Background and Overall Requirements

Located in Palo Alto, CA and on the Stanford University campus, the Stanford University Medical Center (SUMC) is one of the country’s leading academic medical centers, developing and providing advanced medical care for its community and region. Within Palo Alto, the 2 Million-plus square foot SUMC is comprised of two internationally renowned hospitals – Stanford Hospital and Clinics (SHC) and Lucile Packard Children’s Hospital (LPCH) – and a portion of Stanford University’s School of Medicine (SoM). SUMC provides an important venue for the delivery of advanced medical technologies and practices and is a Level 1 Trauma Center serving the counties of Santa Clara, San Mateo (southern portion), Monterey, Santa Cruz, and San Benito.

To assure their ability to effectively serve the community, the Stanford Hospital and Clinics, Lucile Packard Children’s Hospital and the School of Medicine all require renewal and replacement of current facilities for the following reasons:

• **California Senate Bill 1953.** SB1953 requires hospitals to retrofit or replace facilities not meeting strict life safety criteria. Hospitals can either retrofit or replace non-compliant facilities to meet a January 1, 2013 deadline. Even more stringent requirements must be met by 2030. If hospitals do not comply with these mandates, the State can revoke the hospitals’ licenses to operate. The Stanford Hospital, comprised of buildings built in 1959, 1973, and 1989, does not comply with criteria in place for the 2013 deadline, and significant portions of its facilities must be replaced. The 1959 hospital building, comprising 188 beds and approximately 300,000 square feet, must be replaced in its entirety. All 66 intensive care beds, the emergency department, and the 21 operating rooms at Stanford Hospital do not meet 2013 non-structural criteria, and it is more efficient for SHC to replace these facilities than to retrofit them. LPCH’s facility meets the structural performance criteria for the 2030 deadline, but significant non-structural renovations to critical care areas are required by the 2013 deadline. In order to accomplish these renovations, LPCH needs replacement space for patients and families during construction.

• **Inadequate Ability to Serve Constituents.** Lucile Packard Children’s Hospital has an acute shortage of beds; the hospital was forced to turn away 200 critically ill children and refer them to other health care facilities in 2005 due to lack of beds. Stanford Hospital also had to turn away 500 adult patients and refer them to other medical care providers because of a shortage of rooms. Furthermore, due to an aging population, along with modest overall projected population growth in the surrounding community, this figure will increase unless additional patient rooms are provided. SHC and LPCH also suffer from an outmoded ratio of semi-private patient rooms to private patient rooms. Approximately 60% of the patient beds at Stanford Hospital and Packard Hospital are semi-private, yet the American Academy of Healthcare Architects recommends 100% private rooms to ensure patient safety, privacy and family centered care. In addition, the emergency department shared by SHC and LPCH is undersized by approximately 25,000 square feet. With approximately 45,000 visits per year, the emergency department has inadequate patient waiting and triage space, and trauma rooms out of compliance with
contemporary facility standards. In 2005, approximately 950 visitors were referred to other emergency departments due to lack of capacity.

- **Statutory Code Requirements.** California’s building code for hospitals is the most restrictive in the nation. It requires hospital facilities to withstand the most severe earthquakes and maintain uninterrupted service to the community. To achieve compliance with these criteria, hospital buildings incorporate massive structural systems. These structural systems require significantly deeper beams and larger columns than other buildings, thereby increasing building heights by two to three feet per story. To comply with state requirements, hospitals must also incorporate sophisticated air handling systems to prevent the spread of infections and maintain sterile environments. These systems deliver a tremendous amount of fresh air to patient rooms, operating rooms, and other treatment spaces. More importantly, these systems filter air exhausted from these spaces. To deliver fresh air efficiently throughout the hospital, further additional building height is required for the oversized mechanical ductwork and other specialty systems such as medical gas, vacuum, and emergency power.

- **Optimal Hospital Planning.** In order to design a modern, efficient hospital and with the highest regard for patient service and safety, patient rooms are stacked on top of operating rooms, the emergency department, and other treatment areas. The existing Stanford Hospital does not employ this vertical relationship. Organized horizontally, the hospital does not provide a private and secure route from the operating rooms or the emergency department to the patient rooms. New buildings for the Stanford and Packard Hospitals will be designed with appropriate vertical relationships and are proposed to be eight stories or less, with a maximum height of 130 feet (excluding rooftop mechanical).

- **Inadequate Ability to Support Contemporary Translational Research.** Changes in the conduct of biomedical research, coupled with significant changes in the building, life-safety, and seismic codes governing research facilities, have rendered all of the School of Medicine’s original facilities in Palo Alto obsolete. In order to be able to continue to support the creation of new knowledge and its translation to clinical applications that will improve and save the lives of adults and children being treated at SHC and LPCH, the School of Medicine must undertake the systematic replacement of its aging facilities.

- **Increasing Outpatient Healthcare Demand.** In addition and relative to the growing inpatient care delivered within the hospital, the proportion of outpatient procedures is increasing much more rapidly. This growth in demand for outpatient services is caused by the advancements in medical delivery technologies, increased ability to see chronic condition patients (asthma, cardiac, etc.) in an outpatient setting, and the impact of life-saving procedures such as heart transplants and multiple procedures that often require monitoring for and treatment of complications over time. SHC and LPCH are managing much of this demand by moving a number of outpatient services that can be provided off-site to Redwood City and San Jose. In fact, SHC is currently improving over 200,000 square feet in Redwood City for outpatient programs that would otherwise be located on the Palo Alto campus. However, there is a current unsatisfied demand that is projected to increase, that is critical to the core academic and translational discovery process, and that must remain co-located with inpatient services.

- **Level 1 Trauma Center & Disaster Preparedness** Both SHC and LPCH continue to work with Santa Clara County and the other surrounding Bay Area counties in an overall Disaster Preparedness program. This program addresses natural and man-made disasters.
and how the region will respond. For SHC and LPCH this includes how each hospital will quickly add or convert beds and procedure rooms to manage critically injured patients for mass population events such as earthquakes, pandemics (influenza), or man-made biological/chemical exposure (bioterrorism, etc.). SUMC is the only Level 1 Trauma Center serving the southern Bay Area, San Jose, Monterey, Santa Cruz, and San Benito populations of approximately 3.3 million people. Both SHC and LPCH modernization plans must include fundamental design provisions relevant to SUMC’s role as a Regional Trauma Center for daily and extreme-disaster healthcare delivery.

- **Community Health Provider Relationships** Conceived in the 1950’s as a joint teaching hospital and Palo Alto community hospital, SUMC still maintains a strong relationship with community health providers who send their patients to the hospitals. Currently, many of these health providers lease space adjacent to the SUMC in structures owned and operated by SHC, LPCH or private building owners. Due to the need for SUMC replacement and renewal, SHC, LPCH, and SoM must demolish structures at three of these sites leased in part to community health providers. The hospitals are working with these tenants to identify alternative space. Such space and other additional medical office space needs to be provided in proximity to the hospitals. In particular, the Hoover Pavilion site can provide space for these health providers.

The following SUMC proposal for renewal and replacement addresses the foregoing requirements and is broken down into its component parts for clarity. The planning horizon for the estimated assumptions of growth, service, and phased implementation is 2030.
Stanford Hospital and Clinics

Since 1959, SHC has been providing state-of-the-art healthcare for Palo Alto and the surrounding communities. Originally constructed as a joint teaching hospital and City of Palo Alto community hospital, SHC is currently licensed by the state of California to operate 613 beds, but is currently operating at a 456-bed level. Its projected need, in order to viably meet current and future demand, requires an increase of 144 beds to a total of 600 beds. In order to meet this bed count and provide for the other requirements set forth above, SHC proposes the following:

New construction:
- 1,100,000 gross square feet to house the replacement of 456 beds, new surgical operating suites, new diagnostic and treatment suites (MRI, CT, etc.), and associated nursing and support space.
- 329,000 gross square feet to house clinics, medical offices, and administrative offices.
- Parking for 695 cars.
- Parking Structure for 700 existing cars to replace existing Parking Structure #3 (700 cars).

Reuse of existing facilities:
- Renovation of D, E, & F nursing units which currently house 243 hospital beds to house about 144 SHC hospital beds and support space.
- Reuse of the remaining 1989 HMP building to house diagnostic and treatment space and other supporting functions such as materials management, clinical laboratory, and physician and administrative offices.

Demolition of existing facilities:
- Demolition of 441,200 sf of existing 1959 hospital facilities (East Building, West Building, Core Building, and Boswell Clinics Building) after construction of a new clinical building.
- Demolition of 223,900 sf of the existing 1973 Building after construction of a new clinical building.
- Demolition of existing 700-car Parking Structure #3.
- Demolition of existing 1101 Welch Road structures totaling 40,100 square feet. See separate discussion regarding relocation of non-Stanford community health providers.

Summary of Square Feet (not including parking):

New:  
1,100,000 sf new hospital (critical care functions under OSHPD criteria)  
329,000 sf new clinics and offices (OSHPD-3 criteria)  
1,429,000 sf

Demolition:  
441,200 sf original hospital  
223,900 sf 1973 Building  
40,100 sf buildings at 1101 Welch Road  
705,200 sf

Net add:  
723,800 sf
New Construction
- 1.1M sf to replace 456 beds, house new surgical, diagnostic and treatment suites, plus nursing and support¹
- 700-car replacement parking structure²
- 329,000 sf of clinics, medical and administrative offices (preferred site)³
- 695-car parking garage (with LPCH), site to be determined

Reuse of Existing
- Renovate D, E, & F pods from 243 beds to 144 beds
- Renovate 1989 HMP building for diagnostic, treatment, medical offices and other support

Demolish
- 441,200 sf of 1959 hospital facilities
- 223,900 sf of 1973 building
- 40,100 sf of 1101 Welch medical offices
- 700-car parking structure

Net Add: 723,800 sf, 695-car parking
Lucile Packard Children’s Hospital

Occupied in 1991, the existing LPCH facility requires expansion to serve additional children and families, and to accommodate modern healthcare standards. LPCH is currently licensed for 257 beds on its Stanford campus and plans to increase its license by 104 beds to 361. The proposed addition will allow conversion of existing beds from semi-private to private rooms in the existing facility and reuse the space for other diagnostic and clinical purposes. LPCH will continue to occupy two floors in the F Pod nursing unit for its Obstetrics program and will convert rooms in both F Pod and other vacated space to create private rooms for its patients. LPCH will also continue to share services with SHC for emergency department services and materials management.

New construction:
- 375,000 gross square feet of new addition to house 104 new beds, new surgical operating suites, new diagnostic and treatment suites (MRI, CT, etc.) and associated nursing and support space designed to OSHPD requirements.
- 50,000 gross square feet of new clinics and supporting services space.
- Includes adding 175 parking spaces.

Reuse of existing facilities:
- Reuse of two floors in F Pod to continue housing the Obstetrics program.
- Reuse of main facility to continue housing patient bed, diagnostic and treatment, clinical and support services.

Demolition of existing facilities:
- Demolition of existing 703 Welch Road structure of 23,500 square feet. See separate discussion regarding relocation of non-Stanford community health providers.

Summary of Square Feet (not including parking):

New: 375,000 sf new hospital (critical care functions under OSHPD criteria)
      50,000 sf new clinics and offices (OSHPD-3 criteria)
      425,000 sf

Demolition: 23,500 sf building at 703 Welch Road

Net add: 401,500 sf, 175 parking spaces
New Construction
- 375,000 sf to add approximately 104 beds; house new surgical, diagnostic and treatment suites, plus nursing and support
- 50,000 sf of clinics and support
- Replacement Parking plus 175 spaces

Reuse of Existing
- Renovate two floors of F Pod for Obstetrics
- Renovate main facility to continue use for hospital beds, diagnostic, treatment and support

Demolish
- 23,500 sf of 703 Welch medical offices

Net Add: 401,500 sf, 175 parking spaces
As an integral member of the SUMC campus, SoM requires the replacement of its laboratory and office space within the City of Palo Alto to provide state-of-the-art facilities to meet current industry standards. Among the more significant changes in the biomedical research facilities standards adopted since these buildings were originally designed in the late 1950’s are the following:

- **Occupancy Separations and Exiting.** Current codes require stronger and more reliable fire separations between laboratory and office areas, as well as along primary existing corridors. Meeting these standards within the 1959 buildings would necessitate the full demolition and reconstruction of all interior spaces.

- **HVAC and Other Mechanical Systems.** Current codes require that a laboratory’s heating, ventilation and air conditioning system move a significantly greater volume of air than was required in 1959. The requirements of other mechanical, electrical and plumbing (MEP) systems have also increased over time, including provisions for emergency power. Modern research building design calls for a 15 to16-foot floor-to-floor dimension in order to accommodate these systems. Fitting modern systems within the 12’6” floor-to-floor height of the 1959 buildings can only be done at a very high cost premium, further exacerbated by loss of usable space.

- **ADA, Circulation and Laboratory Support Requirements.** Since 1959 a number of changes and trends have resulted in an increase in the standard dimensions of a research laboratory. For example, the incorporation of handicapped accessibility into the interior design of research laboratories has resulted in wider aisles and increased interior circulation areas. Integrated laboratory suites have become the standard design in order to allow for safer and easier access between the laboratory and an increasing, diverse array of laboratory support functions, such as tissue culture rooms, equipment rooms, computational facilities and others that did not exist in 1959. Consequently, modern research building designs typically utilize a 50 to 55-foot laboratory “bay”. Within the 1959 buildings, the available dimension is only 35 to 45 feet.

Collectively, these standards and others impose a design and construction obligation on the fixed dimensions of these older buildings that can only be met at extraordinary cost and with great inefficiencies in the use of the space.

The four buildings occupied by SoM within the City’s boundaries are Edwards, Lane, Alway and Grant. These buildings no longer serve the medical center’s clinical and translational research needs and must be replaced. Currently, the buildings house the primary faculty offices, research laboratories and administrative support for 13 of the School’s 28 academic departments, including the departments of Medicine, Neurology, Neurosurgery, Obstetrics & Gynecology, Orthopedic Surgery, and Pediatrics. These departments are fundamental to the academic mission. SoM would replace the existing building in a series of three new modern “Foundations in Medicine” (FIM) buildings, to be constructed in a phased process.

**New construction:**
- 160,000 sf Foundations in Medicine #1 (FIM1)
- 110,000 sf Foundations in Medicine #2 (FIM2)
- 145,000 sf Foundations in Medicine #3 (FIM3)
- 415,000 sf
Demolition of existing facilities:
  - 415,000 sf in 4 existing buildings (Edwards 65,800 sf), Lane (84,700 sf), Alway (112,500 sf), and Grant (152,000 sf)

Summary of Square Feet:

New: 415,000 sf in 3 FIM buildings

Demolition: 415,000 sf in existing 1959 buildings

Net add: -0- sf
School of Medicine – Growth and Replacement

New Construction
- 160,000 sf in FIM 1¹
- 110,000 sf in FIM 2²
- 145,000 sf in FIM 3³

Demolition
- 415,000 sf total in Edwards (65,800 sf), Lane (84,700 sf), Alway (112,500 sf) and Grant (152,000 sf)

Net Add: 0 sf
**800 Welch Road**

The SoM currently owns and occupies all of 800 Welch Road. Within the parcel’s existing zoning (and separate from the larger SUMC development), SoM will be pursuing the redevelopment of this site with a 32,670 sf Center for Translational Research that will provide some of the critical infrastructure programs needed to effectively link the research and clinical missions of the SUMC. This will add a net of 14,200 sf to the site’s current level of development.

**Private Medical Practices to Hoover Pavilion Site**

Much of the 108,400 square feet of improvements on the SHC-occupied Hoover Pavilion site located at 211 Quarry Road presently serves SUMC clinical and clinical research purposes. As SHC develops its outpatient campus in Redwood City, the use of Hoover Pavilion can migrate towards private medical practices and house non-Stanford medical offices displaced by the development of the SUMC campus, specifically the displacement of 1101 Welch Road tenants (refer to “Foreseeable Impacts” below).

For the future growth and development of SUMC and Welch Road uses, SUMC is proposing the addition of a new building adjacent to the Hoover Pavilion to support medical office practices. Further investigation is needed to identify specifically such office requirements for services and offices to support the SUMC and community health providers. However, we anticipate this future need to be approximately 200,000 sf.
## Summary of Square Foot Request

<table>
<thead>
<tr>
<th></th>
<th>Existing SF</th>
<th>Additional SF</th>
<th>Demolition SF</th>
<th>Net Add Request SF</th>
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<tr>
<td><strong>SHC</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hospital</td>
<td></td>
<td>1,100,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinics</td>
<td></td>
<td>329,000</td>
<td></td>
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</tr>
<tr>
<td>1101 Welch Road</td>
<td></td>
<td></td>
<td>(40,100)</td>
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<tr>
<td>Original 1959 Hospital</td>
<td></td>
<td></td>
<td>(441,200)</td>
<td></td>
</tr>
<tr>
<td>1973 Building</td>
<td></td>
<td></td>
<td>(223,900)</td>
<td></td>
</tr>
<tr>
<td>Hoover Pavilion and Site</td>
<td></td>
<td></td>
<td>200,000</td>
<td></td>
</tr>
<tr>
<td>801 Welch Road</td>
<td></td>
<td>200,000</td>
<td></td>
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<tr>
<td><strong>Total SHC</strong></td>
<td>1,555,600</td>
<td>1,629,000</td>
<td>(705,200)</td>
<td>923,800</td>
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<tr>
<td><strong>LPCH</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hospital</td>
<td></td>
<td>375,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinics</td>
<td></td>
<td>50,000</td>
<td></td>
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<tr>
<td>701 Welch Road</td>
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<td></td>
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<tr>
<td>703 Welch Road</td>
<td></td>
<td></td>
<td>(23,500)</td>
<td></td>
</tr>
<tr>
<td>730 Welch Road</td>
<td></td>
<td>200,000</td>
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<tr>
<td><strong>Total LPCH</strong></td>
<td>329,100</td>
<td>425,000</td>
<td>(23,500)</td>
<td>401,500</td>
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<tr>
<td><strong>SoM</strong></td>
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<tr>
<td>FIM 1-3</td>
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<td>415,000</td>
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<td></td>
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<tr>
<td>Grant, Alway, Lane, Edwards</td>
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<td>(415,000)</td>
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<td>800 Welch Road</td>
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<td>32,700</td>
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<td><strong>Total SoM</strong></td>
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<td>447,700</td>
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<td><strong>Total</strong></td>
<td>2,370,400</td>
<td>2,501,700</td>
<td>(1,162,200)</td>
<td>1,339,500</td>
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## Summary of Space Drivers

<table>
<thead>
<tr>
<th></th>
<th>Total Net SF Request</th>
<th>Net SF Add for Current Requirements/Standards</th>
<th>Net SF Additional Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>SF</td>
<td>% of Total</td>
</tr>
<tr>
<td><strong>SHC</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beds, existing 456 to private</td>
<td>923,800</td>
<td>320,000</td>
<td>35%</td>
</tr>
<tr>
<td>Support, 456 Beds</td>
<td>145,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emergency/Trauma</td>
<td>150,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hoover Pavilion and Site</td>
<td>25,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total SHC</strong></td>
<td>923,800</td>
<td>320,000</td>
<td>35%</td>
</tr>
<tr>
<td><strong>LPCH</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beds, existing 257 to private</td>
<td>401,500</td>
<td>126,000</td>
<td>31%</td>
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<tr>
<td>Support, 257 Beds</td>
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<td></td>
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<tr>
<td><strong>Total LPCH</strong></td>
<td>401,500</td>
<td>126,000</td>
<td>31%</td>
</tr>
<tr>
<td><strong>SoM</strong></td>
<td>14,200</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,339,500</td>
<td>446,000</td>
<td>33%</td>
</tr>
</tbody>
</table>
**Building Heights**
Modern hospital planning seeks to minimize the distance traveled from procedure room to patient room. This is best accomplished by arranging differing uses vertically. Heavier procedural equipment is located on the lowest floors (surgical operating suites, emergency diagnostics, imaging suites such as MRI/CT, etc.) with immediate vertical access to the intensive care units serving the most critically ill patients. Upper floors are used for rooms for the general medical and surgical patients after evaluation and treatment in a critical or intensive care unit are completed.

Due to building code ventilation and structural requirements, new hospital buildings are constructed with a significantly greater floor-to-floor height than conventional office or residential buildings. Floors with heavy procedural requirements are typically designed with 18 to 20 foot floor-to-floor heights. Patient care floors for the intensive care and medical/surgical units are designed to be 16 feet floor-to-floor. These heights exceed the typical floor-to-floor height of conventional office buildings by 4 to 8 feet. Therefore, the new hospital buildings will exceed the current 50-foot height limit. The height requirement for the new 456-bed SHC hospital will require 7 floors (2 floors of surgery, diagnostic and support and 5 floors of patient units), or up to 130 feet excluding the mechanical penthouse.

New research facilities are also building-code driven for seismic and ventilation requirements, and also require a greater floor-to-floor height similar to hospital structures. For these reasons, several new research laboratory buildings built within the last 6 years in Santa Clara County, adjacent to the medical center exceed the Palo Alto 50 feet height limit (not including mechanical penthouse), including the James H. Clark Center (54 feet), the Lorry Lokey Chemical Biology Building (76 feet), the Beckman Center for Molecular and Genetic Medicine (88 feet), the Gates Computer Science Building (87 feet), and the D. Packard Electrical Engineering Building (57 feet).

**Private Patient Rooms**
The existing hospital buildings employ a combination of private and semi-private patient rooms in accordance with hospital planning standards in 1959, 1973, and 1989. Meeting current hospital planning guidelines (reference AIA Healthcare Guidelines 2006 Edition) require all private patient rooms. This is the result of exhaustive research that proves private patient rooms improve patient care, reduce stress on nursing staff, and allow families to assist patients in recovering from illness or treatment. Of the additional 730,000 sf required for SHC, approximately 295,000 square feet is needed for SHC to convert and support the current inventory of private and semi-private rooms to all private patient rooms. For LPCH, about 126,000 sf of the 401,000 sf expansion is for conversion to, and support of, private rooms.

**Design Significance of the Medical Center Properties**
The revitalization of the Medical Center requires the replacement of older facilities, some of which may be considered to have historical value. The Medical Center has made important contributions to the development of medical technologies and patient care over its more than 50-year history on the campus. While the successful continuation of this mission requires the revitalization of the facilities that support the work, the historical value of the early buildings will be carefully analyzed during the design process. The art deco Hoover Pavilion, built in 1930 as the original home of the Palo Alto Hospital, will be renovated and preserved.
**Sustainable Design**

The promotion of healthy environments within the hospitals is a critical component to SUMC’s design and plans. Access to nature, daylight, and pollutant-free environments are critical to faster healing, productive care-giving, and the general welfare of patients and staff alike.

It is SUMC’s intention to provide responsible and sustainable design in all of its future development for operational systems (energy, materials management, etc.), water systems, and use of physical materials within the established governmental regulations for hospitals in California. This includes appropriate environmental siting of buildings, use of recycled and sustainable materials from local resources, reuse of existing facilities as appropriate, indigenous and appropriate landscaping and use of resources to maintain landscape, and inclusion of energy-producing and energy-efficient building systems. Further exploration of these systems will occur during the building design processes.

Currently, many hospitals are testing sustainable materials, materials management (trash reduction, recycling, etc.), and energy reduction systems. Due to the complex infection control and patient safety regulations, there is no single source of sustainable design criteria for hospitals, although several entities such as the Green Building Council (LEED™) and the Green Guide for Health Care™ are refining standards for healthcare facilities.

**Circulation**

Primary access to SUMC is via the regional arterials of Sand Hill Road and El Camino Real which connect to Interstates 280 and 101. Quarry Road will continue to act as the central access and distribution spine, providing direct linkage to Palo Alto’s University Avenue Intermodal Transit Center. Pasteur Drive will continue to function as a key gateway to SUMC, providing access to patient/visitor parking in an underground replacement structure for Parking Structure 3. Welch Road will continue to serve vehicle circulation within the SUMC, connecting Quarry Road to Pasteur Drive and to Campus Drive.

During the early planning, all access and circulation issues will be studied extensively. Site-specific trip generation and parking demand surveys are currently underway, which will allow the actual peak parking demand and the probable external traffic effects to be estimated. Traffic constraints will be assessed, both on the SUMC and in the surrounding community. Current (2005/2006) traffic counts conducted by the City of Palo Alto, supplemented by additional counts conducted by Stanford, will be used to assess the existing and existing-plus-project service levels. As discussed in ‘Transportation’, below, SUMC is committed to continuing and expanding its travel demand management programs to address external traffic impacts through trip reduction, rather than roadway capacity expansion, to the greatest extent possible.

**Zoning Change Request**

SUMC requests rezoning to create a new hospital zone which includes the in-board Welch Road properties (excluding 777 Welch Road) and the Hoover Pavilion site. The zone should allow an FAR density of 1.5 for the in-board Welch Road portion and .75 FAR for the Hoover Pavilion site. See page 17 for areas described.

The modification to allow a .75 FAR at the Hoover Pavilion site allows SUMC to adapt the Hoover Pavilion for medical offices for non-Stanford community health providers and for other ancillary support uses displaced or required by the SUMC expansion. Such ancillary uses may include medical offices for Stanford-affiliated physicians, hospital Health Education Programs, childcare, administrative and operational support. This zoning change will allow up to an additional 200,000 sf on the site. Parking will be provided to meet needs, or as required by
regulation; however, consideration will be given to performance-based parking requirements if new and existing uses can be shown to have reduced demand due to the proximity of the Palo Alto Intermodal Transit Station (PAITS).

Jurisdictional Boundary Change Request
The current placement of the jurisdictional boundary between the City of Palo Alto and Santa Clara County along the southern edge of the SUMC region bisects the optimum proposed site for the SoM’s FIM #1 building. Based on the heights and massing of the surrounding buildings, and the footprint dimensions required for an optimal laboratory floorplate, accommodating the 160,000 square feet required for this facility will require a minor adjustment to the City-County line.
Zoning Change Required & Palo Alto Boundary Line Adjustment

New PF Zoning Request

- Increase FAR from 1.0 to 1.5 in Main Medical Center
- Increase FAR from .25 to .75 at Hoover Pavilion
- Increase Zoning Height Limit from 50’ to 130’ in Main Medical Center and to 60’ at Hoover Pavilion
Master Plan Phasing

SHC – Phase 1 [Mid-2009 - 2015]

a. Prepare medical office space for 1101 Welch tenants at Hoover Pavilion and relocate tenants.
b. Demolish 1101 Welch and construct new 700-car parking structure
c. Demolish existing Parking Structure #3 (700 cars)

SHC – Phase 2 [2016 - 2023]

b. Demolish 1973 building and original 1959 hospital (Core, East, West and Boswell).

LPCH – Phase 1 [Mid-2009 - 2017]

a. Relocate 703 Welch tenants to new medical office building.
b. Demolish 703 Welch
c. Construct new 104-bed addition including surgery, diagnostics, imaging, and support. Construct associated parking. Relocate existing functions as required into new facility. Renovate vacated space as necessary for new, right-sized, or expanded functions.

SoM – Phase 1 (FIM 1) [2009 - 2010]

a. Construct 160,000 sf replacement research building (FIM 1) on site west of Edwards along Pasteur Dr..
b. Demolish Edwards Building.

SoM – Phase 2 (FIM 2) [2011 - 2013]

a. Construct 110,000 sf replacement research building (FIM 2) on the site of the demolished Edwards Building.
b. Demolish the Lane and Always Buildings.

SoM – Phase 3 (FIM 3) [2014 - 2016]

a. Construct 145,000 sf replacement research building (FIM 3) on the site of the demolished Alway and Lane Buildings.
b. Demolish the Grant Building.

Hoover Pavilion Medical Office Building

a. Assess non-Stanford medical office needs to 2030.
b. Based on results, construct new medical office building, SUMC support needs, and associated parking.
c. Non-Stanford community health providers relocate as their existing leases expire or possibly sooner if feasible. Building can be backfilled with SUMC or other medical tenants as necessary.

Community Health Providers
The demolition of 703 Welch Road and 1101 Welch Road will necessitate relocation of the non-Stanford health providers in these buildings. In addition, concern about expiring ground leases
along the other side of Welch Road might create additional demand for new space for community health provider tenants.

Current lease space inventory along Welch Road for non-SUMC health providers includes:

- 703 Welch: 15,575 sf
- 1101 Welch: 30,100 sf
- Other Welch health providers: 78,030 sf

123,705 sf

As previously referenced, portions of the existing Hoover Pavilion as well as the addition of a new 200,000 sf building on the Hoover site will be made available to non-Stanford Welch Road health providers at the Hoover Pavilion site.

**Transportation**
The primary function of the Medical Center parking and transportation program is to provide clear, safe and convenient access to SUMC facilities for patients and their families. Secondarily, the health care providers and others who work at the Medical Center must have similarly good access in order to effectively deliver the services that patients seek. Although the total number of visits from patients and those who accompany them far exceeds the visits from workers, workers’ trips tend to be during peak commuter hours and are the most likely to lead to congestion.

SHC and LPCH currently participate in efforts to reduce traffic during peak hours through the scheduled shift changes for healthcare personnel. The current shift changes occur at 7 am and 3 pm, and approximately XX% of the total healthcare staff at the hospitals is on this schedule.

Palo Alto is a progressive community and a leader in developing innovative approaches to meeting transportation needs. Stanford is a proven leader in transportation demand management. The Hospitals’ 2006 Commute Mode Survey indicates that 23 percent of hospital employees have primary commute modes other than a single-occupant vehicle. The 2005 SUMC TDM Monitoring Report shows that transit ridership to SUMC has more than doubled since 2000, and SUMC is currently surpassing its trip reduction goal, related to the Use Permit for the Center for Cancer Treatment and Prevention/Ambulatory Care Pavilion. These commute characteristics are a direct result of the comprehensive set of commute mode alternative programs that the University provides, which include the following programs used by Campus and Medical Center staff:

**Commute Club (for individuals agreeing not to drive alone to work):**
- Up to $216/year in Clean Air Cash or Carpool Credit
- Reserved parking spaces for all carpools/vanpools
- Complimentary daily parking passes for carpoolers
- Vanpool subsidies
- Online Stanford Ridematching Service
- Commuter Buddy Program
- Pretax payroll deduction for transit passes, Caltrain parking, and commuter checks
- Rewards for recruiting new members
- Guaranteed ride home
- 12 free hourly car rental vouchers
- Membership appreciation events
- Entries into regular prize drawings
- Members-only commuter gifts
• Ability to purchase up to eight daily parking permits per month and have them mailed to your home

Marguerite Shuttle:
• Free, comprehensive campus shuttle system, open to the public
• Connects with local transit and Caltrain, as well as shopping and dining
• Midnight Express night safety service
• Automated Transportation Management System, with real-time schedules viewable on the web

Eco Pass/GO Pass:
• Free use of VTA buses and light rails, Dumbarton Express, Highway 17 Express, and Caltrain by Stanford employees

Line U Stanford Express
• Free use of East Bay express bus that connects BART and ACE train to Stanford

Bicycle Programs:
• Bicycle registration
• Complimentary Mid-Peninsula Bike Map, as well as city and county bike maps
• Clothes and bike locker rental/shower information and maps
• Safety education program
• Commute planning/cycling information
• Campus Bike Shop
• Bike light giveaways

The City and University recently expanded and rationalized the street network in the Sand Hill Road Corridor to improve access to this important district. The next phase of transportation planning at SUMC will take advantage of the improved connectivity of the roadway system, and the strong base of TDM programs and proven successful performance. Specific elements to be included in the transportation program are:

• Pedestrian and bike improvements to Quarry Road and its intersections to enhance connection within and between the medical center, the shopping center, the transit center and downtown.

• Expanded Marguerite routes and service to provide optimal transit opportunities.

• Relocated and/or additional Marguerite stops to optimize convenience

• Other pedestrian and bike improvements outside of the roadway corridors to foster further connection between the Medical Center, the shopping center, main campus, park and open space.

• Improved wayfinding for all modes, to minimize unnecessary circulation.

• Parking distribution and management to minimize localized congestion at peak times.