



**PURPOSE** CASE  
**BUILT** STUDY

# Mission Bay Campus

The University of California, San Francisco created new research and clinical facilities to relieve crowding, expand program space, and encourage cross-disciplinary collaboration.

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# Executive Summary

## **Organization**

University of California, San Francisco

## **Location**

San Francisco, California, USA

## **Construction Type**

New construction

## **Opening Date**

2003

## **Project Area**

56.9 acres

## **Project Cost**

Approximately \$2.5 billion

## **The Atlantic Philanthropies Investment**

\$290 million



The University of California, San Francisco (UCSF) is a public university that conducts scientific research, provides graduate-level education in health sciences, and delivers patient care. Approaching the 21<sup>st</sup> century, UCSF faced space limitations, concerns about the distribution of faculty and students across multiple campuses, and changes in the fields of research and patient care.

The City of San Francisco and a private developer joined forces to donate land in Mission Bay that would enable the University to establish a new campus and the City to develop a new neighborhood. In 1997, UCSF began the process of building a major campus to relieve overcrowding on existing campuses, provide space to expand as well as consolidate programs, and elevate the ethic of collaboration that was a hallmark of UCSF's approach to providing research, teaching, and care.

The Mission Bay campus opened in 2003, with the completion of UCSF Genentech Hall, as a place for basic sciences research. As the medical science research field shifted to embrace translational research (which connects discoveries in basic science to medical practice), and as centers addressing individual diseases became a focal point, UCSF adapted the campus plan to include buildings dedicated to cancer, cardiovascular, and neuroscience research. In the latter half of the decade, the University decided to build a major hospital complex in response to growth needs and updated earthquake regulations—the UCSF Medical Center at Mission Bay, which was San Francisco's first new hospital in 30 years.

The Atlantic Philanthropies were a significant partner in the creation of the Mission Bay campus, investing a total of \$290 million beginning with its first grant to the UCSF Helen Diller Family

Comprehensive Cancer Center in 2004. Atlantic's founder, Charles F. "Chuck" Feeney, encouraged UCSF leaders to expand their vision for the campus, providing funding to help accelerate development as well as attract needed donors. Atlantic's subsequent grants supported the UCSF Smith Cardiovascular Research Building, the UCSF Medical Center, and the UCSF Mission Hall that consolidated the University's distributed global health programs in one building.

Today, UCSF is recognized as a national model for health sciences research, patient care, and job creation. The Mission Bay campus has been vital in establishing a dynamic biotechnology sector in San Francisco. When UCSF Genentech Hall opened in 2003, there was one company in this sector in the city; by 2013, there were more than 100. The development of this campus also catalyzed the growth of infrastructure and commercial investment in a new neighborhood, including amenities that have made the area attractive for nearby residents. However, the campus and its growth have also led to stresses on local parking, transportation, and housing stock. Ultimately, this expansive project is the result of collaboration by visionaries across sectors. These partners worked with the community to create a campus that strengthens the University in its mission of "advancing health worldwide."

This case study is based on research conducted by MASS Design Group between February and March 2016. Funded by The Atlantic Philanthropies, this case illustrates how a large-scale capital project can have a dramatic effect on public institutions and the work they conduct. It also illuminates challenges and opportunities inherent in responding to inevitable institutional as well as external changes over time.

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## Purpose Built Series

Capital projects often bring lasting benefits to nonprofit organizations and the people they serve. Given this opportunity, foundations grant more than \$3 billion annually to construct or improve buildings in the United States alone.<sup>i</sup> Each capital project affects an organization's ability to achieve its mission—signaling its values, shaping interaction with its constituents, influencing its work processes and culture, and creating new financial realities. While many projects succeed in fulfilling their purpose, others fall short of their potential. In most instances, organizations fail to capture and share lessons learned that can improve practice.

To help funders and their nonprofit partners make the most of capital projects, The Atlantic Philanthropies and the S. D. Bechtel, Jr. Foundation commissioned *Purpose Built*—a multi-faceted study by MASS Design Group, a nonprofit architecture and research firm. In 2015 and 2016, MASS conducted interviews, reviewed literature, and examined a diverse set of completed projects around the world; each project was supported by one of the above funders.

The study generated a set of core principles as well as tools for those considering or conducting capital projects:



*Introducing the Purpose Built Series* is an overview of the study and its core principles.



*Making Capital Projects Work* more fully describes the *Purpose Built* principles, illustrating each with examples.



*Planning for Impact* is a practical, comprehensive tool for those initiating capital projects.



*Charting Capital Results* is a step-by-step guide for those evaluating completed projects.



*Purpose Built Case Studies* report on 15 projects to illustrate a range of intents, approaches, and outcomes.

See the full *Purpose Built* series online at [www.massdesigngroup.org/purposebuilt](http://www.massdesigngroup.org/purposebuilt).

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i Foundation Center, *Foundation Maps* data based on grants made in the United States, 2006-2015.



**“We accomplished something with the City, and had the opportunity that not many other universities have . . . that combination of timing and wonderfully visionary donors. So for many reasons, this is seen as, ‘How did they do that?’—particularly in a landlocked, high-density area like San Francisco.”**

**—Barbara French, UCSF  
Vice Chancellor of Strategic  
Communications and  
University Relations**

**Above.** An aerial view shows Mission Bay during construction.  
**Cover.** Two faculty members meet at Koret Quad outside of Mission Hall.

## Introduction

The University of California, San Francisco (UCSF) is a public university with the overarching mission of advancing health worldwide.<sup>1</sup> The University conducts scientific research, provides graduate-level education and post-graduate training in health sciences, and delivers direct patient care. The University believes that “when the best research, the best teaching, and the best patient care converge, we can deliver breakthroughs that help heal the world.”<sup>2</sup>

The biomedical and clinical research conducted at UCSF carries a reputation of excellence. The University produced five Nobel laureates between 1989 and 2012. In 2016, it developed new findings that may lay the groundwork to block patient infection with the Zika virus.<sup>3</sup> For the third year in a row, four UCSF schools including Dentistry, Medicine, Nursing, and Pharmacy topped the nation in federal biomedical research funding from the National Institutes of Health (NIH).<sup>4</sup> UCSF attributes its research excellence in considerable part to its collaborative spirit with a focus on multidisciplinary innovation across a range of clinical specialties.

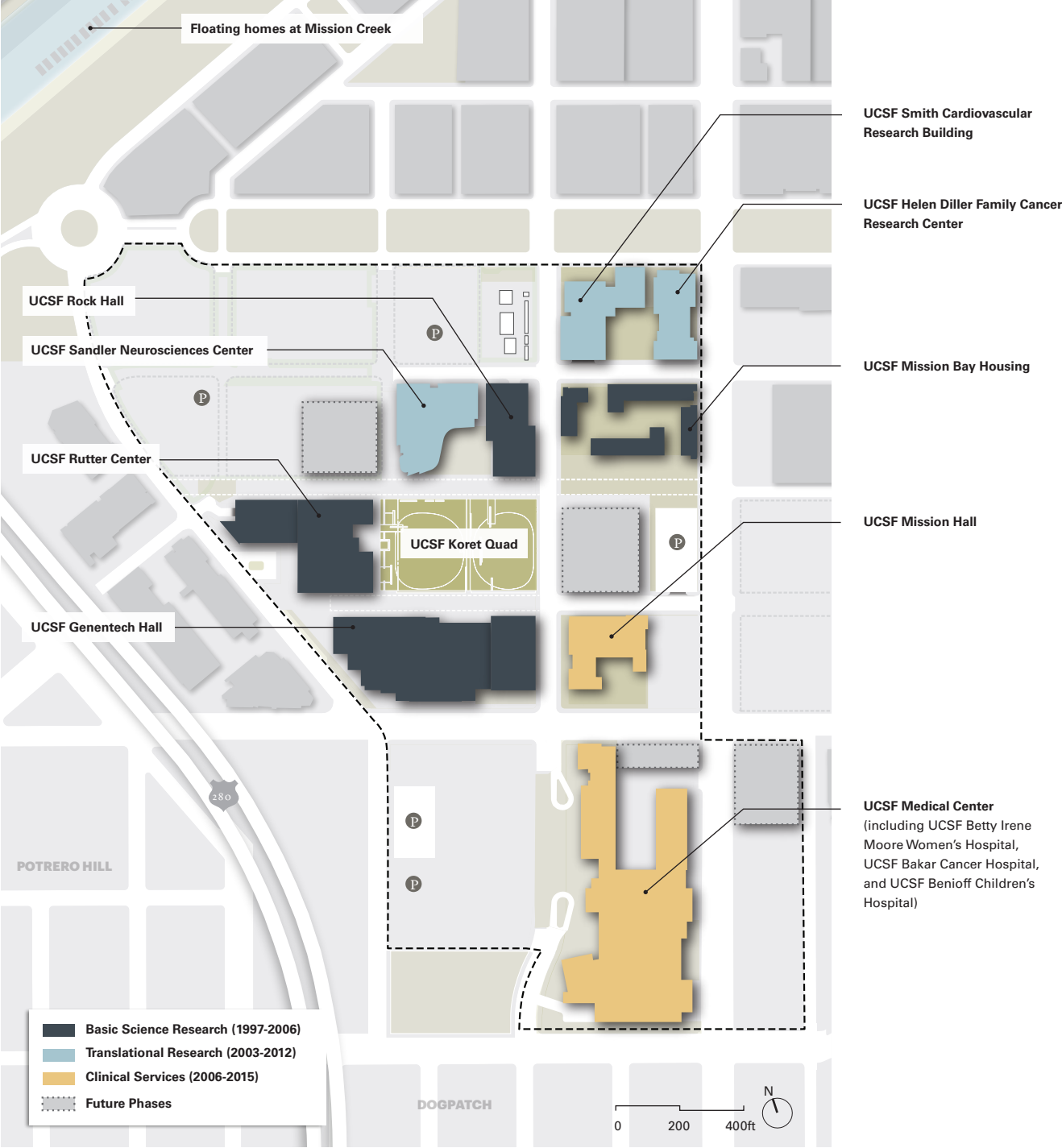
This case study focuses on the University’s newest campus at Mission Bay, now a national model for health sciences research, patient care, and job creation in the biomedical industry.

## BARRIERS TO GROWTH

In the name of education, UCSF has sought to bring together different medical and scientific disciplines for decades.<sup>5</sup> Staff members refer to a “magic moment” in the 1960s when the collaborative science and medicine that the University had always practiced became more attractive to researchers and practitioners across the United States. This led to explosive growth at the University’s flagship campus in San Francisco’s Parnassus Heights, which in turn disrupted the surrounding neighborhoods. The tensions peaked in the late 1960s and 1970s when residents asked the state legislature to embargo the budget for the entire University of California system unless UCSF adopted growth control limitations for its Parnassus campus. In response, the Board of Regents—who oversaw the 10-university system statewide—adopted a space ceiling in 1976 that limited the growth of UCSF at its Parnassus campus.

The space ceiling brought an unexpected benefit along with several predictable challenges. The density of the Parnassus campus improved collaboration as scientists and clinicians from varying disciplines came into contact on a regular basis. However, the lack of space limited the types of research that scientists could engage in—inhibiting their pursuit of funding for large-scale studies. The University also saw the constrained facilities as a critical barrier to recruiting and retaining top scientists. The University’s 1996 Long Range Development Plan identified this barrier to growth as a significant concern: “There is

UCSF's Mission Bay Campus evolved over the course of its development to include three major programs: basic science research, translational research, and clinical services.



growing evidence that this lack of space is affecting UCSF's ability to recruit and retain faculty and postdoctoral scholars who form the core of UCSF's academic enterprise."<sup>6</sup>

Additionally, a policy of decentralization in the 1970s and 1980s led the University to move programs that were not central to its core academic mission to new sites across the city. UCSF continues to maintain multiple sites within San Francisco, including locations in Mount Zion and Laurel Heights, as well as Zuckerberg San Francisco General Hospital.<sup>7</sup> This distributed approach contributed to a loss of cohesion among the University's intellectual community. It also increased the logistical challenges of commuting between sites and added cost to the management of central services such as mail, security, and information technology. Some groups, including the Global Health Sciences faculty and staff housed in the city's financial district, indicated that this separation from the main campus made them feel like an autonomous entity. The Long Range Development Plan included a projection that the University would require a 68 percent increase in space—a need that far exceeded what the existing facilities could supply.<sup>8</sup>

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## Project Mission

Faced with these demands, UCSF set out to build a new major campus that would help achieve its organizational mission to advance health worldwide by encouraging cross-disciplinary collaboration.<sup>9</sup> The 1996 Long Range Development Plan defined these goals for the new campus:

- Decompression, to relieve the excessive crowding at Parnassus Heights;
- Expansion, to provide new space for existing meritorious programs and new programs;
- Consolidation, to reduce the scattering of academic and administrative support units from many dispersed sites.<sup>10</sup>

University leaders understood that building an entirely new campus would be a long-term proposition. The above goals grounded their overarching vision as the project took shape and adapted to change over time, ultimately involving three stages. The campus grew from an initial focus on basic science research to incorporate a robust approach to translational research and then to house large-scale clinical services. Multiple factors drove the project's evolution, including research industry trends, new state regulations, patient-care trends, and University relations with its neighboring community. At points along the way, University leaders also responded to opportunities to accelerate or expand campus development.

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## Process

### SELECTING THE SITE

An open call for potential sites generated 157 submissions, out of which UCSF selected three to consider in more depth.<sup>11</sup> The first site in Alameda (across the San Francisco Bay) was attractive because it was close to a location where UCSF was already conducting research. The second site in Brisbane (just south of San Francisco) was available to the University at no cost and would be highly noticeable to visitors due to its proximity to San Francisco International Airport. In 1997, UCSF made the decision to build its new campus on the third site, Mission Bay.

Mission Bay was an undeveloped former rail yard and the only one of the three sites that would keep the campus within San Francisco city limits. With the exception of floating homes located on the canal to the north, there were no permanent residents on the Mission Bay site. This was attractive to UCSF because there would be room for expansion before development encroached on surrounding neighborhoods, helping the University avoid the growth restrictions associated with its Parnassus campus and other locations. Mission Bay's proximity to the Parnassus campus also made it attractive to project leaders, since UCSF intended to keep Parnassus as its flagship campus.



**Above.** UCSF's flagship campus, Parnassus, experienced much growth in the 1960s and 1970s and encroached on the surrounding residential neighborhood.

## ALIGNING PUBLIC AND PRIVATE INCENTIVES

While UCSF was struggling to balance organizational growth with positive community relations, the City of San Francisco was looking for opportunities to develop Mission Bay, one of the last strips of undeveloped land within city lines. Catellus Development Corporation, a spin-off of two former railroad companies (Southern Pacific and Santa Fe Industries), owned the land at Mission Bay. With a preponderance of its land adjacent to roads, highways, and railroad lines, much of Catellus' development strategy focused on transforming blighted and underutilized sites in fast-growing cities.<sup>12</sup> Mission Bay fit the bill—some interviewees described the 1990s site as a wasteland that was home only to a golf driving range.

Mayor Willie Brown identified the opportunity to align the City's interest in developing a new neighborhood with incentives for both Catellus and UCSF.

After a failed attempt to redevelop these parcels was stymied by the 1989 financial downturn, Mayor Willie Brown identified the opportunity to align the City's interest in developing a new neighborhood with incentives for both Catellus and UCSF. If UCSF were to build a new campus at Mission Bay, the City could retain the University as its second largest employer, add needed jobs through construction work, and promote the development of residential and retail spaces. The City could also leverage UCSF's presence to spur the growth of a local biotechnology industry, much like how Stanford University had played a central role in the transformation of Silicon Valley into a technology and innovation hub.<sup>13</sup>

Catellus also recognized the benefit of UCSF becoming the site's anchor institution. The University's presence had the potential to increase the value of Catellus' land holdings by attracting spin-off companies and the pharmaceutical industry.<sup>14</sup> As one interviewee involved in the process described:

It was clear to everybody that with a research campus, there was an opportunity to create a biotechnology hub in San Francisco that could potentially create jobs, economic development of all sorts, and service industries . . . to create a new industrial base for San Francisco that didn't exist.

The site lacked utility infrastructure and was disconnected from San Francisco's public transportation system, making it expensive to develop. The ultimate cost of building on the site was difficult to anticipate due to significant uncertainty regarding the quality of the land, potential toxins, and possible remediation that would affect

construction. To address this large financial burden and uncertainty, the San Francisco Redevelopment Authority designated 303 acres of land as "Mission Bay North and South Redevelopment Areas."<sup>15</sup> This designation made the site eligible for tax increment financing, a technique where municipalities can choose to divert a portion of property tax increases to property managers or development projects. Catellus (and later, additional developers) leveraged this method to help finance the creation of infrastructure for the site.

The San Francisco Redevelopment Authority also negotiated agreements with Mission Bay developers to ensure that affordable housing would be included in the new neighborhood. Tax increment financing was used to support the construction of affordable housing units. Through this period of negotiation in 1996, 1,700 of the 6,090 units under construction in Mission Bay were designated as affordable.<sup>16</sup>

Seeing this development plan as a win-win-win situation, Mayor Brown brokered a deal with Catellus and the City donating 43 acres of land to the University (30 acres from Catellus and 13 from the City). Additional support from the City gave UCSF entitlements for the development within two years, a remarkable turnaround for a project as large as Mission Bay. Barbara French, UCSF vice chancellor of strategic communications and university relations, cautions:

If we had to do it today, I'm not sure we could . . . we accomplished something with the City, and had the opportunity that not many other universities have . . . that combination of timing and wonderfully visionary donors. So for many reasons, this is seen as "How did they do that?"—particularly in a landlocked, high-density area like San Francisco . . . but thank God they were in the right place at the right time and did it.

## CREATING A CAMPUS STRATEGY FOR BASIC RESEARCH

UCSF knew that building an entirely new campus would take significant time and financial investment, and initially anticipated slow progress. One staff member recalled:

We really didn't have much of a financing implementation plan when the campus was first identified in 1997. We thought maybe over the 15-year horizon of that first long-range plan, we would build maybe two or three buildings—you know, acquire the land, build a few buildings, and that would be it.

Given the long time frame of development, the University sought a strategy to build a critical mass of programs and facilities as the space grew over time. UCSF also wanted to create enthusiasm among departments and research groups about moving to the new



**Top.** The only residents of the Mission Bay area prior to construction lived in floating homes along the canal to the site's north.

**Below.** A researcher works in one of Mission Bay's many Labs.





campus, rather than a sense of isolation. A campus strategy task force recommended that the University develop Mission Bay as a basic sciences campus to meet these strategic aims. The basic sciences program explored fundamental or theoretical aspects of health and disease, and project leaders reasoned that it had the least need to be adjacent to the hospitals located at Parnassus compared to other programs. Furthermore, the University community considered basic sciences to be the fundamental research that established UCSF's reputation in the medical industry. Mission Bay also provided a new opportunity to bring the program together in one location, since the Parnassus campus fragmented basic sciences across separate spaces.

“I think it was largely that spirit of collegiality and cooperation . . . that drew people to the campus.”

The architecture and urban design firm Machado Silvetti created a master plan for the site in 1997<sup>17</sup> that focused on a basic sciences campus. The University invested in higher quality design and construction to encourage the migration of basic sciences staff and researchers from Parnassus. The first phase of construction on the Mission Bay campus, lasting from 2002 to 2005, advanced faster than many anticipated and included three research buildings, a community center, and 430 units of student housing.

UCSF Genentech Hall, the first research building on the Mission Bay campus, opened in 2003. The 434,000-square-foot building accommodates nearly 1,000 researchers in biology, chemistry, and biochemistry.<sup>18</sup> Laboratories were designed to foster the signature collaboration that was part of the research culture at Parnassus, while supporting space and equipment needs. UCSF Chancellor Sam Hawgood said that the space constraints at Parnassus “led to a lot of accidental collisions of great people . . . and I think it was largely that spirit of collegiality and cooperation . . . that drew people to the campus.”

These chance meetings occurred organically at Parnassus, so the project task force needed to plan intentionally for interaction within the ample space available at UCSF Genentech Hall. An open atrium would ensure visual connection across floors and departments. Whiteboards and small lounges located around the atrium and near the elevator banks would provide a place for impromptu discussion. A circulation corridor would link 14 lab-facility groupings in the building. Shared spaces such as kitchens, lounges, and restrooms would be located along the corridor. One faculty member working in UCSF Genentech Hall described its success: “You’re never going to not run into someone because there’s a bathroom or a stairway in between.”

## A SHIFTING FOCUS TO TRANSLATIONAL RESEARCH

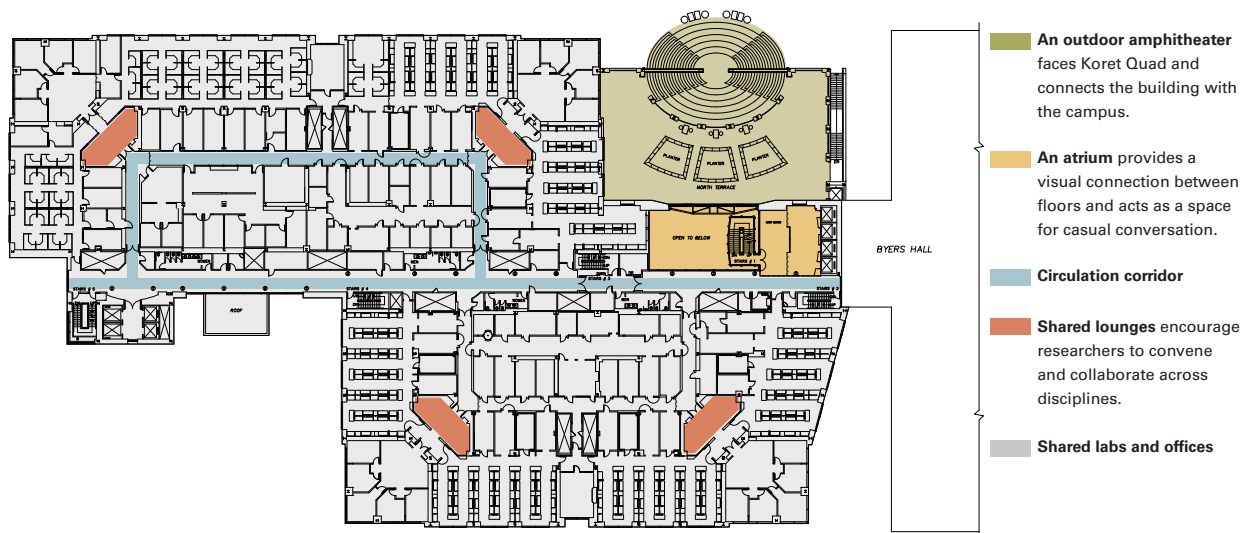
The convergence of clinical and research work on the Parnassus campus had been one of the factors that brought renown to the University's research well before the development of Mission Bay. In the early 2000s, translational research—which focuses on connecting scientific research with clinical application—had grown steadily more popular. At the same time, a new emphasis on translational research facilities at Mission Bay allowed UCSF to take advantage of these shifting priorities. The second phase of development at Mission Bay brought a new wave of buildings, including the UCSF Helen Diller Family Comprehensive Cancer Center (2009), the UCSF Smith Cardiovascular Research Building (2010), and the UCSF Sandler Neurosciences Center (2012).

The first of these buildings, the cancer center, was originally planned for the UCSF Mount Zion campus, and several rounds of design had been completed. However, the Mount Zion site could not provide adequate parking—one of several issues that eventually made development there difficult. UCSF recognized that locating the cancer center on its new campus opened an opportunity for Mission Bay to become an academic health center, not only a basic sciences center. In 2004, a generous grant of \$20 million from The Atlantic Philanthropies helped UCSF mitigate the costs of moving the cancer center to Mission Bay. Opened in 2009 as the Helen Diller Family Cancer Research Building, the project was one of Atlantic's many key strategic investments at Mission Bay. Atlantic's funding at this stage also included a total of \$125 million in 2006 for the UCSF Smith Cardiovascular Research Building, which opened in 2010.

“Collocating space adds a real urgency to the space that doctors and researchers can always see.”

All three of the translational research buildings included clinics on the ground floor, incorporating clinical services on the research campus. This integration benefited research because it helped make the implications for patient care top-of-mind for researchers. Patients also benefited from cutting-edge research, and doctors were able to walk downstairs to a clinic at a moment's notice. As one researcher said, “Collocating space adds a real urgency to the space that doctors and researchers can always see.”

The shift to integrate clinical space, however, was not part of the original Machado Silvetti master plan, which at the time included only basic sciences research space. The original master plan did not account for patient access to clinics, which led to building constraints preventing UCSF from serving patients seamlessly. For example, patients needed to enter clinics from side roads and relied on valet parking rather than nearby parking lots.



**Above.** A common circulation corridor, an open atrium, and shared lounges in the Genentech Hall Plan foster interaction to encourage collaboration.

The large scale and extended time frame of this stage of Mission Bay campus development meant that UCSF was able to learn from every new building and test slightly different ways of facilitating collaboration in each facility. One cardiovascular researcher said that the design features were “all things that were learned from UCSF Genentech Hall that you wouldn’t have been able to get by just touring it.” Though some faculty praised Genentech’s success, others saw opportunities for improvement: “This building plan that we thought was perfect was not . . . I don’t see the faculty members who are on the other side of the loop from me.” The design for the Cardiovascular Research Building grouped all faculty offices in a central location, rather than dispersing them into several clusters like at UCSF Genentech Hall. Many faculty members described this decision as a success.

### INCORPORATING A MODERN HOSPITAL COMPLEX ON-SITE

Perhaps the most consequential change to the original campus plan was the decision to construct a UCSF Medical Center at Mission Bay.

In 1998, the seeds for new hospital facilities at Mission Bay were sown through California state regulations requiring that, by the year 2030, all hospitals modify infrastructure to be able to withstand a magnitude 8 earthquake in order to serve patients after such an event.<sup>19</sup> In August of 2000, UCSF convened a Hospital Replacement Committee to review options for retrofitting or finding new sites.<sup>20</sup>

In the process of evaluating options, Mark Laret, CEO of UCSF’s Medical Center, approached Charles F. “Chuck” Feeney, founder of The Atlantic Philanthropies. Feeney pushed UCSF to think bigger

and act bolder. Laret stated that while a modest investment to retrofit medical facilities at Parnassus would have been possible, it would not have allowed UCSF to “do it right.” In 2006, UCSF acquired an additional 14 acres of land south of its campus at Mission Bay, and began planning a new hospital complex on the site.

Atlantic offered UCSF \$125 million in grants for the proposed medical center in 2009. Feeney stipulated that Atlantic’s grantmaking must be matched in five years by other donors. He advised the University to use naming rights to attract other donations. According to Laret, this strategy ushered in a new wave of philanthropy, including Marc and Lynne Benioff’s \$100 million gift to Mission Bay for the UCSF Benioff Children’s Hospital.<sup>21</sup>

Early and robust philanthropic support from Atlantic, combined with other early, large donations such as those from the Benioffs, allowed UCSF to think bigger and build faster. As put by Regis Kelly, former vice chancellor of UCSF and now director of Quantitative Biosciences (QB3), “The Mission Bay campus in its present form might not have existed without Feeney’s foresight. Each of his three gifts was instrumental in both obtaining the University regent’s approval for that particular project and in encouraging other philanthropists to step forward.”<sup>22</sup>

While the recession halted other projects in San Francisco, with a steady source of philanthropic funding UCSF was able to continue building, take advantage of low steel prices, and create hundreds of temporary architecture, contracting, and construction jobs in the local economy. Ultimately, the project would bring more than 1,000 hospital employees to the new medical campus.<sup>23</sup>

Around the same time, a downturn in state funding for research meant that UCSF could not rely as much on this revenue source. As the University became increasingly dependent on medical services as a revenue source, it began to look to clinical care, which had the potential to bring in more revenue (see fig. 1). At the time, trends in clinical care had evolved to improve the quality of the patient's experience; the older facilities at Parnassus were not competitive in this new market. If the University planned to draw more on clinical services for revenue, it needed facilities that could deliver the highest quality patient care. Historically, the clinical work at UCSF had not received the same acclaim as its research. Laret explained further:

I think it was fair to say that over the decades that the UCSF's clinical piece had been considerably secondary to the research enterprise here. So part of my agenda, when I came here, was to elevate the quality, safety, all the pieces of the patient experience, so that we could elevate [the] clinical experience up to the level of the research at UCSF.

### DEVELOPING THE UCSF MEDICAL CENTER

The UCSF Medical Center at Mission Bay is a 289-bed complex comprised of three hospitals, including the UCSF Benioff Children's Hospital San Francisco, the UCSF Betty Irene Moore Women's Hospital, and the UCSF Bakar Cancer Hospital. In the design process, UCSF focused on patient-centered care with the aim to change the Medical Center's reputation in the community through increased patient satisfaction. The Medical Center opened in 2015 after a decade-long process of planning, design, and construction.<sup>24</sup> The scale, complexity, and length of the project led to unique challenges. Kim Scurr, vice president of operations at UCSF Benioff Children's Hospital and the Betty Irene Moore Women's Hospital, estimated that as few as one quarter of the individuals who

were involved in decision-making at the beginning of the project continued to be involved in the end. Furthermore, accommodating the needs and desires of new medical practitioners and technology required the coordination of significant financial and time investments.

Planning for construction of this major facility at Mission Bay required a substantial effort to develop new staffing plans and protocols, phasing the transition of some staff and services from Parnassus to the new location, and executing design adjustments. Scurr described the burden that this planning had on the practitioners:

Everyone was doing this on top of another job. That is hard, and I honestly don't know how else you can do it. I don't think you can have someone else plan your space, but on the other hand we taxed a lot of people by saying you need to commit to this much time so you can come and plan . . . it was definitely a challenge. When you do something like that your message has to be super clear, and there has to be a bigger dialogue about if there can be people put in place to back-fill you.

This project also surfaced neighborhood concerns and was significant to UCSF's evolution of community relationships in Mission Bay. In particular, local residents were concerned about original plans for the helipad needed to serve the medical complex. UCSF project leaders responded by relocating the helipad's location—a decision that was met with approval by neighbors.

The project managers built a post-occupancy capital fund into the project plan. This was important to enabling adjustments to the building, such as moving the location of switches and flipping directions of door swings to increase staff efficiency. However, the

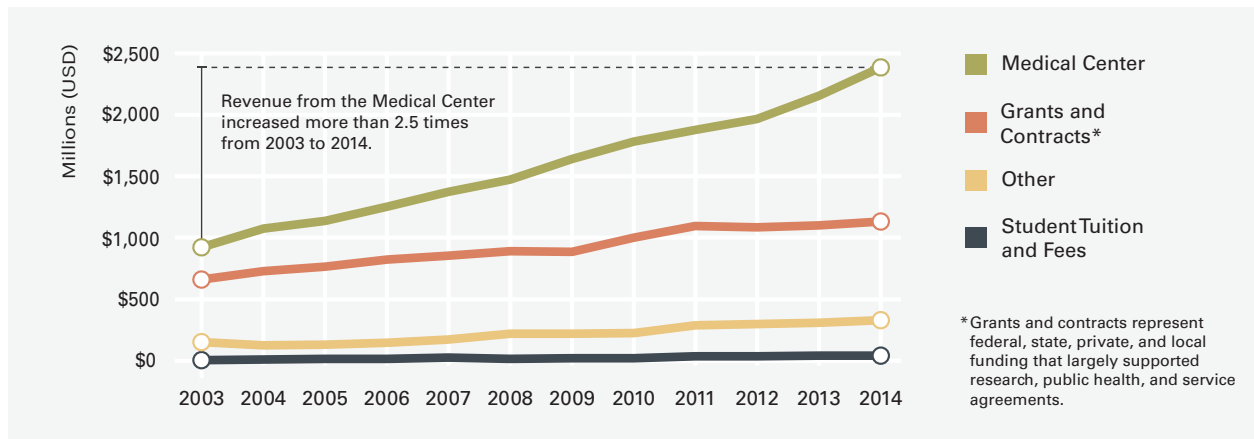


Figure 1. UCSF Revenue Mix

fund was not large enough to cover all potential post-occupancy needs. Scurr said that this speaks to the necessity of a careful balance—there is always opportunity to improve spaces, so it is important to set clear expectations during discussions with end users to identify priorities and cap the time and financial investment associated with any individual improvement.

### CREATING A HOME FOR UCSF GLOBAL HEALTH PROGRAMS

The Medical Center at Mission Bay also necessitated additional office space for doctors and researchers working in the hospitals, prompting the development of Mission Hall from 2012 to 2014.<sup>25</sup> Consolidating the office spaces for the researchers and clinicians in a single building served to help UCSF sustain and enhance collaboration at the new campus.

“The proximity to Genentech Hall and the proximity to the Medical Center, allows us to literally bump into each other in the corridors and have a daily connectivity that allows us to work on a project together.”

The purpose of Mission Hall evolved, and ultimately brought together all the faculty, staff, and students involved in the University’s global health programs. This included UCSF Global Health Sciences (GHS), a team “dedicated to improving health and reducing the burden of disease in the world’s most vulnerable populations.”<sup>26</sup> The GHS team had been renting offices in San Francisco’s downtown financial district and was isolated from academic life on the University’s campuses. Jaime Sepulveda, executive director of GHS, saw Mission Hall as a chance to consolidate GHS’s offices to one site, and Mission Hall viewed the undertaking as an opportunity to amplify its organizational mission to advance health worldwide. The team faced a fundraising challenge and a tight schedule—Mission Hall needed to open in 2014, with or without GHS. At this critical point, Atlantic donated \$20 million in crucial funding that allowed Sepulveda to take advantage of an opportunity that would have otherwise been lost due to the accelerated schedule.

As put by Sepulveda, the move to Mission Hall helped GHS further its mission:

Having this building has allowed us to become conveners of the basic, clinical, and population sciences . . . the proximity to UCSF Genentech Hall, the proximity to the Medical Center, allows us to literally bump into each other in the corridors and have a daily connectivity that allows us to work on a project together.

UCSF’s response to the Zika epidemic in 2016, for example, required input from genetic sequencers, placenta experts, and epidemiologists, all of whom had easy access to Mission Hall. This new building at Mission Bay has allowed GHS to host conferences and bring in experts from other universities, helping to establish the organization’s identity as a leader in the field.

Time and budget constraints tested UCSF’s construction process and led to a number of design decisions in the interest of efficiency, including the choice to use open floor plans with desks rather than individual offices in Mission Hall. This decision was intended to facilitate connections and collisions among researchers and clinicians through open workstations. Conference rooms were integrated in the space for meetings, and smaller enclosed spaces provided privacy for occupants as needed. Many Mission Hall tenants had previously occupied private offices at Parnassus and were resistant to the switch from private offices to an open layout. However, by the time Mission Hall’s future tenants were engaged in the design process, the decision was set. One GHS team member reflected that this was a lesson in change management: Communication from the University portrayed the open office plan as purely a design preference, when in reality there were substantial time and cost pressures. In retrospect, he claimed, people would have handled the transition better if the University had communicated constraints more honestly and openly.

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## Impact

### ENHANCING QUALITY AND VISIBILITY

Today, UCSF is a leader in multiple fields of research, clinical practice, and care. The medical programs are consistently ranked in the top five in the country, the Medical Center is ranked in the top 10, and its medical research is one of the top recipients of funding from the National Institutes of Health.<sup>27,28</sup> In 2016, a total of 3,100 students were enrolled in one of 25 degree programs across four schools (dentistry, medicine, nursing, and pharmacy) with an additional 1,500 medical residents and 1,100 postdoctoral students.<sup>29</sup>

“As we expanded our capabilities, the way people thought about their research changed . . . people’s thinking about their problems changed.”

From 2004 to 2016, the size of UCSF’s research programs more than doubled.<sup>30</sup> Faculty indicated that the increase in work was a result of the campus’ increased capacity, enhanced equipment quality, the

buildings' facilitation of collaboration, and a sense of ownership arising from faculty's active participation in the campus development. Some feel that the University was successful in emulating the culture of collaboration that was a hallmark of the Parnassus campus, and in fact, many thought that it was able to improve on that collaboration. One UCSF faculty member explained, "As we expanded our capabilities, the way people thought about their research changed . . . people's thinking about their problems changed."

While planners anticipated that a new hospital complex would take years to fill completely, the UCSF Medical Center at Mission Bay was full shortly after opening in February 2015. Through the end of that year, UCSF Medical Center staff across all locations saw about 1,500 more inpatients and 30,000 more outpatients than in the year prior.<sup>31</sup> Overall, UCSF Medical Center revenue from patient services increased 9 percent, from \$2.3 billion in 2014 to \$2.5 billion in 2015. Based on rankings by the *U.S. News & World Report*, which evaluates reputation, safety, survival, and care,<sup>32</sup> the UCSF Medical Center actually improved its ranking during the period of constructing and opening a new location, despite the strain on staff and operating challenges.

Some UCSF Medical Center leaders stated that having a dedicated hospital complex at Mission Bay has increased awareness of the Medical Center, and solidified its standing in the field. Clinicians

claim that the new facilities have improved the visitor experience: "It's a campus that you can be very proud of . . . it's impactful because our patients have a great deal of confidence. Interactions have been much easier and much more plentiful, and the campus itself enables that." It may be too early to see the full impact of the new facilities, but evidence suggests that the transition to the new facility did not disrupt operations significantly. However, according to one UCSF staff member on the Family Advisory Committee, some patients and their families have indicated that, while the new rooms are more spacious and allow at least one family member to spend the night, they feel more isolated and less social than in the rooms at Parnassus, where space constraints brought occupants closer together.

### BRINGING BIOMEDICAL PROGRAMS TOGETHER

UCSF consolidated multiple programs on the Mission Bay campus, and Mission Bay personnel have expressed conflicting perspectives regarding its success. At Parnassus, many programs and departments worked in close proximity and often shared the same space and resources. Although it is more spacious than Parnassus, some faculty members described the Mission Bay campus as a place where serendipitous cross-disciplinary meetings in the hallways are commonplace and often lead to better work. One researcher said: "All of us think our science shot up because of the people we were

**Below.** San Francisco's first new hospital in 30 years, the UCSF Medical Center houses (left to right) the Bakar Cancer Hospital, the Betty Irene Moore Women's Hospital, and the Benioff Children's Hospital.



around.” Others, however, feel that some of the characteristics of liveliness and collaboration present at Parnassus have not translated to Mission Bay: “People don’t see each other as often as they like. I think we designed it well, but it’s big and the buildings are separated. Some of our familial aspects have been eroded.”

Some claim that this related to the scale and design of the campus. For instance, some faculty mentioned that Koret Quad, which is accessible to many Mission Bay buildings, was underused and represented a missed opportunity for fostering social interaction. Though the UCSF William J. Rutter Center (a five-story community center) and UCSF Genentech Hall have patio seating and an amphitheater to engage users with the quad, additional outdoor space separates the quad from other buildings, creating an expansive feeling. University programming, such as the weekly farmers market that operates nearby, has the potential to encourage more use of the space.

Even though the University had early concerns that it would be difficult to attract faculty to the new site, Mission Bay became the desired campus for many. Some faculty said the relocation of the Chancellor’s office to Mission Bay indicated that this new campus was the heart of the University. In light of the rapid growth at Mission Bay, some University community members who remained at Parnassus feel that their space is now neglected.

A UCSF staffer explained further, saying, “What we’re struggling with now is how to make sure that we don’t lose sight of Parnassus and how there’s some equity and parity between the investment here and there, and how we communicate that.” Many of the upgrades at Parnassus in recent years have been lower profile than those at Mission Bay, such as code retrofits. This may be partially due to a donor base that would prefer to fund new projects where the opportunity to achieve impact is more obvious, and due to limited University capacity to complete multiple maintenance projects.

Even within Mission Bay, one faculty member described a sense of

haves and have-nots. While the high-quality finishes and spacious private workspaces in the initial buildings attracted faculty from Parnassus to Mission Bay, these features were not present in later phases. A sense of inequity added to the tension felt by some, including faculty at Mission Hall who had to work in an open plan without private offices.

## CATALYZING DEVELOPMENT

Mission Bay has been dramatically transformed over the course of a decade. The arrangement between Catellus Development Group, the City of San Francisco, and UCSF spurred the development of an entire neighborhood with new infrastructure, public transportation, and urban amenities. The Mission Bay redevelopment area is planned to ultimately include more than 6,000 units of housing and more than 40 acres of open space and public parks, including a community garden, a dog park, and a children’s park.<sup>33,34</sup> On campus, UCSF’s Bakar Fitness and Recreation Center is open to the public, and offers an indoor pool, an outdoor pool, workout spaces, and many other fitness amenities.<sup>35</sup> In addition, the Golden State Warriors have purchased a massive section of land across from the UCSF Medical Center for its new arena, expected to be completed by 2018.

UCSF’s presence at Mission Bay has transformed San Francisco into a biotechnology hub, growing from one company when UCSF Genentech Hall opened in 2003, to more than 100 in 2013. The campus is immediately surrounded by a growing and collaborative ecosystem of more than 50 bioscience startups, nine established pharmaceutical and biotech companies, 10 venture capital firms, and scientific leaders such as the Gladstone Institutes, the California Institute for Quantitative Biosciences (QB3) and the Veterans Affairs research center, all of which are affiliated with UCSF.<sup>36</sup>

Previously, when faculty members wanted to apply their research to industry and start-up companies, they needed to look outside the

**Below.** In lieu of private offices, the Mission Hall floor plan features open offices with shared conference rooms.



- An open office provides each individual with his or her own desk space, increasing the number of people that the building can house.
- Shared rooms are the only places where private conversations or phone calls can take place. Some have been converted to private offices following user complaints.



**Above.** UCSF's Mission Bay campus hosts a weekly farmers market, adding vibrancy and connecting community to the site.

city to find sites that were zoned as lab space. Now, with UCSF as a hub and zoning codes that encourage biotech development, many biotech start-ups are housed locally. According to Barbara French, UCSF vice chancellor of strategic communications and university relations, “It has attracted venture capitalists here, we have incubator space for start-up companies, and it has created a life sciences and health environment. What makes it thrive is the connection of certain industries together . . . they’re here.” On the other hand, the success of the redevelopment of Mission Bay and the speed at which it happened have had unintended consequences as UCSF looks to the future. Mission Bay real estate is becoming prohibitively expensive, now limiting the University’s ability to expand.

The Mission Bay campus developed over a period of time during which the San Francisco Bay area saw considerable growth, and issues such as gentrification have become a part of the region’s conversation. UC Berkeley’s Urban Displacement project identifies a range of gentrification and displacement occurring in the neighborhoods surrounding Mission Bay. Since Mission Bay had been relatively undeveloped prior to this wave of construction, most of the immediate area around UCSF’s Mission Bay campus does not reflect gentrification or displacement activities. However, the study identifies that Dogpatch and the areas of Potrero Hill closest to UCSF are “at risk of displacement,” while areas to the north of the campus such as South of Market are experiencing advanced gentrification.<sup>37</sup>

Haile Debas, UCSF chancellor emeritus, describes his take on UCSF’s role in this regional issue: “Our impact on our poorer community to the south, I think, is quite severe. I think we have had an indirect effect of gentrifying it . . . I don’t think we should be blamed all for it, because I think Silicon Valley has a lot to do with it—there’s just no space.”

## REACTIONS FROM THE COMMUNITY

The area surrounding the Mission Bay campus developed rapidly because of UCSF’s investment in the location. As new housing arose and the impact from the new campus began to echo out into the surrounding communities, the University’s relations with its neighbors became increasingly important. As a state entity, UCSF is not subject to local land use planning and zoning—the University does not need to go to the City of San Francisco for approvals. One member from the campus planning team says that this reality holds UCSF to a higher standard when engaging the community, and that maintaining good relations is especially critical in a place like San Francisco where the risk of litigation around land use is high. In some cases, efforts to advance the University’s interests have had unintended consequences, such as putting stress on parking, transportation, and housing infrastructure.

UCSF faces some criticism from City staffers and residents alike who wish that it had developed its Mission Bay campus to be more

integrated with the neighborhood. As one Potrero Hill resident said, “There was not an attempt early in the plan to build a permeable neighborhood . . . it’s an inward-facing campus.” Some of the early buildings on the campus, such as UCSF Genentech Hall, are oriented with their entrances toward a quad rather than to the street. Planners from the City who were involved in the Mission Bay master plan saw this as “letting the first few buildings get away from them,” since they did not anticipate the need for community access. Over time, the City developed design standards and guidelines to improve future planning on the site, including creating more welcoming, public-facing entrances to the campus and its facilities.

“There was not an attempt early in the plan to build a permeable neighborhood . . . it’s an inward facing campus.”

As UCSF and the surrounding neighborhoods grew over the years, boundaries eventually collided. While there is general appreciation of the medical research undertaken on campus, there is also frustration that more has not been done to mitigate the crowding resulting from development. As one Potrero Hill resident stated, “It’s hard to look at people who are making discoveries and curing cancer and say ‘We don’t want that here,’ but there should be an acknowledgement that what they’re doing will affect us.”

UCSF tries to address these concerns by regularly engaging an active group of community representatives from the Mission Creek floating

**Below.** The new campus places an increased emphasis on patient experience.



**Above.** Koret Quad is the central green space on campus, but some describe it as underused and a missed opportunity to foster collaboration at the campus scale.

homes, as well as Dogpatch and Potrero Hill neighborhood groups. The purpose of these meetings, according to a UCSF staffer, is to communicate UCSF’s goals, understand the neighbors’ goals, and then integrate these priorities into future designs. He argued that the success of this group is due to its continued involvement and relationship with the University: “You can really only do that through the dialogue and trust that builds up over a long period of time.”

Both the University and residents of surrounding neighborhoods cite discussions concerning the helipad as a successful example of community engagement. The University needed to transport patients with life-threatening conditions to the Medical Center safely and efficiently, and began planning a helipad on the side of the Children’s Hospital adjacent to Mariposa Street, the boundary between the Mission Bay campus and the more residential Dogpatch neighborhood south of campus. During meetings between the University and community groups in late 2008, residents voiced concern that noise from incoming helicopters would be disruptive. In response to their concerns, the University made design changes to the medical complex, including relocating the helipad to the end of the building that was farthest from residences. UCSF paired these responses with administrative efforts that carefully planned flight paths to reduce noise pollution, and in 2009 initiated a Residential Sound Reduction Program to retrofit any residences in which sound levels in sleeping areas exceeded acceptable values.<sup>38</sup>

In this instance, the University was able to maintain services that were critical to its mission and the health of its patients, while at the same time remaining flexible and responding to the needs of its neighbors.





**Above.** New residential developments have transformed the neighborhoods surrounding the Mission Bay Campus.

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## Conclusion

UCSF's Mission Bay campus has advanced the University's ability to achieve its mission in several ways, positively affecting its research, expanding its medical services, and strengthening its culture and identity. Its new facilities help the University keep pace with growing space needs and connecting research and clinical services in ways that were not possible on other UCSF campuses. The new buildings foster a culture of collaboration that attracts and sustains some of the best faculty in the world.

The agreement between the City of San Francisco, Catellus Development Group, and UCSF that enabled the development of the Mission Bay campus also catalyzed the development of an entire neighborhood. The project supported the construction of utility and transportation infrastructure for the neighborhood and helped to attract commercial office and lab tenants to Mission Bay. The development on the UCSF campus and in the surrounding Mission Bay neighborhoods brought amenities to nearby residents and helped encourage economic growth in a new biomedical sector. However, these changes have also posed problems for residents by creating additional stress on parking, transportation, and housing infrastructure.

UCSF defined and held onto clear principles for the campus that served to carry it through significant shifts in the needs of the University and the context for its programs and services, as well

as the dynamics of its relationship with the City and people of San Francisco. Though the long time frame of this development posed unique challenges for staff, faculty, and researchers, requiring major changes in the Mission Bay campus master plan, UCSF's combination of strategic focus and adaptation have led to a successful project that is likely to have enduring value in and beyond the University and the City of San Francisco.

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## Videos

For additional information on this case study, see the following videos available at [www.massdesigngroup.org/purposebuilt](http://www.massdesigngroup.org/purposebuilt):

*The Role of Philanthropy*

*Designing for Collaboration*

*Creating an Innovation Hub*

*Impacts in the Community*

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# Lessons from Mission Bay Campus

## Engage stakeholders for insights and buy-in.

**A new campus shapes a neighborhood:** The Mission Bay development enabled the University to establish a new campus and the City to develop a new neighborhood. Project design choices therefore affected the local community. Given the challenges the University faced at Parnassus when negotiating its relationship with the community, UCSF was proactive at Mission Bay with regard to community engagement. The University worked with surrounding neighborhoods to identify and address some of the potentially adverse effects that the Medical Center at Mission Bay would have for residents, including relocating the hospital's helipad to address community concerns about noise pollution.

Organizations cannot always anticipate implications of large-scale construction from the outset. While in hindsight, some might argue that the City, UCSF, or funders should have done more to address the possibility of gentrification in the Mission Bay area, it was difficult to foresee in 1997 that this would be a potential result of development. Organizations may need to adjust their strategy to address emergent issues. For example, UCSF is currently looking to construct more housing for its students, which may also help lessen the burden on San Francisco housing stock.

## Connect with partners to scale outcomes.

**Multiple change agents accelerate progress:** UCSF was a catalyst amid conditions that led to the development of the entire Mission Bay neighborhood, but was by no means the only agent of change. Public and private players with aligned interest and policy that encouraged development were critical to the success of the project, as were donors.

Organizations looking to replicate or avoid UCSF's achievement in Mission Bay would do well to remember these external factors and forces. As Barbara French, UCSF vice chancellor of strategic communications and university relations, cautions, "If we had to do it today, I'm not sure we could . . . we accomplished something with the City, and had the opportunity that not many other universities have . . . [a] combination of timing and wonderfully visionary donors." The impact in Mission Bay and across San Francisco has occurred because of a unique alignment of parties within a specific economic, political, research, and health context. Those intending to achieve impact at this scale need to be concerned with more than the final form of buildings, and plan for the policies, programs, and incentives necessary for success.

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# Lessons from Mission Bay Campus

## **Be ready for organizational change.**

**An overarching mission guides steady adaptation:** UCSF's Mission Bay campus is a project that has evolved over several decades, and will likely continue to develop for many more. When embarking on this process in the 1990s, UCSF anticipated that its needs and its context would change over time, and displayed an ability to pursue its campus mission strategically while remaining flexible enough to take advantage of opportunities as they arose. While the master plan for the campus originally accounted only for basic sciences research buildings, the site eventually evolved to accommodate a state-of-the-art medical center and a robust translational research capacity. While moving from the original plan posed some challenges, being adaptable allowed the University to adjust and take advantage of unforeseen opportunities and support its mission to “advance health worldwide” via its Mission Bay campus.

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p. 4 University of California San Francisco, "LRDP Mission Bay Aerial." <https://www.ucsf.edu/sites/default/files/LRDP-MB-Aerial.jpg>.

p. 5 Adapted from: University of California San Francisco, "Mission Bay Campus Site." <http://campusplanning.ucsf.edu/campus/mission-bay>.

p. 6 University of California San Francisco, "UCSF Parnassus Aerial." [http://space.ucsf.edu/sites/space.ucsf.edu/files/styles/starter\\_kit\\_full/public/gallery/ucsf\\_parnassus\\_aerial\\_hawkeye\\_photography.jpg?itok=KGC3-hrh](http://space.ucsf.edu/sites/space.ucsf.edu/files/styles/starter_kit_full/public/gallery/ucsf_parnassus_aerial_hawkeye_photography.jpg?itok=KGC3-hrh).

p. 8 Courtesy of Alessandra Sanguinetti/Magnum Foundation. "Researcher."

p. 10 Courtesy University of California San Francisco. "Genentech Hall."

p. 13 Courtesy of Mark Power/Magnum Foundation. "UCSF Medical Center."

p. 14 University of California San Francisco. "Mission Hall Floorplans." <http://space.ucsf.edu/floorplans-and-renderings>.

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