

University of California, Merced Merced, California

September 9–14, 2012



University of California, Merced

Growing the 21st-Century Sustainable Campus

September 9–14, 2012

About the Urban Land Institute

THE MISSION OF THE URBAN LAND INSTITUTE is to provide leadership in the responsible use of land and in creating and sustaining thriving communities worldwide. ULI is committed to

- Bringing together leaders from across the fields of real estate and land use policy to exchange best practices and serve community needs;
- Fostering collaboration within and beyond ULI's membership through mentoring, dialogue, and problem solving;
- Exploring issues of urbanization, conservation, regeneration, land use, capital formation, and sustainable development;
- Advancing land use policies and design practices that respect the uniqueness of both built and natural environments;

- Sharing knowledge through education, applied research, publishing, and electronic media; and
- Sustaining a diverse global network of local practice and advisory efforts that address current and future challenges.

Established in 1936, the Institute today has nearly 30,000 members worldwide, representing the entire spectrum of the land use and development disciplines. ULI relies heavily on the experience of its members. It is through member involvement and information resources that ULI has been able to set standards of excellence in development practice. The Institute has long been recognized as one of the world's most respected and widely quoted sources of objective information on urban planning, growth, and development.

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About ULI Advisory Services

THE GOAL OF ULI'S Advisory Services Program is to bring the finest expertise in the real estate field to bear on complex land use planning and development projects, programs, and policies. Since 1947, this program has assembled well over 400 ULI-member teams to help sponsors find creative, practical solutions for issues such as downtown redevelopment, land management strategies, evaluation of development potential, growth management, community revitalization, brownfield redevelopment, military base reuse, provision of low-cost and affordable housing, and asset management strategies, among other matters. A wide variety of public, private, and nonprofit organizations have contracted for ULI's Advisory Services.

Each panel team is composed of highly qualified professionals who volunteer their time to ULI. They are chosen for their knowledge of the panel topic and screened to ensure their objectivity. ULI's interdisciplinary panel teams provide a holistic look at development problems. A respected ULI member who has previous panel experience chairs each panel.

The agenda for a five-day panel assignment is intensive. It includes an in-depth briefing day composed of a tour of the site and meetings with sponsor representatives; a day of hour-long interviews of typically 50 to 75 key community representatives; and two days of formulating recommendations. Long nights of discussion precede the panel's conclusions. On the final day on site, the panel makes an oral presentation of its findings and conclusions to the sponsor. A written report is prepared and published.

Because the sponsoring entities are responsible for significant preparation before the panel's visit, including sending extensive briefing materials to each member and arranging for the panel to meet with key local community members and stakeholders in the project under consideration, participants in ULI's five-day panel assignments are able to make accurate assessments of a sponsor's issues

and to provide recommendations in a compressed amount of time.

A major strength of the program is ULI's unique ability to draw on the knowledge and expertise of its members, including land developers and owners, public officials, academics, representatives of financial institutions, and others. In fulfillment of the mission of the Urban Land Institute, this Advisory Services panel report is intended to provide objective advice that will promote the responsible use of land to enhance the environment.

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The panel extends special thanks to Chancellor Dorothy Leland and her staff, along with Richard Cummings, Tom Lollini, Phil Woods, and Sara Zimmerman from the Office of Planning. In addition, the panel would like to thank the

UC Merced faculty and staff, the city and county staff, elected officials, and other community members who participated in the ULI Advisory Services interview process.

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Introduction and the Panel’s Assignment

A DECADE AGO, when this institution was still embryonic and not a shovel of dirt had been turned, the Urban Land Institute was called in to advise on the planning and development of the Merced campus as the newest addition to the University of California (UC) system.

Building a new research university “out of the ground” is an immensely ambitious goal under any circumstances. Building this campus in the middle of California’s food basket, in a rural region without the traditional adjacencies and support of urban services added additional challenges, financial and otherwise.

What the panel has found “on the ground” is a stunning testament to the vision and determination of the Regents, the campus leadership, faculty, staff, and students over the last ten years. The scale and quality of the campus are remarkable. The university has accomplished much in a relatively short time.

Today, for a combination of reasons, largely external but also internal, the campus is at a crossroads, challenged by market and institutional forces to grow, yet constrained in its capacity to deliver the necessary facilities to accommodate that growth.

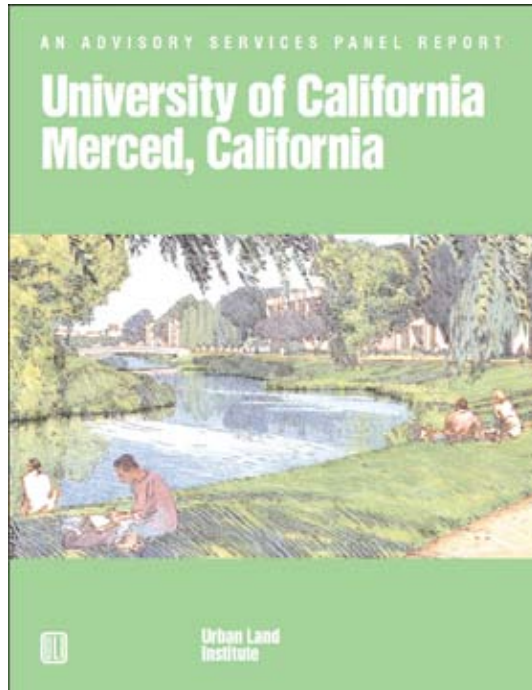
- The United States has endured the most severe economic crisis in 80 years.
- California was particularly hard hit by the falling tide, and within the state this region was severely affected, remains so, and is just beginning to show signs of reemergence.
- All elements—consumer demand, credit markets, and government policy makers—of the support systems to traditional real estate development were deeply shaken.



The UC Merced campus has come a remarkably long way in just ten years.

- The state of California, as a result of the national economic recession and through a combination of structural factors and policy choices, has been taken to the financial brink and as of this writing stands on the verge of bankruptcy.

Taken together, these factors require a “reset,” a recalibration of goals and timelines, and a reexamination of priorities and methods. A successful reset needs an unbiased review of past assumptions and current goals, plans, and practices. This must be accomplished with a critical and discerning eye for opportunities that can realign past thinking to current realities and past practices to state-of-the-art means and methods. To this end, the Urban Land



The ULI Advisory Services program first visited UC Merced in 2002 to provide a framework for campus development.

Institute has returned to UC Merced to help find new paths for campus growth in the light of current and projected future circumstances.

It is worth revisiting the tasks put to the original ULI panel. That panel was asked, in part, to help the university do the following:

- provide a setting that through its beauty and ambience promotes a contemplative spirit and intellectual growth, as well as a sense of place, ensuring ease of interaction among faculty, students, and staff;
- embody principles and practices of the 21st century, including state-of-the-art technology, access to global business, and research; and
- achieve a high level of resource conservation and environmental preservation, making the campus a model for sustainability, and develop land use patterns that respect the land, water, and natural resources of the site.

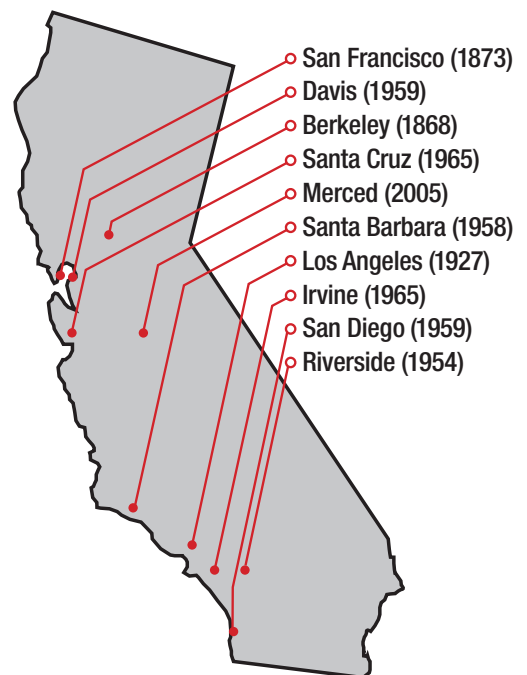
Toward these objectives, UC Merced has achieved remarkable success. In the intervening ten years, however, many

of the assumptions about how the campus would evolve have already required modification because of environmental constraints; now new financial constraints require a more comprehensive review of past assumptions and current implementation strategies. To this end, the Urban Land Institute was pleased to return to Merced to offer from the panel its critical eye, insight, and broad experience as a constructive, consensus-derived contribution to the next phase of growth in the evolution of this great campus and institution.

UC Merced within the UC System

The ten-campus UC system is the nation's largest and most prestigious higher education institution. Founded in 1868 in Berkeley, the system has expanded over time to meet the needs of the state and currently comprises ten campuses. UC Merced is the newest campus, opening in 2005 with 838 students. It is the first campus built in the 21st century, and the system's first campus in the San Joaquin Valley.

The University of California system covers the entire state.



The panel's discussions with the UC Office of the President (UCOP) clearly revealed a strong commitment to UC Merced and to its timely buildout. UCOP leadership greenlighted the use of innovative financing, facility programming, and project delivery to foster the scaling up of the campus.

Despite its recent establishment, UC Merced is one of the university's most vital campuses in terms of providing access to underrepresented minorities, students from low-income households, and first-generation college learners. In percentage terms, UC Merced outranks all other UC campuses in American Indian, African American, and Chicano/Latino student representation. Of UC Merced undergraduates, 58 percent are first-generation college learners, and approximately 60 percent of UC Merced students are eligible to receive means-based Pell Grants—the highest percentage in the system.

In summary, UC Merced serves as a critical pathway to higher education for California's ethnically diverse and low- and moderate-income students. Looking forward, UC Merced's success is clearly a critical element in driving California's economic productivity and prosperity. For the region to thrive in the 21st century, UC Merced must thrive.

Existing Economic Conditions

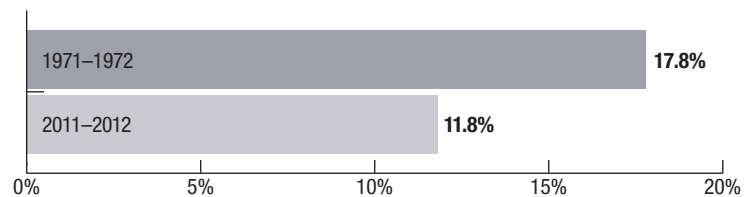
When the last ULI panel visited Merced, California, in 2002, the economic climate and financial environment of the nation's capital markets was very much different. Although the depth and breadth of the December 2007–June 2009 national recession affected all cities and counties across the United States, the impact of increased residential foreclosures, much higher unemployment, limited availability of secured and unsecured credit, and historically low average household incomes in Merced County and the San Joaquin Valley was especially severe. Coupled with the harsh reality of reduced tax revenues to the state's coffers and statewide cuts in public funding for higher education, a perfect storm arose, severely dampen-

ing the high expectations of the proposed land use plan for the growth of UC Merced.

Traditional Sources of Financing

Over the past 40 years, the percentage of state higher education expenditures allocated to the state's general fund has decreased from 17.8 percent during fiscal year 1972 to 11.8 percent in fiscal year 2012.

Higher Education Expenditures as a Percentage of Total General Fund Expenditures, California, 1971–1972 versus 2011–2012



Source: Public Policy Institute of California, as reported in the Urban Land Institute Briefing Book prepared by the University of California, Merced.

This decline in state funding for higher education has forced the state's institutions of higher learning to pass rising operating expenditures on to its students in the form of higher tuition (see table 1). Table 2 compares the UC system and the California State University system tuition increases with those of comparable public institutions across the United States.

Although the demand for education in the UC system (as measured by the number of annual student applications) continues to exceed the supply of education provided by the UC system (as measured by the number of annual students accepted into the system), the UC Merced campus is particularly vulnerable because it has not yet reached its full campus buildout. As long as the planned growth and development of the UC Merced campus is constrained by a lack of capital funding by the state of California, the limited space currently available on campus will not allow UC Merced to reach its enrollment goals.

Table 1
General Fund Support for Higher Education, California, Fiscal Years 2007–08 to 2012–13 (Millions of Dollars)

	From 2007 to 2013							\$ change	% change
	2007–2008	2008–2009	2009–2010	2010–2011	2011–2012 ^a	2012–2013 ^b			
CCC	\$4,272.2	\$3,975.7	\$3,735.3	\$3,994.0	\$3,276.7	\$3,740.2	–\$532.0	–12.5	
UC	3,257.4	2,418.3	2,591.2	2,910.7	2,273.6	2,570.8	–686.6	–21.1	
CSU	2,970.6	2,155.3	2,345.7	2,577.6	2,002.7	2,200.4	–770.2	–25.9	
GOBDS	496.2	591.4	762.0	809.3	724.9	330.8 ^c	–165.4	–33.3	
Other	879.4	900.4	1,053.6	1,261.3	1,489.5	576.7	–302.7	–34.4	
Total	\$11,875.8	\$10,041.1	\$10,487.8	\$11,552.9	\$9,767.4	\$9,418.9	–\$2,456.9	–20.7%	

Source: Legislative Analyst's Office, The 2012–2013 Budget Analysis of the Governor's Higher Education Proposal, February 8, 2012.

Note: CCC = California Community Colleges; UC = University of California; CSU = California State University; GOBDS = general obligation bond debt service; Other = Hastings College of the Law, California Postsecondary Education Commission, and California Student Aid Commission.

a. Revised.

b. Proposed.

c. For UC, CSU, and Hastings, the governor proposes to move GOBDS (totaling \$388 million) into each unit's base budget.

Table 2
Tuition Increases by Type of Public Institution, California versus United States, 2007–08 to 2010–11

Type of institution	2007–2008	2010–2011	% change
<i>Research universities</i>			
Average for UC campuses	\$7,533	\$11,305	50
Rest of U.S. comparison campuses	6,899	8,526	24
<i>Nonresearch universities</i>			
Average for CSU campuses	\$3,494	\$5,139	47
Rest of U.S. comparison campuses	5,656	6,708	19

Source: Hans Johnson, Defunding Higher Education (San Francisco: Public Policy Institute of California, 2012), Technical Appendices, page 3, tables B1 and B2.

Current Financial Climate for Capital Borrowing

The nation's (and by extension the state of California's) recovery from the last national recession has taken longer than expected, with unemployment rates remaining in the 8.0 to 8.5 percent range. Gross tax receipts collected from all revenue sources continue to remain below their peak levels prior to the last national recession. These reduced

aggregate tax receipts coupled with adverse economic indicators (e.g., unemployment rates) have lowered the credit ratings of selected states, forcing the cost of capital borrowing in those states to rise. The UC system's weighted average cost of capital borrowing (at an average of 4.0 percent across all credit facilities) is higher than that of public universities in other states.



The ULI panelists toured the campus, met with the university community, and developed this report on site in Merced.

California's lower bond rating combined with its higher cost to borrow capital has limited the amount of capital available (in the form of general obligation bonds and lease revenue bonds) to fund the construction of new academic, research, administrative, and other buildings and infrastructure on the campuses of its public universities. Although the UCOP has expressed a strong commitment to the UC Merced campus, the growth of this campus is constrained because public funds are limited. Thus, the UC Merced campus is forced to seek alternative and creative nonstate sources of funding to finance its planned growth and development.

The Panel's Assignment

The overarching question was one of capacity. Given current conditions, the university, in its own words, "requires a path to the most cost-efficient and programmatically effective means to meet its capital facility requirements in order to achieve a 10,000 student enrollment by the year 2020," and identification of those means.

In addition, the university asked that the panel address specific approaches it has already been exploring.

Question 1: Alternative Delivery Options

Do cost-effective alternative approaches exist to develop the main UC Merced campus consistent with the 2009 UC Merced Long Range Development Plan (LRDP)?

Question 2: Alternative Financing Options

Are nonstate public, private, or other funding sources or financing mechanisms available that UC Merced could use to achieve campus objectives, whether on or off campus?

Question 3: Revising the 2009 Land Use Plan

Should the UC Merced 2009 LRDP be revised, given the economic circumstances of the state, the anticipated slow pace of capital funding through the traditional capital-outlay process, and the potential legal, regulatory, and cost consequences of such action?

Question 4: Distributed Model

Does an interim "distributed model" option exist that could contribute to accomplishing UC Merced's 2020 goals in a more cost-effective manner?

If so, then

- What is the optimum approach to pursuing this distributed model?
- What functions are appropriate for placing off campus?
- What implementation strategies might be employed to develop them?

While the panel addressed these questions, additional opportunities that could help pave the way toward meeting enrollment goals were also found through the research and discovery process.

Summary of Recommendations

The time of planning is over; strategic decision making and actions are needed to deliver the program for UC Merced to grow. The following recommendations are designed as a series of implementation steps and will build momentum and create numerous benefits and opportunities. These include quickly unlocking the value of the university's land assets, capitalizing on an existing captive demand, leveraging existing and using new sources of funding, and finally, adding value to the university's real estate holdings. Each is discussed in more detail throughout the report.

Step 1: Get Real Estate Expertise

Hire a real estate professional at the senior staff level who reports directly to the chancellor, or form a 501(c)(3) single-purpose entity whose sole purchase is delivering real estate, buildings, and infrastructure that fulfill the needs of UC Merced.

Step 2: Solve the Infrastructure Problem

Solve the problems of annexation into the city, future service needs, and potential traffic mitigation with the city of Merced, Merced County, and key surrounding landowners by reaching revised agreements that reflect the current conditions of the campus and its projected growth. This step is likely to be the linchpin in the entire development process and must be tackled and resolved quickly and efficiently.

Step 3: Develop a Strategic Plan for the Brand

As a prelude to any real estate decisions, develop a strategic plan that outlines the future direction of the university's academic mission, heightens the university's strengths, and differentiates the university within the marketplace.

Step 4: Identify Immediate Building Projects

Revisit all the planning studies done to date and identify specific projects that use the existing infrastructure or that require minimal infrastructure investment for their delivery. This is likely to necessitate swapping uses within the LRDP to target the "low-hanging fruit."

Step 5: Find Money

Match and seek out appropriate funding and delivery mechanisms for the chosen projects. This step includes implementing an active fundraising campaign, targeting new industrial partners, and creating public/private partnerships (PPPs).

Step 6: Evaluate Each Project Using the Guiding Principles

Does this decision support the UC Merced brand, serve as a catalyst for private or university development, and increase the value of the university's existing or future assets? Can the requirements of this project be delivered using less space, less land, and lower costs in a cheaper and faster way? What is the best (fastest and most cost-effective) method to deliver this program?

Step 7: Build

Use the most appropriate strategies in the toolkit to design and build high-quality, sustainable buildings using the best method and construction type in the quickest time frame possible. Test decisions, delivery mechanism, and relationships throughout the process. Use the process as a way for the university to learn which strategies fit best and work for each product type and programmatic need. Change if needed on the next project.

Issues and Opportunities: External and Internal Relationships

AS WITH ANY MAJOR INSTITUTION, the university is at the center of a complex network of relationships with both external actors and internal departments and staff. Making these relationships more fruitful and efficient is key to success in the future.

External Relationships

Maintaining an effective working relationship with government and business partners is critical to the success of an academic institution. UC Merced is particularly dependent on these relationships for its near- and long-term expansion. The environment that UC Merced faces today, as it strives to grow to 10,000 students, is very different from what it was at the time the initial campus was developed.

- The overall economic climate has deteriorated significantly, diminishing the capacity of all key stakeholders to deliver the next phase of development.
- Investment capital and staff resources have been limited by reductions in state and local governments.
- The players have changed. Most of the individuals who were in key positions at the university and in city and county government for the first phase of UC Merced are no longer in the same positions.

The extraordinary achievement of winning the UC campus for Merced and successfully developing its first phase would not have been possible without successful collaboration among local, regional, business, and community stakeholders. In this new context, the myriad entities and individuals needed to deliver the next phase of UC Merced must work together in the same collaborative and coordinated way they did to win and deliver the campus.

Regional Considerations

Although Merced competed with other communities in the San Joaquin Valley for the right to host the UC campus, after the decision was made, leadership throughout the region rallied to support the new university. The goal was to create a university for the entire underserved and underdeveloped San Joaquin Valley region. Commitments were made to locate academic and support elements of the university in cities other than Merced, including Fresno and Bakersfield. Interviewees indicated that these efforts have not been sufficient and, because of this, the region has yet to embrace UC Merced.

The success of UC Merced will be greatly enhanced and accelerated if better relations can be developed with communities throughout the San Joaquin Valley. An enhanced regional presence can be achieved through better outreach



The city of Merced and the county of Merced are integral partners in the university's growth.

programs and does not necessarily require distributing campus facilities throughout the region.

City and County Relationships

The fates of UC Merced and the city of Merced are inextricably linked. Many panel interviewees indicated they believe that the current quality of life, local workforce capacity, education, amenities, and so on in the city of Merced challenge the growth of the university.

Key services and infrastructure required by the university must be delivered by the city even though the campus is not currently within the city limits. UC Merced is therefore required to work closely with both the city and the county of Merced, which frequently have conflicting priorities and objectives. Developing the next phase of UC Merced requires that the university, the city, and the county work together more effectively and with a common purpose. They must increase the frequency and enhance the quality of their communication and work in a more collaborative way. Currently, monthly meetings are held by the city, the county, and the university to ensure that communication among them is maintained. These meetings have yet to address the obstacles to UC Merced's growth, such as accelerating the annexation of the campus by the city.

Local and Business Community Relations

Merced is a relatively small community compared with the others in California that are home to a UC campus. UC Merced's presence therefore has enormous potential to enhance the city's economic performance and quality of life. Unfortunately, the university so far has fallen well short of this potential and the community's expectations.

As noted in the 2002 ULI panel report, this campus requires partners cooperating in new ways—many think that has not happened—and UC Merced does not use strong community leaders who have been committed to it since the beginning to get this done. One interviewee commented, “Merced is the tiny little place that fought the big guys and won this campus. Now, we have to act like the big guys to deliver on the promises, which takes working together.”

Relationships with the local business community and residents are not as strong as they could be, and UC Merced has yet to exploit the potential of this support. Most local business leaders and residents have not been to campus and have little sense of UC Merced's mission and the activities on campus. The remote location of the campus clearly contributes to the challenge of relations with the community. In addition, the fact that a high percentage of local residents have not had a university education themselves may contribute to a sense of intimidation or a lack of willingness to engage with the university. These factors accentuate the need to make enhancing relations with the community a high priority.

Adjacent Landowners

The long-term development of the campus surroundings depends on high-quality collaboration with the owners of land to the immediate south and west of the campus site. These individuals and entities have a direct interest in the continued development of the UC Merced campus. Development on their properties using private capital could be an important component of solving the space and student housing needs of UC Merced. Some common points of interest exist with the university on issues such as annexation and provision of infrastructure. However, currently most of these stakeholders feel “somewhat in the dark” regarding UC Merced's plans and priorities. Some also think they are seen more as competitors than potential partners.

Industry Partners

Today's research universities depend on strong partnerships with private sector entities to help fund research operations and facilities and to disseminate that research to a worldwide audience. Relationships with industry partners who could be vital to the development of UC Merced's research capability remain embryonic. This situation seems in part to stem from lack of a clear research mission or brand for the university as well as lack of resources to build such relationships. Attracting private sector capital to help fund the growth and expansion of the UC Merced campus is one of the few funding sources currently available. However, the lack of a defined agriculture program



The agricultural industry in Merced County and the larger San Joaquin region can be a strategic partner to UC Merced even if the university lacks a dedicated agriculture program.

at an institution that is perceived to be in the heart of the most important agricultural region in the nation inhibits attraction of agribusiness money.

Perception and Identity

Underlying the challenge of building better relationships with all the stakeholders described is the lack of a clear vision of UC Merced's "brand." This absence of a coherent message puts the university at a competitive disadvantage, compared with its more mature sister campuses in the UC system.

The university is also handicapped by a negative perception of the city of Merced. The decline in the city's fortunes following the closure of Castle Air Force Base, high unemployment, high crime rates, and low educational attainment of local population all contribute to this negative perception.

Internal Organization

In addressing the internal organizational structure of UC Merced, the ULI panel became aware that the university lacks analytical resources to shape and design effective and timely decisions concerning real estate and facilities. Given the current organizational structure, a number of obstacles hinder good decision making.

The panel identified the lack of qualified real estate strategic thinking and of quantitative and qualitative analysis to inform decisions concerning the following:

- Construction procurement and infrastructure investments;
- Off-site leasing and acquisition; and
- Short- and long-term real estate investment.

The panel observed that numerous senior administrators are involved in discussing and evaluating facility and space issues, but timely and cost-effective decisions are hit or miss and therefore costly and wasteful of time for the university.

When decision making is assigned to biased or inexperienced participants, a decision such as it "just doesn't quite feel right" or it "won't solve everything we need" is often the outcome. The UC Merced organizational structure does not produce confident decisions, and therefore many decisions falter or fail to launch. The panel calls this "implementation inertia."

The panel interviews revealed a disconnect between those who plan and implement real estate and facility decisions and those who have to live with the consequences of those decisions in the day-to-day operations of university real estate and facilities. It was not apparent that anyone was held responsible for real estate and facility decisions, and therefore little accountability exists for the realization of appropriate returns on investment for UC Merced and the UC system. Given the years that may be required to see the results of decisions concerning real estate, the university must put in place an accountability system for these major million-dollar decisions.

Finally, the changes in tenure in the chancellor's position (three chancellors in eight years) have created their own issues for the character, speed, and impact of decision making affecting the development of the campus. These changes in leadership invariably lead to difficulties in changing the direction of plans. On the positive side of leadership change, the entrance of a new chancellor provides the opportunity to learn from the past and quickly put definitive course corrections in place that can hasten more informed and efficient decision making.

Issues and Opportunities: Planning, Programming, and Development

ALTHOUGH THE UNIVERSITY HAS ACHIEVED healthy enrollment and partial campus buildout with its current approach to planning, programming, and development, a more focused and efficient strategy is needed to meet long-term enrollment and programming goals. The panel believes these goals can be achieved by carefully considering building operations, real estate strategy, and the sustainability agenda.

Sustainability

Despite its greenfield location, UC Merced has taken a careful and thoughtful approach to the planning, development, and delivery of an environmentally sustainable built environment. The level of quality, combined with energy

efficiency, net-zero commitments, and green building certifications, makes UC Merced one of the most sustainable campuses in the world. Buildings, however, do not make a holistically sustainable campus or organization. Although sustainability and carbon strategies are very well put together, campus visits provided the panel with the feeling that the institution's implementation of sustainability seems to be shifting toward disconnection from its commitments and did not have a holistic (social, economic, and environmental) implementation approach.

The LRDP mandates high expectations for sustainability to underpin the university's brand—vision, goals, and objectives moving forward—setting the stage for the university to become a leading provider of sustainability-focused and interdisciplinary education and research degrees and programs. However, because the 2009 LRDP focuses on buildings and infrastructure and not on overall macrolevel campus operations, it does not provide the policy and management guidance to achieve overall sustainability goals. Additionally, the campus's Sustainability Strategic Plan (spring 2010), which is excellent, does not seem to be used to its fullest extent, particularly with respect to campus operations.

The following sustainability issues, which appear to be tied to a lack of funding and commitment by senior management, were uncovered and if not addressed could jeopardize the university's well-deserved sustainability accolades:

- Sustainability strategies are out of date, and no mechanism is in place to provide for accountability, transparency, or education to broader populations on and off campus.
- During design and construction, buildings are being looked at individually at a snapshot in time rather than



The physical plant is state of the art, but the panel believes a more holistic sustainability strategy is needed.

for their life cycle and how they must fit into the broader campus beyond construction.

- The campus is not sufficiently assessing ongoing operations and maintenance.
- Life cycle costing and end-user consultation throughout the process are absent.
- Delivery of new buildings is often behind schedule, and long-term whole building commissioning is not taking place. Aside from operational maintenance issues that occur, consistent and ongoing performance benchmarking is absent.
- Like many universities in the UC system, UC Merced is finding that ongoing facility maintenance is expensive. Although the physical stock is relatively new, under-spending on maintenance over time will generate a growing deferred maintenance backlog. (The panel was shocked to learn that a deferred maintenance backlog already exists for the campus.) This is not environmentally sustainable and will degrade environmental performance of UC Merced's acclaimed buildings and infrastructure.
- The remote campus location is creating significant traffic mitigation issues, including high off-site traffic infrastructure costs, parking issues, and lot costs. The university is trying to reduce vehicle miles traveled by single-occupant vehicles by offering a very good bus shuttle system; however, the buses seem to be under or inappropriately used (for example, by staff parking at Castle Airport Aviation and Development Center, in Atwater, and riding to main campus) and expensive to run because of frequency and trips to Castle.

Off-Campus Facilities

The university campus currently occupies a number of buildings off campus, as an owner and a tenant, to satisfy both its programmatic space needs and its desire for a presence within the greater San Joaquin Valley community. These facilities vary in size and function, as well as distance from the campus. In aggregate they amount to



UC Merced attempted to solve some of its parking and traffic mitigation issues by instituting a shuttle-bus program.

roughly 246,000 square feet with an annual base rent of \$960,206, not including the Fresno property. Although they have satisfied the early needs of a rapidly growing university and campus population, the opportunity exists for a more consolidated approach to off-campus facilities that more appropriately meet UC Merced's mission and identity as a 21st-century research institution.

Castle Airport Aviation and Development Center, in Atwater, provides office, classroom, and research laboratory space for the university. It is an 86,509-square-foot building, currently being leased. The university has invested more than \$6 million into the fitout of this space to meet its functional needs. The primary advantage to the Castle site is the availability of leasable space and vacant land, a portion of which may have access to utility infrastructure. A disadvantage to the property is its distance from the main campus relative to its use, especially by undergraduate students, and the transportation and associated costs that this distance begets.

Because the university does not own the space, all current and future investment in the property is value that UC Merced will not capture. The quality of the building and its



The distance of the Castle facility from the main campus and its lease structure are problematic for the university from both financial and programming perspectives.

Opportunities for off-site facilities downtown for back-office functions, such as the Mondo Building, should continue to be capitalized on to create a critical mass of activity in downtown Merced.



infrastructure do not communicate the same identity of place and experience as does that of the main campus. In addition, Castle does not increase the university's presence within the broader community.

UC Merced Fresno Center, in Fresno, is more than 50 miles from the main campus. The 63,911-square-foot facility is currently used as an outreach center for UC Merced's Educational and Community Partnerships. The university owns the property, which is home to 40 staff members but no faculty. The facility has potential to provide the main campus with an educational outreach program that is not yet fully realized and could satisfy a small measure of needed future academic space.

Several buildings are being leased in the city of Merced for office and conference space. The Mondo Building houses some of the university's back-office administrative functions. Although relatively small, it demonstrates the opportunity for certain programmatic elements to be effectively located off campus. At present, the Mondo Building is a fairly isolated and introverted participant in the city. However, it is located on one of the most prominent downtown

streets and has contributed to some measure of stability within the existing urban fabric.

Portions of the Promenade Center are being leased and used by the university's Physical Planning, Design and Construction Department.

On-Site and Off-Site Infrastructure

During the panel's meetings, most stakeholders interviewed voiced concern over infrastructure and its perceived construction costs. The resolution of annexation and on- and off-site infrastructure issues is the major and critical impediment to building out the remaining campus and realizing the goal of 10,000 full-time-equivalent students. A significant issue uncovered by the panel is that rigorous analysis, and identification and evaluation of alternative project delivery strategies for on- and off-site infrastructure have not been performed to shape the implementation of campus development.

On Site

On-site infrastructure costs do not seem to be out of line with industry standards; however, the infrastructure installed to date has been done on a building-by-building basis, thus limiting the university's ability to achieve economies of scale to drive down construction costs.

- The lack of robust planning for capital expenditure infrastructure financing is inappropriately loading infrastructure costs on individual buildings rather than allocating costs to facilities across the campus.
- Water services provided by the city are derived from groundwater sources and are not renewable. Left unaddressed, this is a significant reputational threat.

Off Site

The proportional off-site infrastructure costs imposed on the university by the city and the county for its share of off-site infrastructure are based on the campus's full buildout projections of 25,000 students.

- Given UC Merced's revised medium-term buildout to 10,000 full-time-equivalent students, these infrastruc-

ture cost allocations should be revised. For example, current wastewater facilities may be adequately sized to meet the 10,000 medium-term target. Given the new growth target, the university should revisit capital commitments for the Campus Roadway and Bellevue Road.

- As the university renegotiates its off-site infrastructure commitments, it should also develop a strategy to guide its decision on whether to be annexed into the city.

Physical Campus: 2002 Vision versus 2009 Plan versus 2012 Reality

The campus is early in its growth and development, growth that has been interrupted by a significant economic decline that has affected the entire UC system. Some of what is currently observed in the campus's development may be attributed to its relative youth as well as the economic circumstances in which the university finds itself.

Many of the recommendations of the original ULI study have been followed, and most, if not all, still remain relevant.

The university has been very prudent in adapting and evolving its master plan up to this point, incorporating new contextual and circumstantial information into the plan on a regular basis. Current space needs, program requirements, economic constraints, and delivery methods will influence the existing plan and cause it to evolve.

The success of the initial buildings and plan is evident and should not only be applauded but also established as the benchmark by which all future construction is evaluated.

At present, the entry sequence to the site includes several parking lots, a well pumping station, and a one-story Early Childhood Education Center. Although the campus is stunning from the more centralized locations, the existing entrance is not the initial image the university wants to project.

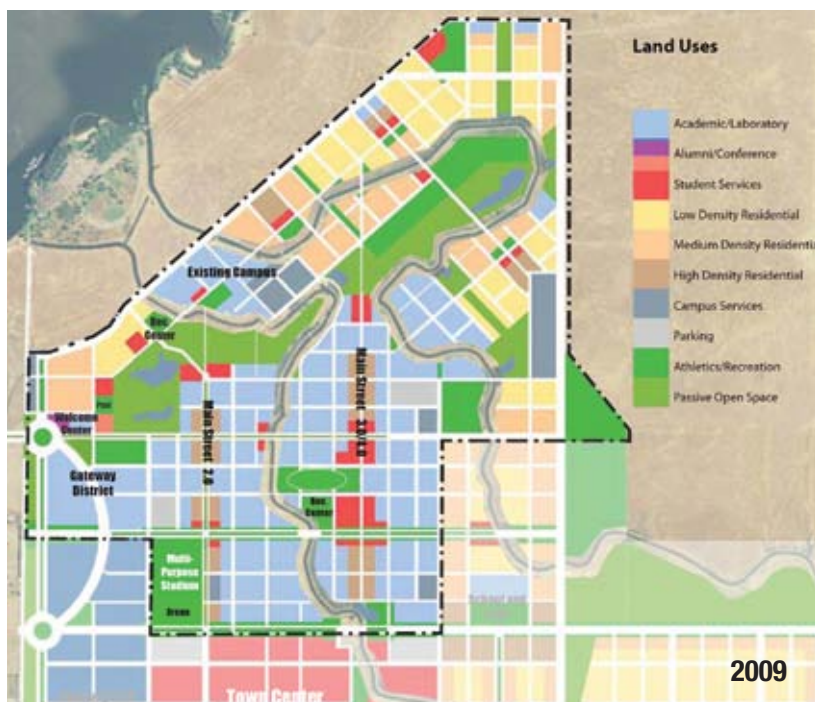
One of the major features of the site, Lake Yosemite, is isolated and remote. Although environmentally sensitive lands lie between the current campus and the lake, the

lake and its associated canals—water features—are critical components to the site as a whole. This feature also holds some environmental risks (flooding) to adjacent properties in the event of inundating rains.

The student community facilities are inadequate in some respects. Access to structured and unstructured gathering space for community building is limited. Additional, and necessary, recreation activity space is needed (swimming pool, basketball, and tennis courts).



UC Merced has gone through two long-range development planning processes, first in 2002 and then in 2009. The two plans reflect economic and environmental realities and have been able to tolerate flexibility as conditions change.





Lake Yosemite and the canal network on campus are recreational assets that should be taken advantage of more completely.



Student Housing

Students at UC Merced are housed in a mix of off- and on-campus accommodations. In keeping with the university's sustainability goals, all on-campus housing is either LEED (Leadership in Energy and Environmental Design) certified or has similar features. Off-campus housing is extremely affordable because of the local market, but comes with challenges.

On-Campus Housing

The residence halls at UC Merced are well-planned, sustainable buildings, along the walkable linear spine in the heart of the campus. Together, they create a series of active, shared indoor and outdoor spaces that provide a sense of community and proximity to each other. They are also a major selling and differentiating factor when compared to older housing stock at other UC campuses. As one student mentioned, "One of the reasons I was attracted to UC Merced was because of its resortlike housing."

The university has three existing LEED Gold residence halls—Valley Terraces, Sierra Terraces, and the Summits—and one target LEED Gold hall under construction, the Dome. According to cost comparisons done for the UC Merced Bellevue Development Housing Financials, Valley and Sierra Terraces are both two-story wood-frame construction and cost an average of \$76,260 per bed to build, and the three-story Summits and five-story Dome are both constructed using concrete and steel and cost \$139,639 per bed to build. These buildings took three years and more to deliver from start to finish. In addition, through their placement and design, they do not take full advantage of the potential of the land they sit on.

Sierra Terraces and the Dome are traditional residence halls with shared bathrooms on each floor, limited shared kitchen spaces, community rooms, and grouped laundry facilities. The Summits is similar except it provides mini-kitchens, and Valley Terraces provides private bathrooms. Together, the existing housing provides diverse bedroom configurations (singles, doubles, triples, and quads) for students and diverse building types from ground-floor



walkups to enclosed buildings with elevators. The existing housing stock, however, does not include apartment-style housing with kitchens and bathrooms that would be more attractive to upper-class students, graduate students, or married students.



ULI panel interviews indicate that student housing is currently available only for undergraduate students, with freshman and return sophomore housing guaranteed for students but not a mandatory requirement (85 percent of freshmen live on campus). Demand appears high for the on-campus student housing.



Currently, graduate students do not have an option for on-campus accommodations. This lack has been said to create problems for first-year graduates and international students who are new to the area and have to figure out which neighborhoods are close, have adequate transportation, and are safe to live in.

Given the economic demographic of the students, price sensitivity has been stated as the number-one factor for student housing choices, which results in many students choosing to live in triples instead of singles or off campus. A potential constraint to creating new on-campus housing is the high cost for development and construction, which is then passed on to the end user—the student.

Off-Campus Housing

The university does not currently have any master lease or referral agreements with off-campus apartments but provides an online off-campus database for management companies to list properties for student selection. Students are scattered around the city of Merced, mainly in single-family houses that have become deeply discounted as a result of foreclosures and drops in market rents. The cost of housing is extremely low in the city of Merced in comparison with the campus; rents are \$350 to \$500 per bedroom per month, as compared with monthly rents of approximately \$1,300 for a single and \$1,000 for a quad

Students give high marks to existing on-campus housing, but the structures' placement and design do not take full advantage of available land.

at the university. This price differential would make off-campus housing attractive to upper-class students, even if the supply of on-campus housing were greater.

Available off-campus housing is not close to the campus, however. This reality has resulted in a fragmented distribution of students and lack of community and student amenities for off-campus residents. Some conflicts have arisen, as is normal in college towns, with neighboring residents who did not expect to be living next to students. This has also caused issues with ease of transportation to the campus.

Many students rely on the free UC Merced bus transportation system, CatTracks, to reach campus and the Merced County Transit "The Bus" to move around the city. Unfortunately, CatTracks does not run continuously and has been known to reach capacity during peak periods. The presence of students in these single-family communities also does not promote the idea of walkable neighborhoods or the use of alternative forms of transportation.

Strategies for Growth

THE ULI PANEL WAS ASKED TO MAKE recommendations on the most cost-efficient, programmatically effective, and best approach for the campus to meet its capital facilities requirements to achieve a 10,000-student enrollment by 2020. In this effort, the panel has developed a set of guiding principles for the university to use when making real estate decisions that also inform the specific recommendations and larger development strategy in this section.

Guiding Principles

These principles capitalize on the brand of the campus and reflect the values of the 2009 LRDP while being grounded in the realities of the current economic market and fiscal constraints of the UC system. They are intended to promote action. They also provide the opportunity for UC Merced to reset the clock to balance short-term needs and long-term goals while providing a litmus test for judging all future planning and real estate opportunities. Activities carried out to implement each principle should meet the “test” indicated.

Differentiation

Every real estate and planning decision should reinforce the UC Merced brand. UC Merced has the distinct advantage of being the newest campus of the 21st century, a model for the modern campus where students, faculty, and staff interface in new ways. The university should capitalize on opportunities that allow the campus to differentiate itself within the UC system and attract different users, sponsors, and partners. Such actions include distilling and boosting the identity or brand of the campus, strategically focusing on sustainable buildings and landscapes, supporting a diverse student population, embracing collaborative and shared spaces, using technology as

an advantage, boosting the local economy, and creating premium education at an affordable price point.

Test: *Does this decision support the UC Merced brand?*

Engagement

UC Merced real estate holdings, leases, operations, and outreach activities should support and nurture the city of Merced first and second the San Joaquin Valley region. Land planning decisions, both temporary and long term, should be evaluated in terms of their catalytic effect on the community; ability to raise property values over time and create places that people want to work, live, and play; cultivate a 24-hour community; enhance safety and security; and boost the local economy. Off-campus decisions should be evaluated in terms of enhancing the university’s fiscal strength, meeting long-term needs through strategic decisions and placements; and creating a welcoming university presence and outreach within the community.

Test: *Does this decision serve as a catalyst for community or university development?*

Efficiency

The university has a certain amount of captive demand and the need for various kinds of office, academic, and lab space as well as housing, including complementary off-site markets. The university has limited shovel-ready land and entitlements with which to satisfy this need. Therefore, UC Merced must view its land and existing buildings as scarce resources. Land selection, building design, construction, or leasing should be evaluated holistically in terms of upfront, operations, and maintenance costs. The life cycle of a project should be analyzed with the affordability to the end user (both students and management staff) in mind. This thinking allows the university to actively pursue opportuni-

ties that optimize the use of existing assets, increase the efficiency of new buildings, densify development on existing and future parcels, create 24/7 shared uses, make more strategic land use decisions, and are more meticulous and disciplined in project underwriting and execution.

Test: *Can the requirements of this project be delivered using less land, building less, and incurring lower costs?*

Innovation

UC Merced cannot afford to operate business as usual. The university must continue to ask itself: “How can we build or do more with fewer resources?” This approach is at the core of true sustainability, one that maximizes not only the environmental resources but also the economic realities and social needs of a project. A project cannot be sustainable if it does not reduce the university’s environmental footprint, does not meet the needs of the community, and is not affordable to the end user. UC Merced must seek innovative ways to make sustainability a reality, including tapping into creative, fast, and economical delivery methods; learning from best practices and case studies; fostering multidisciplinary design/build arrangements; leveraging private investment; and aligning strategic partnerships.

Test: *Does a more efficient and faster way exist to deliver this program while maintaining design excellence, sustainable metrics, and end-user needs and reducing life cycle costs?*

Nimbleness

UC Merced must operate with the acumen of a commercial real estate enterprise working in favor of the public good. The 2009 LRDP should be considered a living document, a template that must adapt and grow. The time of planning is over; the development of real estate on the campus should be viewed as a business, embracing the truth that “time kills all deals.” Future real estate decisions should be commercial and disciplined and should cultivate an entrepreneurial spirit. Planning opportunities should have a strong business ethic that drives to the triple bottom line while delivering a shared public purpose. In terms of control, a

key idea is that the university gives up a little to gain a lot; one gain is flexibility. This requires using the best public and private thinking and resources to deliver new assets.

Test: *What is the best (fastest and most cost-effective) method to deliver this program?*

Internal and External Relationship Recommendations

The panel’s recommendations on relationships all have the common goals of increasing synergy and efficiency both internally and externally.

Boost Relationships with the Community: Embracing a Common Destiny

The university’s goal should be to work with its partners—Merced County, the city of Merced, local community and business leaders, and others—to develop a coordinated vision and message for the rest of the world. All these partners must work together more effectively and with a clear common purpose to accomplish this goal. The city, the county, and the university all share the “Merced brand.” Without action to improve this brand, all three will be handicapped in their attempts to attract jobs, investment, students, and growth. Clearly, the substantive



UC Merced should cultivate relationships with the full universe of external stakeholders.



The relationships between the university and the city and county must be transparent and cooperative to develop the Merced vision and brand.

issues behind the perception challenge faced by all three must be addressed in a collaborative effort.

Cooperation with the city of Merced and Merced County.

Create a focused working group of senior representatives from the city, the county, and UC Merced with clear priorities and objectives. This group will make recommendations on the policy, funding, and technical issues that must be resolved to meet UC Merced's growth objectives. The group should have a mandate from their respective leadership and be facilitated by an independent third-party professional.

Communication with the local and business communities.

The biggest hurdle to productive relationships in this realm is transparency. One interviewee suggested that simple things such as a cocktail party or some type of monthly event would "bring residents out to the campus and show them different things the university or students are working on, review plans; having an open Q&A would help."

- Business owners and residents need to be assured that transportation issues will not negatively affect them. Give them facts about what is really happening on these issues.
- Create a campus outreach office downtown to showcase programs and activities at UC Merced.
- Develop a more comprehensive internship program with local businesses for UC students.
- Use problems faced by the city and county of Merced (infrastructure, water, energy, etc.) as case studies in the university curriculum.

Hire a Strategic Real Estate Executive

The KPMG "Presentation of Preliminary Results: Public-Private Partnership (P3) Screening Analysis" points out, in its words, the need for "the Project Champion."

The panel identified this same need and urges the hiring of an experienced real estate strategist to accomplish good organizational decision making in all UC Merced real estate-related matters. This senior level strategist should

- Have an accomplished professional background and evidence a material track record in institutional real estate investment outcomes;
- Possess strong technical analytical skills in the areas of real estate investment analysis and operational pro forma evaluation;
- Provide the university with a qualitative and quantitative methodology for making real estate-related decisions where accountability at the transactional level as well as the long-term results of those decisions is enforced; and
- Include and empower "subject matter expertise" at all levels of real estate decision making that can result in superior decision making. An example would be the early and ample input by housing and dining operations personnel into the planning, design, and budgeting of housing and dining facilities. The larger financial impact of these facilities is in their long-term operational life, and early input and "ownership" by these key campus

professionals can yield long-term financial gains for the university.

Given the magnitude of the impact that real estate and facility decisions make on this new campus, the real estate strategist's importance indicates that he or she report directly to the chancellor.

This critical and urgently needed strategist must be institutionally savvy, understanding how to provide strategic guidance at multiple university levels, and be empowered to establish priorities. This strategist can assist the university in determining optimum delivery methods for real estate and facilities and direct the long-term structure(s) for acquiring or developing real estate and holding real estate investment. Consideration should be given to establishing a real estate foundation, subsidiary, or limited liability company to acquire and hold real estate, facilitate PPP approaches, and provide portfolio-level management of university real estate assets.

Planning, Programming, and Development Recommendations

This section addresses the overall growth and development strategy for the campus. All of these recommendations rest on the foundation of a strategic plan for academic programming. All future decisions—including hiring, building, and branding—should be aligned with this plan.

Sustainability

Based on the panel's review of campus policies and programs, discussions with staff, and site inspections, the panel suggests a number of concrete actions to maintain and enhance sustainability standards:

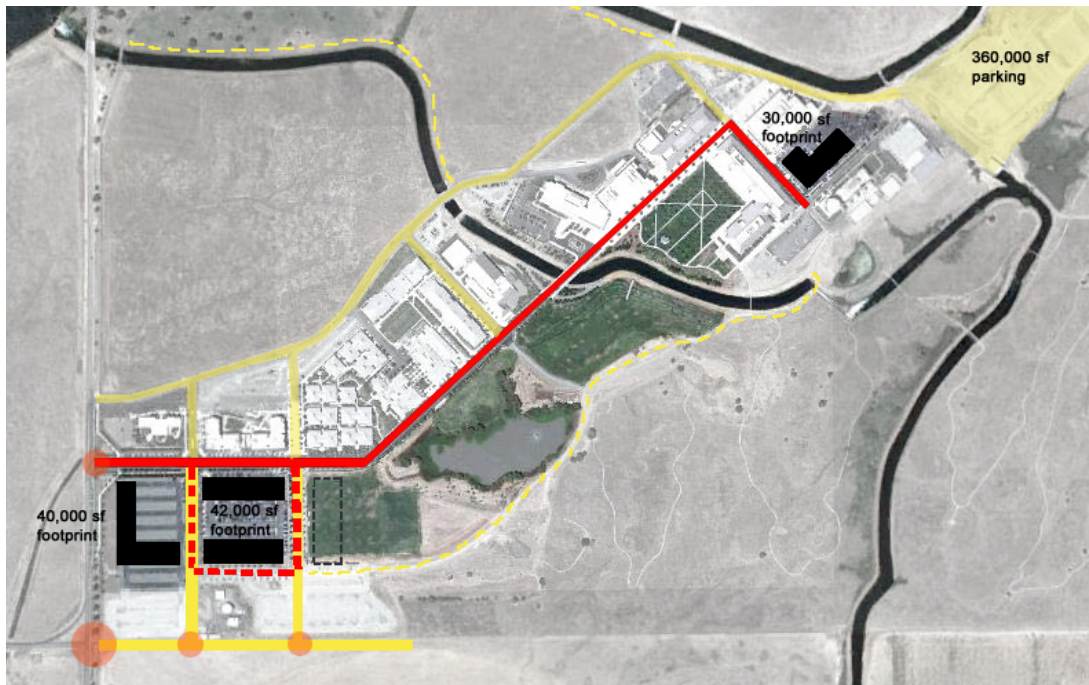
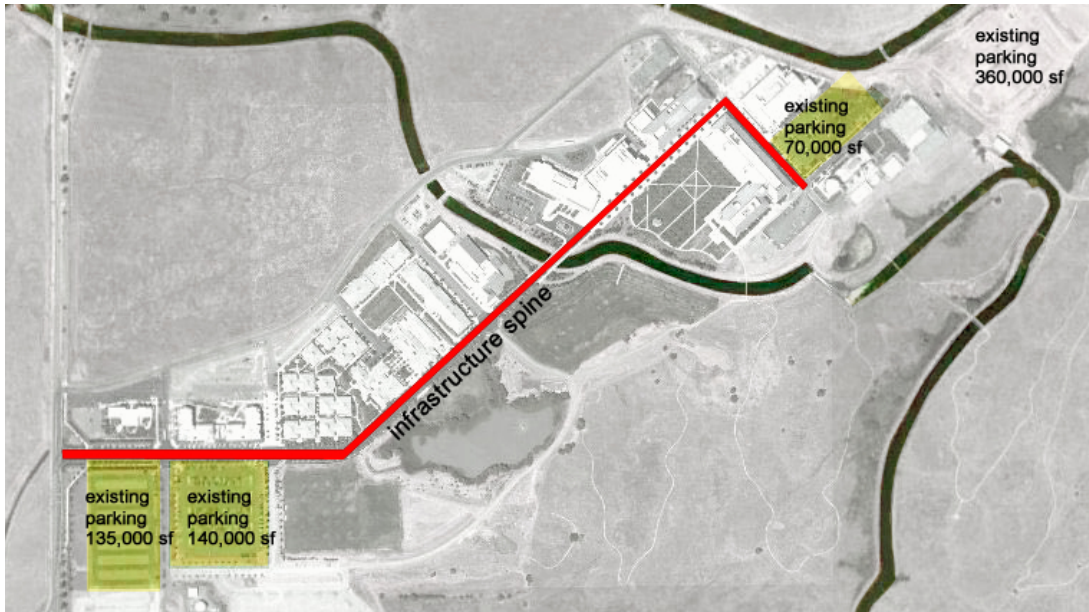
- Modify the campus's sustainability strategy to make it more macro oriented.
- Program time to comprehensively assess the performance of building systems during construction and prior to placing buildings into service, and ensure that baseline performance data are collected and used to monitor performance over time.

- Perform life cycle analysis for each new building constructed, and manage the portfolio as an enduring 100-year asset that will be a living laboratory not just individual structures.
- Engage stakeholders and end users in the design, construction, operation, and maintenance of these high-performance buildings.
- Initiate programs and activities to use campus facilities as a sustainability learning tool and resource.
- Create an economic sustainability policy stating that the university will not defer maintenance to ensure that buildings continue to operate at the peak of environmental sustainability.
- Hire a transportation or parking consulting firm to develop a transportation management strategy and parking strategy and establish a transportation demand management or transport management association to focus on how to make the best financial use of parking needs and commuter vehicles.

Efficient Use of On-Campus Resources

Throughout the panel's information-gathering process, the perception that the campus had unlimited land to build on emerged frequently. This perception, however, is not the reality. The campus is surrounded by vacant—but in many cases environmentally protected—land. Land that is buildable requires substantial and likely cost-prohibitive infrastructure investment.

The panel believes that a decentralized campus model for academics and core student services will not move the university toward its enrollment goals, and the university has recognized through its own self-assessment that it should preserve the limited space on campus for those with direct interaction with students. The self-assessment, which is to be reviewed annually, seeks to maximize the amount of administrative space that can be located in other places. The university has an excellent set of considerations for determining whether to locate a unit or functions off campus. The university has also developed



Available land for development is shown at top; it is primarily located in what are now surface parking lots. At left, the full buildout potential for each parcel is indicated, along with its proximity to the campus's infrastructure spine.

a self-assessment tool for each group to determine office needs over the next three years. The panel encourages the university to implement these tools to their maximum potential and explore every opportunity. The continual reexamination of this scarce resource is imperative.

The university should create a new space utilization plan and consider the following potential modifications that could increase classroom use significantly. This process should include frequent forums with existing user groups to determine needs—in essence, a facility reprogramming charrette.

According to the panel's calculations, prioritizing space for students and central student services could free 80,000 square feet of space. Core leadership offices should remain on campus. Revising the land use plan to maximize infill development opportunities on the existing campus footprint would more efficiently make use of surface parking lots and other underused land already within the campus's original "golf course" footprint, ensuring adequate infrastructure.

Development on campus thus far has often sacrificed density as a short-term cost-saving measure. However, this

Table 3
UC Merced Lease Summary, 2012

Building	Rentable square feet	Lease expiration	Current rent	Occupancy cost	Rent per SF	Transport cost	Tenant improvements	Term	Annual TI expenses	Total effective cost per SF
Castle lease	86,509	7/31/15	\$34,859	\$58,316	\$12.92	\$325,000	\$6,700,000	10	\$500,000	\$22.46
Mondo Building	23,470	5/20/14	\$25,066	\$13,790	\$19.87		\$522,000	10	\$52,200	\$22.09
Promenade ^a	17,418	6/30/14	\$28,987	\$4,518	\$23.08		\$134,000	5	\$26,800	\$24.62
Total	127,397		\$88,912	\$76,624						

Source: "UC Merced Leased Space Inventory Report as of June 30, 2012."

Note: SF = square feet; TI = tax and insurance.

a. Promenade has multiple lease expiration dates.

type of calculation does not take into account long-term costs, such as preparing land for development, building operations, and construction of additional buildings to meet capacity needs. As indicated in the graphics on the previous page, the surface parking lots alone contain 354,000 square feet of buildable land. Based on the panel's calculations, this square footage could provide 450,000 gross square feet (GSF) of academic space, 130,000 GSF for student services, 170,000 GSF of administrative space, and 1,600 beds of student housing. The panel recommends that this misplaced parking be moved off site, with access to the campus through additional shuttle service. This cultural change in mobility will take some time, but it will lead to a more vibrant and efficient campus environment and one that reflects the university's sustainability goals more thoroughly.

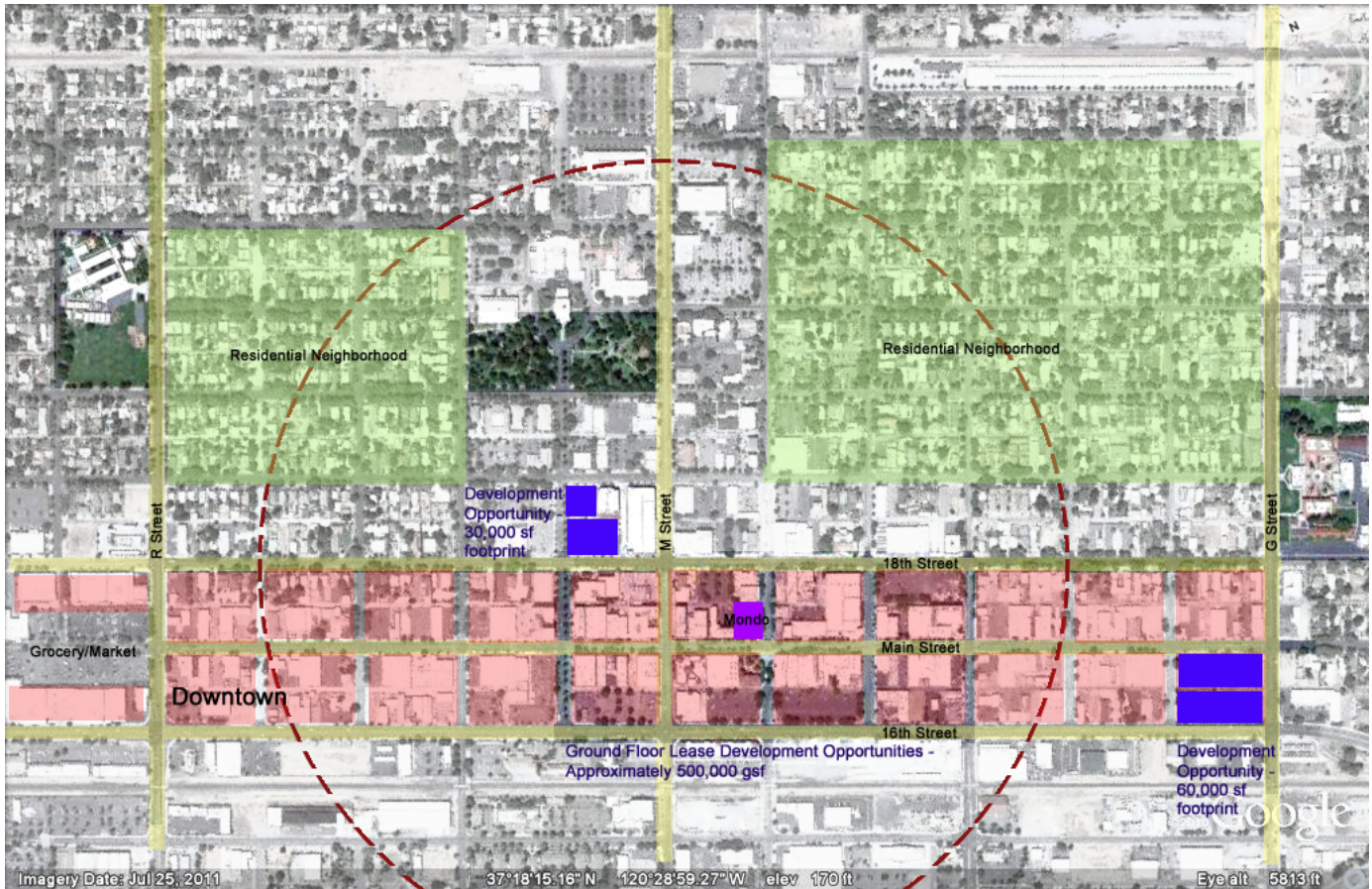
Prioritization of Off-Site Space

Using space on campus more efficiently will result in a growing number of off-campus office space needs. The panel recommends that off-campus space be consolidated in downtown Merced for both its cost-effectiveness and to take advantage of the opportunity the location provides for enhanced community relationships and downtown revitalization. To implement this proposed move of additional administrative functions to off-campus space, certain principles should be followed:

- Concentrate these offices in as few locations as possible to achieve a critical mass of employees and activities.
- Maintain office space quality similar to that on campus to ensure a positive working environment.
- Enhance employee relocation by providing access to free parking (an economic advantage) and considering provisions for child care off campus.

Listening to several members of the faculty and staff, the panel heard the story of their moves through the community. One person spoke of a succession of moves from a former dentist's office, to Castle, to Mondo, to campus, and then off campus again. They embody an incredible spirit affirming the mission of the school to do what it takes to help the university succeed.

In addition to employee considerations, real estate implications must be considered. Where the space is located and how it is acquired have significant cost implications for the university. The panel is concerned that the university is not taking into account the total cost of occupancy when evaluating alternative locations. Particular costs that should be evaluated include required tenant improvements, communications infrastructure, transportation factors, and lease flexibility. Effective operating costs for several of the leased spaces are indicated in table 3.



Thus, total cost to occupy Castle must include base rent, operating expenses, capital costs, and transportation costs. Effectively the cost of providing transportation services to Castle is equal to base rent. The panel recommends that the university prepare to exit Castle at the end of the current lease term, which is July 31, 2015.

The university is a potent economic power in this community. Its ability to strike favorable lease terms should be used to advantage. The panel is aware of certain UC system limitations on leases, but the chancellor can approve leases of ten years or less, providing some flexibility. Purchases or leases with purchase options require approval at higher UC levels. Perhaps this process can be accelerated or waived for a financial model that would work.

Given the current economic climate and the financial needs of the university, certain strategies should be followed:

- Lease to last. As past experience shows, the university will probably be in the space for an extended time.
- Purchase is preferable to lease. Although institutional reasons may make leasing easier than purchasing,

acquisition in these economic times is the best strategy for several reasons:

- Capital improvements made to the space can be amortized over a longer period of time.
- The market is depressed and in the long term price appreciation will be an asset for the university.
- The university's ownership will convince the community, local government, and employees of the certainty of the strategy.
- If the university can only lease, then consideration should be given to other acquisition options, such as lease to purchase, right of first refusal, and fixed option to purchase during the lease.

If the purchase or lease or purchase strategy proves too cumbersome, the university should move ahead as a tenant. A ten-year lease with UC credit should be a financeable opportunity for any landlord. The value of this opportunity should not be wasted. The university should determine its off-campus space needs and understand the type of space required. Some space will require streetfront visibility and easy customer access. Some space will need

Potential lease and development sites in downtown Merced.

open floor plans, and other space may require many hard-wall offices. The standards for the space should also be determined. Remember this is not the campus. With this program, the university can approach the market.

Assessing these options is one of the most difficult steps in the process. Professional advice from sophisticated participants in the real estate market is required. The university should have a number of options through this process: buildings to be built, buildings to be renovated, multiple locations in downtown, or one consolidated space. The following is an initial but by no means comprehensive list of criteria for measuring these proposals:

- Ability of landlord to perform;
- Total occupancy cost:
 - Base rental rate and annual increase, if any;
 - Share of operating expenses (full service to triple net); and
 - Tenant improvement allowance;
- Flexibility for expansion;
- Renewal options; and
- Other landlord incentives.

In just a quick review of the downtown market, numerous alternatives are visible. In fact, one interviewee indicated that everything in downtown could be considered for sale. The university brings to this process the critical elements to make something happen:

- A need for space that must be satisfied quickly;
- The ability to pay a reasonable market rate; and
- The credit of the University of California.

The time required to deliver this space can fit within the university's constrained time frame. There is, however, no time to study the question again. To meet the schedule, the decision to move ahead must be made immediately.

Alternative Financing: Public/Private Partnerships

Among the several approaches to PPPs, the panel's observations and recommendations are based on those approaches that seem to best fit existing circumstances and proposed alternatives.

Input from stakeholder interviews indicated widespread agreement that the UC system's track record (and more specifically UC Merced's track record) in delivering new facilities on time and on budget could be improved. The KPMG study commissioned by UC Merced (May 2012 "Presentation of Preliminary Results") indicates project saving opportunities in the range of 31 percent to 49 percent, or roughly \$96 million to \$155 million below UC Merced's estimated project development costs, by adopting PPP development approaches. In addition, operating expenses per bed for housing could be reduced by between \$400,000 and \$900,000 annually.

Although PPP financing mechanisms often use private sector capital, given the panel's interview with the senior finance executives of the UCOP, the UC system may prefer to use UC capital (because of its affordability and the ability to exercise control over expenditures) coupled with private sector project oversight and development capability and expertise. With this approach, a private sector partner would be expected to not only contractually, but also financially, guarantee adherence to agreed budget and schedule mandates for each project.

A rational PPP approach requires a deliberate process of vetting and selecting appropriate private sector partners. A June 2010 white paper prepared by the Bay Area Economic Council Institute analyzed PPPs for the UC San Francisco Neuroscience Building, the UC Davis West Village Project, and the UC Merced Case Study Plan. The recommendations conclude that if UC Merced elects to enter into a PPP arrangement, then "the best way [for the university to ensure that it has a level of comfort with its private sector partners is] to review all of the assumptions and model logic ... [and] ... to take possession of the model and run it with independent assumptions." Other

PPP models, such as the U.S. Department of Defense's initiative for privatization of military housing, present a PPP structure that is more collaborative, where the private sector partner enters into a long-term partnership with active and ongoing Department of Defense participation. This model or something like it may better fit the needs of UC Merced and should be examined by the university.

A review of the documents provided by UC Merced indicates that the university and the UC system have done extensive research and commissioned numerous studies about the use of PPPs for the delivery of core and noncore campus facilities. Why UC Merced has not implemented those PPP recommendations is not clear. The panel recommends that UC Merced move ahead and use rational PPP approaches for most if not all of its campus facility needs.

Recommendations for addressing PPPs include the following:

- Use the PPP model wherever feasible both on and off campus. This strategy will allow the UC system to focus its capital to fund upfront infrastructure needs or to assist with completion payments to make the ongoing concession payment (lease) more affordable.
- If using alternative project capital, debt and equity investors will be looking for large PPP deals (in the range of \$200 million to \$1 billion). Do not execute PPPs on a building-by-building basis but rather examine ways to deliver building clusters or the entire campus at one time through a PPP.
- Use the credit of the university to guarantee performance (take credit risk), rather than take the role of the primary lender, contractor, and operator for capital construction projects. The UC system should use its capital to fund upfront infrastructure needs or assist with completion payments to make the concession payment (lease) more affordable.
- Focus on joint use facilities (e.g., classrooms in dorms) to gain economies of scale rather than single-purpose individual buildings.
- Work with real estate staff and outside consultants to strategically package projects for potential PPP opportunities. Income-producing projects such as dormitories can be used to offset the largely non-income-producing projects such as research facilities and other academic buildings.
- Authorize KPMG to complete its Public/Private Partnership Screening Analysis schedule; however, an independent market feasibility firm specializing in higher education (e.g., Brailsford and Dunlavey) should be added to the team to provide education expertise that KPMG does not have. The firm selected should complete a feasibility and master plan study for the first phase of bundled PPP facilities to use in the request for proposals.
- The UCOP study's conclusion that the cost and schedule efficiencies for complex building types do not lend themselves to PPP is not consistent with PPP delivery successes around the globe. Specifically, acute care hospitals (complex building delivery) have been a hallmark of the risk transfer availability payment model in Canada, the United Kingdom, and Australia. The risk transfer of delivery, life cycle, and dependable availability (at lower overall cost) is the validated result of PPP. UC Merced should pursue the viability of including its complex buildings such as laboratories in a PPP offering.
- Community North represents an excellent opportunity for the university to recapture its capital costs to build the UC Merced campus. Explore additional financing mechanisms (grants, tax credits, etc.) that may be available to private developers in a PPP structure to drive down costs and render costs neutral to the university over time.

Conclusion

UC MERCED, faces many challenges as it emerges as a research institution for the 21st century. However, the opportunity to be a model for sustainable and innovative campus development and expansion presents itself in the wake of fiscal crisis. Through strategic planning and investments, the university will be able to meet its goals and continue to serve as a leader in the region.

About the Panel

David Scheuer

Panel Chair

Burlington, Vermont

Scheuer is president of the Retrovest Companies. He has over 30 years' experience developing several award-winning residential and mixed-use projects. The company has built a reputation for design quality, environmental sensitivity, willingness to take on complex joint public/private development, and commitment to sustainable development. Scheuer has worked on urban projects in Vermont, Washington, D.C., Sacramento, Portland, and Seattle. Currently, the firm is developing South Village, a 336-unit, conservation-oriented, new urbanist mixed-income housing community in South Burlington, Vermont; the Westlake Center, a public/private downtown mixed-use project in Burlington; and Harvard Commons, an infill apartment project in downtown Seattle.

Scheuer is regarded as a practitioner of smart growth development. He was appointed by Governor Howard Dean as the private industry member of Vermont's Municipal Land Law Review Commission (2001–2003) and serves as an adviser to Vermont's current governor on land use issues.

He attended the University of Colorado, where he was a three-time All-American skier. From 1972 to 1978 he was a member of the U.S. Alpine Ski Team. He did graduate work at the University of Vermont in resource and land economics. He is a former national director of the National Association of Home Builders; a former board member of the Preservation Trust of Vermont and the Fund for Vermont's Third Century; and a founding member of the Congress for the New Urbanism. In 1990 Scheuer was inducted into Lambda Alpha, the National Land Economists Society. He is a former trustee of the U.S. Ski Team

Foundation and currently serves on the executive board of the National Town Builders' Association. He also serves on the Urban Land Institute's Public Private Partnership Council.

Marshall Anderson

Birmingham, Alabama

Anderson has 15 years of professional experience as an architect coordinating and contributing to multidisciplinary teams on a variety of project types. He has been responsible for the success of a variety of award-winning buildings and designs. Since 1997, Marshall has been project architect and designer on many wide-ranging projects including planning, single- and multifamily residential, retail, institutional, and commercial work.

In 2007, Marshall and business partner Kris Nikolich founded Design Initiative, an architectural firm focused on regionally specific sustainable design and development. Projects in which the firm is currently involved include helping the city of Birmingham redefine its sustainable goals through their work on the redesign of a city park; working as the town architect for Trussville Springs, a DPZ-planned 170-acre traditional neighborhood development designed along the banks of the Cahaba River; the design and construction of a new LEED Platinum residence; as well as a recent effort to create sustainable, affordable, and livable housing in communities in the Southeast, Australia, and the Middle East.

After serving four years in the U.S. Marine Corps, Anderson went to Auburn University and graduated in 1997, with a bachelor of architecture magna cum laude. He now serves on the Advisory Council for the university's School of Architecture, cofounded the local AIA Committee on the

Environment, and is the director of the cathedral parish youth group in Birmingham.

Dean D. Bellas

Alexandria, Virginia

Bellas is president of Urban Analytics Inc., an Alexandria, Virginia–based real estate and urban planning consulting firm providing urban development analytical services to public and private sector clients. Consulting services include fiscal and economic impact studies, market research analysis, real estate asset management, real estate development economics, and project feasibility studies. Since 1996, Bellas has analyzed the fiscal and economic impact of real estate development on towns, cities, and counties in Maryland, Virginia, West Virginia, Kansas, and the District of Columbia. During this time, Bellas analyzed the fiscal effect on more than 16,000 residential units and over 38.7 million square feet of nonresidential space. The total value of all land use types analyzed is over \$5 billion. Bellas has authored or cowrote more than 50 research reports on the fiscal and economic effect of real estate development.

In addition to Urban Analytics, Bellas is affiliated with the Catholic University of America where he holds the position of lecturer in the School of Architecture and Planning. Previously, he was a lecturer in the School of Professional Studies in Business and Education at the Johns Hopkins University and in the School of Management at George Mason University. Bellas has also taught candidates for the CFA (certified financial analyst) designation on behalf of the Washington Society of Investment Analysts.

Bellas is an economic adviser to the board of directors of the Southeast Fairfax Development Corporation (an entity of the Fairfax County, Virginia, Economic Development Authority), and to the Northern Virginia Streetcar Coalition. He has consulted to the U.S. Department of the Treasury and to the U.S. Department of State. Bellas is a full member of the Urban Land Institute and has participated in a variety of ULI activities including the Advisory Services panel at Oak Creek, Wisconsin, and at Queen Creek,

Arizona. He sits on ULI's national Public Development and Infrastructure Council. At the local level, he sits on the ULI Washington District Regionalism Initiative Council and has served on the Technical Advisory Panel for Prince George's County, Maryland.

Bellas received a BS in business administration from Western New England University with a concentration in finance, a master's in urban and regional planning from George Washington University, and a PhD in public policy with a concentration in regional economic development policy from George Mason University. Bellas is a member of Lambda Alpha International, an honorary society for the advancement of land economics.

David Dowall

Scottsdale, Arizona

Dowall was a professor of city and regional planning at the University of California, Berkeley, from 1976 to 2012. At Berkeley he served as the chair of the Department of City and Regional Planning and director of the Institute of Urban and Regional Development, and from 2000 to 2002 was the chair of the UC Berkeley Faculty Senate. As chair of the Faculty Senate he was responsible of cochairing the preparation and launching of Berkeley's first Strategic Plan. Dowall also has worked for the World Bank for the past 27 years, designing urban development projects in more than 200 cities in nearly 50 countries. His professional and research work spans strategic and spatial planning, economic development, and infrastructure planning and finance. Dowall has published more than 100 books, academic journal articles, and professional reports.

Susan Eastridge

Arlington, Virginia

Eastridge is one of the founders of Concord Eastridge Inc. and serves as its CEO. Her primary responsibilities involve the planning and development of build-to-suit facilities for corporations, educational entities and government agencies, and urban mixed-use projects.

Eastridge brings a 25-year track record of success in the commercial real estate industry focused in the areas of property acquisition and disposition, development, leasing, and management. Her experience includes the development of more than 8 million square feet of commercial space valued in excess of \$2 billion and the acquisition or disposition of approximately \$900 million in commercial property.

Dividing her time between Virginia and Arizona, Eastridge focuses the majority of her efforts on national business development and predevelopment planning. She has overseen build-to-suit development and project financing as well as property disposition and acquisition for a variety of Concord Eastridge projects, as well as property transactions and new development assignments, in many markets throughout the United States.

Eastridge's undergraduate education in political science and economics was completed at Arizona State University where she was the first woman elected as student body president in the history of the university.

Anyeley Hallová

Portland, Oregon

Hallová is a development professional with a range of experiences from mixed-use sustainable developments to large-scale urban master plans. Her passion is creating unique developments that reflect the local culture, respect the natural environment, and build community.

Her core focus within Project[^] ecological development is shepherding projects through entitlements with a specialization in, market research, predevelopment activities, project management, and leasing efforts for purpose-built student housing. Some of her recent projects include Courtside and Skybox Apartments, a 405-bedroom \$30 million sustainable apartment community in Eugene, Oregon, adjacent to the University of Oregon.

Before joining Project[^], Hallová served as a development manager for Gerding Edlen Development in Portland, working on student housing, civic projects, and public/private

partnerships, and as an associate urban designer at the leading design firm EDAW Inc., specializing in downtown master plans.

She has a master's degree in landscape architecture from Harvard University, a master's in city planning from the Massachusetts Institute of Technology, and a BS in environmental systems technology from Cornell University.

Hallová is a published researcher and writer on cultural landscapes and developing public consensus. Her civic work includes a mayoral appointment to the City of Portland's Adjustment Committee and the Community Involvement Committee for the Portland Plan. She is also a guest design critic at major universities, including Louisiana State, Harvard, Auburn, Georgia Tech, and Portland State, and was a juror for the ULI Gerald D. Hines Student Urban Design Competition.

William P. Kistler

London, United Kingdom

With over 30 years of international real estate experience, Kistler is a strategist with a global network of industry and government relationships. His career has included development, advisory, and investment work in the residential, retail, hotel, and office sectors.

In his current role he leads Kistler & Company, offering advisory, investment, and development services to cities and the real estate industry. He also recently cofounded Knowledge City Partners, a network of academic, business, and government leaders.

Prior to this Kistler was the senior partner at Korn/Ferry International where he led the Real Estate practice in Europe, Middle East and Africa (EMEA). From 2003 to 2009 he was president of the Urban Land Institute—EMEA, a nonprofit, research and education institute dedicated to the built environment.

Before joining ULI, Kistler was founder and managing director of Equinox partners, an advisory and executive search firm focused on the real estate industry with offices

in Europe and the United States. The firm's clients included developers, investors, corporations, and governments in Europe, India, and the Middle East. Before this he was general manager of the Disney Development Company, responsible for the planned community of Val d'Europe at Disneyland Paris.

Kistler's prior experience includes senior roles at JMB Properties in Chicago and Cushman & Wakefield in New York. He began his career at IBM, where he spent 12 years overseeing the company's real estate in New York and Paris.

Kistler is a trustee of the Urban Land Institute. He is an architect and holds a BS in architecture from the University of Southern California.

Bert Mathews

Nashville, Tennessee

A graduate of the University of North Carolina at Chapel Hill and Harvard Business School, Mathews is the president of the Mathews Company, which provides development and investment services to the middle Tennessee area.

With 25-plus years of experience in commercial real estate services, Mathews has represented clients as a developer, a broker, and a property manager. He is also a partner of Colliers International's Nashville office, where he provides property management services and strategies to the firm's clients. The firm manages more than 3 million square feet of office, industrial, and retail space.

Mathews is also a community leader in both civic and professional organizations. He is former chairman of the Urban Land Institute Nashville District Council and former chairman of the Nashville Area Chamber of Commerce. He is the former vice chairman of the Metropolitan Nashville Airport Authority and former chairman of the Metro Transit Authority.

Margaret Mullen

Phoenix, Arizona

Mullen is chief operating officer of Science Foundation Arizona. A lawyer by education, she has more than 30 years' management, marketing, and economic development experience with nonprofit organizations and governmental entities. She joined Science Foundation Arizona as COO in March 2006 to handle startup of the nonprofit. Immediately prior to joining Science Foundation Arizona, she was vice president of bioscience for Greater Phoenix Leadership, having previously consulted on its bioscience evaluation effort.

She was the founding CEO of the Downtown Phoenix Partnership, a position she held from 1990 to 1998. Projects developed during her tenure include the downtown street beautification project, Bank One Ballpark, the artist's studios on Jackson, America West Arena, the Orpheum Theatre, Arizona Science Center, Phoenix Museum of History, and continued expansion of Arizona Center.

Mullen is former president and CEO of Downtown Raleigh Alliance, the nonprofit organization charged with overseeing the revitalization of Downtown Raleigh, North Carolina. During her tenure, Raleigh completed a community-based strategic plan for revitalization of its downtown and initiated over \$1.8 billion of new public/private partnership projects.

Before her move to Raleigh, Mullen was president and COO of Urban Realty Partners, a real estate development company in Phoenix. Mullen's responsibilities included overseeing planning and zoning negotiations with municipalities, development and contract negotiations, and operations management for the company's real estate interests.

Mullen received the Distinguished Achievement Award from Arizona State University College of Extended Education, the Athena Award for businesswomen of the year in 1997, and many others. She has been voted the Most Influential Business Women by the Business Journals in both Raleigh and Phoenix. She is past chairman of the

International Downtown Association, and a member of the International Women's Forum. She served six years on the city of Phoenix Central City Village Planning Committee and numerous other boards and commissions. She was on the founding board of Home Base Youth Services and serves on the board of Homeward Bound. In March 2012, Mullen was honored by the Arizona Centennial Legacy Project as one of the state's 48 most intriguing women for her enduring contributions to Arizona's economy and quality of life.

Krista Sprenger

New York, New York

As vice president—general manager of sustainable development, Sprenger is responsible for the driving the commercialization of sustainability across the Americas region. She is also responsible for developing strategies to deliver sustainability services that leverage Lend Lease's integrated model. Krista works to foster collaboration among Lend Lease, its clients, and stakeholders to deliver innovative social, economic, and environmental sustainability solutions that create lasting value for all involved.

In her prior role with Lend Lease as vice president—director of sustainability, Sprenger was responsible for setting the strategic direction for sustainability across the Americas region to ensure the organization's vision for sustainability was communicated and implemented as a point of difference throughout its entire portfolio.


As an active participant in the real estate and sustainability industries, Sprenger sits on the Urban Land Institute's U.S. Redevelopment and Reuse Council as vice chair and the Real Estate Roundtable's Sustainability Policy Advisory Committee. She is also recognized by the U.S. Green Building Council as a LEED Accredited Professional in Building Design and Construction and holds a Green Building Certificate from Colorado State University.

Sprenger is active in various ongoing philanthropic and humanitarian initiatives around the world, with a specific focus on supporting social and economic development of women in developing countries through the World Response Foundation.

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