The following organizations were interviewed as part of the Market Survey. Over the years, these organizations have demonstrated innovative thinking, planning, and implementation of facilities projects. We called upon them to share with us observations, themes, and trends that they are experiencing.

-
- Banner Health
 - California’s Coalition for Adequate School Housing
 - City and County of San Francisco
 - Corona-Norco Unified School District
 - County of Sacramento
 - County of San Diego
 - Dignity Health
 - Hoag Memorial Hospital Presbyterian
 - Irvine Unified School District
 - Kaiser Permanente
 - Los Rios Community College District
 - MiraCosta Community College District
 - Riverside County Office of Education
 - San Diego Community College District
 - San Francisco Unified School District
 - San Mateo Community College District
 - Santa Ana Unified School District
 - School Services of California
 - Sharp HealthCare
 - Stanford Hospital & Clinics
 - Stanislaus County
 - State of California
 - The California State University
 - UC Davis Health System
 - Universal Health Services, Inc.
 - University of California, Davis
 - University of California, Los Angeles
 - University of California, Office of the President
 - University of California, San Diego
 - University of Southern California

Our survey analysis identified a range of trends. Some appeared to be specific to a market or industry, while others were consistently heard. The following section reports on the trends that are consistent across all markets, while market-specific trends are addressed in accompanying chapters: civic/justice, community college, healthcare, K–12 education, and university.

- / MORE WITH LESS
- / SUSTAINABILITY, ROI NOT TROPHIES
- / INTEGRATED BEHAVIOR
- / TECHNOLOGY, TECHNOLOGY, TECHNOLOGY
- / PLAN FOR UNCERTAINTY
- / ARCHITECTS CAN DO MORE
- / ONGOING PURSUIT OF LEARNING
- / ORGANIZATIONAL CHANGES
- / GLOBAL AWARENESS

University Outlook

More with Less

“THIS IS THE WORLD WE HAVE NOW AND WE
MUST ADJUST TO THE NEW REALITY.”

// Chief of Facilities, Civic

One hundred percent of survey participants indicated that a major focus is to do more with less. We are no longer in just a down economy; it has become the new normal and organizations have realized they must adapt in order to survive. They are responding by finding ways to cut costs, reduce redundancy, increase worker productivity, and achieve operational efficiency.

Organizations are avoiding taking on the expense of hiring additional workers, and some continue to make reductions in staff levels. They are looking for employees and those that they partner with to have a diversified skillset and workforce. Staffing is shifting from specialist to those who are well versed in business and can wear more than one hat in an organization. To further reduce costs, outsourcing of services is on the rise and so is reducing employees and short/long-term benefit costs.

Across all industries surveyed, uncertainty of funding streams and developing strategies to reduce operational costs are a priority—they might even be the top priority! Planning objectives for organizations have shifted from new building to maintenance and investment in existing infrastructure and assets. It is more desirable for an owner to optimize existing resources that result in annual savings. This, of course, is easier said than done. Shrinking operating budgets have resulted in little or no money for facilities maintenance. Organizations must benchmark their physical needs, prioritize maintenance and modernization project urgency, as well as take into consideration long-range revenue projections, capital expenditures, and ongoing operating expenses. Going forward, bottom-line factors that matter will be measured in order to keep organizations on track for operational efficiency.

100% of survey
participants
indicated that
a major focus
is to do more
with less.

Sustainability

ROI not Trophies

“REDUCING ENERGY CONSUMPTION, ABSOLUTELY. POINTS FOR SOURCE OF WOOD PANELING OR FOR THE LEED SCORECARD ARE NOT ALWAYS WORTH OUR INVESTMENT OF LIMITED RESOURCES.”

// VP of Planning, Healthcare

80% are willing to invest in sustainable options now if they provide for efficiencies and actual cost savings in the future.

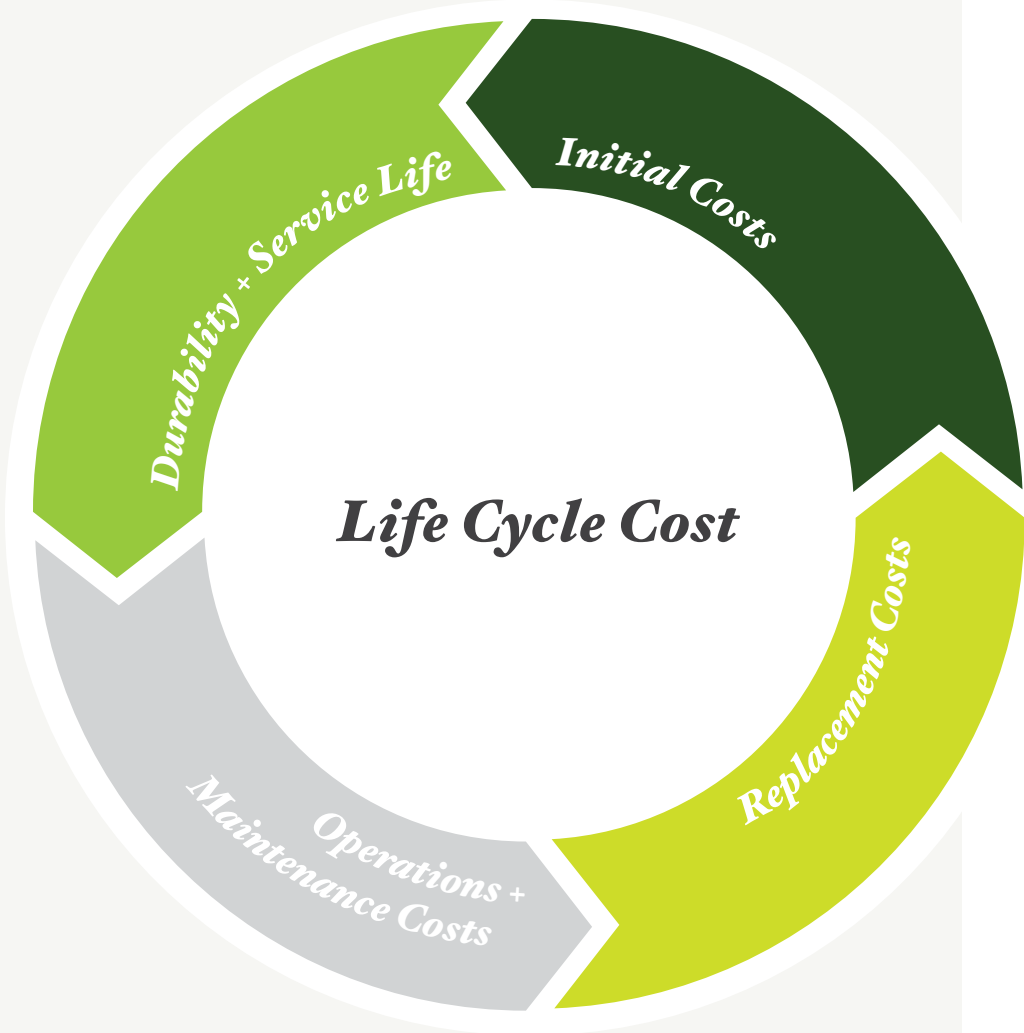
While sustainability is still very much about resource conservation and environmental stewardship, the main driver of sustainability among survey participants was specifically related to energy and operational efficiencies. Organizations are making fiscally integrated decisions when it comes to sustainable strategies. They are willing to invest in sustainable options now if they provide for a more efficient future.

Facility managers are asking themselves, “How much will that building consume?” If long-term occupancy of 50-years outweighs certain sustainable features, then they will select the long-term

option. Careful consideration is paid to durability, maintenance, and lower life cycle costs. Materials need to perform at a high level and shouldn’t be expensive or difficult to replace. In addition, organizations are looking for proven sustainable technologies—they are not looking to gamble on savings.

Public sector clients voiced that while they desire more involvement, the way their organizations are currently structured limits the opportunity for collaboration.

 **HOW DO SUSTAINABILITY CHOICES IMPACT LIFE CYCLE COSTS?**



Integrated Behavior

Organizations are seeking the exploration of alternative delivery models. A majority of survey participants said they want more focus on team collaboration and “cooperative integration” in project delivery. They are looking for qualities of Integrated Project Delivery (IPD), with or without the IPD contract. It’s about the people and process, not the contract—the preferred contracting method varies by market and is less important than the desired collaborative behavior. The shift to this collaborative paradigm also contributes to an organization’s goal to be lean at every level.

There is also an increase in design-build and design-build-like thinking that results in better collaboration between contractor and architect. This interdisciplinary coordination drives innovation and creative thinking among the team members. Owners have expressed their concern that the decision-making balance between architect and contractor is uneven at times. Because design and

construction occur simultaneously, decision-making is expedited. This can negatively impact the design process when the contractor and architect are not equivalent in their working relationship. Architects need to take a shared leadership role in design-build and the increased team cooperation will lead to a better product delivered.

Integrated behavior goes beyond the project team and owner; survey participants expressed that they would like to see greater integration of end users into the design process—this is especially true in the healthcare market. Public sector clients voiced that while they desire more involvement, the way their organizations are currently structured limits the opportunity for collaboration. Even though the required use of owner’s project managers can help facilitate solutions among stakeholders and maintain focus on objectives, it can also restrict an owner or end user’s involvement in the design and construction process.

87%

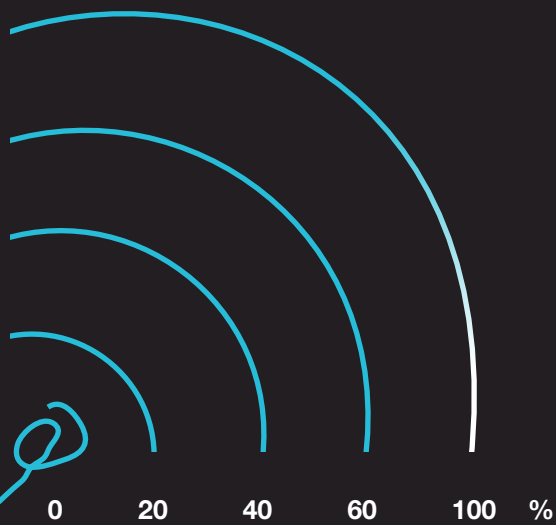
of survey participants want more focus on team collaboration and “cooperative integration”

“COLLABORATION... NO ONE IS SUCCESSFUL UNLESS WE ARE ALL SUCCESSFUL.”

// Campus Architect, University

73%

recognize expanding technology requirements and support as a key factor for positioning themselves for the future.



Technology, Technology, Technology.

"TECHNOLOGY WILL CONTINUE TO BE AN INCREASING FACTOR IN ADDRESSING CRITICAL NEEDS."

// CEO, K-12 Education

A majority of survey participants recognize expanding technology requirements and support as a key factor for positioning themselves for the future. While each market sector has different implementations and needs for technology, the unifying issue is the use of technology to meet client expectations and support efficient operations. In healthcare, organizations are implementing electronic medical records for all patients to optimize their business and reduce patient errors. For education, schools are discovering ways to integrate the use of personal devices in the classroom and there is a greater focus on distance and online learning. Civic organizations are seeking to better serve the needs of their communities by using technology to maintain archived data and historical records.

The growing use of technology is also directly impacting facilities. In recent years, organizations have seen a rapid increase in wireless capability and the most recent evolution is in the expansion of cloud computing. The demand to provide a reliable infrastructure for IT operations continues to rise and organizations are looking to increase Available Redundant Capacity and data centers. Additionally, organizations are looking to use technology to capture business intelligence on how a facility is performing and integrate that information with facilities maintenance plans for improved operations.

All organizations are looking to make smart choices when it comes to investing in technology. They are looking to architects and the entire project team for a fresh perspective on current trends in technology and the value delivered.

Plan for Uncertainty

“WE MUST EXPLORE STRATEGIES FOR PLANNING ‘HOW MUCH DO WE DO RIGHT NOW?,’ FOR BUILDING IN FLEXIBILITY, AND DOING CONTINGENCY PLANNING.”

// VP of Development, Healthcare

If you cannot predict the future, how can you plan for it? Specific solutions will vary by organization, but one thing that all organizations must do is adjust their planning process. Survey participants are developing a more adaptive organizational mind-set that considers a wider range of future possibilities. Rather than discussing a single future, organizations are establishing a framework for discussing alternative futures. This provides the ability to identify and manage new risks earlier since they have already been discussed and envisioned.

The most common outcome of the planning process is an increased emphasis on space flexibility, renovation and reuse, and consolidation. Modernizing systems in existing facilities or reconfiguring buildings for entirely new functions can yield enormous benefits—benefits that may even surpass those of new construction. Those gains can include greater

operational efficiency, reduced annual costs, and enhanced sustainability. Many organizations are using flexible, creative space utilization and considering the lifetime use of a facility and how it can evolve to meet future needs.

Another aspect of the unpredictable future is the prolonged uncertainty of funding streams—this is especially true within the K–12 market. With less state dollars available, there is a shift to reliance on local funding. One outcome of less state funding is less state control and more local flexibility. Organizations are also paying closer attention to their real estate portfolio and transferring of assets. For example, civic organizations are considering the sale-leaseback of existing real estate assets. This can be an effective tool to monetize their real estate assets, allowing them to redeploy capital back into various aspects of their business.

Architects Can Do More

"TOO OFTEN ARCHITECTS THINK IT IS ABOUT THE BUILDING; IT'S NOT ABOUT THE BUILDING. THEY ARE TOO FOCUSED ON THE PROCESS AND NOT ON WHAT THE INFRASTRUCTURE IS INTENDED TO DO."

// Sr. VP of Facilities, Healthcare

A number of drivers of change were identified to improve the level of satisfaction with the A/E/C industry. Survey participants noted that architects need to demonstrate delivered value, have better team integration, identify risks and respond appropriately, and always consider and understand the client and user's perspective.

Architects must be better creative resources to clients. At times they are viewed as too respectful and have more of an order taking mentality rather than supplying vision and knowledge. Organizations are looking for architects to prove their worth and expertise. One survey participant said, "Bring me news I can use or you're useless to me." Architects are good at marketing to other architects and going forward, they need to do a better job of showing clients the true value they will provide.

The segregation of information into silos among A/E/C participants during a project is an obstruction to productivity and can be a source

of miscommunication. Project teams need to work for better consolidation of services and follow an integrated contractor and architect model. This lean approach can reduce lead-time for the delivery of projects, increase team productivity, ease construction document management, and reduce errors and change orders that often result from these errors.

The A/E/C industry has also missed the mark on what clients expect and at times performs defensive architecture due to perceived risk. A more effective risk management strategy for the industry is to work with clients so they better understand the design and how it responds to their needs—this will help avoid misunderstandings.

Lastly, architects and the project teams need to realize for most clients it is not just about the buildings. The patient's perspective or the student's perspective is equally important as the facility manager's perspective. There needs to be a greater focus from the industry on how a building functions and how end users function within it.

70%

of participants expressed the need to improve the level of satisfaction with the A/E/C industry

Ongoing Pursuit of Learning

"TO HAVE AN EFFICIENT WORKFORCE, CONTINUOUS TRAINING OF STAFF IS CRITICAL—ESPECIALLY WHEN IT COMES TO NEW TECHNOLOGY."

// Deputy Superintendent, K–12 Education

A majority of organizations recognize that learning remains an essential aspect of personal growth and professional development. Approximately half of survey participants said they place a strong emphasis on making their employees lifelong learners through proper training and education—and those that didn't specifically say it, implied it. Providing employees the learning tools to achieve their highest potential in the workplace benefits the employee and the organization. Lifelong learning is a rewarding and enriching experience and can help to improve internal morale—which is critical during these economically challenged times where employees have taken reduced pay or mandatory furlough days. There is less money to send staff off-site to conferences, so owners are looking for alternative means of training and education.

In addition, those in the workforce must upgrade and maintain skills to meet changing business needs, particularly in the areas of technology training and cross-training. For example, educating facility managers on how to properly manage new building systems will make both the employee and the building more efficient. Project teams are placing more emphasis on educating users and establishing facility transition processes. Another area of ongoing education is the advancement of business acumen for all employees. Organizations are not just looking for employees to perform their daily tasks; they want employees to understand business goals and be able to contribute to the growth and success of the organization on multiple levels.



Organizational Changes

"PROCESS CHANGE IS JUST BEGINNING... WE ARE NEVER GOING BACK. TECHNOLOGY AND CONTINUED REDUCTION IN RESOURCES WILL DRIVE THE CHANGE."

// Deputy Superintendent, K-12 Education

Key Areas of Change



100% of survey participants considered change as a tool for growth

Most forward-thinking organizations view change as a tool for growth and a means of mitigating vulnerabilities. When discussing trends impacting their business, all survey participants responded that major shifts are needed within their organization to remain competitive and to position themselves for a bright future. Each market faces different organizational and industry pressures and therefore responses must be customized. The key areas of change are strategic business goals, achieving operational efficiency, embracing technological advances, and revolutions in workplace behavior. The challenge for organizations will be to effectively implement changes within an uncertain and continually evolving future.

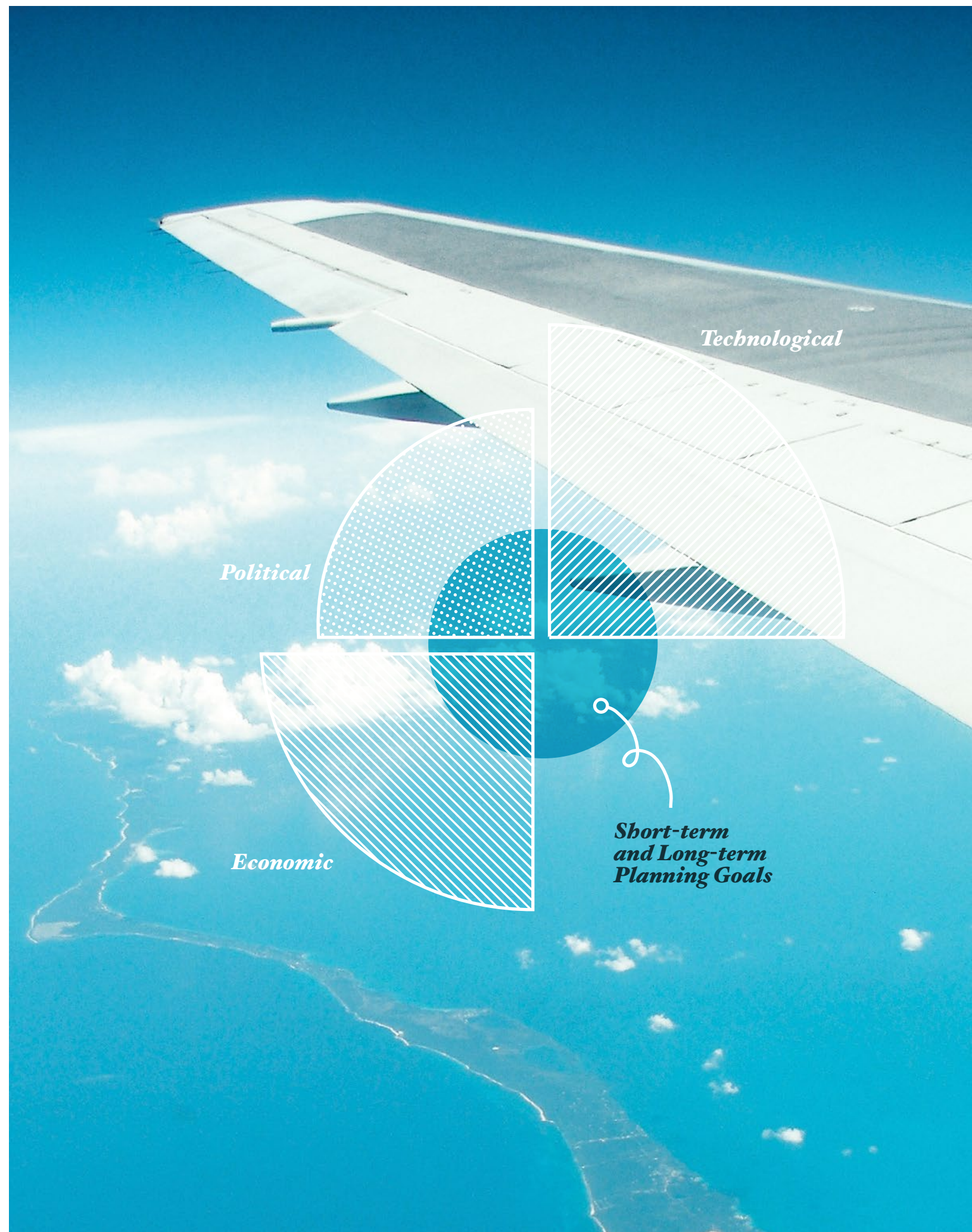
Global Awareness

"IN A CONNECTED, GLOBAL WORLD THERE IS NO BEST; THERE IS ONLY BETTER. WE MUST ESTABLISH A CULTURE OF CONTINUOUS IMPROVEMENT."

// Sr. VP of Facilities, Healthcare

We live and work in an interconnected world and need to embrace a broader, global perspective. Many owner and upper-leadership survey participants noted that their focus extends far beyond the institution or organization where they work. Their role is to keep a pulse on political, economic, and technological changes in the U.S. and around the world. By thoroughly examining the implications of the change on their organization and industry, they are able to craft more relevant short- and long-term planning goals.

In addition, participants indicated that a global perspective is becoming increasingly important as the demographics of their end users change. Both in education and healthcare, there has been a rise in international students and patients. It is beneficial for owners to have a worldwide view to better understand all end users.



Technological

Political

Economic

**Short-term
and Long-term
Planning Goals**

/ CURRENT SITUATION
/ WHAT CHANGE IS NEEDED
/ GETTING THERE
/ MAKING THE PROJECT WORK

civic / justice

Current Situation

HMC's market trends survey participants included representation from City, County and State entities in California. In general, we heard concerns about funding and increasingly restrictive public policies that are dramatically affecting their ability to deliver services and achieve their agency's mission. We also heard that some counties have been the beneficiary of effective leadership with aligned politicians allowing them greater latitude to overcome financial obstacles through creative financing and community partnerships.

"THOSE ENTITIES THAT WILL BE ABLE TO MOVE FORWARD ARE THE ONES THAT ARE THINKING OUTSIDE THE BOX, CONSIDERING ALL OPTIONS, AND BEING CREATIVE."

// COUNTY CEO

Funding issues

Similar to the other market sector participants interviewed, the highest area of concern expressed in the civic market centered on the continued erosion of public sector funding. With property and revenue taxes remaining the primary source of funding for these agencies, the future prospects for resources or capital funding is minimal and at best expected to remain at current levels with anticipation of decreased funding for these activities.

In general we heard most counties and other public agencies continue to rely on general obligation bonds as the primary source for larger, new construction/infrastructure improvement type projects. It is worth noting that the City and County of San Francisco has been particularly active in approving new bond measures for capital improvement projects and the Department of Public Works is kept extremely busy managing the design and construction of the multitude of projects planned in San Francisco and the greater Bay Area.

Fewer resources and increasing needs

Despite the current and future predictions for declining revenue projections, most agencies have indicated steady or growing populations in their jurisdictions. This growing population requires increased city and county services to support the increased need, which translates into more public service and public safety resources needed with overall fewer dollars to deliver those services.

Most public agencies have been adjusting to lower annual revenues through staff reductions, hiring freezes, and reduced funding for training, technology, and other purchases that might enable them to deliver services more effectively. Funds are essentially targeted toward maintaining some semblance of status quo with very little opportunity to plan for future efficiencies.

These public agencies have expressed grave concerns over extended deferred maintenance for building stock thus increasing overall deficiencies within occupied buildings, and the funds that are being allocated are targeted at addressing code issues only and not overall performance and building efficiencies.

Relative to staffing, several public agencies expressed concerns about the aging work force and no resources for training and development of existing staff.

Los Banos Community Center // Los Banos, CA

What Change is Needed?

In thinking about what change is needed to address the new reality faced by public agencies, interview participants spoke largely about fiscal policies, legislation around public contracting, and overall political strife.

01 »

Policies and politics

Fiscal policies are needed to ensure financial solvency, and accountability that rests with those who set the policies. The challenging economy requires a more disciplined approach to finance appropriations and a long-term strategy to maintain minimal levels of funding reserves.

We heard repeated concerns about how elected officials have the ability to derail projects and money-saving initiatives for the ultimate goal of enhancing personal public approval ratings regardless of fiscal impacts. As an example, one county representative indicated they do not utilize the design-build delivery method because elected officials' involvement during the delivery period has resulted in extensive cost increases and long

02

Compromise or continue to decline

delays in the delivery process. On the other end of the spectrum, we heard praise for the elected officials of one county who aligned their constituency to effectively deliver multiple design-build projects during a downturn in construction costs. This enabled their public works department to deliver a new, consolidated operations campus through a developer-led delivery process. This process resulted in a flexible development schedule, which then allowed for modulated expansion and the ability to take advantage of market timing for real estate disposition.

Each agency interviewed indicated a varying range of public contracting options available to them; some more restrictive than others. Interestingly, the State of California's Department of General Services (DGS) appears to have the most restrictive public contracting options compared to the other agencies interviewed. This appears to be driven by the desire to have very close oversight on appropriations and policies for contracting. As a result, most state agencies receiving funding are electing to use sources other than the State's DGS for project delivery. These alternative sources may not be aware of or required to comply with certain regulations required by the State for code compliance, carbon emissions, sustainability, or other State policies applicable to project delivery with State funds. This leads

to inconsistencies in State owned, operated, or leased facilities and policies either being ineffective or punitive to some agencies and not others.

The majority of survey participants felt that legislative policy has added significant costs to their day-to-day operations through excessive oversight, inhibiting cost-effective delivery methods, and policies that protect employee benefits at unsustainable costs and without regard for the longer-term impact of those policies.

“STATE POLICIES ARE DRIVEN TO PROTECT THE STATE AND GENERALLY DO NOT AID IN ACHIEVING EFFICIENCIES OR BETTER PERFORMANCE.”

// Capital Outlay Program Manager

Getting There

“TRAIN STAFF FOR
CONSISTENCY IN
BUILDING PERFORMANCE
AND HOW TO USE
IMPROVED TECHNOLOGY.”

// Project Manager

Creative partnering/ financing



Several counties interviewed cited examples of creative partnering with the private sector, non-profit organizations, or public agencies as a means to augment funds needed to deliver projects that enhance public services in their communities. In particular, Stanislaus County has used this approach quite effectively during the recent past, and they continue to explore these options in delivering the essential services needed to support the community.

Examples of this **creative partnering** include:

The Gallo Center for the Arts—a \$50 million performing arts center that took nearly 10 years to complete and was built using \$15 million of debt financing by Stanislaus County and \$35 million from non-profit agencies and private donors.

Another more complex example of community and private partnerships illustrating the type of creativity needed in today's new reality of doing "more with less" is a project that was completed in Modesto nearly ten years ago. A partnership between the City of Modesto, Stanislaus County, and the private sector created a new government center, complete with retail and commercial elements in a formerly neglected area of the city. The development project includes a city/county government building with 228,000 square feet of office space; 28,000 square feet of retail space on the ground floor; a 700-space parking garage; an 18-screen movie theater; 3 restaurants; a retail store front, and a 3-story private office building adjacent to the parking garage. It was noted that these types of projects require strong leadership that is "creative, thoughtful, and effective in developing meaningful partnerships."

Consolidate and reduce



When asked about near-term priorities, agencies said they will be focused on how to maintain their existing real estate portfolios, consolidate operations, and re-use existing facilities because building a new facility is not financially viable. These agencies are focused on assessing inventories, benchmarking operations, and looking at a variety of options to reduce resources required wherever possible.

A strong need to strive for efficiency in design, without compromising flexibility for the future, was expressed. There is constant fluctuation within users today. Funding is volatile and staffing models are continuously being tested, with outsourcing being considered in some form by most agencies. As a result, the design and repurposing of facilities is driven to a large degree around efficiencies and the anticipation of changing needs.

“ENHANCED PROJECT
MANAGEMENT TOOLS TO
IMPROVE CONNECTION
FROM ACCOUNTING/
OPERATIONS/DESIGN.”

// Project Manager

Invest in training and technology



Adhering to the theme of doing more with fewer resources, participating agencies said they are looking for cost-effective ways to train their existing staff resources and looking to make nominal investments in new technology (software/hardware) that can automate services and increase their ability to manage resources, as well as project deliverables. Several agencies indicated that they are planning to invest specifically in project management software that provides real-time data on how projects or services are being delivered.

Making the Project Work

"DESIGN AND CONSTRUCTION TEAMS SHOULD RECOGNIZE THAT THE BUILDING DOES NOT STOP AT THE NOTICE OF COMPLETION."

// Project Manager

Project delivery methods

There is very little consistency among public agencies with respect to the project delivery methods that are allowed and utilized by these agencies. This is largely due to separate policies determined by each agency, but also by an overall sentiment among leaders (general counsel) to avoid the risk of protest or litigation. When a protest or claim is made, the costs to defend are significant, but more importantly the delays affect funding streams that add significantly to project costs or in some cases result in expiration of funding dollars. This creates insurmountable challenges for projects that start and stop when overall funding is at risk.

Most interview participants expressed that design-build and CM at-risk are preferred alternatives to the low-bid process, but many are restricted by if and when they can use them. In many cases when the authority is expressly granted, in-house legal counsel does not support its use due to the risks mentioned above.

Sustainable objectives

Overall, we heard a variety of comments about sustainability and what that means to each agency. Sustainability is a "daily priority," however, the actual translation of sustainability into activities and projects is about cost savings and long-term maintenance issues. Specific comments included the following:

- / Don't specify materials that are hard to locate or replace
- / Life cycle costing with long-term occupancy (50 years) is a higher priority than adding in "sustainable features"... need durability and flexibility
- / Sustainable projects are good as demonstration projects, e.g. libraries; LEED is good PR, but not always practical

Improving satisfaction with the A/E/C industry

In response to our questions concerning the current level of satisfaction with the A/E/C industry, we heard similar comments from public agency clients as those in other market sectors. The most consistent comment we heard was around the delivery period of completed projects. The need to have greater integration and training of the building maintenance team was mentioned as a focus/shift among several of the agencies interviewed.

Similar to other client types interviewed, we heard the need for better interdisciplinary coordination on design teams and that architects need a stronger understanding of how buildings are actually put together from the contractor's viewpoint.

The more unique comments we heard centered on the architect's ability to navigate political waters when nearly all projects have significant public scrutiny and political involvement during the

design process. A related, but somewhat contradictory, comment was that architects "seem to have evolved into 'order takers' rather than supplying an overall vision and design expertise." With increased public awareness and ease of access to development planning activities, how can public agencies and design teams partner to educate a multitude of constituents and manage upward with large decision-making entities?

Technical criticisms of architects included the lack of leadership with respect to Building Information Modeling (BIM). Clients, contractors, and program managers are all actively driving new tools in BIM while architects appear to be passive participants in the dialogue. Cost control was also mentioned as a shortcoming on the architecture side. "They should rely more on the contractors and subtrades for costing data."

Measure of good design

The measurement of good design is unique to each project type, but some similarities ran across all survey participants:

- / Customers (users) are satisfied with minimal complaints
- / Delivery in a team environment—the process
- / Not just about "bricks and mortar"
- / Longevity and efficiency of operations
- / Budget stability
- / Supports the vision/mission of the organization (occupant)

/ CURRENT SITUATION
/ WHAT CHANGE IS NEEDED
/ GETTING THERE
/ MAKING THE PROJECT WORK

community colliege

Current Situation

Increase reliance on local funding

During our survey, the majority of community college districts interviewed were focused on passing or implementing local bond measures for their building construction programs. With the lack of state capital outlay funding, districts are becoming more reliant on local support for funding of construction projects.

Focus on improving efficiencies

In addition, most districts interviewed were focused on increasing the efficiencies of all resources, including facilities, site, infrastructure, and staff. Establishing standards for planning, design, and construction can reduce operational and maintenance costs and the incorporation of sustainability features can further improve operational efficiencies. Some districts are restructuring to model a lean enterprise and this is requiring training and cross-training of faculty and staff. Strategies to reduce operational costs are a top priority, all while supporting the needs of increased enrollment pressures, reduced budgets, and higher expectations for student success.

“Catching up” with technology

A key component to improving student outcomes is providing students with the resources they need to succeed. Most of the districts we talked to were focusing much of their capital investments in upgrading facilities to “catch up” with how technology is being used to support learning and today’s students. In addition to upgrading existing facilities, expanding infrastructure requirements for data centers, wireless equipment, and other technology continues to demand a larger share of the overall capital expenditures. Once these tools are in place, they require increased training and resources to manage and maintain effective usage. Incorporating principles of lean organizations is becoming more critical as districts are responding to growing demands with fewer resources.

Districts also mentioned the on-going challenge of serving students who are increasingly diverse and, in many cases, less prepared for higher education. Balancing the need to provide these important basic skills, while at the same time serving the more advanced students who are attending community college because of capped enrollments at the CSU and UC systems, represents a challenging issue. In this time of limited budgets, community college districts are challenged to serve this broad mix of students while focusing on their core mission.



Industrial Technology Center
ITC

What Change is Needed?

“Doing more with less.”
// Associate Vice Chancellor

01

Stabilize funding

Financial uncertainty, increased regulation, and legislative divisiveness are significantly hampering the effectiveness of community colleges in California.

Historically, state funding policies are based on the number of students in class after only 20% of the course is completed. This policy does not incentivize colleges to focus on getting students to complete the course or actually receive a certificate or degree. The recent passage of Proposition 30 has language that addresses this deficiency, but it is not particularly clear how this will be applied throughout the system. Regardless of the specific changes, the community college administrators interviewed acknowledged that they anticipated fewer dollars in

»

02

Enable better utilization of funds

State appropriated funding for the foreseeable future. For future stability, greater understanding of the funding changes is needed and many campuses are looking to diversify funding resources to rely more on local bond and tax measures to mitigate reduced funding from the State.

Politics plays a large role in hampering districts’ abilities to implement organizational changes. Board of Trustees can sometimes be an impediment and increased legislation often takes away from the actual bricks and mortar of implementing facilities master plans. Union policies and increased regulations continue to drain state funds and reduce the amount of monies applied directly to student learning resources.

In particular, we heard that new policies around labor compliance are adding costs and extending schedules for new capital improvement projects. We also heard that cash-strapped utility agencies are increasing development costs with more aggressive fees.

»

03

Adopt lean practices

Internally, districts are focused on maintaining the momentum of lean enterprise principles. This includes the ability of staff to manage new building systems and instructors to adapt to evolving teaching methodologies. Districts must also use short-term funding more deliberately and find a way to address deferred maintenance issues.

Getting There

With limited options for new revenue streams for capital outlay funding, community colleges are anticipating an increased reliance on bond measures for building programs, as well as collaborative design teams and an efficient design process for all projects. Additionally, the districts we spoke with have recognized that they need to creatively expand how those bond dollars can be applied. Knowing that taxpayers are less inclined to vote for measures that include maintenance activities, districts are packaging their projects creatively with more emphasis on technology and projects that address safety, repair, and facility hazards.

Creative partnering

Community colleges are exploring avenues for leveraging resources with other State agencies and institutions. For example, UC Davis recently invited Los Rios CCD to jointly develop a facility on the Davis campus to provide certain basic courses that its students may need to repeat or receive additional instruction. This enables UC Davis students to stay on their current campus and in their system without interrupting their enrollment at the University. The partnership is also of great benefit to Los Rios students who take classes on the UC Davis campus.

Similarly, some UC campuses are building shared facilities on community college campuses, allowing community college students to transfer to a university and stay on their local campus. Other examples of creative partnering included sharing facilities, equipment, and educational resources with local high schools.



Improving student outcomes



Interview participants indicated that there is significant conversation at the legislative and campus leadership levels related to improving student outcomes. Several of the key areas for improvement identified by our survey participants involved providing greater access for students, whether that is on or off campus and asking the faculty to provide more flexibility in their teaching schedule to accommodate working students. In one case, Los Rios CCD is developing satellite facilities or “centers” within communities that are located in densely populated areas near public transportation to minimize travel for students with personal or work commitments. We also heard that online learning, while not currently a significant

component of their teaching model, is expected to grow significantly in the near term.

We also heard that a key element for improving student outcomes is to increase students’ overall time spent on campus. Campus administrators are asking how they can improve campuses to create a better sense of place and offer amenities or interactive spaces for students to congregate, socialize, and build a sense of community. Improved site planning, greater access to transit, and the addition of new amenities will strengthen the campus community and improve learning outcomes.

Lean/ more efficient

Across the board from our education clients we heard a significant increased emphasis on **“total cost of ownership,”** as it relates to how they build, own, and operate their facilities. Most are looking holistically at how buildings are constructed, particularly in relation to on-going operations and involving the operations staff in the early design discussions. Related to sustainability, the focus is really about energy efficiency and lower operating costs. It is very important to be able to benchmark each building to understand how much they are costing, and what improvements are giving them the best return on their investment. Several campuses are utilizing “smart metering” to track building performance and using that data to change behavior with faculty, staff, and students.

Making the Project Work

“CONTRACTING METHOD IS NOT THE KEY, IT IS THE BEHAVIOR THAT IS IMPORTANT.”

// Vice Chancellor Facilities Management

Project delivery methods

The delivery model that is emerging as the most common for projects in excess of \$10 million is design-build. The primary drivers for its increased usage include:

- / Avoid “design, build, battle, sue”
- / Faster delivery
- / Perceived savings
- / Improved collaboration between the architect, consultants, and contractor

Lease-leaseback is another delivery method that community college districts have been employing to respond to the issues identified above. Lease-leaseback has been recognized by many as a way to deliver facilities on time, on budget, and with a reduced level of risk associated with design issues, delays, and cost overruns. In essence, it provides the districts flexibility to choose its general contractor and subcontractors rather than having to contract with the lowest bidder. For some districts this is preferred to design-build as it allows them to retain control of the design process.

Sustainable objectives

When asked about how important sustainability is on campus and where districts are focusing their efforts related to sustainability, we heard this group indicate that the sustainability “hype” can sometimes cloud good judgment. What is important to them is to minimize the overall consumption patterns in building, owning, and operating their campuses.

Improving satisfaction with the A/E/C industry

With the current increase in competition for new, funded projects, districts have seen a marked improvement in consultant proposals and the delivery of projects. Districts generally receive a very large number of submissions from well-qualified firms for a limited number of projects. The growth of new delivery methods such as design-build has improved the building process and fundamentally changed the way architects and contractors do business—for the better. Districts are looking to the design team to help define strategies for reducing building operational costs. The ultimate goal is to deliver a project faster, better, cheaper.

When asked what new or better services could be provided by the A/E/C industry, we heard most significantly that community college clients are looking for:

- / More collaboration among all team participants on projects
- / More ownership related to the outcome of the project by the design team
- / Stronger understanding of how the buildings and/or materials will perform over time

In addition, we heard that BIM is now the standard, and A/E/C teams should figure out how to use the technology to best integrate the design process and to eliminate duplication by disciplines. Designers should be abreast of current trends in technology overall and help to educate their clients in this area.

Measure of good design

As a design firm that believes “design can change the world,” we are always interested in our client’s measurement of the value that good design brings to their buildings, stakeholders, and environments. From our community college clients we heard many of the usual comments about functionality, fitting within the campus context, lowering operational costs, and meeting the wants/needs of the users. Additional comments were about building support for bond measures among local communities and taxpayers, and we also heard that our clients are looking for responsible design that lowers operational costs and that a building’s design should be focused on the client and not be about the architect’s ego.

/ CURRENT SITUATION
/ WHAT CHANGE IS NEEDED
/ GETTING THERE
/ MAKING THE PROJECT WORK

Research Case

Current Situation

Transforming patient care

Although partisan rhetoric might suggest that the reform of healthcare in America is still to be resolved by national debate, the message from healthcare leaders we met with was clear—the transformation of healthcare in the United States toward an accountable care organization model is already underway and there's no turning back. Uncertainty exists in areas of revenue forecast, levels of reimbursement, full cost to implement electronic medical records, and the cultural shift required to succeed in a new paradigm marked by greater consumerism and demands for cost transparency and reduction in healthcare. The challenges ahead are not for the faint of heart and the organizations represented in our survey are leveraging strong strategic and business acumen, and are committed to implementing specific, far-reaching plans to respond to and even lead the transformation.

The obvious drivers for healthcare reform underway are the unsustainable, seemingly unchecked increase in healthcare costs, and the reality that the quality of American healthcare falls well below that of other industrialized countries around the world. The challenge for the healthcare industry today is to increase efficiencies and reduce costs, while delivering higher quality healthcare with measurably improved outcomes.

It was generally acknowledged that Kaiser Permanente is the model for the accountable care organization envisioned by healthcare reform legislation. With 60 years of experience as an integrated healthcare organization, Kaiser Permanente is well positioned, but as others develop similar models, the playing field will be leveled and consumer options increased.



Kaiser Permanente Medical Office Building // San Marcos, CA

What Change is Needed?

01 »

Understanding the true cost of healthcare

Patients naturally want the best healthcare, often including the most comprehensive diagnostic tests and procedures available, and almost always without information or data that clearly links that care with outcomes or cost. Physicians have the “power of the pen” to prescribe treatment, often without awareness or consideration of the cost implications to the provider or measurable benefit to the patient. Every organization we spoke with is heavily investing in the implementation of electronic medical records and looking to the power of analytics to better understand costs, evaluate practices, and measure outcomes. As downward pressure on reimbursements continues, benchmarking and pay for performance incentives will increase.

02 »

Shift to population health management

Population health management shifts the focus from acute hospital care to preventive, patient-centered care in primary and outpatient settings, or even through remote or telemedicine applications. Kaiser Permanente captured this concept in a word, “Thrive.” The most obvious way to reduce hospital admissions, costly tests and procedures, and re-admissions is to keep a known subscriber or plan participant in good health. The facilities implications of that shift are less diagnostics and treatment procedures that will need to occur in traditional hospital acute care settings, and more will be able to occur in community-based clinics, medical office buildings, and other non-acute care settings where patients can receive a continuum of wellness care.

One of the challenges facing many healthcare organizations is to know when, where, and what size to plan all types of facilities, as opposed to just the right number of beds or acute diagnostic and treatment facilities. Counterbalancing the move toward greater outpatient care, growing communities, aging core acute care facilities, and the dramatic influx of retiring boomers over the next 15 years will continue to create some demand for new or renovated acute care hospitals.

03 »

Physician alignment

Physician alignment is giving doctors “skin in the game” to control costs and incentives to improve patient outcomes. Whether with an accountable care organization, healthcare system, or private health foundation, the importance of physician alignment was acknowledged in virtually every one of our discussions. With incentives to improve long-term health of patients, primary care physicians are expected to spend more time on preventive care and to take a more integrated, active role in increasing operational efficiency and reducing cost.

INVESTMENT IN TECHNOLOGY/ FLEXIBILITY/ ADAPTATION/ LEAN/PA SATISFA

Getting There

Substantial investment in technology and infrastructure



Substantial investment in technology and infrastructure through implementation of electronic medical records (EMR), cloud-based computing, and other data and analytic systems will be instrumental in tracking, measuring, and determining the effectiveness of care provided to patients. The U.S. government is taking a “carrot and stick” approach to EMR. For the time being, physicians and hospitals that implement systems will be rewarded with checks in the mail. Beginning in 2015, however, Medicare reimbursements will be adjusted downward for those

not complying. Most of the healthcare organizations we spoke with are dedicating as much as 50% of their annual capital expenditures to fully implement EMR.

In addition to EMR implementation, the rapid advances in personal, handheld devices present additional requirements for IT expertise and innovation. Their potential application for telemedicine creates added opportunities to provide patient care outside the traditional hospital, primary care, or clinic walls, thereby maintaining a continuum of care and improving outcomes.

Focus on flexibility and adaptability



Flexibility and adaptability in facilities planning and construction that allows for future maximization and utilization is a must. The transformation of healthcare to population health management and preventive care is far from complete and the timing is fluid. Organizations are looking to spend their dollars on facilities that support efficiencies in patient care, reduce risks to patients and staff, and provide flexibility for future, unforeseen needs. Even where templates have been adopted, healthcare clients interviewed acknowledged their desire for continuous improvement and innovation in facilities design that furthers their goals.

In addition to flexibility and adaptability, we heard that facilities also play an important role in communicating quality of care and other important aspects of the healthcare organization's brand. Although there may be less emphasis in the future on the iconic or high design hospital, the quality of facilities—especially design advances that support patient care, outcomes, and satisfaction—are critically important.

Lean at every level



Although “Lean” did not mean adopting Six Sigma management strategies or processes to everyone we spoke to, the idea behind the terminology—to improve the quality of process outputs by identifying errors and minimizing variability in processes through review of best practices and value-based decisions—was consistently identified as an organizational goal. Clients are looking for design professionals who understand their work flow and can design facilities to help them operate more efficiently.

Creating patient satisfaction in a consumer-driven healthcare era



Creating patient satisfaction in a consumer-driven healthcare era will be a differentiator of the healthcare organizations that achieve highest success. Like the deployment of EMRs, there is a reward and punishment formula in play. Medicare and other payers now include patient satisfaction scores in pay-for-performance programs. Even when not tied to pay rates, satisfaction plays a significant role in attracting and retaining patients, critical to the population health management model.

Everyone in the healthcare organization is important and accountable for the patient experience and representing the brand. A reflection of this idea was seen in the commitment of

the organizations we interviewed to staff development, training, and establishment of a culture of continuous improvement and learning leaders.

Treating patients like “valued customers” was sometimes communicated directly and often through other ideas discussed, such as cost transparency, understanding patient/family preferences, engaging patients and caregivers in healthcare decisions and delivery, and consistent emphasis on the patient experience.

Making the Project Work

“IT’S NOT ABOUT THE CONTRACT, IT’S ABOUT THE PEOPLE—THE TEAM.”

// Sr. Vice President, Real Estate, Planning & Construction

“WHAT MAKES THE WORK (ARCHITECTURE) NOBLE, WHAT IGNITES ME IS THAT ARCHITECTS HAVE THE ABILITY TO PROVIDE PATIENTS AND THEIR FAMILIES COMFORT AND CONFIDENCE THROUGH THE BUILT ENVIRONMENT.”

// Vice President, Facilities Management & Development

Project delivery methods

Regardless of the delivery method or type of contract, everyone we spoke to emphasized the value they place on collaboration by all members of their A/E/C teams, and beyond collaboration, we consistently heard the importance of team integration across disciplines or traditional roles. Essentially, although not widely using Integrated Project Delivery (IPD), owners are expecting integrated behavior.

Many owners spoke of an increased preference for design-build as a way to spur innovation and creative solutions, and increase collaboration among team members. Advances in the last 5 to 10 years in Building Information Modeling (BIM) and energy efficiency in design, materials, and mechanical systems was seen as “doing our work smarter than ever before.”

Sustainable objectives

Consistent with the responses we received across other markets, the healthcare leaders interviewed made it clear that sustainability is expected in facilities design, construction and renovation, but that it’s not about LEED certification. It is about knowing and meeting the organization’s goals for energy consumption/generation, recycling, waste disposal, and other environmental impacts. As 24/7 operations, healthcare facilities can benefit three-fold from energy efficiencies that directly reduce operating costs. Life cycle cost analysis is a critical component of design and should demonstrate results that can be expected/achieved.

Improving satisfaction with the A/E/C industry

Deeply rooted in a history of serving as a design partner to our healthcare clients, HMC acknowledges and appreciates the input received in this area. The healthcare industry is committed to bringing their very best to the task of planning, designing, constructing, and maintaining their facilities and they expect the same of their architecture, engineering, and construction partners. There’s room for improvement. More than at any time before, the way in which we act together on behalf of our clients is as important as our own individual expertise or talents. Listening is the first step. Understanding our client’s business and including their experience and expertise on our team brings real value. Our clients are looking for creativity and innovation that drives their performance. We heard from clients that the ability to leave individual silos to become a collaborative working team vested in better

outcomes for the client and ready to adapt and deploy new technologies such as BIM is expected, but not yet consistently delivered by the architects. Finally, our healthcare clients must forge ahead despite uncertainty. Their A/E/C partners must be able to think, plan, and act as strategic partners.

Measure of good design

Our survey responses were consistently focused on the patient’s experience. Also important is the way thoughtful design can positively support the work of staff, nurses, and physicians, which also increases efficiency and outcomes. Several suggested, “it’s not about the building, but what goes on inside and how people experience that.”

Design that is flexible, functional, and durable, while also reinforcing the specific brand of the organization should be the measure of good design.

/ CURRENT SITUATION
/ WHAT CHANGE IS NEEDED
/ GETTING THERE
/ MAKING THE PROJECT WORK

K-12 education

Current Situation

“GIVEN RECENT STAFF REDUCTIONS, TECHNOLOGY WILL CONTINUE TO BE AN INCREASING FACTOR IN ADDRESSING CRITICAL EDUCATION NEEDS.”

// CEO

Reduced funding

California State public schools and counties are facing some significant challenges for the foreseeable future. The State's economic conditions have resulted in drastic reductions in funding affecting operations, infrastructure, and lower levels of teaching staff resources and time to deliver instruction. Consistent with other State-funded organizations, California schools have begun the retooling process to structure their operations to accommodate less State funding in their annual budgets for the foreseeable future.

Overall sentiment among school administrators is that regardless of recently passed State tax initiatives and the future State General Obligation bond anticipated in 2014, they must prepare their organizations for continued erosion of traditional funding sources. This has resulted in many school districts initiating/contemplating local bonds to fund buildings, maintenance, technology, and other infrastructure related costs to offset the reduced funding levels from the State.

Adapting to new ways of learning

In addition to the operational changes needed to adjust to the “new norm” for funding, schools are continuing to adapt their curriculum to the federally mandated “common core” requirements and are challenged to find effective ways to incorporate technology into their learning environments while keeping pace with the way students are learning outside of the classroom.

The subject of technology in the learning environment was consistently mentioned as both a challenge and the solution to “how to do more with less.” The challenges were not only associated with the cost to acquire and implement, but also around how to select from so many options; and with new technology comes the need to train staff, develop an infrastructure to support new software programs and hardware, and implement across large districts with consistency and equity.



LAUSD South Region Elementary School #9 // Los Angeles, CA

What Change is Needed?

Breaking with Tradition

“SCHOOLS NEED TO BE LEARNER-CENTERED, SAFE, AND SUSTAINABLE CENTERS OF THEIR COMMUNITIES.”

// Facilities Director

01 »

Rely more on local communities

The new paradigm in public schools is hitting districts on several fronts. Reduced funding from the State is requiring districts to rely more on their local communities for funding, as well as for other synergistic opportunities to join with existing resources (human or capital) to accomplish mutual benefits with limited resources. This was noted through the use of shared facilities and staff operations support among districts and local municipalities. Furthermore, this message is being clearly communicated by the California Department of Education in its recent report on California’s K–12 Educational Infrastructure Investments.

02 »

Focus on student outcomes

Secondly, the growing acceptance of technology-assisted learning tools, coupled with the shrinking funds to maintain teacher salaries and accompanying benefits structure, has district staff asking difficult questions about how to leverage technology to improve outcomes while utilizing new methods of teaching. However, teachers unions and collective bargaining organizations continue to resist changes that threaten to erode their positions and benefits within the system. The current structure is perceived to be designed around the staff and there needs to be more emphasis on student outcomes.

03 »

Tie funds to improved outcomes

The third element of the new paradigm in California public schools is the anticipated change in how funding will ultimately be administered by the State. With the State actively lobbying for more taxpayer dollars to be committed to public schools, there is renewed commitment to having those funds tied to improved outcomes for students. District officials are closely monitoring this dialogue in Sacramento and anticipating how they might adapt their organizations to align with the new paradigm in funding. Key issues include “closing the achievement gap” for underperforming sub-groups, more rigorous methods of student engagement, and the use of modulated instruction to increase student outcomes.

Getting There

School districts have recognized the new reality from a funding perspective. Now, how do they adapt to the new reality? Although school administrators acknowledge they have downsized and changed their operations, most recognize that the change process has just begun.

"WE CAN'T WAIT ANY LONGER FOR THE STATE TO HELP US SOLVE THIS SITUATION."

// Superintendent

Class sizes/ flexibility

Reduced funding is currently resulting in larger class sizes throughout California; however, districts recognize that this solution is short term and that increasing class size using the current teaching paradigm is already having negative outcomes. As a result, districts are planning for adaptability in their classrooms. Ultimately they need more flexibility in modulating classroom environments for the future. Class sizes will eventually shrink again.



Modulated learning

With the proliferation of learning applications intended to be delivered in a variety of approaches, forward-thinking districts are planning for curriculums and environments that accommodate the diverse array of options available. Most of our survey participants acknowledged that they are planning for students to incorporate their own computing devices (tablets, cell phones, or laptops) into the daily learning platform and many are already doing this at some level. Bring Your Own Device (BYOD) is a near-term reality, so classroom planning must accommodate how to power these devices and transmit data within the classroom and campus environment. Basic learning of the traditional material can be delivered via online devices thereby freeing up the teaching staff to focus on individual instruction/coaching and project-based learning activities.



Maintenance of schools

For years the State's system for applying funds to districts for on-going maintenance activities has been woefully underfunded. This was a consistent theme throughout all interview participants with no simple resolutions or ideas coming to the forefront. However, the discussions did center on a few basic concepts:

- / Consolidate and decommission/dispose of underutilized assets or lease out marketable facilities to supplement other capital needs and/or the general fund

- / Build/remodel to maximize efficiency and minimize operational and maintenance costs

- / Better documentation of current infrastructure and the need to increase awareness in the communities that will be called upon to supplement state funding deficiencies

Making the Project Work

"ARCHITECTS ALWAYS WANT TO TALK ABOUT LEED. DEMONSTRATE HOW IT IS COST EFFECTIVE."

// Director

Project delivery methods

The survey participants expressed limited emphasis on utilizing non-traditional delivery methods in constructing and renovating their facilities. The frequent response included the reference to the perception of transparency in the contracting environment. For most participants, design-bid-build is the anticipated model for the foreseeable future, with some discussing the use of lease-leaseback as a fallback method to avoid unscrupulous contractors.

Sustainable objectives

Within the districts we surveyed, we received a consistent message that sustainability was not about LEED, but more about how to minimize costs for both the short- and long-term life cycle of a building. Energy efficiency was critical given reduced operating budgets. We also heard that accomplishing LEED and sustainable building design is just part of good architecture and therefore should not be charged as a premium to the architects' basic services.

Improving satisfaction with the A/E/C industry

As an architecture firm with very deep roots in the K-12 school market, HMC was particularly intrigued by the responses we received from our school clients. After assessing the comments, we share some of the same concerns. In general, we heard that the architectural community is focused on the clients, but perhaps not focusing on all the pieces of the problems facing school administrators today. We were told that strategies to reduce operational costs are a top priority and that the A/E/C industry is having some success there. However, the industry could be doing a better job understanding the linkages between facilities design and student outcomes. Sometimes there is a tendency to focus solely on the traditionally published school building criteria without attempting to describe how the design enhances student

outcomes. We are in agreement with our survey participants that there has been some erosion in the process whereby students' evolving needs have not remained the highest priority with the design processes that are currently utilized. We acknowledge that we can do a better job on our part to study student outcomes and to provide more creative solutions and innovative thinking that supports the overriding needs of individual schools in delivering on their mission to best educate California's youth. We also heard our clients asking for help in better understanding technology trends in teaching environments. This was referenced as an important element for the future of the school system to aid in overcoming the significant financial and performance issues facing our schools.

Measure of good design

Many of the responses we received about the value of good design are closely aligned with the specific challenges the school districts are facing today. In our survey we heard that good design "builds support for local bond measures;" essentially demonstrating that local dollars are being well spent. More specifically we heard that good design should be contextual, functional, and easy to maintain with an emphasis on the maintenance element. Our clients know they will continuously be challenged to upkeep their facilities.

/ CURRENT SITUATION
/ WHAT CHANGE IS NEEDED
/ GETTING THERE
/ MAKING THE PROJECT WORK

University

Current Situation

"WE ARE ADAPTING
TO NEW FUNDING
MODELS."

// Associate Vice Chancellor

The Market Survey included university representatives from the California State University (CSU), the University of California (UC), and private institutions of higher education. The results of the surveys varied significantly within those three university client types. In particular, we noted the differences to be largely driven by policies and constraints around access to funding for operations and capital investments.

The University of California campuses interviewed have become less reliant on state funding. As research-based institutions, they receive substantial funds from research grants, alumni, and private donors. About five years ago, many of the campuses began to feel the financial impact of decreased state funding levels and initiated significant donor funding programs to replace dwindling state funds.

The research component at these universities is a critical revenue stream, while the instructional component is typically not a revenue generator for most campuses. Departments that generate research grants are more likely to receive renovated space or new facilities. This creates some internal inequities among departments and campus administrators struggle to balance the needs with those departments that don't receive that external funding element.

The University of California system continues to explore a variety of financing options to prepare for future economic volatilities. Leveraging its excellent credit rating, the UC issued a 100-year taxable "century bond" in early 2012 enabling greater flexibility in funding and development options for key projects at targeted campuses.

The California State University system is heavily constrained by the State's budget crises and hampered by the political process to approve project funding. The system is struggling with how to redefine itself to address the new realities of the economy and less State appropriations for the foreseeable future with limited avenues to generate additional revenues. With a virtually non-existent capital budget, the CSU facilities teams are focused primarily on minor repair initiatives with the exception of those projects that are self-funded, which include student housing, parking structures, and facilities that are funded through student referendums such as recreation centers.

The limited dollars that are available must be distributed across the campuses and smart planning must ensure that what is being built is relevant and will continue to be relevant as student needs rapidly evolve. With fewer dollars available within the CSU's capital programs, the trend is for smaller projects on campuses to allow the limited funds to be distributed in some equitable manner.

Conversely, **Private Universities** are self-funded with fewer constraints on revenue generation (mainly tuition and fees) and fundraising has historically been, and continues to be, a critical component of their financial model. While these institutions have been impacted by the downturn in the financial sector, they do not have the same encumbrances as state institutions and are not inhibited on their abilities to raise revenue or capitalize on the overall lower cost of construction as a result of the economic downturn these past few years.

Paul Leonard Library
Sutro Library

J. Paul Leonard Library and Sutro Library, San Francisco State University



Academic Building, CSU Monterey Bay

Overall, the focus remains on maintaining a high level of student outcomes and attracting the brightest student population. These students come from diverse backgrounds and are entering college with a strong grasp of global issues. They have high expectations from their educators and a large number of students are seeking multiple degrees. The trend is to obtain an interdisciplinary education that involves integrating studies across different departments and disciplines. This trend has greatly impacted campus planning with the emphasis around creating opportunities to cross-pollinate between dissimilar departments. Universities are focused on being one-step ahead of prospective student expectations with academia, technology, amenities, and transitioning from commuter to residential communities. Research has clearly shown that beyond the amenities offered in specific buildings, the character and sense of place of the overall campus community impacts a prospective student's choice of institutions.

Collectively universities are looking at ways to increase operational efficiencies and focus on being lean. Administrative staff at most of the universities interviewed has been significantly downsized with expectations on remaining staff becoming broader and encompassing multiple skill sets.

At some of the State-funded institutions, we heard growing concerns that a financial panacea of heavy borrowing with temporary intergenerational low interest rates could ultimately result in a dramatically worse financial situation in the future.

An upside of the downturn in the economy has been universities' ability to take advantage of lower bids and construction costs. Specific to the UC and private institutions, we heard that there has been a high degree of urgency to get projects underway and contracts committed before the construction industry returns to more normal levels of business. We also heard concerns from several survey participants that the construction industry will see significant escalations in the very near future. This concern was specifically related to increased construction activity in Northern California and an overall contraction in sub-trade resources due to the extended depressed market conditions.

What Change is Needed?

01 »

Adapt and embrace diversification

Institutions must be flexible and adapt to change. The changes will need to focus on the evolving nature of the client, student, space utilization needs, and delivery of education.

Campus staff and faculty are being challenged to have greater diversification in their jobs and responsibilities with less emphasis on specialized disciplines. As with our other market survey participants, university clients are challenging their teams to operate with much greater efficiencies on a daily basis.

02 »

Balancing needs with wants

Another area of concern that was expressed by a few survey participants was that policies surrounding research development do not ensure that funded research remains relevant to today's students. Similarly, the monies that are garnered by grants, or donors, become a political tool that affects how space and resources are utilized with less consideration for actual needs. This is particularly difficult as many of the general classroom facilities have not been maintained for many years as a result of the State's overall policy for funding capital expenditures.

03 »

Modernize for today's needs

Specific to maintenance of the building portfolio, we heard from some survey participants that they were doing a slightly better job of maintaining their building stock, while other participants acknowledged a serious lack of funding for any sort of maintenance activity. However, all participants indicated a significant need to modernize and adapt campus spaces for the needs of today's students. How students use the space today is significantly different from how the buildings and spaces were originally designed. Today's libraries and learning centers were noted to have very little emphasis on books with a primary focus on group study, access to media, and a transition to a 24-hour facility offering a variety of different environments for students to interact.

04 »

Growth of public-private partnerships

We heard that most universities are increasing their emphasis on student life with on-campus housing, amenities, and greater access to entertainment and transit. Because many of these facilities are revenue generating, these campus improvement projects are growing in number and attracting interest from third-party investors/developers. However, development of these public-private projects appears to be challenged by difficulties in financial expectations on both sides of the public-private partnership as well as the overall expectations around development processes.

Getting There

Universities continue to focus on their missions and follow the money for research grants and their medical centers and laboratories. They also strive to stay ahead of student expectations and provide an exemplary learning environment that enables students to have a competitive advantage once they enter the workforce.

International influence



Going forward, universities are expected to diversify their student populations and are looking to increase the number of international students. This does aid in boosting an institution's bottom-line since international students pay significantly higher tuition than their in-state classmates. In order to remain competitive with this newer, global and technologically sophisticated

student population, universities are evolving into multi-cultural campuses with 24-hour operations, and real-time access to media information—anytime and anywhere on the campus. This is having a significant impact on planning, design, and overall operations including security, maintenance, and on-going capital expenditures for new technology.

Repurpose to achieve efficiency



With the changing demands of the students as well as the significant advances in how education is being delivered, universities are pushing their design partners to identify creative space utilization within existing buildings and repurposing of outdated facilities as a growing need across all campuses. The concept of repurposing facilities is being further layered with an expectation that space needs will continue to evolve and flexibility to adapt in the future is paramount to any capital investment.

Most universities are actively exploring how they can achieve greater utilization of classroom and faculty spaces. Can faculty offices be shared or can they

be portable to accommodate expanding/changing needs of departments? The University of California is currently developing faculty offices in Mission Bay adjacent to the hospital that is entirely an “activity-based” space with no private offices. This was planned under the premise that faculty spends very little time in their offices throughout the day and having a dedicated workstation with lots of shared space for team activities/discussion is more in line with how students and faculty are interacting and delivering learning in today’s institutions.

Build a home on campus



Another expectation is the continued transformation from commuter to residential campuses with the addition of new amenities. This is requiring an upfront effort by universities to re-brand their image with prospective students and the surrounding community—but the result will be worth it. Universities that transition to residential campuses attract higher-quality students and students who live on campus are more likely to become involved in school activities and graduate on time. In addition, residence halls and other auxiliary services are revenue generators for universities and help to increase cash flow.

Lean at every level

Survey participants expressed a strong focus on lean strategies and efficient utilization of resources. For the A/E/C industry this translates into a more collaborative process that involves owner input and increased utilization of new delivery methods.

In capital development, an integrated approach for design and construction is becoming the model, along with higher expectations around schedule and budget compliance. The majority of survey participants expressed a strong desire for faster delivery, more predictable outcomes, and improved accountability by A/E/C teams. Alternative delivery methods for project development was the expressed option to get these results.

BIM is required on all projects and is valuable, but some survey participants noted that they are not fully realizing the increased efficiencies that BIM technology is capable of supporting.

Making the Project Work

“A LITTLE OF EVERYTHING.”

// Campus Architect

Project delivery methods

In general, university clients are sophisticated owners and managers of buildings/campuses. As a result, they are well equipped to understand the various delivery models being utilized in the industry and most are not constrained by public policy that limits their use of different delivery models with the exception of the “Integrated Form of Agreement” (IFOA) more commonly referred to as IPD (Integrated Project Delivery). State and federal contracting policies do not allow public agencies to enter into these types of agreements at this time; however, several campuses are attempting to simulate an IPD working relationship without the university actually signed up as a signatory to the contract. Our survey respondents from the healthcare industry are actively exploring IFOA as a delivery model and have noted the UC system as a public sector agency that is experimenting with this delivery model.

The opinions we heard regarding a preferred method were mixed, but overall we heard that university staff is most interested in seeing increased collaboration with architects, consultants, and contractors and achieving more predictable outcomes as it relates to schedule, budget, and quality.

At the CSU and many of the UC campuses, CM at-risk is the most widely used delivery method for significant projects. Design-build is becoming more frequent and is sometimes used as a way to keep projects progressing after other options have been exhausted to get projects within budget.

As mentioned earlier, public-private partnership models have been explored but are largely only used when there is some sort of housing or parking component to provide sustained revenue.

Improving satisfaction with the A/E/C industry

A significant area of dissatisfaction expressed by several survey participants centered on quality of documents associated with deliverables at each phase of design. The quality and thoroughness of drawings was noted to decline rapidly with each successive phase of design, and ultimately design development and construction documentation have been described as woefully incomplete. Several survey participants did acknowledge that the pre-established university fee structure is a significant contributor in explaining why there is consistently a lower quality of deliverable during these phases. Nonetheless, the quality/completeness of documentation is noted as costing the universities significant time, money, and increased dissatisfaction among users on a large number of projects. Many participants interviewed did cite this as one of several reasons for the dramatic shift to design-build, CM at-risk, or other alternative delivery methods.

Overall, universities are seeking a more collaborative process and BIM is one tool that helps enable new ways of working together in a collective and informed manner. Many survey participants believe that architects are behind contractors in adjusting their approach to projects and in the use of BIM. Several survey respondents indicated that architects need to determine how to best play an active role in this advancement. In addition, the use of BIM is moving beyond just design and construction; owners are seeking to integrate BIM into in the operational functions of facility management. It will be used as an electronic library of information for analyzing operations data such as energy use or as drawings to review future layout changes.

Architects can do a better job of bringing alternative and innovative ideas to the table to help shorten construction schedules and reduce overall costs.

Owners are also looking for a shift in the transfer of risk, moving toward a more integrated project delivery method. The industry has missed the mark and performs defensive architecture due to perceived risk. Project teams are being asked to move away from the “you and I” mentality and strive for a “we” mindset. For success, project teams should clearly define roles and responsibilities, standards of performance and establish a clear communication plan early in the process to achieve what really matters: a useful, well-designed building. This will also help teams to deliver on what is promised—and hopefully eliminate over promising a client without understanding the project constraints and budget.

Preferred attributes:

- / More responsive and proactive
- / Deliver on what is promised, but do not over promise
- / Listen/look for ways to make the client successful
- / Be attentive and focused; not a firm with an ego

“ARCHITECTS ARE NOT LEADING DESIGN AND CONSTRUCTION IN A NEW DIRECTION; THEY ARE BEING PULLED BY OTHERS WHO ARE DOING THE LEADING.”

// Associate Vice President

"IT'S ABOUT A RETURN ON INVESTMENT, NOT ABOUT TROPHIES."

// Campus Architect

Sustainable objectives

All participants surveyed indicated that they have established campus standards for sustainability and the majority of participants indicated that ultimately it is about a return on investment. Overall, we heard a general dissatisfaction with USGBC LEED certification as the measurement for achieving sustainability on the campuses. In particular, we heard a concern about tendencies to incorporate "greenwashing" features to obtain LEED points when those features were not adding usefulness or augmenting the sustainability of the building or campus. Noted examples included the addition of showers or bike racks when there was no expressed or anticipated use for those features.

Further concerns expressed relative to sustainable elements/systems included the lack of knowledge/ability to maintain these additions in achieving their intended benefit and ultimately resulting in costly retrofits or additions to compensate for this deficiency.

While many higher education institutions follow the standards that are mandated by university leadership, there are some institutions that are proactively adopting sustainable strategies as one of their strategic differentiators in attracting students as well as private donors/investors to the institution.

Recently, UC Davis was able to fully fund the Teaching and Research Winery and the August A. Busch III Brewing and Food Science Laboratory, a sustainable winery/ brewery project, through alumni and donor contributions. The facility invites private sector entities to test new methods of fermentation that enable water savings and lessen their carbon footprint. The facility strengthens the University's relationship with the local business community, while businesses benefit from improving their operations and being associated with an institution that is leading the way in the sustainability movement.

"I AM GOING TO BEHAVE DIFFERENTLY HERE BECAUSE OF THE ENVIRONMENT, I HAVE TO APPLY MYSELF AND WORK HARDER."

// Chief of Architecture

Measure of good design

University clients interviewed were generally of the same mindset in responding to our inquiry about how they measure good design and how it is valued by the various stakeholders. Several respondents indicated that design was the highest priority and that it strongly relates to the overall learning experience. The pervasive responses talked about context and responsiveness to needs and budget, while other comments addressed the need to attract targeted students and bring alumni back to the campus for fundraising initiatives.

Acknowledgment

Thank you to our interview participants. We greatly appreciate everyone’s thoughtful responses and dedication to the markets they serve.

CIVIC
Andrew Bohnert DGS Project Manager, County of San Diego
Lou Cavagnaro P.E. Assistant Director, Department of General Services, County of San Diego
Janet Cornelius Chief, Facility Planning and Management, County of Sacramento
Tom Fincher Chief, Project Management, Department of General Services, County of San Diego
Nik Karlsson Capital Outlay Program Manager, Department of General Services, State of California
Mohammad Nuru Director, Department of Public Works, City and County of San Francisco
Patricia Hill Thomas Chief Executive Officer/Assistant Executive Officer, Stanislaus County

COMMUNITY COLLEGE
Jim Austin Vice President, Business and Administrative Services, MiraCosta Community College District
Dave Clinchy Director of Facilities Planning & Construction, Los Rios Community College District
Pablo Manzo Associate Vice Chancellor of Facilities Management, Los Rios Community College District
Jose Nunez Vice Chancellor, Facilities Planning, Maintenance and Operations, San Mateo Community College District
David Umstot Vice Chancellor, Facilities Management, San Diego Community College District

HEALTHCARE
Scott Bell Executive Director of Facilities Planning, Kaiser Permanente
Kip Edwards Vice President Development & Construction, Banner Health
Jeff Land Vice President, Corporate Real Estate, Dignity Health
Pat Nemeth Vice President of Facilities, Sharp HealthCare
Thomas Rush Manager of Facilities Design & Construction, UC Davis Health System
Bill Seed Staff Vice President of Design & Construction, Universal Health Services, Inc.
Sandy Smith Senior Vice President, Real Estate, Facilities, Construction & Operations, Hoag Memorial Hospital Presbyterian
Mark Tortorich Vice President Planning Design and Construction, Stanford Hospital & Clinics

K-12
Ron Bennett President & CEO, School Services of California
Joe Dixon Assistant Superintendent, Facilities & Government Relations, Santa Ana Unified School District
Tom Duffy Legislative Advocate, Murdoch, Walrath & Holmes
David Goldin Legislative Director, California’s Coalition for Adequate School Housing
David Goldin Chief Facilities Officer, San Francisco Unified School District
Paul Jessup Deputy Superintendent Administration and Business Services, Riverside County Office of Education
Ted Rozzi Assistant Superintendent, Facilities, Corona-Norco Unified School District
Terry Walker Superintendent of Schools, Irvine Unified School District

UNIVERSITY
Kathleen FitzGerald Director of Project Development, Capital Programs, University of California, Los Angeles
Clayton Halliday Assistant Vice Chancellor and Campus Architect, Design and Construction Management, University of California, Davis
Boone Hellmann FAIA Associate Vice Chancellor for Facilities and Campus Architect, University of California, San Diego
Thomas M. Kennedy Office of the Chancellor, The California State University
Susan Santon Associate Vice Chancellor, Capital Programs, University of California, Los Angeles
Jon Soffa AIA University Architect, University of Southern California
Deborah Wylie Associate Vice President, Capital Resources Management, University of California, Office of the President

About HMC

HMC Architects' work is driven by the belief that design can change the world. Since 1940, the firm has worked with education, healthcare, corporate, and institutional clients to create architecture and interior design that is inviting, high-performing, environmentally sustainable, and human focused. Our work begins from the standpoint that a smart solution results most reliably from a smart process, and that a project created *with* clients rather than *for* them, will benefit everyone involved in its implementation.

OFFICES

- Fresno
- Los Angeles
- Ontario
- Phoenix
- Reno
- Sacramento
- San Diego
- San Francisco
- San Jose

HMC CONTACTS

- Civic and Justice
 - Beverly Prior** FAIA, LEED BD+C, NCARB
 - Beverly.Prior@hmcarchitects.com
 - (415) 777 9422
- Healthcare
 - Jerry Eich** AIA, ACHA
 - Jerry.Eich@hmcarchitects.com
 - (909) 989 9979
- Community College
 - Deborah Shepley** AIA, LEED AP BD+C
 - Deborah.Shepley@hmcarchitects.com
 - (949) 648 4496
- K–12 Education
 - John S. Nichols** AIA, REFP, LEED AP BD+C
 - John.Nichols@hmcarchitects.com
 - (909) 418 4376
- Strategic Development and University
 - Kelly Olson**
 - Kelly.Olson@hmcarchitects.com
 - (714) 319 0440

/ MARKET TRENDS SUMMARY / 2013

LISTENING