

**UCSF Medical Center at Mission Bay
Residential Sound Reduction Program for Helicopter Operations
Community Process Summary**

March 2009



**UCSF Medical Center at Mission Bay
Residential Sound Reduction Program for Helicopter Operations**

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Overview

The **UCSF Medical Center at Mission Bay**, an integrated hospital complex that will serve children, women, and cancer patients, is scheduled to open in 2014. The hospital site is located just south of the existing UCSF research campus (bounded by Mariposa, 16th, 3rd, and the future Owens Street). Comprised of **289 inpatient beds and outpatient services**, the medical center will include a **children's hospital**, **women's specialty hospital**, and a hospital for **cancer patients**. For more information about the UCSF Medical Center at Mission Bay, please see Appendix A: *Facts about UCSF Medical Center at Mission Bay*.



Inpatient Buildings and Plaza on Third Street

The proposed helipad would provide more **immediate access for the most critically ill children and women with serious pregnancy complications**. Patients would be **transported from other hospitals** which are not able to provide the resources, level of care, and numbers of pediatric specialists available at UCSF Children's Hospital. There will be **estimated average of 1.4 transports per day**. The primary **flight path** will be from the east **over the bay**; there will be no arrivals or departures from/to the south. For more information about the proposed helipad, please see Appendix B: UCSF Medical Center at Mission Bay—For Your Information: Helipad.

To address the potential impact of helicopter noise resulting from the medical center's proposed helipad, UCSF has developed a **Residential Sound Reduction Program (RSRP)** in consultation with the community. In November and December 2008, UCSF hosted two community meetings and held several one-on-one discussions with individual neighbors to solicit community input on the draft RSRP. The program was revised in response to this feedback.

This report describes the **community process for developing the RSRP** and identifies neighbors' concerns and UCSF's response to those concerns.

Outreach

The **community has been involved** in the hospital planning process since 2001—UCSF has conducted more than 60 meetings involving community members. To date, UCSF Medical Center has incorporated a number of significant design changes in direct response to community feedback. Additionally, on October 21 2007, UCSF conducted a helicopter flight test which was planned in concert with Mission Bay neighbors, and met with neighbors to share test results.



Helicopter Test Flight, October 21, 2007

Intensive community outreach was done to notify neighbors of development of the Residential Sound Reduction Program (RSRP). UCSF hosted two community meetings on November 19 and December 11, 2008 to solicit community input on the draft RSRP. Meeting announcements were emailed to a neighborhood listserv of over 450 people, including key neighborhood organizations, and two postcard notices were sent to 260 nearby residences (owners and tenants) and 34 absentee owners. UCSF staff also conducted door-to-door outreach and phone calls to invite community members to attend the meetings and to discuss the proposed program. Twenty community members attended the November meeting and fifteen attended the December meeting. Staff and consultants were present at both meetings to field questions, including Cindy Lima, Executive Director Mission Bay Hospitals Project; Carla Kell-Smith, who has managed much of the renovation program work associated with SFO's Residential Sound Insulation Program, and Eugene Reindel of HMMH, Inc., the noise consultant working with UCSF. Daniel Iacofano of MIG, Inc., facilitated the meetings.

Measuring Potential Impact

The UCSF Medical Center at Mission Bay EIR included analysis of helicopter noise using two key metrics:

- Community noise equivalent level (**CNEL**) considers a 24-hour time period. The **Federal Aviation Administration (FAA)** uses **65 dB CNEL** to identify impact areas near airports. Using this metric, the area of potential impact for the UCSF helipad is **largely contained on the hospital site** and the UCSF research campus, and includes no neighboring residences.
- Single event noise exposure level (**SENEL**) relates to a single event such as helicopter arrival or departure. In most instances, the area of potential impact (95 dB SENEL) remains on the hospital site. However **for only the noisiest helicopter model**, this area extends about one block south of the site to 18th Street, generally between 3rd and Indiana Streets.



Following FAA regulations, airports use CNEL (24-hour average) metric to determine noise impact. Most hospitals surveyed by UCSF have not studied noise impacts. Of peer hospitals and Northern California hospitals surveyed, only UC Davis Medical Center has offered nominal compensation for sound insulation—using the 65 dB CNEL contour.

Out of concern for nearby neighbors, **UCSF has chosen to use the SENEL metric** as a basis for this program, **going above and beyond standards** and requirements to address potential noise effects.

Elements of the Residential Sound Reduction Program for Helipad Operations

Start-up Period

1. During the first eight weeks of operations, UCSF will address noise complaints, if any, by revising helicopter operations where feasible. If helicopter activity does not reach the expected average of 1.4 transports per day during the start-up period, the start-up period will be extended to a maximum of 12 weeks.
2. At the end of the start-up period, UCSF will conduct a test flight and redraw the 95 dB SENEL (single-event) noise contour to reflect the noise environment that will exist at that time.

Qualifications

3. Property is located in the blocks within or touched by the redrawn 95 dB SENEL (single-event) noise contour.
4. Property is a legal residential or live/work unit, as of the date of approval of the helipad by Caltrans Aeronautics.
5. Noise level in interior sleeping area is at or greater than 80 dB SENEL with windows closed, as measured by UCSF's sound consultant. (If unit is a loft with no separate sleeping area, entire unit will be considered a sleeping area for sound mitigation funds.)

Implementation

6. UCSF sends notification about the RSRP to residential property owners in the blocks within or touched by the redrawn 95 dB SENEL noise contour, plus 2 blocks beyond the contour.
7. Property owners have 12 months after the date of notification about the RSRP to apply for the program (UCSF will send a reminder to those notified at least 3 months before the end of the application period).
8. UCSF determines if property meets qualifications.
9. UCSF will compile for property-owner reference acoustical specifications identifying standard acoustical installations, such as acoustical windows and doors.
10. Qualified UCSF consultant recommends sound reduction measures in sleeping areas, which may include:
 - Standard acoustical windows;
 - Standard acoustical doors;
 - Weather stripping around doors and other openings;
 - Insulate or double pane skylights;
 - Ventilation improvements.
11. UCSF consultant estimates cost of recommended sound reduction measures in sleeping areas, which includes labor and materials costs, permit fees, and City inspections.
12. UCSF pays qualifying property owner amount of this estimate:
 - Costs will be based on "like-for-like", that is, for replacement of existing materials similar in quality or appearance;
 - Qualifying property owners who have existing vinyl or aluminum windows can be given a choice of vinyl or aluminum and color options;

- San Francisco Planning Code requirements within historic districts or regarding historic structures will apply. Wood windows may be required. Related costs will be included in the estimate.
13. UCSF will establish an ad hoc community working group of neighbors to develop a dispute and mediation process.
 14. Qualifying property owner, on her/his behalf and on behalf of tenants and future property owners, releases UCSF from future claims for UCSF helicopter noise at the property; this release shall be in the form of a permanent easement in exchange for compensation per item #12 above. The easement may be modified by written agreement executed by both parties.
 15. Qualifying property owner is responsible for implementing sound reduction improvements.

Program Changes in Response to Community Feedback

At the November meeting, questions and concerns were raised about helicopter operations and related noise impacts as well as elements of the proposed RSRP. UCSF staff responded to these concerns and addressed specific questions at the December meeting. Specific changes made to the proposed RSRP as a direct result of neighbor input are:



December 11 2008 community meeting

Additional program features

Ventilation improvements were added to the list of program features (in the event that keeping windows closed causes ventilation problems). UCSF will compile acoustical specifications identifying standard acoustical installations for property owner reference.

Extended period for property owners to apply to participate in RSRP

Property owners will have 12 months after the date of initial notification to apply, a 6-month extension of the originally proposed application period. Additionally, UCSF has committed to sending a reminder to all qualifying property owners at least three months before the end of the application period.

Extended Start-up period

The original Start-up period of 6 weeks was extended to 8 weeks (with a proviso that a minimum number of flights must occur during that time and if not, the start-up period will be extended to a maximum of 12 weeks). During the 8 weeks, UCSF will address noise complaints, if any, by revising helicopter operations where feasible. Following the start-up period, qualifying residents may apply to participate in the RSRP.

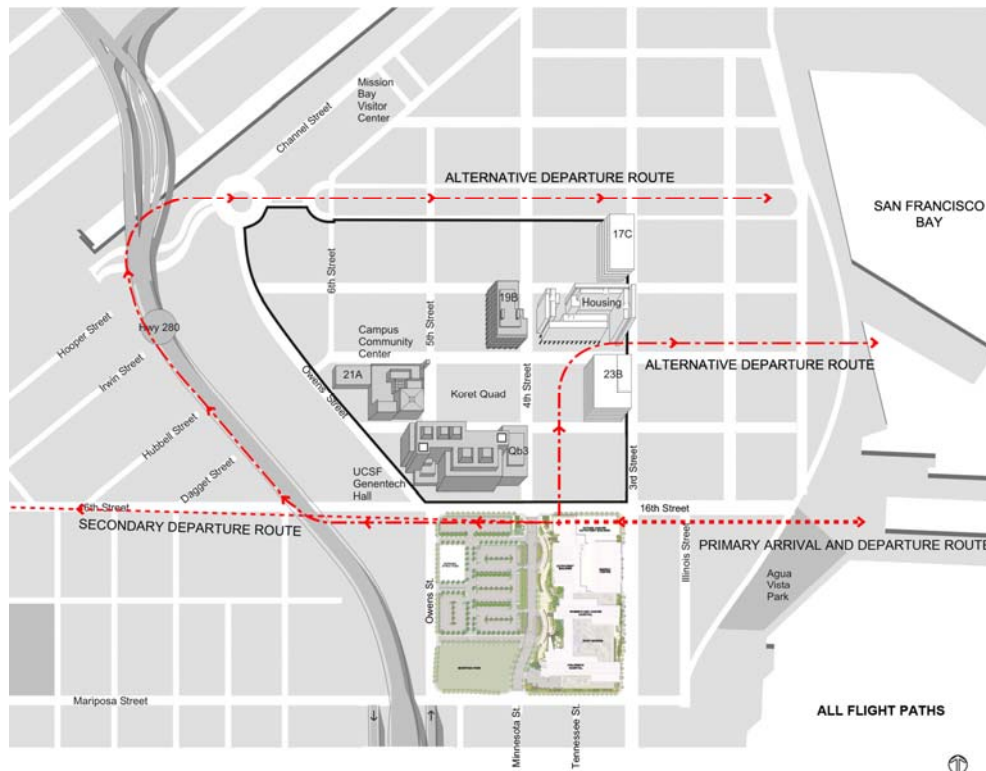
Special consideration for lofts

If unit is a loft with no separate sleeping area, entire unit will be considered a sleeping area for sound evaluation and mitigation funding.

Formalized notification process

UCSF sends notification about the RSRP to residential property owners within the contour zone before the start of the application period and again at least 3 months before the end of the period.

Flight Paths for Proposed Helipad



- There will be **no arrivals** from or **departures** to the **south** toward Dogpatch neighborhood residences.
- **Primary** arrival and departure route – helicopter arrives from the **east** and departs to the east over the Bay.
- Alternative departure routes – helicopter arrives from the east and departs to the north before turning east; or helicopter arrives from the east and departs to the west before turning north and then east.
- Secondary arrival and departure route – helicopter arrives from the east and departs to the west; used only in unusual circumstances when wind patterns require departure to the west.

Additional Program Elements

- Limit landings to critically ill patients where time is of the essence
- Limit landings to patient transfers from other hospitals
- Require physician approval for helicopter transport
- Prepare a Helicopter Operations Plan that requires UCSF to:
 - Use flight paths described in EIR, unless diversion necessary for safety
 - Use primary approach/departure path as much as feasible
 - Use alternate and secondary flight paths only if necessary for safety
 - Contracts with air medical companies will require pilots be trained about flight paths
 - Maintain a log of UCSF helicopter activity

- Respond to and investigate noise complaints
- Establish a UCSF committee, including community members, to address UCSF helicopter noise issues.

Minimizing Noise Impacts through Design

Minimizing noise impacts on surrounding residential neighborhoods has driven several design considerations including:

- Locating the helipad at the northern-most Medical Center building to **maximize distance from neighbors** to the south.
- Developing **flight paths over San Francisco Bay** to the greatest extent possible
- Designating flight paths away from residences
- Placing elevator shaft to the south of the landing pad to **deflect sound away from neighbors** to the south.

Next Steps

The UCSF Medical Center at Mission Bay Environmental Impact Report (EIR), certified by the University of California Regents in September 2008, identified mitigation measures to address helicopter noise, and committed UCSF to work with the community to further develop the RSRP. A Draft Supplemental Environmental Impact Report (SEIR) has been prepared to fulfill this commitment by providing information about the RSRP. The 45-day public comment period was from January 20 to March 6, 2009, and a public hearing was held February 23, 2009. The SEIR is now being finalized, which includes responding in writing to public comments, and will be submitted for certification by the University of California.

UCSF will then seek approval for the helipad from the San Francisco Board of Supervisors, which is required by the California Department of Transportation Aeronautics Division before they consider UCSF's application to construct and operate the helipad. UCSF is also required to obtain an FAA Airspace Determination to ensure that the proposed flight paths are clear of obstructions and meet dimensional requirements.

Updated helipad materials will continue to be posted on the UCSF Medical Center at Mission Bay website missionbayhospitals.ucsf.edu and the UCSF Community and Government Relations website at community.ucsf.edu.

APPENDIX A:

Facts About UCSF Medical Center at Mission Bay:

Project Overview

Project Overview

UPDATED March 2009

PROJECT SUMMARY



UCSF plans to build a 289-bed, integrated hospital complex to serve children, women and cancer patients near its existing 43-acre biomedical campus at Mission Bay. Upon completion of the first phase in 2014, plans for the 869,000-plus gross-square-foot hospital complex will include:

- A 183-bed children's hospital with urgent, emergency and pediatric primary care and specialty outpatient facilities;
- A 70-bed adult hospital for cancer patients;
- A women's hospital for cancer care, specialty surgery and select outpatient services, and a 36-bed birth center; and
- An energy center, helipad, parking and support services.

The UCSF Medical Center at Mission Bay will provide a world-class, sophisticated, efficient, flexible and family-centered healing environment. The hospital complex will provide comprehensive diagnostic, interventional and support services, and use advanced robotic and imaging technology during surgery — all in an environment centered around the compassionate care of patients and their families. The hospitals' integration with the existing biomedical campus will strengthen bench-to- bedside and bedside-to-bench collaboration among basic scientists, clinical researchers and physicians. The collaboration of multidisciplinary medical specialists will create a rich environment for new discoveries in the care of fetal, pediatric, maternal, women and cancer patients.

PROJECT LOCATION

The hospital complex will be located on a 14.5-acre parcel, which is south of UCSF's existing biomedical campus at Mission Bay. By locating the complex at Mission Bay, UCSF will be able to bring together basic scientists, clinical researchers and physicians to share resources, insight and ideas to accelerate the progress of discovery to benefit patients.

PROJECT COST

The first phase of the Mission Bay hospital project is estimated to cost about \$1.6 billion. Cost estimates will be updated at all major phases of the planning process.

PROJECT FINANCING PLAN

Support from donors, hospital reserves, external financing and state or other funding sources are required to finance this project.

CAPITAL CAMPAIGN

The UC Regents in May 2007 approved a fundraising campaign for the Mission Bay hospital project. The campus has received significant early indication of private support for the project and has begun the initial phase of a capital campaign to raise at least \$600 million. The fundraising campaign is being conducted jointly by the University and UCSF Foundation, under the leadership of Senior Vice Chancellor Bruce Spaulding. Diane "Dede" B. Wilsey, a San Francisco businesswoman and philanthropist, is serving as volunteer chair of the fundraising campaign.

The campaign planning project team also includes, among others:

- Barbara Bass Bakar, former president and CEO of Emporium/Weinstock's and former chair and CEO of I. Magnin, San Francisco;
- Ronald Conway, founder and general partner of Angel Investors LP, a privately held venture capital firm;
- Patricia C. Dunn, former Global Chief Executive Officer of Barclays Global Investors;
- Carmen Policy, former president and CEO of the NFL's San Francisco 49ers and Cleveland Browns;
- Richard M. Rosenberg, retired chair and CEO of the Bank of America Corporation and Bank of America NT&SA.

IMPORTANCE OF PROJECT

UCSF has one of the nation's highest ranked children's hospitals, one of the largest National Cancer Institute-designated Comprehensive Cancer Centers, and one of the original National Centers of Excellence in Women's Health. The co-location of three specialties in one complex, integrated with a major biomedical research campus, will ensure continued excellence in the care of children, women and cancer patients.

- **Children's Hospital:** Children will have a hospital designed just for them, providing nurturing, compassionate care for every child and family. Patients receiving care at Children's Hospital will greatly benefit from the presence of women's health and cancer specialists. For example, a large portion of all hospitalized children are treated for cancer and cancer-related issues.
- **Women's Hospital:** Co-location of a women's specialty hospital with a cancer hospital and children's hospital provides opportunities for UCSF to develop innovative and comprehensive inpatient and outpatient health care services specifically tailored to the unique needs of women. Collaboration will provide women with outstanding surgical care for disorders ranging from infertility to incontinence, and will provide access to the latest effective treatments for gynecologic and breast cancers as well as to the multidisciplinary care of complex obstetrical conditions, the diagnosis and treatment of birth defects, and the clinical investigation of maternal-fetal surgery. Babies born at the women's specialty hospital will be able to transition seamlessly to the children's hospital should they require follow-up care.
- **Cancer Hospital:** The location of the cancer hospital adjacent to new cancer research laboratories at Mission Bay will provide synergistic opportunities for the discovery and development of new treatments, allowing UCSF to build on its stature as a nationally designated Comprehensive Cancer Center and a world leader in cancer treatment, research and education. Cancer specialists at the hospital will also be able to serve the unique needs of cancer patients from the children's and women's hospitals.

ARCHITECTURAL DESIGN TEAM

UCSF has selected Anshen + Allen in association with William McDonough + Partners for the design of the Mission Bay hospital complex. Anshen + Allen is an award-winning, San Francisco-based architectural firm specializing in health care, research and academic facilities. William McDonough + Partners is a leader in sustainability and eco-effective designs. The team also includes Rutherford & Chekene and ARUP engineers.

SUSTAINABLE DESIGN

Design, construction, operations and purchasing strategies for the new Mission Bay hospital complex will uniquely integrate the best green practices available, and buildings will be certified by the US Green Building Council's Leadership in Energy and Environmental Design (LEED). The project is targeting LEED gold certification. Additionally, the medical center will incorporate discoveries from evidence-based design, a body of knowledge that demonstrates the built environment can positively affect healing, health, safety and well-being.

Applications of sustainable design at the new hospitals range from the individual patient to global levels.

For example:

- Patient rooms will include materials that have undergone unprecedented assessment to eliminate most known toxic elements.
- Patient care units will be configured to allow daylight and views into most workstations – among the best in comparison with typical modern US hospitals.
- Green roofs and gardens across the hospital complex will be among the most extensive of any urban US hospital.
- Water conservation will include rainwater and stormwater collection and reuse on-site for landscape irrigation; this is one of the few examples of water conservation on a large urban hospital site.

PROJECT CONTEXT IN RELATION TO LONG-TERM VISION

The new medical center at Mission Bay is a key element of UCSF's long-term vision to advance its education, research and patient-care missions. The University's vision is to create and sustain vibrant, integrated clinical, research and educational programs, building upon UCSF's unique strengths and ability to impact health care regionally, nationally and internationally. This vision is the product of a four-year campus strategic planning effort that involved broad representation and input, including medical center and campus leadership, faculty, staff, members of the community and others. Following is the long-term vision for UCSF's clinical and research activities at these three sites.

- **Parnassus Heights:** Focus on high-end adult surgical and medical services, including neurosurgery, cardiovascular and transplant services, with adult emergency care and a new stem cell focus;
- **Mission Bay:** Construct a hospital complex for children's, women's specialty and cancer services with research facilities in cardiovascular care, neurosciences and cancer; and
- **Mount Zion:** Expand its use as a major outpatient hub with a diagnostic and therapeutic focus, as well as a focus on women's health and related clinical research and education.

COMMUNITY INVOLVEMENT



The community has been involved in the hospital planning process since 2001, when members of the UCSF Community Advisory Group (CAG) started developing, in concert with faculty and staff, a set of criteria to be used in evaluating site options. The CAG is a diverse group of neighborhood, labor, ethnic and business leaders with an active interest in UCSF's role in the neighborhoods and the San Francisco Bay Area. UCSF has conducted more than 50 meetings involving community members, including the CAG and its subcommittee, the Hospital Replacement Community Action Team, and members of the public at large.

In 2005, public meetings were held regarding the proposed height and bulk of the hospital buildings, and UCSF responded to community feedback by reducing the maximum height of these buildings.

In March 2007, frequent community meetings began to develop the site plan for the clinical facilities. These meetings will continue throughout the site planning and design process to ensure that the community can provide input for UCSF's consideration.

To date, UCSF Medical Center has incorporated a number of significant design changes in direct response to community feedback. Additionally, in October 2007, UCSF conducted a helicopter flight test in response to a request by Mission Bay neighbors, and has subsequently developed a Residential Sound Reduction Program for Helicopter Operations to address concerns.

NEED FOR NEW FACILITIES

The plan to build new facilities at Mission Bay aims to increase inpatient and outpatient capacity to meet growing patient demand, address old and outdated facilities, and comply with state-mandated earthquake safety standards for hospitals. UCSF Medical Center's facilities on the Parnassus campus are composed of two adjoining 15-story buildings that function as one hospital: Moffitt, built in 1955, and Long, built in 1982. UCSF Medical Center also operates facilities at Mount Zion, where buildings date to 1948.

STATE SEISMIC SAFETY LAW

California state law requires hospitals to evaluate their facilities, develop plans to meet seismic standards and ensure their buildings are safe. State law requires Mount Zion hospital to be retrofitted or replaced by 2013, although the state legislature's recent passage of SB 1661 will extend the seismic deadline from 2013 to 2015 for hospitals that request and receive an extension. Long Hospital is seismically sound and viable beyond 2030, but Moffitt Hospital must be retrofitted or replaced by 2030.

PROJECT SCHEDULE

- September 2008: Design and budget approved by UC Regents; Environmental Impact Report certified
- December 2008: Structural plans submitted to office of Statewide Health Planning & Development
- January 2009: Construction documents initiated
- March 2009: Begin selection of subcontractors
- April 2009: Site trailers fully occupied and functioning
- November 2009: Construction documents completed
- January 2010: UC Regents update; Remaining demolition begins
- May 2010: Start site work
- November 2010: UC Regents funding plan approval
- December 2010: Construction of foundations begins
- June 2011: Steel erection begins
- Mid 2014: Construction completed; commissioning and fit-out starts
- Late 2014: UCSF Medical Center at Mission Bay opens

PROJECT DIRECTOR

Cindy Lima, Executive Director of Mission Bay Hospitals Project.

ABOUT UCSF

UCSF Medical Center and UCSF Children's Hospital are recognized throughout the world as leaders in health care, and are known for innovative medicine, advanced technology and compassionate care. For more than a century, UCSF medical center has offered unparalleled medical treatment. Expertise covers virtually all conditions, including cancer, heart disease, infertility, neurological disorders, organ transplantation and orthopedics, as well as specialty services for women and children.

UCSF is a leading university dedicated to promoting health worldwide through advanced biomedical research, graduate-level education in the life sciences and health professions, and excellence in patient care.

Note: Details contained in these pages are subject to change as more information becomes available.

Contact: Holly Houston
Director of Communications
UCSF Medical Center at Mission Bay
(415) 476-5457 or Holly.Houston@ucsfmedctr.org

APPENDIX B:

Facts About UCSF Medical Center at Mission Bay:

Children's Hospital Helipad

Children's Hospital Helipad

UPDATED March 2009

NEED FOR HELIPAD

- UCSF Children's Hospital provides a vast array of expert care—from routine immunizations to the most advanced treatments for serious, life-threatening childhood diseases. This expertise is available to the children of San Francisco, California, and beyond.
- Rapid access to this specialized level of care is vital when a child is critically ill, a baby is born with a devastating birth defect, or a pregnant woman and/or her child (still in the womb) are in danger due to a serious illness or condition.
- Community hospitals are not able to provide the level of resources and numbers of pediatric specialists available at UCSF Children's Hospital.
- A helipad at Mission Bay would provide more immediate access for the most critical of these children. Speeding the UCSF transport team to a remote hospital and airlifting to UCSF will save many lives.
- A helipad at Mission Bay would provide more immediate access for the most critical of these children. Speeding the UCSF transport team to a remote hospital and airlifting to UCSF will save many lives.
- In addition, having a helipad can also benefit other patients at the hospital, even though they may not need to use it themselves. Having this valuable resource, which is standard at many hospitals outside of San Francisco, will help attract and retain top notch medical students, physicians, and staff.



A helicopter flight test was conducted in partnership with Mission Bay neighbors in October 2007.

USE OF HELICOPTER TRANSPORT

- Helicopter access to UCSF Children's Hospital will be limited to the most critical and life-threatening situations.
- Examples of patients who would require helicopter transport include:
 - A newborn with a life-threatening heart defect that requires immediate surgery to survive
 - A child with septic shock and organ failure who may die within hours
 - A pregnant woman with severe preeclampsia threatening her life and the life of her baby
- Helicopter transport will require a physician's approval before it is dispatched.
- All patients with less serious conditions will be transported by ground ambulance or airplane ambulance for longer distances.

A HELICOPTER WILL NOT BE USED FOR:

- Trauma scene transport (for example, victims of a car accident)
- Routine transport of stable patients
- Transport of patients from UCSF to other facilities
- Transport of staff, administrators, or other non-patient related travel

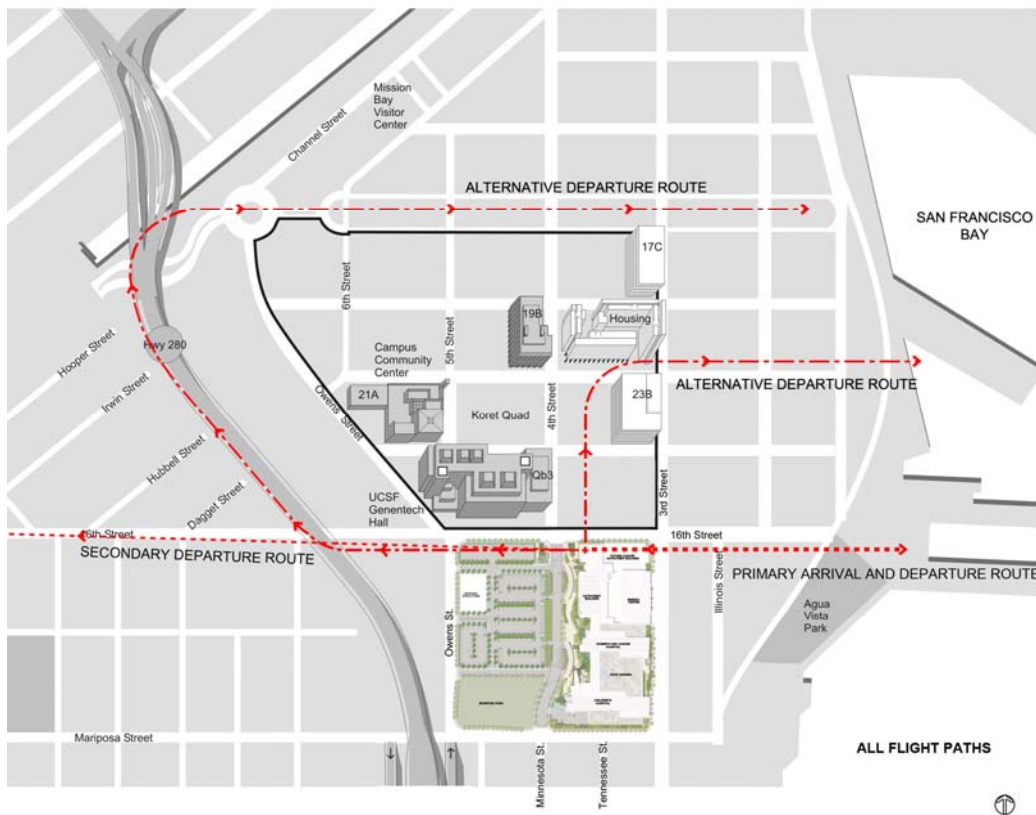
SAFETY

- The safety of our patients, transport teams, and community members is UCSF's top priority.
- The UCSF Children's Hospital transport program has an excellent safety record.
- Because UCSF is not a trauma center, UCSF is able to consider distance, weather, and patient condition before determining the best mode of transport: airplane, helicopter or ground.
- UCSF plans to define pre-established safety criteria, such as which weather conditions must exist in order to take off or land at UCSF, with contracted medical helicopter transport companies.
- The primary flight path to UCSF Medical Center at Mission Bay is almost entirely over the bay.
- Statistics from UCSF Medical Center at Mission Bay Environmental Impact Report: Out of 8 million medical helicopter flights in the United States from 1991 to 2007, none have caused deaths or serious injuries to persons not on the helicopter. Recent medical helicopter accidents in the United States through October 2008 have not resulted in deaths to persons not on the helicopter.

PROPOSED FLIGHT PATHS

Proposed flight paths are described below. Given wind conditions in the area, the vast majority of flights would use the primary arrival and departure route and the alternative departure routes, with flights arriving from and departing over San Francisco Bay:

- There will be no arrivals from or departures to the south toward Dogpatch neighborhood residences.
- Primary arrival and departure route – helicopter arrives from the east and departs to the east over the Bay.
- Alternative departure routes – helicopter arrives from the east and departs to the north before turning east; or helicopter arrives from the east and departs to the west before turning north and then east.
- Secondary arrival and departure route – helicopter arrives from the east and departs to the west; used only in unusual circumstances when wind patterns require departure to the west.



ESTIMATED NUMBER OF TRANSPORTS

The UCSF Medical Center at Mission Bay Environmental Impact Report (EIR), certified by the UC Board of Regents in September 2008, analyzed a hospital helipad at the project site. The EIR analysis assumed 1.4 transports on an average day, and three transports on a busy day (a transport involves a landing and a takeoff, and is therefore two flights). These projections are well within the average for other children's hospitals that are not trauma centers, and include neonatal, pediatric and maternal patients:

Projected Annual Transports: 500 per year

Projected Monthly Transports: 40 per month

Projected Daily Transports: 1.4 per day

PROJECTED DAILY AVERAGE ARRIVALS:

7 a.m. – 3 p.m. 0.58 per day (42%)

3 p.m. – 11 p.m. 0.55 per day (40%)

11 p.m. – 7 a.m. 0.25 per day (18%)

PROJECTED MONTHLY AVERAGE ARRIVALS:

7 a.m. – 3 p.m. 17.5 per month (42%)

3 p.m. – 11 p.m. 16.6 per month (40%)

11 p.m. – 7 a.m. 7.5 per month (18%)

As indicated in the average times above, most flights are expected to take place between 7 a.m. and 11 p.m., but other flights may be necessary based on urgent patient needs. California Public Utilities Code 21662.4 exempts "emergency aircraft flights for medical purposes" from laws restricting arrival/departure times.

HELICOPTER NOISE

- Conditions affecting noise: angle of descent, wind direction, cloud cover
- Estimated flight time from shoreline to pad (including hover time): 1-2 minutes
- Estimated descent-to-landing and ascent-to-departure time: 30 seconds
- Engine run time on helipad dependent on helicopter type, but in general:
 - 30 seconds to 2 minutes after landing
 - 30 seconds to 2 minutes before takeoff
 - Engines off remainder of pad time
- Hovering, which can be one of the noisiest helicopter flight activities, is *not* part of a routine helipad landing

The UCSF Medical Center at Mission Bay EIR included analysis of helicopter noise relative to two key metrics:

- Community noise equivalent level (CNEL), which considers a 24-hour time period. Analysis using CNEL determined helicopter noise impacts to be less than significant: The area of potential impact is entirely contained on the hospital site and the UCSF research campus.
- Single event noise exposure level (SENEL), which relates to a single event such as helicopter arrival or departure. Analysis using SENEL determined helicopter noise impacts to be significant due to the potential awakening of about 10% of residents within a 95-decibel noise contour, which extends about one block south of the project site to 18th Street, generally between 3rd and Indiana Streets.

The EIR identified a number of mitigation measures to reduce noise impacts, including continuing to work with the community to develop a residential sound reduction program. This community process took place in late 2008 and early 2009, yielding the Residential Sound Reduction Program for Helicopter Operations (RSRP), which was developed in response to community feedback. Please see [RSRP Community Process Summary](#) for more information on the program.

DISASTER RESPONSE

An established helipad and protocols for its use in a disaster will benefit San Francisco and the greater Bay Area. These plans would be a vital part of the disaster response plan for UCSF Children's Hospital, as well as for the City and County of San Francisco.

HELIPAD SITE PLANNING PRINCIPLES

Helipad site planning for the UCSF hospital complex site is guided by a number of objectives, including the desire to minimize impacts on the community and comply with Federal Aviation Administration (FAA) requirements. UCSF has sought to minimize the impact of helicopter flights on nearby residences by:

- Developing flight paths that are over San Francisco Bay to the extent possible
- In response to community feedback, changing the proposed location of the helipad by moving it as far north as possible on the proposed hospital buildings
- Placing the elevator shaft to the south of the landing pad to deflect sound away from the Dogpatch neighborhood

ALTERNATIVE HELIPAD LOCATIONS

UCSF plans to pursue a helipad location on the hospital site. Locating the helipad off-site would require transporting patients from the helipad to the hospital via ambulance, which would delay potentially life-saving medical treatments. Ground transport also adds additional risk to patients due to extra maneuvering and additional transfers of patients and intensive care equipment from the helicopter into the ambulance, then out of the ambulance again.

In response to community concerns, UCSF has evaluated alternative locations, including discussions with the Port of San Francisco regarding potentially locating the helipad on Port property, and with San Francisco General Hospital regarding a shared off-site helipad. The Port has indicated that a helipad is not a Port-related use, and that only rare or occasional use of an Emergency Medical Services (EMS) helicopter landing site, rather than routine use associated with a specific hospital, was envisioned in the Waterfront Land Use Plan. San Francisco General Hospital, a Level I trauma center, does not consider an off-site helipad to be acceptable, again due to the medical reasons stated above.

COMMUNITY INVOLVEMENT

- UCSF has conducted a number of community meetings to answer neighbors' questions about the helipad.
- Medical transport staff, pilots, and helicopter noise consultants have participated in meetings with neighbors to answer questions and to discuss how other communities are managing their relationships with hospital helipads.
- Helicopter test flight: UCSF conducted a helicopter test flight on October 21, 2007, and gathered noise measurement data from seven different locations. The data was used to inform the EIR for the UCSF Medical Center at Mission Bay.

APPROVALS

- The University of California Board of Regents approved the UCSF Medical Center at Mission Bay project's design, budget and EIR in September 2008. Helipad operations have not yet been approved by the University; consideration of the RSRP is in process.
- The San Francisco Board of Supervisors must approve the helipad before the California Department of Transportation (Caltrans) aeronautics division will consider UCSF's application to construct and operate the helipad.
- UCSF is also required to obtain an FAA airspace determination, to ensure that the proposed flight paths are clear of obstructions and to meet dimensional requirements, prior to requesting approval by Caltrans.

Note: Details contained in these pages are subject to change as more information becomes available.

Contact: Holly Houston
Director of Communications
UCSF Medical Center at Mission Bay
(415) 476-5457 or Holly.Houston@ucsfmedctr.org