Letter 94

Devyani Jain /CTYPLN/SFGOV
10/20/2010 10:16 AM

To Chelsea Fordham/CTYPLN/SFGOV@SFGOV
cc
bcc
Subject Fw: CNA Comments on CPMC DEIR: Email 5

DEVYANI JAIN, *Senior Planner*
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----- Forwarded by Devyani Jain/CTYPLN/SFGOV on 10/20/2010 10:16 AM -----

Gloria D Smith <gloria@gsmithlaw.com>
10/19/2010 09:58 PM
Please respond to gloria@gsmithlaw.com

To bill wycko <bill.wycko@sfgov.org>, Devyani Jain <Devyani.Jain@sfgov.org>
cc ngreen@calnurses.org
Subject CNA Comments on CPMC DEIR: Email 5

Please find attached appendices to land use comments by the California Nurses Association for the CPMC DEIR.

The Law Offices of Gloria D. Smith

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--- On **Mon, 10/18/10, Terry Watt** ***<terrywatt@att.net>*** wrote:

From: Terry Watt <terrywatt@att.net>
Subject: FW: attachments to Terry Watt letter
To: gloria@gsmithlaw.com
Date: Monday, October 18, 2010, 5:52 PM

Gloria,

Here are the attachments. Please let me know you rec'd these. Letter coming.

Terry Watt

415-377-6280

scan 1 to 5.pdf

ATTACHMENT 1

Attachment to Letter 93

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Terrell Watt Planning Consultants
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EXPERIENCE

1989 - **TERRELL WATT PLANNING CONSULTANTS**
Planning Consulting Firm Owner

1981-1989 **SHUTE, MIHALY & WEINBERGER**
Planning Expert/Paralegal

PROFESSIONAL MEMBERSHIPS AND BOARDS

American Institute of Certified Planners (AICP)
American Planning Association (APA)
Board Member of the Planning and Conservation League

AWARDS

California State Association of Counties Distinguished Service Award, 2005

EDUCATION

USC GRADUATE SCHOOL OF URBAN AND REGIONAL PLANNING
Masters degree in City and Regional Planning

STANFORD UNIVERSITY
Bachelor's degree in Urban Studies

Since 1989, Terrell Watt, AICP, has owned Terrell Watt Planning Consultants. Ms. Watt's firm specializes in planning and implementation efforts focused on regionally-significant projects that promote resource conservation and sustainable development patterns. Prior to forming her own consulting group, she was the staff planning expert with the environmental and land use law firm Shute, Mihaly & Weinberger. She is an expert in general and specific planning, open space and agricultural land conservation

and environmental compliance. Her skills also include facilitation, public outreach, and negotiation.

Terrell works with a wide variety of clients throughout California including non-profit organizations, government agencies and foundations. Her recent projects and roles include:

- Participant on the advisory panel to the California Statewide Infill Study project conducted by UC Berkeley's Institute for Urban and Regional Development and sponsored by BTH, HCD and Caltrans. The outcome of this project is a California Infill Parcel locator tool to pinpoint sites for infill throughout California. http://infill.gisc.berkeley.edu/

- Project Manager for the Marin Countywide Plan Update and its EIR. The Plan was adopted by the Marin Board of Supervisors in November 2007. http://www.co.marin.ca.us/depts/CD/main/fm/cwpdocs/CWP_CD2.pdf The plan and EIR have won numerous awards for addressing climate change and sustainability.

- Project coordinator for the California Infill Estimation Methodology Project funded by an Environmental Justice Grant from Caltrans and jointly sponsored by the City of Los Angeles, County of Los Angeles and Environment Now. The Study Toolbox can be obtained at www.solimar.org

- Co-Lead negotiator to secure an Agreement with the Tejon Ranch Company for the permanent protection of 240,000 acres (90% of the Tejon Ranch. Acted as Interim Executive Director of the new Non-Profit Tejon Ranch Conservancy.

ATTACHMENT 2

Attachment to Letter 93

Wages, benefits, hours, commuting time, and license renewal for Iowa Registered Nurses

Mark M. Imerman, Peter F. Orazem, Shiva Sikdar and Gina Russell
Iowa State University

September 15, 2006

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Executive Summary

This study makes use of the Iowa Board of Nursing licensing database for Registered Nurses to evaluate the factors that influence the decision to renew an RN license and to examine current nurses' salaries, benefits, working hours and commuting decisions. Among the findings:

License Renewal

- Nurses are most likely to renew if they are young, white, female, and residing outside but adjacent to a metropolitan area.
- The exit rate from nursing is extremely small—80% reach 30 years of tenure without letting the license expire. Many license holders will still maintain the license even after moving to jobs that do not require the license.
- By far the most important reason nurses let their licenses expire is because they have left the labor force.
- Home responsibilities are more important than poor compensation as a reason for letting the license expire.
- Only 7% of nurses with expired licenses thought they would return to the profession and another 17% said they might. For these compensation and home responsibilities were key factors in triggering a reentry.

Wages, Benefits and Hours

- Average family income for registered nurses is well above the median for Iowa households.
- Average wages for RNs in nursing or nursing-related jobs are well above the pay RNs receive for jobs outside nursing. Similarly health insurance and pension benefits are much better in nursing jobs than jobs outside nursing.
- The higher pay for nursing than for other jobs is partly due to working longer hours, but also due to higher hourly compensation.
- Pay is highest in metropolitan markets. However, most nurses work within commuting distance of jobs at or near top paying jobs.
- Nurses' salaries do not vary greatly with education and experience, suggesting significant wage compression for experienced nurses and little incentive to gain additional schooling beyond the bachelor's degree.
- Nurses with young children work 2.5 fewer hours per week than average. Male nurses average 7 more hours per week.
- Rural nurses earn 22% less and nurses in small urban areas earn 17% less than otherwise comparable nurses in metropolitan areas.
- Female nurses are less likely to receive pension benefits, but there are no other significant differences in compensation between men and women holding Iowa nursing licenses.

Commuting

- One-third of nurses commute over 21 minutes each way to work. Nurses residing in rural and small urban communities are the most likely to commute with average distance exceeding 40 minutes.
- Commuting has a significant impact on average pay and access to benefits for nurses in small urban and urban communities. It does not appear as important on average for nurses in rural communities. On average, commuting 20 minutes raises pay by about 5%.
- The probability of commuting is not related to household characteristics, suggesting that there are no serious constraints to commuting, even for nurses with larger households, with young children in the home, or for nurses residing in rural or small urban markets.
- The geographic distribution of registered nurses closely matches the distribution of the Iowa population. This suggests that there is no current evidence that rural markets lack a potential supply of nurses. Wage differences between urban and rural markets indicate that rural areas may need to pay more to keep their resident nurses from commuting to urban markets.

Glossary of terms

Compensation: Includes both wages and benefits from employment.

Family Income: Total combined income of all household members during the 2005 calendar year, including money from jobs, net income from business, farm, or rent, pensions, dividends, interest, social security payments and any other money income received by members of this family who are 15 years of age or older.

Pay: Used interchangeably with **Wage**

Personal Earnings: Annual wages from personal employment in a job or personal net income from a wholly owned business during the 2005 calendar year.

Return to (education or experience): The proportional increase in pay from an additional year of schooling or job experience.

Wage: Amount of pay received per unit of time worked. Unit of time is weekly or hourly. Also see **Pay**

Wage Compression: Occurs when wages for more experienced employees grow at a slower rate than wages for new employees. This shrinks the pay gap between more and less experienced employees so that there is little increase in wages as time worked increases.

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Wages, benefits, hours, commuting time, and license renewal for Iowa Registered Nurses

Mark M. Imerman, Peter F. Orazem, Shiva Sikdar and Gina Russell

The Iowa Board of Nursing licensing database for Registered Nurses (RNs) contains information on nurses[1] who have renewed their licenses including age, race, gender, education, and location of employment. It also contains comparable information on nurses who opted not to renew at the time of their last renewal. In the analysis below, we refer to the licensing database as the Master dataset. In addition, because the database includes each nurse's address at the time of the last renewal, we were able to send a labor market survey to a randomly drawn subset of nurses in the Master dataset. This report contains an analysis of the nurses' characteristics that increase the likelihood of license renewal based on all useable information contained in the Master dataset. We then report on various aspects of the Iowa nursing labor market using responses to the labor market survey.

A. Analysis of the Registered Nurse Licensing Master Dataset

Table A1 presents the sample statistics for the subset of nurses in the licensing database who held an Iowa registered nurse's license at some time between 1994 and 2005 and for whom the database had complete information on age, education, gender, race, and residential address. Our analysis excluded nurses over age 80, although these nurses may have been included in the original survey dataset. The working subsample is roughly 87% of the full sample, with the most common reasons for exclusion being missing information about the individual's education (7%); age over 80 (3.2%); and missing information about the individual's county of residence (2.8%). The notes to Table A1 show the impact of each of the sample selection criteria on the number of observations in the working subsample.

Of those in our Master dataset subsample, 66% still had active licenses as of 2005. The average age was 50, ranging from 21 to 80. Iowa nurses are overwhelmingly white (97%) and female (96%). Average education is 14 years, ranging from 12 to 20 years. The distribution of nurses is slightly more urban than the population distribution as a whole but generally matches the state. Fifty-eight percent of licensed nurses live in a metropolitan county compared to 53% of the Iowa population. However, the distribution of nurses is not so heavily urban as to suggest that rural areas are underserved by nursing services. Six percent of nurses live in rural counties compared to 7% of the state population; and 25% of nurses live in small urban counties compared to 28% of the Iowa population as whole. The 11% of nurses living in larger urban counties matches the population average. Twenty-one percent of nurses live in counties adjacent to a metropolitan county compared to 24% of the Iowa population.

Table A2 reports the results of regressions explaining the probability of renewing a license versus letting it lapse. The demographic factors included in the licensing database can explain 18% of the variation in the likelihood of renewal. The coefficients in the first column show how a unit change in each factor changes the probability of renewal. The

[1] Unless otherwise noted, the words "nurse" and "nurses" refer to persons holding or having held Iowa Registered Nursing licenses.

second column shows the percentage change in the probability of renewal from a 1% increase in each factor. Positive signs imply that an increase in the factor raises the probability of renewal while negative signs mean the factor decreases the probability of renewal.

Age has a nonlinear effect on probability of renewal. Over the relevant age range in the sample (21-80), the probability of renewal decreases at an increasing rate as age increases. The probability of renewal is higher for women, for whites, and for the more educated than it is for others. Whites are 17% more likely to renew and women are 6% more likely to renew. Education has only a small effect on renewal—every additional year of schooling led to less than a 1% increased probability of renewal.

Nurses residing in metropolitan areas are the least likely to renew. The probability of renewal rises as the county becomes less urban. Compared to metropolitan residents, nurses residing in large urban counties are 2% more likely; those in small urban counties 4% more likely; and those in rural counties 6% more likely to renew. However, residing in a county adjacent to a metropolitan county raises the probability of renewal by 4 percentage points.

Table A3 presents a proportional hazards analysis of the likelihood of leaving nursing for the subsample about whom we have information on the date the individual obtained the first Iowa license. Hazard ratios greater than 1 imply the factor raises the probability of exiting the nursing profession. Age and education raise the probability of exit, but the effect is extremely small. More substantial are the reduced likelihood of exit for women; for whites; for urban, small urban, and rural county residents; and for residents of counties adjacent to a metropolitan area. These results corroborate the conclusions from the probit analysis of Table A2.

We replicated this analysis using the subsample of nurses for whom we have data on the date the individual obtained the first Iowa license and who were active in or after 1994. Results are not very different when we restrict the dataset to this younger subsample. The plots below are based on the larger subsample.

The graphs plot the probability of renewing as nursing tenure increases, where nursing tenure is measured by the time elapsed since the first Iowa nursing license was obtained. All plots are downward sloping, indicating the falling likelihood of renewal as the person ages. As Figure A1 shows, even after 50 years of nursing the probability of renewal is still over 40%, and many nurses continue to renew their licenses even after retiring.

Other implications:

- Figure A2: At the same level of tenure, probability of renewal is lower for nurses who enter licensure at older ages.
- Figure A3: Nonwhite nurses are less likely to renew, and the probability of nonrenewal starts very quickly after the date of first licensure.
- Figure A4: The gender gap in renewal begins after about 5 years of tenure and slowly widens thereafter.

- Figures A5-6: Residents of the large and small urban counties renew at rates comparable to statewide averages.
- Figure A7: Rural residents renew with greater frequency after 5 years of nursing tenure, but the difference in probability of renewal compared to nonrural residents does not exceed 10 percentage points until 40 years of tenure.
- Figure A8: Living adjacent to a metropolitan area increases the likelihood of staying in nursing.

B. Details of RN survey population, sample, and response rates

In addition to the analysis of the population detailed above, a sample of the population was surveyed to determine what factors influenced their decision to renew or not renew their RN licenses, their employment choices, and their willingness to commute.

A solicitation letter (contained in Appendix 1) was mailed to 7,000 addresses taken from the Board of Nursing's RN license database. The recipients were selected randomly from three subsets of the database population.

> 5,201 (74.3% of the survey sample) were RNs whose licenses were set to expire on June 16, 2006 or later. These RNs had current licenses during the survey period.
>
> 605 (8.65% of the survey sample) were RNs whose licenses expired between the time our database was drawn and the time the survey solicitation was sent (November 15, 2005 and May 15, 2006). The license status of these nurses was unknown.
>
> 1,194 (17.05% of the survey sample) were RNs whose licenses had expired prior to November 15, 2005. These RNs were assumed to be inactive.

The distribution of letters across these categories was consistent with the distribution of the entire population that these individuals were selected from. The surveyed population was derived as follows.

> 62,030 RNs were listed in the database received from the Board of Nursing.
>
> 16,030 records that expired prior to January 1, 1996 were removed.
> 3,038 records that included no expiration date were removed.
> 6 records that included no last name or invalid ZIP codes were removed.
>
> 43,504 records remained in the final population.

Of these,

> 32,324 had active licenses.
> 3,761 were of undetermined status.
> 7,419 had inactive/expired licenses.

Of the 7,000 solicitations sent, 610 (8.71% of total solicitations sent) were returned as undeliverable. Of these:

184 had active licenses (3.54% of the active sample).
42 were of undetermined status (6.94% of the indeterminate sample).
384 had inactive/expired licenses (32.16% of the inactive/expired sample).

As a result, solicitations reached (at maximum) 6,390 members of the population. Of these:

5,017 had active licenses (78.51% of unreturned solicitations).
563 were of undetermined status (8.80% of unreturned solicitations).
810 had inactive/expired licenses (12.68% of unreturned solicitations).

Nine hundred twenty-six (926) RNs completed the survey. This equates to 14.49% of all unreturned solicitations or 13.23% of all solicitations sent. Files containing printed versions of the survey for both licensed and unlicensed RNs are attached as Appendices 2 and 3, respectively. Responses are categorized by whether the respondent has a currently valid RN license and whether the respondent provided an identification number. Responses were distributed as follows:

With license
- With ID = 794
- Anonymous = 59

Without license
- With ID = 67
- Anonymous = 6

Two hundred sixteen (216) additional online surveys were initiated but not completed. Of these, 182 are known to be unique solicitation recipients, because they provided ID numbers. Thirty-four (34) incomplete online surveys were initiated anonymously. We cannot tell whether these are unique solicitation recipients. Likewise, five requested paper copies of the survey were not returned and cannot be counted as unique recipients. Incomplete surveys break down as follows:

With license
- With ID = 159
- Anonymous = 23

Without license
- With ID = 23
- Anonymous = 9

Two incomplete surveys did not indicate license status (aborted at the first question beyond the "Consent to participate" screen).

C. Why nurses decide not to renew their licenses

Of all the respondents to the survey, 7.9% had expired Iowa registered nursing licenses. The survey investigated why these nurses decided not to renew and whether they would consider returning to a job that required a nursing license.

Table C1 lists the reasons for deciding not to renew. Respondents could list multiple reasons. Consistent with their age (average age for the nonrenewal sample is nine years older than the average age for those holding active licenses), retirement is by far the most important reason for non-renewal. The next most important reasons listed are "career change" and "home responsibilities," which can also be part of the retirement decision. Therefore, only a very small proportion of nurses are deciding not to renew because they are moving to an alternative field of work. In fact, more nurses retain an active license despite working outside nursing than opt not to renew after leaving nursing employment.

Home responsibilities are a more important reason for leaving nursing than is dissatisfaction with the compensation or job attributes of the nursing jobs. Less than one-quarter of the respondents list wages, benefits or commuting costs as a reason not to renew.

As shown in Table C2, the great majority (76%) of the nonrenewal group had left nursing for good. Only 7% said they thought they might return while another 17% were still undecided. The factors that affect the decision of whether to reenter the nursing profession are listed in Table C3. Although insufficient earnings are not the leading cause for exiting nursing, improvement in wages is cited by 88% of the respondents as a factor in the decision of returning to nursing, and improved health insurance and pension benefits are cited by over 70%. Easing of home responsibilities is cited as a factor by 70% of the potential returnees.

D. Why nurses decide to retain their licenses

Of all the respondents to the survey, 92.1% had active Iowa registered nursing licenses. Of these licensed respondents, 91% were required to have an active license by their primary employer while 9% did not have to have a nursing license for their current job (Table D1).

Job-related licensing requirements are clearly important: 91% of respondents plan to renew, including most of those in jobs requiring a license, and an additional 5% are undecided about whether to renew. Only 3% plan to let their license expire (Table D2).

Interestingly, only 10% of those who are not in jobs requiring a license plan to let their license expire (Table D3). The main reason to retain a license, even when it is not required, is to retain the option of returning to a licensed job (61%). Nearly one-quarter maintain the license because it helps certify qualifications, even if the job does not require the license. In other words, the license signals training and skills, even when it is not a mandated requirement of the job.

E. Sample Characteristics of Nurses

Active and Inactive Licensed Nurses

Average attributes of respondents to the nursing market survey are reported in Table E1. The averages are weighted to match the distribution of education and age distributions of all nurses in the state of Iowa. Sample breakdowns are 92% of the respondents with active Iowa RN licenses and 8% with expired licenses.

The mean age[2] of the active respondents is nine years less than that of the inactive respondents, reflecting the high proportion retirees within the inactive group. Both active and inactive nurses in Iowa are heavily drawn from the population of white women.

Seventy-eight percent of the licensed respondents and 55% of unlicensed respondents are married. The average yearly family income of the active licensees ($75,140) and of the inactive licensees ($50,904) is well above the Iowa median family income of just over $43,000. Respondents with active licenses average just under three members in the household, with 16% having children less than six years of age and 55% having children aged 6-18. Reflecting their older ages, only 5% of those with inactive licenses have children under 6 and 22% have children in the 6-18 age range.

Ninety-five percent of active licensees were employed during 2005 while only 25% of inactive licensees were employed. The average workweek is 34 hours for employed licensed nurses and their average pay is $23 per hour, or $794 per week. Eighty-four percent are offered health insurance and 91% are offered a pension through their primary employer. The average commute from home to work is 21 minutes.

For those with expired licenses who are employed, the average workweek is 26 hours with average pay of $11 per hour or $287 per week. These averages are well below the averages for those with active licenses. Only 20% have access to health insurance through their employer, although many unlicensed workers are over 65 and qualify for Medicare. Three-quarters get pension benefits through their employer. Their average commute is 14 minutes.

Characteristics of Positions Taken by Registered Nurses

Weighted averages of the job attributes of nurses are reported in Table E2. Of the 89% of the respondents who were employed in 2005, the majority (90%) was employed as nurses, while 5.4% were in nursing-related jobs and 4.8% were employed outside nursing. Hours worked and hourly wages in nursing and nursing-related fields are comparable to one another and are considerably higher than those in non-nursing jobs. The workweek averages 35 hours in nursing and 33 in nursing-related jobs. Weekly earnings and average hourly wages are modestly higher in licensed nursing jobs than in nursing-related jobs. Those employed as nurses are more likely to have health insurance benefits than are those in nursing-related jobs (85% versus 71%), but both types of jobs are equally likely to have pension benefits offered (92%). Those in nursing-related jobs have a longer average commute than do nurses (27 minutes versus 21 minutes).

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[2] Proxy age is measured by years of education plus reported work career plus 6. It corresponds well with the subset of the sample for whom we have actual age.

Nurses employed outside of nursing have markedly different job attributes. The average workweek is 21 hours. Hourly and weekly pay ($11, $298) is well below the average for nursing and nursing-related jobs. The jobs outside nursing are also less likely to include health insurance and pension benefits, and the average commuting time for those with jobs outside nursing is lower at 15 minutes.

For nurses, average weekly pay is higher than the average pay reported for the best local job option but less than the average for the best regional job (within a 45-minute commute). The majority of these best alternative jobs are also in nursing. For those in nursing-related jobs, the average pay received dominates the alternative in either the local or regional market. A much smaller fraction of these alternative jobs is in nursing. For those employed outside nursing, alternative pay in the local and regional market generally exceeds pay in their current job. The majority of these alternative jobs are also in nursing, and so, on average, nurses who accept jobs outside nursing take a substantial pay reduction relative to their options in nursing. The tradeoff is presumably the shorter commute and access to part-time work.

F. Compensation Terms

Our analysis of the compensation and employment decisions of Iowa nurses uses two datasets. The first, which we refer to as the Survey Database, consists of all respondents to the survey conducted in 2006. The survey data include 894 observations. We also use a reduced sample that merges in residential county, gender, and age from the nursing license database for the subset of nurses who agreed to identify themselves (nurses were given the option of answering anonymously). The Merged Database had 824 respondents. Smaller subsets of each database were used to generate information on compensation, as some of the nurses were retired or unemployed. The results in this section refer only to employed nurses.

Sample statistics

Table F1 contains sample average information for nurses' compensation in four markets: metropolitan, urban, small urban, and rural counties. The highest family incomes are in metropolitan areas while the lowest are in small urban and rural markets. Nurses' personal earnings are roughly half the family incomes across all markets

A nurse is labeled as a commuter if it takes at least 20 minutes to travel to work, the average across all nurses in the sample. For commuters, the average length of time spent commuting is over 40 minutes in all nonmetro areas, while metro area commuters commute an average of 34 minutes to work. Noncommuters live within ten minutes of work.

The role of commuting is readily apparent in that personal earnings for commuters are higher than for noncommuters in all markets except the metropolitan areas.[3] Commuting allows individuals living outside the metro markets to access the higher wages paid in

[3] Because pay tends to be highest in metropolitan areas, metro area commuters are actually commuting to lower paying markets.

metro areas. Part of the explanation for the higher weekly wages earned by nonmetro commuters versus noncommuters is that the commuters work more hours per week. Urban commuters also earn more per hour than urban noncommuters, whereas the advantage for rural commuters is entirely from working longer hours but at lower average wages. The opposite pattern holds for metro commuting nurses who have lower personal earnings and hours worked than do metro noncommuters.

Nonmetro commuters are more likely than noncommuters to be offered health insurance and pension benefits, although the likelihood of accepting benefits if offered is either equal or sometimes higher for nonmetro noncommuters. In metro areas, benefit incidence is roughly equal between commuters and noncommuters.

Surveyed nurses were asked what their best alternative jobs would pay, where one is in their immediate local market and the other would be within a reasonable commuting distance. The highest paid alternative local jobs were in urban and metropolitan areas and in the nursing profession. Local pay was substantially lower in small urban and rural communities. However, pay within the commuting region serves as the great equalizer across areas, suggesting that most nurses living in low-paying markets are within commuting distance of a higher-paying market.

Wage Function

We estimated equations that examine how various individual attributes affect nurses' earnings. The results are reported in Table F2. The coefficients are quite consistent between the equations using the broader survey dataset and the smaller but more complete merged dataset, and so we concentrate our discussion on the latter. The equation fit is somewhat disappointing, with only 17% of the variance explained by the model, but the coefficients appear to be reasonable.

One reason for the weak fit is that there is not much variation in pay by experience and education, two elements that normally factor prominently in determining pay in datasets containing a broader array of jobs and education levels. In our setting, pay does not vary by years of work experience, suggesting unusually flat age-earnings profiles in nursing compared to other professions. This profile may suggest fairly rapid pay increases for new market entrants and pay compression for experienced nurses, a situation that can lead to the loss of experienced nurses from the profession. Years of schooling are also rewarded minimally in the sample, but there is not much variation in education in the sample of registered nurses. Future work may be able to assess the pay increment that goes to nurses holding a Master's degree or higher, but if these results continue to hold, they suggest minimal return to obtaining a degree beyond the bachelor's level.

The highest paying jobs are in the nursing profession, suggesting that on average, those who leave the nursing profession take a pay cut. Other things equal, average pay for those in nursing jobs or nursing-related areas is more than double the average pay for those outside nursing.

Other things equal, commuters get a positive but small return from their travel to a more distant job. The coefficient suggests that a twenty-minute commute is rewarded with about 5% higher earnings. Nevertheless, the evidence shows that there is a large pay penalty to living in a rural or small urban area. Compared to equally skilled nurses residing in a metropolitan market, rural nurses earn 22% less and small urban nurses earn 17% less.

There is no statistically significant difference in the wages of male and female nurses. There is no statistically significant evidence of wage differentials between those residing in metropolitan markets and those residing in adjacent markets or in larger urban areas.

Benefits

Table F2 contains information on access to benefits. Again the results using the smaller but more complete merged dataset do not differ substantially from the results using the broader sample, so we concentrate our discussion on the merged dataset.

Results are interpretable as the impact of each factor on the probability of receiving the benefit. Work experience has a positive but very small effect on the probability of being offered a pension plan but has no impact on the likelihood of receiving health insurance. As with wages, education has no effect on the probability of receiving either benefit.

Being in a registered nursing or nursing-related job has a large positive effect on the probability of being offered a pension plan of 40% and 9%, respectively. Probability of receiving health insurance benefits is unaffected by type of job.

Commuters do not have better access to either type of benefit. However, individuals working more hours are more likely to receive health insurance, which is consistent with national data that suggest that health insurance is primarily offered to full-time but not part-time workers.

Women have an 8% lower probability of being offered a pension plan than men. There is no statistically significant difference in access to health insurance between the sexes.

The probability of receiving a pension does not differ by population density although there is marginal evidence that those residing adjacent to a metro area are 7% less likely than average to be offered a pension. However access to health insurance is significantly higher in metropolitan markets than in the rest. Those residing outside metropolitan areas have a 15-20% lower likelihood of being offered employer-provided health insurance, with the lowest probability being in rural markets.

Work Hours

In Table F3, we show how individual attributes affect hours of work. Again we concentrate on the results in the first column. Hours initially rise with years of work experience, but at a diminishing rate. Peak work hours occur at 21 years of experience or when nurses are in their early to mid 40s. More educated nurses work significantly more

hours per week. The coefficients suggest that bachelor's degree holders work nearly 1.5 hours more than do community college graduates.

The substantial pay advantage for those in the nursing jobs is partly due to much longer work weeks. Nursing jobs average 10-15 more hours per week compared to jobs outside nursing, suggesting that one reason to exit nursing may be to get part-time hours.

Family responsibilities do not appear to have much of an impact on hours, with the exception of nurses who have children younger than school age in the home. They work 2.5 fewer hours per week on average than do other nurses. Hours worked are not strongly influenced by family size or the presence of older children in the home. However, women work seven hours less per week on average than do men.

Hours of work per week do not differ by geographic market.

Commuting Time

Table F4 presents results on how these various factors affect time spent commuting. The overriding conclusion is that none of the factors appear to affect commuting time, with the possible exception that more educated nurses may commute one more minute per year of schooling more than do less educated nurses. This is interesting because it suggests that there are no serious constraints to commuting, even for nurses with larger households, with young children in the home, or for nurses residing in rural or small urban markets. The implication is that if market wages in more distant markets are sufficiently attractive, nurses will respond equally regardless of home responsibilities.

G. Licensed Practical Nurses

The historical database of Registered Nurse licensees upon which the survey in this study was based does not provide information that would have facilitated a similar survey of Licensed Practical Nurses. It is possible, however, to utilize results from the current investigation and existing knowledge of Licensed Practical Nurses' labor supply decisions to make some informed hypotheses regarding Licensed Practical Nurse behavior.

Previous work by the authors that included information on both RNs and LPNs found that the labor supply and commuting decisions of LPNs were even more sensitive to prevailing wages and economic circumstances than were the decisions by RNs. That suggests that the results found in this study are likely to understate how LPNs' decisions regarding license renewal, work in or out of nursing, and time spent commuting are affected by local versus regional wages, family responsibilities, education, and age.

Additionally, a point-in-time (December 2004) database of Iowa licensed nurses by county of residence provided by the Iowa Board of Nursing shows 45,046 Iowa resident holders of Iowa Registered Nurse and Licensed Practical Nurse licenses. Of these,

9,199 held an LPN license only.
23,059 held an RN license only.

12,788 held both an LPN and an RN license.

This results in 21,987 LPN licenses and 35,847 RN licenses held by Iowa residents in December 2004. Over half (58%) of the LPN license holders and over one-third (36%) of the RN license holders held dual licenses. Consequently, roughly one third of the current sample includes responses from LPNs.

It appears that a substantial proportion of LPNs transition into RN licenses. Because the LPN population is much smaller and there is no reason to assume that RNs are transferring in the other direction, a reasonable assumption is that LPNs as a group are younger and less experienced than RNs. Unfortunately, to evaluate these presumptions more accurately, we would need to survey the LPNs as a group rather than just the RNs who also maintain an LPN license. Future research should investigate the extent to which the LPN serves as a gateway into the RN and whether registered nurses who enter the profession as LPNs differ in wages or characteristics from nurses who enter directly as RNs.

A: Analysis based on the Master Dataset

Table A1: Variable definitions and summary statistics

Variable	Definition	**Number of observations**	**Mean**
Active	= 1 if registered nurse has active license 0 otherwise	54444	.66
Age	Age of registered nurse	49830	50.033
age_sq	Square of the age		
White	= 1 if white of non Hispanic origin 0 otherwise	51617	.97
Female	= 1 if gender is female 0 otherwise	54327	.96
Education	number of years of education	54444	14.18
URBAN	= 1 if Beale code is 4 or 5 0 otherwise	54444	.11
SMURB	= 1 if Beale code is 6 or 7 0 otherwise	54444	.25
RURAL	= 1 if Beale code is 8 or 9 0 otherwise	54444	.06
ADJACENT	= 1 if Beale code is 4, 6 or 8 0 otherwise	54444	.21

Reasons for sample exclusion

	Number of observations
Master dataset	62564
Deleted records with no information on education	58150 (-4414)
Deleted records with age >80	56175 (-1975)
Deleted records with missing or wrong county information	54444 (-1731)

Note: Number of observations lost due to each exclusion restriction is reported in parentheses.

Description of Rural-Urban Continuum (Beale) Codes

Metro counties:

0 Central counties of metro areas of 1 million population or more.
1 Fringe counties of metro areas of 1 million population or more.
2 Counties in metro areas of 250,000 to 1 million population.
3 Counties in metro areas of fewer than 250,000 population.

Nonmetro counties:

4 Urban population of 20,000 or more, adjacent to a metro area.
5 Urban population of 20,000 or more, not adjacent to a metro area.
6 Urban population of 2,500 to 19,999, adjacent to a metro area.
7 Urban population of 2,500 to 19,999, not adjacent to a metro area.

Rural counties:

8 Completely rural or less than 2,500 urban population, adjacent to a metro area.
9 Completely rural or less than 2,500 urban population, not adjacent to a metro area.

Table A2: Probit Estimation Results of factors affecting the probability of renewing a registered nurse license

	dF/dx	Elasticities
Age	0.021 (0.001)	1.42
age_sq	-0.003 (0.000)	-1.23
White	0.171 (0.015)	0.20
Female	0.058 (0.011)	0.07
Education	0.007 (0.001)	0.13
URBAN	0.016 (0.007)	0.00
SMURB	0.036 (0.006)	0.01
RURAL	0.062 (0.009)	0.01
ADJACENT	0.043 (0.006)	0.01
Log likelihood	-23767.72	
Pseudo R square	0.180	
Number of observations	49445	

Notes: All marginal effect estimates are significant at the 5% level.
Standard errors are given in parentheses.

Table A3: Cox Proportional Hazard Model Estimates of Registered Nurse Duration

Variables	Hazard Ratios	
	1[a]	2[b]
Age	1.017 (0.001)	1.004 (0.002)
White	0.411 (0.025)	0.405 (0.283)
Female	0.771 (0.042)	0.719 (0.043)
Education	1.015 (0.008)	1.034 (0.009)
URBAN	0.910 (0.043)	0.967 (0.052)
SMURB	0.889 (0.036)	0.963 (0.044)
RURAL	0.745 (0.051)	0.838 (0.064)
ADJACENT	0.761 (0.035)	0.731 (0.038)
Log likelihood	-54098.36	-41473.97
Chi squared	513.02	287.16
Number of observations	31076	29815

Notes: In Cox proportional hazards model the hazard is assumed to be:

$$h(t) = h_0(t)\exp(\beta_1 x_1 + \cdots + \beta_k x_k).$$

Standard errors are given in parentheses.

[a] Results for the whole subsample. All estimates are significant at the 5% level.

[b] Results for the subsample of nurses who were active in 1994 or later. All estimates except the coefficients for URBAN and SMURB are significant at the 5% level.

C. INACTIVE RESPONDENTS

Table C1: Reasons for Not Renewing Nursing License, by Importance

Reason	Weighted Importance[a]	% Citing[b]
Other (retirement)	6.36	83.6
Career Change	3.23	45.9
Home Responsibilities	2.95	47.5
Insufficient Earnings	1.56	24.6
Poor Health Benefits	1.07	21.3
Commuting Distance	0.87	19.7
Poor Pension	0.85	18.0
Move to Another State	0.69	13.1

Notes:
[a] Maximum possible weighted importance is 8
[b] Percent of respondents listing this as at least one of the reasons for nonrenewal

Table C2: Possibility of returning to a job requiring a RN license

	%
Yes	7.04
No	76.06
Undecided	16.90
Total Inactive Respondents = 71	

Table C3: Conditions for Reapplication for Nursing License, by Importance

Reason	Weighted Importance[a]	% Citing[b]
Earning Improvement	4.24	88.2
Reduced Home Responsibility	2.47	70.6
Health Benefits Improvement	2.47	70.6
Commute Distance Improvement	2.18	76.5
Pension Improvement	2.12	76.5
Other	2.11	76.5
Total inactive respondents who could return or were undecided about return = 17		

Notes:
[a] Maximum possible weighted importance is 8.
[b] Percent of respondents listing this as at least one of the conditions for reapplication.

D. ACTIVE RESPONDENTS

Table D1: Primary Employer requires IA RN license

	%
Yes	91.10
No	8.90
Total respondents with active licenses = 832	

Table D2: Intention of renewing at next expiration date

	%
Yes	91.23
No	3.37
Undecided	5.29

Table D3: Reason for maintaining an Iowa RN license although not required by primary employer

	%[a]
Return to position requiring RN license in the future	6.8
License relevant to nursing-related position	24.3
Maintain future employment option	60.8
Will let license expire at next renewal date	9.5
Other	23.0
Total respondents with active licenses though not required by primary employer = 74	

Notes:

[a] Percent of respondents listing this as at least one of the conditions for maintaining active IA RN license.

E. Summary Statistics of the RN Survey Sample

Table E1: Characteristics of the weighted sample by active and inactive licenses

	Active	Inactive
Proxy age	51	60
White	0.99	0.97
Married	0.78	0.55
Household size	2.9	1.8
Family Income	75140	50904
Dependents in 2005		
Total dependents	2.15	1.00
Dependent children aged 5 years or less	0.16	0.05
Dependent children aged 6 - 18 years	0.55	0.22
If employed in 2005		
N	776	18
Employed proportion	0.95	0.25
Primary weekly hours	33.89	25.65
Primary weekly earnings	794.31	287.10
Primary hourly wage	22.95	11.05
Primary commute time[a]	21	14
Health insurance offered by primary employer	0.84	0.20
Health insurance accepted[b]	0.69	0.90
Pension plan offered by primary employer	0.91	0.64
Pension plan accepted[c]	0.85	0.89
Pension plan offered by any employer	0.92	0.75
Pension plan accepted[c]	0.89	0.76

Notes:

[a] In minutes.

[b] Conditional on health insurance being offered.

[c] Conditional on some pension plan being offered.

Table E2: Weighted primary job characteristics and alternate job characteristics by primary employment type

	RN	Nursing-related	Non-nursing
% of employed in 2005	89.80	5.41	4.79
Weekly hours	34.61	32.82	21.17
Weekly earnings	815.00	804.67	297.99
Hourly wage	23.50	22.49	11.24
Commute time[a]	21	27	15
Health insurance offered	0.85	0.71	0.47
Health insurance accepted[b]	0.71	0.56	0.40
Pension plan offered	0.92	0.92	0.63
Pension plan accepted[c]	0.84	0.88	0.83
Alternate local job			
Weekly earning	704.31	620.03	418.71
Nursing position	0.71	0.27	0.65
Alternate regional job			
Weekly earning	941.68	792.88	529.48
Nursing position	0.80	0.54	0.69
N	713	43	38

Notes:
[a] In minutes.
[b] Conditional on health insurance being offered.
[c] Conditional on some pension plan being offered.

F: Compensation, Hours of Work and Commuting Patterns of Surveyed Nurses

Table F1: Characteristics of weighted sample by primary commute and residence areas

	Metro		Urban		Small Urban		Rural	
	Commute	Non-commute	Commute	Non-commute	Commute	Non-commute	Commute	Non-commute
% (Total = 741)	15.38	39.95	2.43	7.15	12.69	17.14	3.10	2.16
Personal Earnings	35324	41692	40788	30183	36912	29236	35417	33486
Family Income	80212	83136	67504	72725	72480	62762	65019	59709
Weekly hours	31.97	35.12	37.22	33.04	36.16	31.89	38.54	32.60
Weekly earnings	838.79	837.12	1009.99	761.99	794.06	616.01	717.85	727.60
Hourly wage	25.50	23.47	27.01	23.29	22.24	18.89	18.96	21.88
Commute time[a]	34	12	44	10	48	9	40	10
Health insurance offered	0.88	0.90	0.88	0.78	0.85	0.66	0.85	0.82
Health insurance accepted[b]	0.66	0.63	0.78	0.77	0.8	0.76	0.38	0.52
Pension plan offered	0. 93	0.90	0.92	0.90	0.95	0.83	0.89	0.87
Pension plan accepted[c]	0.74	0.90	0.88	0.87	0.78	0.88	0.81	0.77
Alternate local job								
Weekly earning	596.76	840.53	813.19	776.24	566.41	549.05	556.07	760.15
Nursing position	0.57	0.71	0.77	0.80	0.72	0.65	0.70	0.78
Alternate regional job								
Weekly earning	787.97	1027.87	1170.68	990.09	786.20	820.14	880.14	965.57
Nursing position	0.73	0.80	0.73	0.80	0.84	0.79	0.83	0.77

Notes:

An individual is assumed to commute if the commuting time to the primary employer is greater than 20 minutes.

[a] In minutes.

[b] Conditional on health insurance being offered.

[c] Conditional on some pension plan being offered.

The personal earnings of the commuters is higher than those of non-commuters across all regions.

Table F2: Wage Function for primary job

	Coefficients (Standard Errors)	
	Merged Database	Survey Database
Intercept	2.078 (0.260)**	1.756 (0.245)**
Total experience	0.001 (0.002)	0.002 (0.002)
Education	0.018 (0.012)	0.026 (0.011)**
RN	0.921 (0.226)**	0.915 (0.222)**
Nursing-related	0.859 (0.237)**	0.833 (0.235)**
Commuting time[a]	0.002 (0.001)**	0.002 (0.001)**
Female	-0.152 (0.096)	
URBAN	-0.091 (0.091)	
SMURB	-0.188 (0.059)**	
RURAL	-0.244 (0.122)**	
ADJACENT	0.059 (0.063)	
R^2	0.1725	0.1483
Number of observations	688	733

Note:
[a]Commuting time in minutes.
* and ** imply significance at the 10% and 5% levels respectively.

Table F3: Benefits in primary job

	dF/dx (Standard Errors)			
	Pension		Health Benefits	
	Merged Database	Survey Database	Merged Database	Survey Database
Total experience	0.001 (0.001)*	0.002 (0.001)*	-0.002 (0.002)	-0.001 (0.002)
Education	0.002 (0.006)	0.004 (0.006)	0.002 (0.008)	0.009 (0.009)
RN	0.339 (0.122)**	0.319 (0.114)**	0.048 (0.114)	0.027 (0.118)
Nursing-related	0.086 (0.018)**	0.095 (0.017)**	-0.027 (0.122)	-0.060 (0.150)
Commuting time[a]	0.001 (0.001)	0.001 (0.001)	0.000 (0.001)	0.000 (0.001)
Weekly hours	0.002 (0.001)	0.002 (0.001)	0.009 (0.002)**	0.010 (0.002)**
Female	-0.077 (0.019)**		-0.069 (0.047)	
URBAN	0.019 (0.038)		-0.153 (0.086)**	
SMURB	-0.003 (0.032)		-0.183 (0.054)**	
RURAL	-0.003 (0.054)		-0.201 (0.114)**	
ADJACENT	-0.067 (0.040)*		0.028 (0.036)	
Log pseudo-likelihood	-216.909	-235.172	-233.727	-262.334
Pseudo R^2	0.110	0.090	0.2838	0.270
Number of observations	738	788	738	788

Note:
[a]Commuting time in minutes.
* and ** imply significance at the 10% and 5% levels respectively.

Table F4: Weekly hours in primary job

	Coefficients (Standard Errors)	
	Merged Database	Survey Database
Intercept	19.837 (6.007)**	13.668 (5.665)**
Total experience	0.422 (0.189)**	0.505 (0.181)**
(Total experience)^2	-0.010 (0.004)**	-0.012 (0.004)**
Education	0.695 (0.329)**	0.634 (0.310)**
RN	10.147 (3.418)**	9.378 (3.306)**
Nursing-related	14.506 (5.676)**	11.392 (5.424)**
Household size	0.241 (0.256)	0.190 (0.246)
Dependent children aged 5 years or less	-2.571 (0.815)**	-2.790 (0.803)**
Dependent children aged 6 - 18 years	-0.041 (0.459)	-0.018 (0.449)
Married	-1.420 (1.154)	0.432 (1.389)
Female	-6.950 (1.492)**	
URBAN	0.454 (1.783)	
SMURB	-0.400 (1.491)	
RURAL	-0.125 (1.574)	
R^2	0.198	0.201
Number of observations	740	791

Note:
*and ** imply significance at the 10% and 5% levels respectively.

Table F5: Commuting time[a] for primary employment

	Coefficients (Standard Errors)		
	Merged Database		Survey Database
	1	2	
Intercept	11.533 (8.613)	9.408 (8.580)	16.426 (6.830)**
Total experience	-0.061 (0.079)	-0.066 (0.073)	-0.072 (0.077)
Education	1.038 (0.594)*	0.906 (0.516)**	0.775 (0.524)
Household size	-0.095 (0.232)	-0.184 (0.278)	-0.074 (0.250)
Dependent children aged 5 years or less	-1.088 (1.699)	-0.790 (1.638)	-0.988 (1.545)
Dependent children aged 6 - 18 years	1.167 (1.118)	1.152 (1.060)	1.222 (1.082)
Married	-1.386 (2.794)	-1.249 (2.700)	-1.379 (2.643)
Female	-2.048 (4.641)	-1.483 (4.517)	
URBAN	-2.073 (3.397)	-2.753 (3.359)	
SMURB	2.244 (2.328)	2.711 (2.204)	
RURAL	5.562 (4.203)	5.480 (4.081)	
ADJACENT	6.134 (3.910)	6.755 (3.714)*	
Alternate local wage	-0.004 (0.003)		-0.005 (0.002)**
Alternate regional wage	-0.001 (0.002)		-0.000 (0.001)
R^2	0.0034	0.033	0.015
Number of observations	701	741	749

Note:
*and ** imply significance at the 10% and 5% levels respectively.
[a] Commuting time (in minutes) to the primary employer.

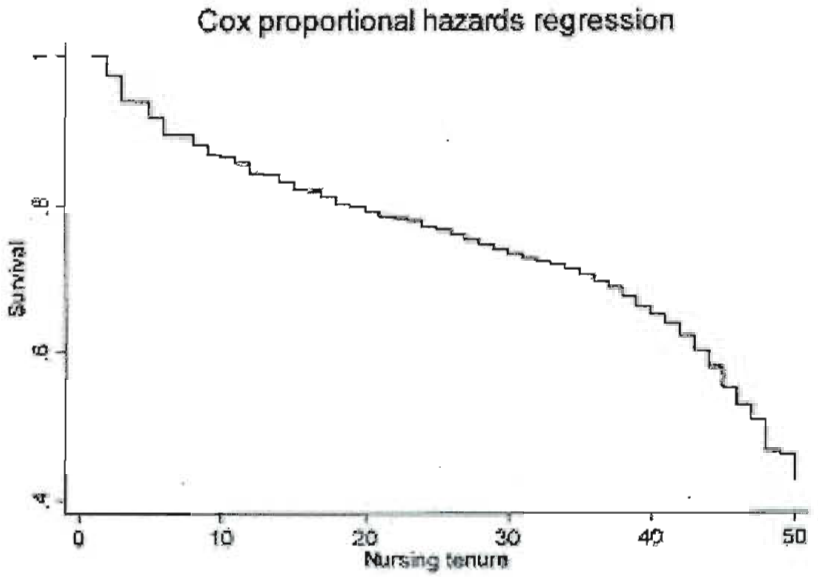

FIGURE A1: Estimated Survival function at the mean values of all the predictors

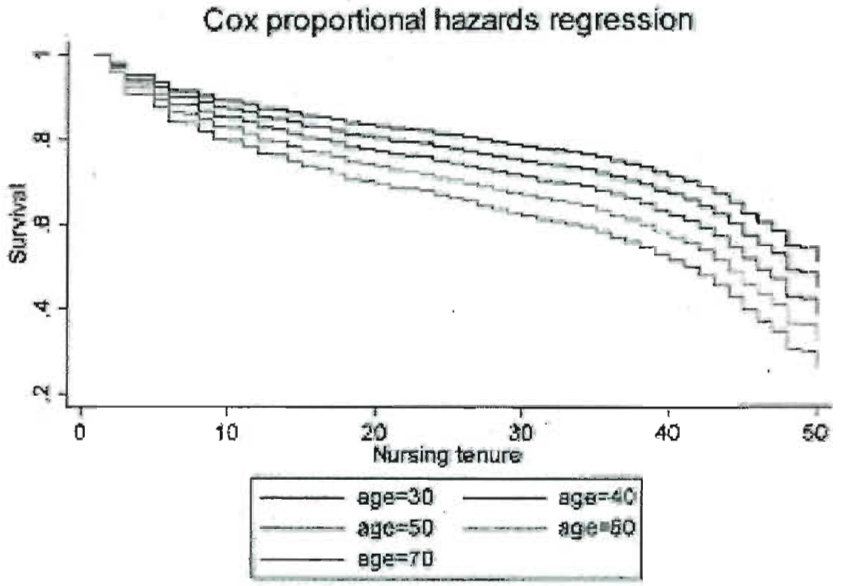

FIGURE A2: Estimated Survival functions at different ages

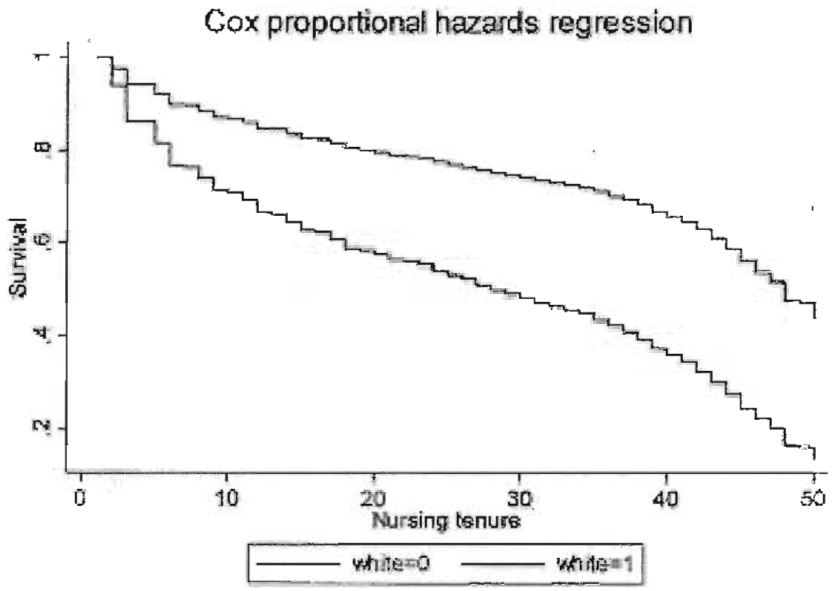

FIGURE A3: Estimated Survival functions by race

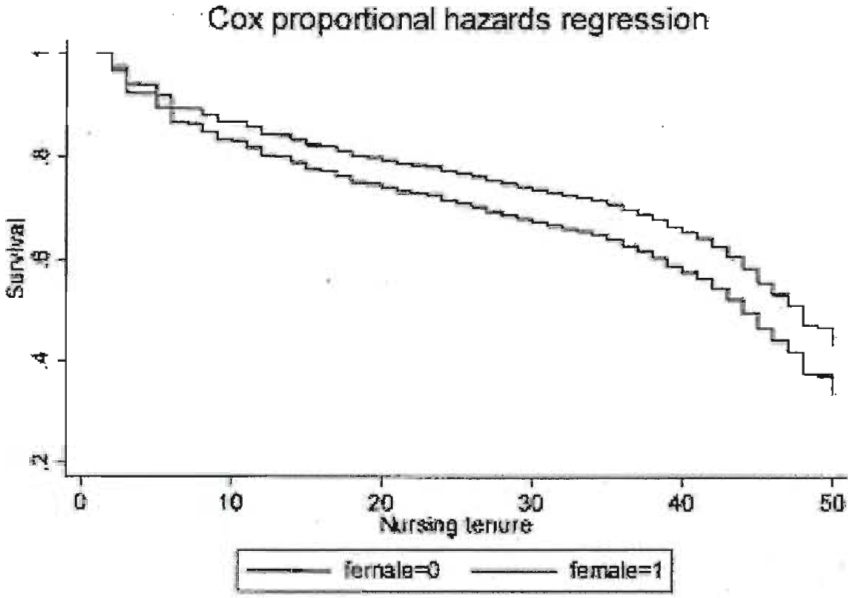

FIGURE A4: Estimated Survival functions by gender

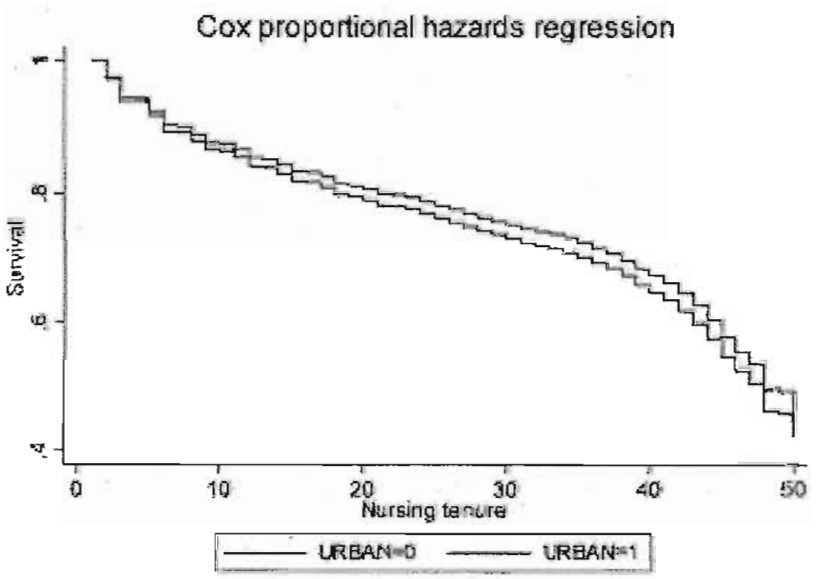

FIGURE A5: Estimated Survival functions by URBAN

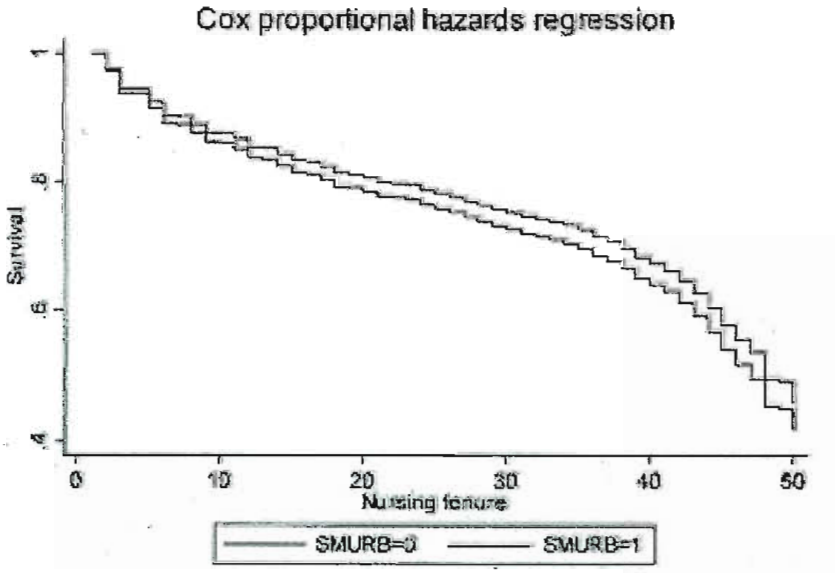

FIGURE A6: Estimated Survival functions by SMURB

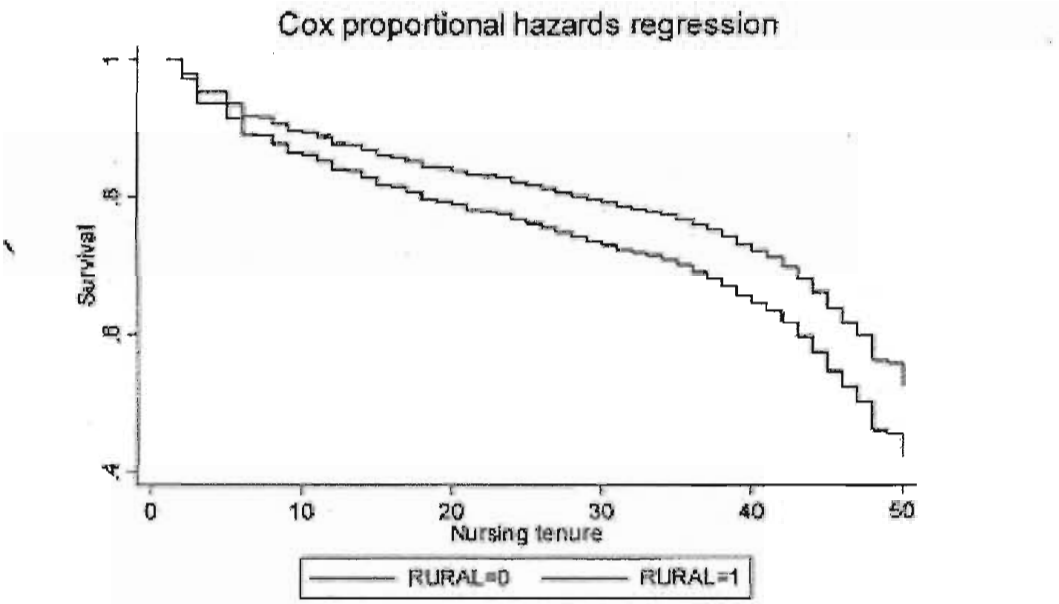

FIGURE A7: Estimated Survival functions by RURAL

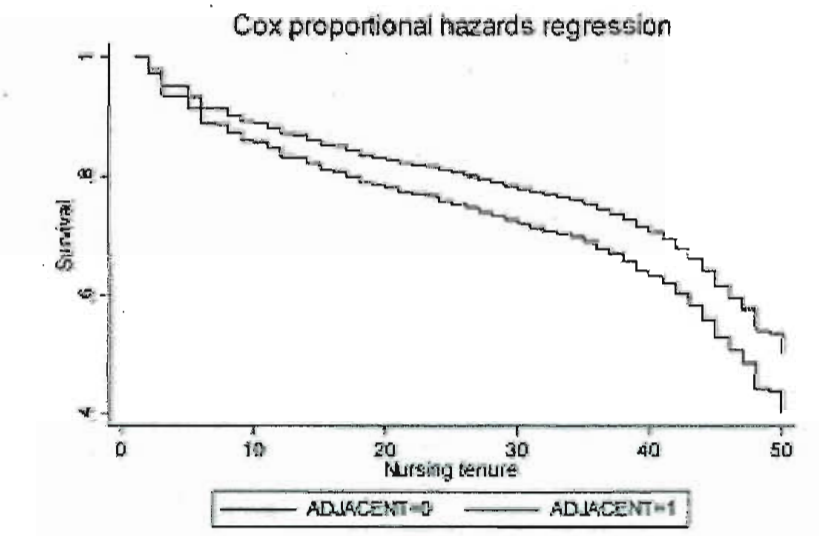

FIGURE A8: Estimated Survival functions by ADJACENT

Appendix 1: Text of survey solicitation letter sent out under Iowa State University letterhead on May 3, 2006

Dear [FULL_NAME],
You have been randomly selected from all Registered Nurses who have been licensed in Iowa over the past ten years. We would like you to participate in an online survey about factors that influence the decision to obtain and/or renew an Iowa Registered Nurse license.[4] We need your response whether you are currently licensed as a nurse or you have decided not to renew your license. The more responses we get, the more reliable our conclusions about the market for nurses in Iowa will be.

Participation in the survey is completely voluntary. Responses will be completely confidential. The survey should take approximately 10 to 15 minutes of your time. Survey questions about family status and income closely match those asked by the U.S. Bureau of Labor Statistics' monthly surveys of employment and earnings in the U.S. labor market.

We will use the responses to this survey in combination with national data to estimate the effects of nursing earningss and family status on nursing shortages in Iowa. Survey results will inform policy decisions aimed at attracting and retaining Registered Nurses in Iowa.

The survey can be completed on the World Wide Web at

http://www.seta.iastate.edu/survey/nursing/

If you do not have internet access available at home, many public libraries and Iowa State University Extension Service offices offer public access internet.

You have been assigned a participant identification (ID) number: [ID_NUMBER]

Entering this code when you complete the survey will enter you in a drawing for several Best Buy gift cards to be given to selected participants as thanks for completing the survey[5]. This ID will be removed from your response before August 31, 2006 to assure your confidentiality. Entering this code on the survey is entirely optional, and you can fill out the survey without the code if you prefer.

If you would prefer to complete a paper copy of the survey, please contact Mark Imerman at the address, email, or phone number below. Leave your participant identification number if you want a paper copy sent to the same address as this letter. If you want the survey sent to an alternative address, please leave the address desired or a phone number where you can be reached.

Thank you for taking the time to complete this survey. We believe that its results will be very valuable for improving the availability of Registered Nurses and quality health care in Iowa.

Sincerely,

Peter Orazem, University Professor
Department of Economics
Iowa State University
Ames, IA 50011-1070
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Mark Imerman, Staff Economist
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[4] This project was made possible by grant number 1 DD1SP906382-01-00 from the Bureau of Health Promotions, Health Resources and Services Administration, U.S. Department of Health and Human Services with additional funds provided by the Iowa State University Economics Department.
[5] No federal funds will be used to provide these incentives.

Appendix 2: Print version of survey delivered to holders of active RN licenses

CONSENT TO PARTICIPATE IN RESEARCH

Title of Study: Nurse Labor Market Analysis

Investigators: Peter Orazem, University Professor of Economics
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(515) 294-8656
Department of Economics
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Ames, Iowa 50011

Mark Imerman, Staff Economist
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Department of Economics
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Ames, Iowa 50011

The survey that you have been asked to participate in is part of a research study. Please take your time in deciding if you would like to participate. Please feel free to contact any of the investigators at any time to ask questions or express concerns. You may exit the survey at any time. Incomplete responses will not be retained for the research dataset.

The purpose of this study is to identify the factors that influence whether Iowa registered nurses opt to renew their licenses. In particular, we want to determine the effect upon this decision of

Wages
Benefits and working conditions
Skill level
Length of journey to work
Family environment

It is hoped that the results of this study will inform policies designed to attract and retain Registered Nurses in Iowa and rural areas. You were selected as part of a random sample of licensed or recently licensed (within the last ten years) Registered Nurses from the Iowa Board of Nursing's Registered Nurse License Database. Your participation is completely voluntary.

DESCRIPTION OF PROCEDURES

If you agree to participate in this study, your participation will last for approximately 10-to-15 minutes. Depending upon the responses received from the entire participating sample, the investigators may follow up with brief telephone inquiries of a small subset of the random sample surveyed here. Your participation will consist of answering a maximum of 36 survey questions (depending upon the survey version you receive). It is the intent of the investigators that you answer questions on the basis of your best recollections or estimates while taking the survey. It is not the intent of the investigators that responses should require you to access personal files or records in order to obtain perfect responses.

RISKS AND BENEFITS

We know of no foreseeable risks from participating in this study.

If you decide to participate in this study there will be no direct benefit to you. It is hoped that the information gained in this study will benefit society by improving access to skilled health care professionals through a better understanding of the factors that influence the decisions of those professionals to remain active in the health care industry.

COSTS AND COMPENSATION

You will not have any costs from participating in this study. You will not be directly compensated for participating in this study. Respondents that do provide a participant ID (from your selection letter) when completing the survey will be entered into a drawing for gift cards from Best Buy. Chances being drawn for a gift card will be one-in-one-hundred for participants providing an ID number and completed survey prior to June 1, 2006.

PARTICIPANT RIGHTS

Your participation in this study is completely voluntary and you may refuse to participate or leave the study at any time. If you decide to not participate in the study, it will not result in any penalty or loss of benefits to which you are otherwise entitled. Incomplete survey responses will not be retained for the research dataset.

CONFIDENTIALITY

Records identifying participants will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicly available. However, federal government regulatory agencies and the Institutional Review Board (a committee that reviews and approves human subject research studies) may inspect and/or copy your records for quality assurance and data analysis. These records may contain private information.

To ensure confidentiality to the extent permitted by law, the following measures will be taken. All individuals invited to participate in this survey will be assigned a unique individual identification code. Individuals that provide this identifier on the survey will be entered into a drawing for Best Buy gift cards at the conclusion of the study. Participants can also complete the survey in complete anonymity. All individual identification codes will be stripped from the research data before August 31, 2006. After this point, only anonymous data will be retained. No information from this survey or the subsequent analysis of responses will be released in any way that violates the confidentiality of the participants. If the results are published, your identity will remain confidential.

QUESTIONS OR PROBLEMS

You are encouraged to ask questions at any time during this study. For further information about the study contact:

Peter Orazem
pfo@iastate.edu
(515) 294-8656
Department of Economics

Iowa State University
Ames, Iowa 50011

Mark Imerman
imerman@iastate.edu
(515) 294-5781
Department of Economics
Iowa State University
Ames, Iowa 50011

If you have any questions about the rights of research subjects or research-related injury, please contact Ginny Austin Eason, IRB Administrator, (515) 294-4566, austingr@iastate.edu, or Diane Ament, Director, Office of Research Assurances (515) 294-3115, dament@iastate.edu

AGREEMENT TO PARTICIPATE

Circling "AGREE" below indicates that you voluntarily agree to participate in this study, that the study has been explained to you, that you have been given the time to read this document and that your questions have been satisfactorily answered. This consent will be maintained with the survey responses that you provide. You are free to exit the survey at any time, regardless of your agreement here. Incomplete surveys will not be retained for the research data.

Circle one:

AGREE

DO NOT AGREE TO PARTICIPATE

NURSE SURVEY

1. Please mark the racial category below that most closely describes yourself.

_____White
_____Black
_____American Indian or Alaska native
_____Oriental or Asian
_____Pacific islander
_____Multiracial
_____Other

2. Please mark one choice to indicate whether you have an Hispanic ethnicity.

_____Hispanic
_____Not Hispanic

3. Please indicate the educational level that best describes your basic RN education (your educational level at the time you first received an RN license).

_____Hospital-based nursing program diploma
_____Associate degree
_____Baccalaureate degree
_____Masters degree
_____Other

4. Please indicate the highest level of education that you have attained to date.

_____Hospital-based nursing program diploma
_____Associate degree
_____Baccalaureate degree in nursing
_____Baccalaureate degree in another field
_____Masters degree in nursing
_____Masters degree in another field
_____Doctorate degree in nursing
_____Doctorate degree in another field

5. Please indicate your marital status on the list below.

_____Single (never married)
_____Married
_____Widowed

_____Separated and/or divorced

6. TOTAL FAMILY INCOME By selecting one of the income categories from the list below, please indicate the total combined income of all members of this FAMILY during the 2005 calendar year. This includes money from jobs, net income from business, farm, or rent, pensions, dividends, interest, social security payments and any other money income received by members of this FAMILY who are 15 years of age or older.

_____Less than $15,000

_____$15,000 to $19,999

_____$20,000 to $24,999

_____$25,000 to $29,999

_____$30,000 to $34,999

_____$35,000 to $39,999

_____$40,000 to $49,999

_____$50,000 to $59,999

_____$60,000 to $74,999

_____$75,000 to $99,999

_____$100,000 or more

7. Indicate the total number of people that lived in your household at any time during calendar year 2005.

_____Number of People

8. Please indicate the number of dependents (including yourself) that you supported during calendar year 2005. Answer "0" (zero) if you did not support anyone, even yourself.

_____Total number of dependents (including yourself and adults and minors living either at or away from home that you supported)

Of these dependents, how many were:

_____Children five years of age or younger living at Home

_____Children aged 6-18 living at home

9. In each of the categories listed below, please indicate the years of employment experience that you have obtained since attaining the age of 18. Answer "0" (zero) for any category for which you have no employment experience.

_____Registered Nurse (positions that require a valid Registered Nurse License)

_____Nurse-related employment (positions that do not require a valid Registered Nurse License but which make use of training or experience that you have

obtained as a Licensed Registered Nurse)

_____Other (non-nursing-related) employment

10. For how many weeks during calendar year 2005 did you hold more than one job?

_____Did not hold multiple jobs at any time during 2005

_____Held multiple jobs from one (1) to thirteen (13) weeks in 2005

_____Held multiple jobs from fourteen (14) to twenty-six (26) weeks in 2005

_____Held multiple jobs for twenty-seven (27) weeks or more in 2005

11. How many weeks during 2005 were you self-employed, either full or part time? Answer "0" (zero) for either category if you were not self-employed in that category for any weeks during 2005.

_____Self employed, part time

_____Self employed, full time

12. For each of the categories below, please indicate the hours that you worked during a typical week in calendar year 2005 and the number of weeks that you were employed in the category during 2005. Answer "0" (zero) for any category in
which you were not employed during a typical week during the year.

_____Typical hours per week employed as a Registered Nurse (positions that require a valid Registered Nurse License)

_____Number of weeks you worked as a Registered Nurse during 2005

_____Typical hours per week employed in nurse-related employment (positions that do not require a valid Registered Nurse License but which make use of training or experience that you have obtained as a Licensed Registered Nurse)

_____Number of weeks you worked in nurse-related employment in 2005

_____Typical hours per week employed in other (non-nursing-related) employment

_____Number of weeks you worked in other employment in 2005

13. PERSONAL EARNINGS FROM EMPLOYMENT Please indicate YOUR individual earnings from personal employment in a job or net income from a wholly owned business during the 2005 calendar year. Do not include income from other nonlabor sources (income from business or farm activities, pensions, social security, dividends, interest, rent, alimony, etc.) or income earned by other members of your family.

_____Less than $5,000
_____$5,000 to $7,499
_____$7,500 to $9,999
_____$10,000 to $12,499
_____$12,500 to $14,999
_____$15,000 to $19,999
_____$20,000 to $24,999
_____$25,000 to $29,999
_____$30,000 to $34,999
_____$35,000 to $39,999
_____$40,000 to $49,999
_____$50,000 to $59,999
_____$60,000 to $74,999
_____$75,000 or more

14. At any time during calendar year 2005, were you or anyone else in your household covered by a health plan provided through a spouse's employment?

_____Yes
_____No

15. At any time during calender year 2005, were you or anyone else in your household covered by a health plan PURCHASED DIRECTLY FROM AN INSURANCE COMPANY?

_____Yes
_____No

16. Select one choice from the list below that best describes the activities you performed for your PRIMARY EMPLOYER in calendar year 2005. "PRIMARY EMPLOYER" refers to the employer that received your largest time commitment (paid work and commuting time) during a typical week.

_____Was not employed in 2005
IF YOU WERE NOT EMPLOYED IN 2005, SKIP QUESTIONS 17-21.
BEGIN AGAIN WITH QUESTION 22

_____Registered Nurse (positions that require a valid Registered Nurse License)

_____Nurse-related employment (positions that do not require a valid Registered Nurse License but which make use of training or experience that you have obtained as a Licensed Registered Nurse)

_____Other (non-nursing-related) employment

17. Indicate on the list below the state in which your PRIMARY EMPLOYER is located.

_____Iowa

_____Illinois

_____Kansas

_____Minnesota

_____Missouri

_____Nebraska

_____South Dakota

_____Wisconsin

_____Other

18. Regarding your PRIMARY EMPLOYER in calendar year 2005

_____Indicate your typical WEEKLY hours worked for your primary employer

_____Indicate your typical WEEKLY earnings (before payroll deductions and taxes) from this job

_____Indicate your typical commuting time (minutes one-way) to this job

19. Are you offered health insurance through your PRIMARY EMPLOYER (or the union representing you, if applicable)?

_____Yes

_____No

If "Yes", do you accept this insurance coverage?

_____Yes

_____No

If "Yes", (you accept this insurance coverage), what other household members covered under the plan?

_____Spouse

_____Children

_____Other dependents

_____No one else is covered under this plan

20. Other than Social Security did your PRIMARY EMPLOYER (or the union representing you, if applicable) have a pension or other type of retirement plan for any of its employees in 2005?

_____Yes

_____No

If "Yes", were you included in that plan?

_____Yes

_____No

21. Other than Social Security did ANY employer that you work for (or the union representing you, if applicable) in 2005 have a pension or other type of retirement plan for any of its employees?

_____Yes

_____No

If "Yes", were you included in that plan?

_____Yes

_____No

22. If you had to accept a position other than one (if any) you hold now, and were constrained to work WITHIN A 10 MINUTE DRIVE (one way) from your residence, what would your WEEKLY earnings (before deductions for benefits and payroll taxes) be in this best alternative job?

_____Expected WEEKLY earnings from alternative local employment

Would this alternative be a nursing position?

_____Yes

_____No

23. If you had to accept a position other than one (if any) you hold now, and were constrained to work WITHIN A 45 MINUTE DRIVE (one way) from your residence, what would your WEEKLY earnings (before deductions for benefits and payroll taxes) be in this best alternative job?

_____Expected WEEKLY earnings from alternative regional employment

Would this alternative be a nursing position?

_____Yes

_____No

24. Do you intend to renew your Iowa Registered Nurse license at your next expiration date?

_____Yes

_____No

_____Don't know

25. At the time of your last license renewal did your position with your PRIMARY EMPLOYER require a valid license to practice as a Registered Nurse in Iowa?

_____Yes

_____No

26. If you do not currently work in a position that requires your Iowa Registered Nurse license, why do you maintain the license (select all that apply)?

_____Intend to return to a position requiring the license at some future date

_____License is not required but is relevant to my nursing-related position

_____Want to maintain my future employment options

_____Will let license expire at next renewal date

_____Other

Appendix 3: Print version of survey delivered to recipients having inactive or expired RN licenses

CONSENT TO PARTICIPATE IN RESEARCH

Title of Study: Nurse Labor Market Analysis

Investigators: Peter Orazem, University Professor of Economics
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(515) 294-8656
Department of Economics
Iowa State University
Ames, Iowa 50011

Mark Imerman, Staff Economist
imerman@iastate.edu
(515) 294-5781
Department of Economics
Iowa State University
Ames, Iowa 50011

The survey that you have been asked to participate in is part of a research study. Please take your time in deciding if you would like to participate. Please feel free to contact any of the investigators at any time to ask questions or express concerns. You may exit the survey at any time. Incomplete responses will not be retained for the research dataset.

The purpose of this study is to identify the factors that influence whether Iowa registered nurses opt to renew their licenses. In particular, we want to determine the effect upon this decision of

Wages
Benefits and working conditions
Skill level
Length of journey to work
Family environment

It is hoped that the results of this study will inform policies designed to attract and retain Registered Nurses in Iowa and rural areas. You were selected as part of a random sample of licensed or recently licensed (within the last ten years) Registered Nurses from the Iowa Board of Nursing's Registered Nurse License Database. Your participation is completely voluntary.

DESCRIPTION OF PROCEDURES

If you agree to participate in this study, your participation will last for approximately 10-to-15 minutes. Depending upon the responses received from the entire participating sample, the investigators may follow up with brief telephone inquiries of a small subset of the random sample surveyed here. Your participation will consist of answering a maximum of 36 survey questions (depending upon the survey version you receive). It is the intent of the investigators that you answer questions on the basis of your best recollections or estimates while taking the survey. It is not the intent of the investigators that responses should require you to access personal files or records in order to obtain perfect responses.

RISKS AND BENEFITS

We know of no foreseeable risks from participating in this study.

If you decide to participate in this study there will be no direct benefit to you. It is hoped that the information gained in this study will benefit society by improving access to skilled health care professionals through a better understanding of the factors that influence the decisions of those professionals to remain active in the health care industry.

COSTS AND COMPENSATION

You will not have any costs from participating in this study. You will not be directly compensated for participating in this study. Respondents that do provide a participant ID (from your selection letter) when completing the survey will be entered into a drawing for gift cards from Best Buy. Chances being drawn for a gift card will be one-in-one-hundred for participants providing an ID number and completed survey prior to June 1, 2006.

PARTICIPANT RIGHTS

Your participation in this study is completely voluntary and you may refuse to participate or leave the study at any time. If you decide to not participate in the study, it will not result in any penalty or loss of benefits to which you are otherwise entitled. Incomplete survey responses will not be retained for the research dataset.

CONFIDENTIALITY

Records identifying participants will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicly available. However, federal government regulatory agencies and the Institutional Review Board (a committee that reviews and approves human subject research studies) may inspect and/or copy your records for quality assurance and data analysis. These records may contain private information.

To ensure confidentiality to the extent permitted by law, the following measures will be taken. All individuals invited to participate in this survey will be assigned a unique individual identification code. Individuals that provide this identifier on the survey will be entered into a drawing for Best Buy gift cards at the conclusion of the study. Participants can also complete the survey in complete anonymity. All individual identification codes will be stripped from the research data before August 31, 2006. After this point, only anonymous data will be retained. No information from this survey or the subsequent analysis of responses will be released in any way that violates the confidentiality of the participants. If the results are published, your identity will remain confidential.

QUESTIONS OR PROBLEMS

You are encouraged to ask questions at any time during this study. For further information about the study contact:

Peter Orazem
pfo@iastate.edu
(515) 294-8656
Department of Economics
Iowa State University

Ames, Iowa 50011

Mark Imerman
imerman@iastate.edu
(515) 294-5781
Department of Economics
Iowa State University
Ames, Iowa 50011

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AGREEMENT TO PARTICIPATE

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Circle one:

AGREE

DO NOT AGREE TO PARTICIPATE

NURSE SURVEY

1. Please mark the racial category below that most closely describes yourself.

_____White
_____Black
_____American Indian or Alaska native
_____Oriental or Asian
_____Pacific islander
_____Multiracial
_____Other

2. Please mark one choice to indicate whether you have an Hispanic ethnicity.

_____Hispanic
_____Not Hispanic

3. Please indicate the educational level that best describes your basic RN education (your educational level at the time you first received an RN license).

_____Hospital-based nursing program diploma
_____Associate degree
_____Baccalaureate degree
_____Masters degree
_____Other

4. Please indicate the highest level of education that you have attained to date.

_____Hospital-based nursing program diploma
_____Associate degree
_____Baccalaureate degree in nursing
_____Baccalaureate degree in another field
_____Masters degree in nursing
_____Masters degree in another field
_____Doctorate degree in nursing
_____Doctorate degree in another field

5. Please indicate your marital status on the list below.

_____Single (never married)
_____Married
_____Widowed

_____Separated and/or divorced

6. TOTAL FAMILY INCOME By selecting one of the income categories from the list below, please indicate the total combined income of all members of this FAMILY during the 2005 calendar year. This includes money from jobs, net income from business, farm, or rent, pensions, dividends, interest, social security payments and any other money income received by members of this FAMILY who are 15 years of age or older.

_____Less than $15,000

_____$15,000 to $19,999

_____$20,000 to $24,999

_____$25,000 to $29,999

_____$30,000 to $34,999

_____$35,000 to $39,999

_____$40,000 to $49,999

_____$50,000 to $59,999

_____$60,000 to $74,999

_____$75,000 to $99,999

_____$100,000 or more

7. Indicate the total number of people that lived in your household at any time during calendar year 2005.

_____Number of People

8. Please indicate the number of dependents (including yourself) that you supported during calendar year 2005. Answer "0" (zero) if you did not support anyone, even yourself.

_____Total number of dependents (including yourself and adults and minors living either at or away from home that you supported)

Of these dependents, how many were:

_____Children five years of age or younger living at Home

_____Children aged 6-18 living at home

9. In each of the categories listed below, please indicate the years of employment experience that you have obtained since attaining the age of 18. Answer "0" (zero) for any category for which you have no employment experience.

_____Registered Nurse (positions that require a valid Registered Nurse License)

_____Nurse-related employment (positions that do not require a valid Registered Nurse License but which make use of training or experience that you have

obtained as a Licensed Registered Nurse)

_____Other (non-nursing-related) employment

10. For how many weeks during calendar year 2005 did you hold more than one job?

_____Did not hold multiple jobs at any time during 2005

_____Held multiple jobs from one (1) to thirteen (13) weeks in 2005

_____Held multiple jobs from fourteen (14) to twenty-six (26) weeks in 2005

_____Held multiple jobs for twenty-seven (27) weeks or more in 2005

11. How many weeks during 2005 were you self-employed, either full or part time? Answer "0" (zero) for either category if you were not self-employed in that category for any weeks during 2005.

_____Self employed, part time

_____Self employed, full time

12. For each of the categories below, please indicate the hours that you worked during a typical week in calendar year 2005 and the number of weeks that you were employed in the category during 2005. Answer "0" (zero) for any category in
which you were not employed during a typical week during the year.

_____Typical hours per week employed as a Registered Nurse (positions that require a valid Registered Nurse License)

_____Number of weeks you worked as a Registered Nurse during 2005

_____Typical hours per week employed in nurse-related employment (positions that do not require a valid Registered Nurse License but which make use of training or experience that you have obtained as a Licensed Registered Nurse)

_____Number of weeks you worked in nurse-related employment in 2005

_____Typical hours per week employed in other (non-nursing-related) employment

_____Number of weeks you worked in other employment in 2005

13. PERSONAL EARNINGS FROM EMPLOYMENT Please indicate YOUR individual earnings from personal employment in a job or net income from a wholly owned business during the 2005 calendar year. Do not include income from other nonlabor sources (income from business or farm activities, pensions, social security, dividends, interest, rent, alimony, etc.) or income earned by other members of your family.

_____Less than $5,000
_____$5,000 to $7,499
_____$7,500 to $9,999
_____$10,000 to $12,499
_____$12,500 to $14,999
_____$15,000 to $19,999
_____$20,000 to $24,999
_____$25,000 to $29,999
_____$30,000 to $34,999
_____$35,000 to $39,999
_____$40,000 to $49,999
_____$50,000 to $59,999
_____$60,000 to $74,999
_____$75,000 or more

14. At any time during calendar year 2005, were you or anyone else in your household covered by a health plan provided through a spouse's employment?

_____Yes
_____No

15. At any time during calendar year 2005, were you or anyone else in your household covered by a health plan PURCHASED DIRECTLY FROM AN INSURANCE COMPANY?

_____Yes
_____No

16. Select one choice from the list below that best describes the activities you performed for your PRIMARY EMPLOYER in calendar year 2005. "PRIMARY EMPLOYER" refers to the employer that received your largest time commitment (paid work and commuting time) during a typical week.

_____Was not employed in 2005
(IF YOU WERE NOT EMPLOYED IN 2005, SKIP QUESTIONS 17- 21. BEGIN AGAIN WITH QUESTION 22)

_____Registered Nurse (positions that require a valid Registered Nurse License)

_____Nurse-related employment (positions that do not require a valid Registered Nurse License but which make use of training or experience that you have obtained as a Licensed Registered Nurse)

_____Other (non-nursing-related) employment

17. Indicate on the list below the state in which your PRIMARY EMPLOYER is located.

_____Iowa

_____Illinois

_____Kansas

_____Minnesota

_____Missouri

_____Nebraska

_____South Dakota

_____Wisconsin

_____Other

18. Regarding your PRIMARY EMPLOYER in calendar year 2005

_____Indicate your typical WEEKLY hours worked for your primary employer

_____Indicate your typical WEEKLY earnings (before payroll deductions and taxes) from this job

_____Indicate your typical commuting time (minutes one-way) to this job

19. Are you offered health insurance through your PRIMARY EMPLOYER (or the union representing you, if applicable)?

_____Yes

_____No

If "Yes", do you accept this insurance coverage?

_____Yes

_____No

If "Yes", (you accept this insurance coverage), what other household members covered under the plan?

_____Spouse

_____Children

_____Other dependents

_____No one else is covered under this plan

20. Other than Social Security did your PRIMARY EMPLOYER (or the union representing you, if applicable) have a pension or other type of retirement plan for any of its employees in 2005?

_____Yes

_____No

If "Yes", were you included in that plan?

_____Yes

_____No

21. Other than Social Security did ANY employer that you work for (or the union representing you, if applicable) in 2005 have a pension or other type of retirement plan for any of its employees?

_____Yes

_____No

If "Yes", were you included in that plan?

_____Yes

_____No

22. If you had to accept a position other than one (if any) you hold now, and were constrained to work WITHIN A 10 MINUTE DRIVE (one way) from your residence, what would your WEEKLY earnings (before deductions for benefits and payroll taxes) be in this best alternative job?

_____Expected WEEKLY earnings from alternative local employment

Would this alternative be a nursing position?

_____Yes

_____No

23. If you had to accept a position other than one (if any) you hold now, and were constrained to work WITHIN A 45 MINUTE DRIVE (one way) from your residence, what would your WEEKLY earnings (before deductions for benefits and payroll taxes) be in this best alternative job?

_____Expected WEEKLY earnings from alternative regional employment

Would this alternative be a nursing position?

_____Yes

_____No

24. For your last employment position that required an Iowa Registered Nurse license, please provide the following

_____Last year that you held a position requiring your Iowa Registered Nurse license

_____Typical WEEKLY hours worked in your last position requiring your Iowa Registered Nurse license

_____Typical WEEKLY earnings (before deductions for benefits and payroll taxes) from you last position requiring your Iowa Registered Nurse license

25. Please rank the following factors in order of importance in influencing your decision to exit the nursing profession and not renewing your Iowa Registered Nurse license ("1" for most important, "2" for second most important, "3" for third most important, etc)

_____Did not exit nursing. Maintain a valid Registered Nurse License from another state.

_____Insufficient earnings

_____No health benefits available

_____No retirement benefits available

_____Distance to potential employers was too large

_____Responsibilities at home (children, etc.)

_____Desired a change in career

_____Other

26. Is there any realistic possibility that you will return to employment that requires a Registered Nurse license if the conditions cited in Question 34 change?

_____Yes

_____No

_____Don't know

27. Please rank the following factors in order of importance in influencing your decision to apply for another Iowa Registered Nurse license in the future ("1" for most important, "2" for second most important, "3" for third most important, etc)

_____Increased earning potential

_____Better availability or quality of health benefits

_____Better availability or quality of retirement benefits

_____Reduced distance to potential employers

_____Reduced responsibilities at home (children, etc.) or more accessible child/elder care

_____Other

ATTACHMENT 3

Attachment to
Letter 93

The Effects of Housing Prices, Wages, and Commuting Time on Joint Residential and Job Location Choices

Kim S. So, Peter F. Orazem, and Daniel M. Otto

An empirical model of joint decisions of where to live and where to work demonstrates that individuals make residential and job location choices by trading off wages, housing prices, and commuting costs. Wages are higher in metropolitan markets, but housing prices are also higher in urban areas. Consumers can live in lower priced nonmetropolitan houses and still earn urban wages, but they incur commuting costs that increase with distance from the city. Improvements in transportation that lower commuting time will increase nonmetropolitan populations and will increase the number of nonmetropolitan commuters to metropolitan markets. Equal wage growth across labor markets causes a shift in relative population from rural to urban markets, while an equiproportional increase in housing prices causes a population shift toward rural areas.

Key words: commuting, housing costs, residential-job location choice, utility maximizing.

Traditional rural economic development efforts have included strategies such as industrial recruitment, small business development, and business retention and expansion programs in order to increase employment, income, and population bases of rural communities (Rosenfeld, Shaffer). However, rural economic growth has not kept pace with metropolitan economic expansion. Geographically isolated areas and resource dependent communities are less likely to be successful in achieving income and population growth (Barkley and Henry, Drabenstott and Smith) and the employment base in rural areas is increasingly concentrated in low-skilled, low-wage jobs (Wojan). The more rapid rates of economic and population growth in rural counties adjacent to metropolitan centers suggest that urban spillovers or urbanization economies are important factors in affecting the economic performance of rural areas (Henry and Drabenstott, Drabenstott and Smith).

Much of the research on interregional interactions builds on Roback's pioneering model that allows interregional amenity differences to be bid into interregional differences in wages and land rents. Early applications of these models were concerned with processes of suburbanization, urban decline, and overall metropolitan growth. In this interregional framework, population and economic activity in a metropolitan region adjust to allow for efficient distribution of firms and individuals (Adams et al.; Benabou; Henry, Barkley, and Bao). Other related applications of this interregional modeling approach have examined the local versus regional effects of amenities, (Blomquist, Burger, and Hochn; Voith 1991, 1993) and the bi-directional effects of public investments and economic activities in cities and suburbs (Voith 1998). In each of these studies, economic activities occurring in one region are found to generate broader regional effects and economic adjustments, rather than only occurring locally.

In addition to job creation opportunities spilling over from stronger, more rapidly growing metropolitan economies, rural areas adjacent to metropolitan areas can expand their population by providing housing and commuting opportunities. Household choices of where to live and work involve trade-offs between wages, commuting time, and living costs. The classic works of Alonso, Muth, and Mills present the implications of distance

Kim S. So is with Black and Veatch Corporation and Peter F. Orazem and Daniel M. Otto are professors at Iowa State University.

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from a central business district for housing prices, wages, and population densities. Several studies have found empirical results consistent with elements of the Alonso, Muth, and Mills (AMM) model. McMillen and Singell found that wages fall as probability of living outside the central city rises. Renkow and Hoover found that recent rural population growth was more affected by new residents trading longer commutes for lower home prices. Carlino and Mills; Boarnet; Freedman and Kern; and Henry, Barkley, and Bao present evidence that residence and job location are jointly determined. However, none of these studies consider all the major elements of the AMM framework: wages, commuting costs, housing prices, residential choice, and job location. Consequently, they cannot address the issues of how these factors interact to alter choices of where to live and where to work. However, it is exactly those questions that must be answered to identify which towns might benefit from proximity to an urban labor market.

This study fills this gap by using the Public Use Microdata Sample of the 1990 Census to examine how wages, housing prices, and commuting time affect the joint decisions of where to live and where to work. A restricted multinomial logit framework is applied to a sample of 6214 working-age (ages twenty-four to sixty-two) residents of a thirty-one county region in central Iowa. Individuals choose whether to reside in metropolitan Des Moines or in the nonmetropolitan communities around Des Moines. They also choose whether to work in the community in which they live or to commute. In fact, all four possible residence/job location pairs occur in the data, although relatively few individuals reside in metropolitan communities and commute to nonmetropolitan jobs.

The model yields plausible estimates of the roles of economic variables on the joint residence/job location choices. In particular, the probability of residing in an area is negatively influenced by housing price levels but positively influenced by wage levels. Incentives to commute are greater the higher the wages in the other market. As a consequence, commuters have higher wages than do noncommuters, a requirement of the utility maximizing model. The probability of choosing the commuting option is negatively related to the commuting distance, with probability going to zero when the one-way commute approaches one hour. Consequently, the extent of the labor market around a metropolitan area is the distance that can be traveled in one hour.

The empirical results point to several avenues of rural economic development. Improving transportation routes from rural areas to metropolitan labor markets will increase rural populations. Policies which raise housing costs across rural and urban markets will shift population toward rural areas, while policies that lower rural versus urban housing costs will be even more favorable toward rural areas.

Theory

Householders are assumed to jointly select a residential location and a work location so as to maximize utility. Indirect utility at residence i with job location j is given by

$$(1) \quad V_{ij} = V(W_j, C_{ij}, P_i, T_i) \qquad i, j = \mathrm{M}, \mathrm{N}$$

where M designates a metropolitan location and N designates a nonmetropolitan location, and where W_j is the wage the householder could earn in job location j, C_{ij} is the cost of commuting from residential location i to job j, P_i is the cost of living in residential location i, and T_i is a vector of observed and unobserved locational preferences. Indirect utility is assumed to increase with the wage and decrease with commuting time and living expenses, so that $V_{W_j} > 0$, $V_{C_{ij}} < 0$, and $V_{P_i} < 0$.

The householder objective is to choose a residence location and job location $V_{ij} = \max(V_{\mathrm{MM}}, V_{\mathrm{MN}}, V_{\mathrm{NM}}, V_{\mathrm{NN}})$.[1] The optimality condition requires that the residential and job locations i^* and j^* satisfy

$$(2) \quad V(W_{j^*}, C_{i^*j^*}, P_{i^*}, T_{i^*}) \geqq V(W_j, C_{ij}, P_i, T_i) \quad \forall\, i \neq i^*,\ j \neq j^*.$$

Equation (2) implies that commuters will require a wage premium over wages in their local market. An individual selecting a commuting job over a local job must have

$$(3) \quad V(W_j, C_{ij}, P_i, T_i) \geqq V(W_i, C_{ii}, P_i, T_i)$$

[1] We will be applying the model to data on a specific metropolitan area and its environs, so we do not allow the choice of moving to or from the region. Therefore, the choice here assumes that the household has already decided which region of the country to live in.

where $C_{ii} < C_{ij}$. Because local tastes and prices are the same for the same residential location, W_j must be greater than W_i for (3) to hold. Therefore, we would expect average wages for commuters to exceed average wages for noncommuters, other things equal.

Equation (3) implies that as C_{ij} increases, $W_j - W_i$ must increase to compensate commuters. Therefore the gap between wages for commuters and noncommuters will rise as the distance between the metropolitan and nonmetropolitan areas increase. However, there is no requirement that average wages in the metropolitan and nonmetropolitan areas differ overall.

Average wages will differ across the two markets if $P_M \neq P_N$. By definition, nonmetropolitan areas have lower population density than urban areas. If higher population per square mile causes land prices to be bid upward, we would expect housing costs to be greater in metropolitan than in nonmetropolitan markets. Because housing costs are a significant share of consumer budgets, it is reasonable to assume that $P_N < P_M$.

Consider the cross-area commuting combination MN and NM and assume that $C_{MN} = C_{NM} = C$. If on average

$$(4) \quad V(W_M, C, P_M, T_M) \geq V(W_N, C, P_N, T_N)$$

then $W_M > W_N$ provided that $T_N \geq T_M$ (average taste for nonmetropolitan residence is no lower than average taste for metropolitan residence). Average metropolitan wages will exceed nonmetropolitan wages even with $T_N < T_M$ if the disutility of higher urban living costs exceeds the positive amenities of living in the metropolitan area.[2]

Empirical Specification

The model requires data on home and job location choices, residential prices, and wages for two contiguous locations, one metropolitan and the other nonmetropolitan. Householders are allowed four choices,

- MM: live and work in the metropolitan area
- MN: live in the metropolitan area and commute to the nonmetropolitan area
- NM: live in the nonmetropolitan area and commute to the metropolitan area
- NN: live and work in the nonmetropolitan area.

The general form of the indirect utility from each joint choice, V_{ij}, is given by equation (1). To operationalize (1), we assume the linear form

$$(5) \quad V_{ij} = \alpha_W W_j + C_{ij} + \alpha_P P_i + T_i + e_{ij} \quad i, j = M, N$$

The effect of local amenities such as climate, crime rate, cultural attractions, or public services will be captured by the residential fixed effects, T_M and T_N.[3] The taste variables will only affect choices if they differ in impact across the two areas. Without loss of generality, we specify taste for nonmetropolitan residence to be $T_N = \beta_N$.[4] Given this baseline taste for nonmetropolitan areas, relative taste for metropolitan areas is assumed to be of the form

$$(6) \quad T_M = \beta_M + \beta_{MA} A + \beta_{MK} K + \beta_{ME} E + \beta_{MY} Y + \beta_{MF} F$$

where A is respondent age, K is the number of children in the household, E is years of education of the householder, Y is nonlabor income, and F indicates whether or not the respondent is female. The coefficients β_{MA}, β_{MK}, β_{ME}, β_{MY}, and β_{MF} will be positive if the variable is associated with a preference for urban over nonmetropolitan residence. If taste for nonmetropolitan living gets stronger with age, education, wealth, or raising children, or if women have stronger preferences for nonmetropolitan living, then their respective coefficients will be negative.

The other specification choice is for the commuting costs, C_{ij}. These are assumed to depend on the length of commuting time, τ_{ij}, but also on age, education, presence of children, nonlabor income, and gender. Commuting might be expected to be more dif-

[2] Note this does not imply that no one will commute from M to N. However, M to N commuters must be paid at least $E(W_M) + C$. If, on average, $W_M > W_N$, then there will be relatively few jobs in N that would induce someone to commute from M to N. In our sample, only 1% are M to N commuters compared to 12% N to M commuters.

[3] Because all observations are from a restricted geographic area, climatic or geological amenities will be similar across M and N. These variables would become more important if the empirical frame were broadened to incorporate choice of region or state.

[4] If there are differential fixed costs of location in M versus N, these would be incorporated into node-specific constant terms β_M and β_N also. As the model already assumes that the household has opted for this particular region, fixed costs of locating in M versus N are likely to be similar.

ficult with age if younger workers have more energy. Children might make commuting more costly, if only because coordinating child care and job responsibilities is complicated when they are located thirty minutes apart. Education would proxy for the value of time while commuting, but it should also be positively related to the ease of obtaining information on job openings across labor markets. Increased nonlabor income may increase leisure demand and/or lower the marginal utility of income, lowering the incentives to accept higher pay in exchange for a longer commute. Women and men may differ in the value of the disamenity they attach to commuting.

The assumed functional form for commuting costs from residence location i to job location j is

$$(7)\quad \begin{aligned} C_{ij} &= \alpha_C + \gamma_\tau \tau_{ij} + \gamma_A A \\ &\quad + \gamma_K K + \gamma_E E \\ &\quad + \gamma_Y Y + \gamma_F F \qquad i \neq j \\ &= \gamma_\tau \tau_{ii} \qquad\qquad i = j. \end{aligned}$$

The coefficients γ_A, γ_K, γ_E, γ_Y, and γ_F will be negative if the variable is associated with greater commuting costs across areas. If commuting time lowers utility, then $\gamma_\tau < 0$. Inserting (6) and (7) into (5) yields the following system of equations:

$$(8)\quad \begin{aligned} V_{MM} &= \beta_M + \alpha_W W_M + \gamma_\tau \tau_{MM} + \alpha_P P_M \\ &\quad + \beta_{MA} A + \beta_{MK} K + \beta_{ME} E \\ &\quad + \beta_{MY} Y + \beta_{MF} F + \varepsilon_{MM} \\ V_{MN} &= (\beta_M + \alpha_C) + \alpha_W W_N + \gamma_\tau \tau_{MN} \\ &\quad + \alpha_P P_M + (\beta_{MA} + \gamma_A) A \\ &\quad + (\beta_{MK} + \gamma_K) K + (\beta_{ME} + \gamma_E) E \\ &\quad + (\beta_{MY} + \gamma_Y) Y + (\beta_{MF} + \gamma_F) F \\ &\quad + \varepsilon_{MN} \\ V_{NM} &= (\beta_N + \alpha_C) + \alpha_W W_M + \gamma_\tau \tau_{NM} \\ &\quad + \alpha_P P_N + \gamma_A A + \gamma_K K + \gamma_E E \\ &\quad + \gamma_Y Y + \gamma_F F + \varepsilon_{NM} \\ V_{NN} &= \beta_N + \alpha_W W_N + \gamma_\tau \tau_{NN} + \alpha_P P_N \\ &\quad + \varepsilon_{NN}. \end{aligned}$$

If the error terms are independently drawn from an extreme value distribution, then multinomial logit estimation is appropriate for equation (8). The system of equations has sixteen coefficients. This is a restricted form of the general multinomial logit specification which would have twenty-seven coefficients.[5] The imposed restrictions include that the marginal utility of wage income α_W is equal across choices, as is the marginal utility of commuting time γ_τ. Similarly, living costs have the same marginal utility across residential locations. These assumptions impose six restrictions. The remaining five restrictions come from imposing equal marginal effects of A, K, E, Y, and F on utility of commuting, regardless of whether the commute is from M to N or N to M.[6]

Data

The empirical specification is applied to data from the 5% Public Use Microdata Samples (PUMS) of the 1990 United States Census. We concentrate on householders aged twenty-four to sixty-two. Concentration on the householder insures that we are observing individuals actually involved in decision making for the household. While the householder can be male or female, 80% of the sample has a male designated as householder. Avoiding those under twenty-four sidesteps complications caused by respondents who are still going to school and may be making residential choices based on factors other than wages and housing prices. Similarly, those over sixty-two may have working location and residential choices influenced by pensions and social security rather than the factors in this model. For similar reasons, individuals already retired before age sixty-two were also excluded from the sample.[7]

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[5] These would include a constant term and coefficients on W_i, τ_{ij}, P_i, A, E, K, Y_i, and F in each of the first three equations. Coefficients in the NN choice would be normalized to zero to insure that the probabilities across all four choices sum up to one.

[6] The test of the restricted model against the unrestricted model is distributed $\chi^2(11)$. The test statistic has a marginal significance level of around 0.005. Nevertheless, as with the imposition of homogeneity in prices or symmetry in the case of demand system estimation, it is reasonable to impose the restrictions because of their consistency with theory. In our application, the estimates of α_W, γ_τ, and α_P did not differ in sign across models and were generally of similar magnitudes. The results of the unrestricted model are reported in the appendix.

[7] The concentration on the householder choice as representative of the entire household is a simplification. Justification lies in the finding that labor earning for the household head, typically male, rise after a move, while labor earnings for the spouse fall on average (Ehrenberg and Smith). Consequently, residential decisions appear to be driven by the income opportunities of the householder.

The model requires measures of an individual's expected wage and commuting time for each of the four residence/job location choices. However, we only observe a wage and commuting time for the choice actually taken. Furthermore, it would be incorrect to use observed wages or commuting time for the choice taken since these wages and commuting times are chosen simultaneously with locational choice. Consequently, we need to derive estimates of expected wages and commuting time for each potential choice for each individual.

The PUMS data have some clear advantages for our study. Most importantly, they include information on housing prices, commuting time, and wages as well as metropolitan versus nonmetropolitan residence and job site. However, the data set does not reveal county of residence. Consequently, it does not allow us to use available indicators of local amenities, land prices, road conditions, or labor market information that would be useful instruments for endogenous wages, housing prices, and commuting costs. Future work on residential location would benefit tremendously if better locational indicators could be incorporated into the PUMS data.

Our study includes PUMS regions that form a rural to urban continuum of thirty-one counties from southern to north central Iowa. A total of 8876 usable household records were included in the sample. The analysis will concentrate on 6214 of these, excluding the self-employed and those out of the labor force. The metropolitan residents in the sample are in the Des Moines SMSA, while the nonmetropolitan residents are in the PUMS regions surrounding Des Moines. Although the data include whether the place of residence and the place of work are designated as metropolitan or nonmetropolitan, no narrower geographic designator is provided. As a result, instruments for the endogenous variables must be generated from the variables included in the PUMS.

Given these limitations, we predict wages using education level, age, and gender as instruments. The regression was conducted over the subsample of householders who are working full time and are not self-employed.[5] Separate regressions by metropolitan and nonmetropolitan labor market are reported in the appendix. The overall fit of the regressions was weak. However, the parameters were precisely estimated and matched stylized facts about returns to education, gender, and life cycle earnings profiles. Using the parameters of the earnings function, expected wages were assigned for both the metropolitan and nonmetropolitan labor market, based on householder's age, education level, and gender. Node specific averages are reported in table 1A.

A similar strategy was attempted to predict commuting time. However, commuting time was dictated by residential location. Regressions of commuting time on age, education, and gender resulted in few precisely estimated parameters. Predicted values generated from a model with many poor instruments would lead to significant measurement error problems. Consequently, a simpler specification was used in which commuting time was set at node-specific averages by education level for each individual. The commuting time values used are reported in table 1A.

Housing prices depend on both the quality of the housing stock and the price of land. The latter is the better measure of the relative cost of living, but absent information on actual city of residence, land prices are not an option. The PUMS data offer a partial solution. While detailed information on housing quality is not available, the number of rooms is reported. Therefore, we can measure housing cost as the annual payment for housing divided by the number of rooms. For homeowners, the annual payment was assumed to be the implied payment on a thirty-year loan with a fixed 8% interest rate, plus estimated annual real-estate tax divided by the number of rooms. For renters, the annual cost of housing was set at twelve times the monthly rent, divided by the number of rooms. If housing is a normal good, housing quality will vary by earnings level. We allowed for this complication by allowing residential housing price per room to vary by education level. Therefore, for the residential location not selected, housing costs were set by the average price per room paid at the other locale by residents of the same education level. The assigned housing costs are reported in table 1A.

The remaining variables are self-explanatory. Age, education, gender, and number of children are taken directly off the

[5] As is common in the literature, we exclude part-time and self-employed workers from the sample because their wage levels depend on labor supply choices. For example, Blank found that part-time workers earn less per hour than otherwise identical full-time workers. Averett and Hotchkiss found that benefits were also lower for part-time workers. In addition, self-employed individuals have complete control over their hours worked, making income and hours worked endogenous.

Table 1A. Average Node-Specific Wages, Commuting Time, and Housing Costs, by Education

Education Level		Node: (Residence, Job) (M, M)	(M, N)	(N, M)	(N, N)
<8 yrs:	W[a]	8.14	10.14	9.08	8.77
	τ	16.0	28.2	38.1	16.0
	P	920	920	556	556
9–11 years:	W	10.45	11.13	10.28	8.66
	τ	16.9	35.9	35.2	14.8
	P	1078	1078	684	684
12 years:	W	12.07	10.59	10.45	8.71
	τ	17.5	31.4	34.8	15.2
	P	1158	1158	694	694
13–15 years:	W	14.19	14.63	12.88	12.26
	τ	16.2	35.3	34.7	12.7
	P	1324	1324	909	909
16 years:	W	23.59	22.60	13.78	14.46
	τ	14.3	60.0	40.5	11.2
	P	1635	1635	998	998
17+ years:	W	16.11	16.61	13.26	19.37
	τ	16.9	23.5	40.3	14.0
	P	1463	1463	1290	1290

Note: Averages based on samples of full-time workers aged 16–65 who are not self-employed.
[a] W is the hourly wage, τ the commuting time (in minutes), and P the annual cost of housing per room.

PUMS tapes. Nonlabor income is the sum of reported interest, dividends, rent, government transfer payments, and other nonlabor income.

Empirical Results

The sample statistics are reported in table 1B. Our reported results are for the 6214 PUMS respondents who are employed but not self-employed. If labor force participation or occupational choices are made jointly with locational choices, then exclusion of the self-employed or specialists in home production would amount to selecting on the dependent variable. However, preliminary estimation of the model reported in the appendix showed that the results were quite robust to inclusion or exclusion of the self-employed and householders who are not employed.[9]

Several stylized facts from table 1B are worth emphasizing. First, average commuting time for those working outside their

[9] As a practical matter, it was not obvious how one would properly assign expected commuting time or wages to those not employed. For many of the self-employed, especially farmers, job location and residential location were identical, so commuting was not an issue.

Table 1B. Sample Means by Residential and Job Location

Variable	Node: (Residence, Job) (M, M)	(M, N)	(N, M)	(N, N)	All Metro Residents	All Nonmetro Residents
Average commuting time (minutes)	17.3	36.9	35.5	15.3	17.9	19.1
Average housing price ($/room/100)	11.5	10.8	8.5	6.6	11.5	6.9
Average hourly wage ($/hour)	13.4	14.0	12.4	11.4	13.4	11.6
Age	38.4	37.3	38.4	39.4	38.4	39.2
Average no. of children	0.87	1.02	1.08	1.08	0.87	1.08
Average education level (years of schooling)	11.6	11.8	11.0	11.0	11.6	11.0
Average unearned income ($/1000)	0.94	0.80	0.71	0.72	0.94	0.72
Female	0.28	0.19	0.17	0.21	0.28	0.20
No. of observations	2135	67	759	3253	2202	4012

residential location is two to three times the commuting time for those working in their residential location. For those working in their residential area, metropolitan residents have slightly longer commutes than nonmetropolitan residents. Metropolitan residents were more educated, had higher nonlabor income, and had smaller families than nonmetropolitan residents. Commuters were younger, more educated, atypically male, and had lower nonlabor income than noncommuters.

Consistent with the theory, commuters have higher wages than noncommuters in both markets.[10] Also, as speculated above, housing costs are lower in the nonmetropolitan areas. The higher metropolitan housing costs require that wages be higher in the metropolitan market, as confirmed by the data. While these sample statistics are supportive of the underlying theoretical model, the stronger test comes from the estimation of the structural model.

The parameters of the multinomial logit model for both samples are reported in table 2. In general, the model performed quite well. Most of the parameters are precisely estimated and correspond well to the theoretical model. Wages attract residents and commuters, while higher housing prices reduce incentives to reside in an area. As commuting time increases, incentives to commute decline. These results imply that longer commutes require higher wages to leave a worker better off than working in their place of residence. Areas with higher housing costs required higher wages to meet a worker's opportunity utility at other residential locations, or else wages must exceed those in other labor markets sufficiently to induce nonresidents to commute. These comparative static results correspond well to the underlying theory.[11]

The remaining variables have interesting implications for residential preferences and tastes for commuting. The parameters β_{Mi} will be positive if the variable is associated with an increased interest in metropolitan residence, and γ_i will be positive if variable i increases willingness to commute. The results suggest that older householders are less likely to commute and prefer to live in nonmetropolitan areas. Householders with children also prefer to live in nonmetropolitan areas. Interestingly, children do not appear to have a big impact on the probability of commuting. The estimate of γ_k is negative, but not large or statistically signifi-

Table 2. Coefficients from the Restricted Multinomial Logit Model of Residential and Job Location Choices

Coefficients	
Location-specific	
α_W	0.065*
	(7.69)
γ_T	−0.054*
	(2.44)
α_P	−0.047*
	(7.69)
Individual	
β_{MA}	−0.019*
	(6.27)
γ_A	−0.015*
	(3.49)
β_{MK}	−0.186*
	(7.05)
γ_K	−0.049
	(1.42)
β_{ME}	0.061*
	(4.43)
γ_E	−0.042*,
	(2.39)
β_{MY}	0.028*
	(2.65)
γ_Y	0.007
	(0.43)
β_{MF}	0.40*
	(6.03)
γ_F	−0.26*
	(2.53)
Constants	
β_M	−0.232
	(1.06)
$\beta_M + \alpha_C$	−1.38*
	(2.56)
$\beta_N + \alpha_C$	0.77
	(1.56)
N	6214
Log likelihood	−6147.2
Pseduo R^2	0.29

Note: Sample of householders aged twenty-four to sixty-two excluding self-employed and those not employed.
*Significant at the 0.05 level.

[10] Note that commuters from M to N earned more than those who lived and worked in M. This means that the (M, N) group earned well above the average pay for all jobs in N ($14/hour versus $11.45). The relative scarcity of jobs in N paying wages above $E(W_M)$ leads to relatively few commuters from M to N.

[11] Wieand, White, and Yinger have developed the theory of residential choice when there are multiple employment centers. The strong performance of the empirical model herein suggests that the simpler monocentric model still has currency in the Midwest and would probably do well in most inland states that still have significant rural populations surrounding relatively dispersed cities.

Table 3. Elasticities of Residential and Job Location Choices with Respect to Wages, Commuting Time, and Housing Price

	Elasticity
Hourly wage choices: M-M	0.56[a]
	(−0.30)[b]
M-N	0.73
	(−0.10)
N-M	0.75
	(−0.10)
N-N	0.34
	(−0.38)
Commuting time choices: M-M	−0.59
	(0.31)
M-M	−1.87
	(0.02)
N-M	−1.69
	(0.23)
N-N	−0.37
	(0.41)
Housing price choices: M-M	−0.35
	(0.18)
M-N	−0.53
	(0.01)
N-M	−0.30
	(0.04)
N-N	−0.17
	(0.17)

Note: Based on parameters in table 2.
[a]Direct effect of node-specific change in an exogenous variable on own node choice.
[b]Feedback effect of node-specific change in an exogenous variable on the other three node choices is reported in parentheses.

cant. More educated householders are more likely to live in metropolitan areas but are less likely to commute to them if they live in the nonmetropolitan areas. Householders with more unearned income also prefer to live in metropolitan areas, as do women. Women are more averse to commuting than are men.

Elasticities

Our primary interest is in the first three parameters. It is useful to convert these to elasticities to derive further implications of the empirical estimates. The comparative static elasticities are reported in table 3. These elasticities measure the impact of a node-specific variable, X, on node choice under the assumption that X is unchanged at the other nodes. For example, an individual could experience a change in job opportunities that changes expected wages for a particular job location without altering expected wages at other job locations. Similarly, an improvement in transportation could change expected commuting time between locations but not within locations. These comparative static elasticities will show how individuals will respond to location-specific job offers. However, one could not have a change in local housing costs that would not simultaneously alter expected residential prices for both working in the local market and commuting to the other market while living in the local market. Therefore, our discussion concentrates on the comparative static elasticities for commuting time and wages.

Residential and job location choices respond inelastically to changes in wages. A 10% increase in the expected metropolitan wage raises incentives to reside and work in the metropolitan area by 5.6% but increases incentives to commute from a nonmetropolitan area by 7.5%. Increases in the expected nonmetropolitan wage raise incentives to live in the nonmetropolitan area by 3.4% but raise incentives to commute from the metropolitan area to a nonmetropolitan job by 7.3%. The larger wage elasticity for commuting than for working in the own residential location is consistent with the presumption that the fixed costs of changing a commute are lower than the fixed costs of changing residence. In other words, it will take a larger wage offer to induce an individual to move than that necessary to induce an individual to commute.

A percentage change in commuting time to a job alters the probability of commuting across markets more than it alters the probability of commuting within a market. Because average commuting time across markets is two to three times greater than average commuting time within a market, the differences in the elasticities are roughly comparable to the differences in mean commuting times across markets. The magnitudes of the elasticities imply that incentives to commute across markets decrease rapidly as the commuting time between the metropolitan and nonmetropolitan markets increases. A 10% increase in commuting time between metropolitan and nonmetropolitan areas reduces the proportion of commuters across the markets by 17 to 19%, evaluated at sample means. With mean commuting time of about thirty-six minutes one way, this implies

that the probability of commuting from nonmetropolitan to metropolitan markets goes to zero at just under a one-hour commuting time.[12]

The comparative static elasticities are appropriate for an individual householder. However, if wages for all commuters to metropolitan markets increase, then wages must be rising for residents of the metropolitan area as well. Table 4 reports elasticities which incorporate all possible feedback effects of wages and housing prices. For example, the impact of an increase in metropolitan wage, W_M, on the incentive to select MM must also take into account the impact of W_M on the incentive to select NM. Therefore, the elasticity of MM with respect to W_M includes the direct effect (0.56) plus the feedback effect from NM (−0.10) for a total effect of 0.46. Similarly, the effect of W_M on incentives to live in the metropolitan area include the positive effect on MM and the negative effects on MN, weighted by their respective population shares. Similar methods are used to establish total elasticities for other wages and housing prices.

A 10% increase in average metropolitan wages increases metropolitan resident employment and employment of commuters into the metro by nearly identical proportions (4.6% and 4.5%, respectively). While some of the increase in MM comes from reduced commuting out of the metro, the MN source is numerically very small. The more important source is the reduction in NN, with some opting to commute to the metro and others moving to the metro to work. A 10% increase in metropolitan wages will raise metro residents by 4.3%, reduce nonmetro residents by 2.4%, and increase total commuters (increased NM net of decreased MN) by 3.8%. Node choice is less sensitive to changes in nonmetropolitan wages. Consequently, residential populations react less elastically to increases in W_N than to W_M. A 10% increase in W_N lowers metro resident populations by 3.7% but raises nonmetro populations by just 1.9%.[13] Because metropolitan labor supply is more wage sensitive, an equiproportional increase in metropolitan and nonmetropolitan wages raises metropolitan population and lowers nonmetropolitan population. In addition, if W_M and W_N increase by the same proportion, commuting across markets is reduced.

Residential and job locations are less affected by housing prices than by wages. A 10% increase in metro housing costs reduces metro residence by 3.4% and increases nonmetro residence by 1.9%. Similarly, increases in nonmetropolitan housing costs raise metro populations and lower nonmetro populations, but the elasticities are one-third smaller in magnitude. The effect of equiproportional increases in housing costs across all markets causes a relative shift of population toward nonmetropolitan areas with an increase in commuting. Comparing the third and sixth columns of table 4, one can determine that equiproportional shocks to wages and prices (i.e., W_M, W_N, P_M, and P_N all increase by the same proportion) will cause a slight shift of the population away from cities and toward

[12] A separate study by Khan, Orazem, and Otto found that local labor markets spanned a three-county area in the Midwest. It takes about one hour to drive across three counties by highway.

[13] Renkow's finding that rural wages are more sensitive to local demand shocks than are urban wages is consistent with our finding of less elastic labor supply in nonmetropolitan markets.

Table 4. Total Elasticities of Residential and Job Location Choices to Wages and Housing Prices

Node Choice	Percentage Change in						
	W_M	W_N	W_M, W_N	P_M	P_N	P_M, P_N	C_{ij}
MM	0.46	−0.39	0.07	−0.34	0.21	−0.13	0.25
MN	−0.40	0.35	−0.05	−0.35	0.21	−0.14	−1.64
NM	0.45	−0.39	0.06	0.19	−0.13	0.06	−1.67
NN	−0.40	0.33	−0.07	0.19	−0.13	0.06	0.25
Metro residence	0.43	−0.37	0.07	−0.34	0.21	−0.13	0.19
Nonmetro residence	−0.24	0.19	−0.05	0.19	−0.13	0.06	−0.11
Commute	0.38	−0.33	−0.05	0.15	−0.10	0.05	−1.67

Note: Based on the elasticities reported in table 3.

nonmetropolitan areas. However, commuting is unchanged when all wages and prices change by equal proportions.

The last exercise conducted in table 4 was to measure the total effects of increased commuting time. The exercise assumes a common percentage shock to commuting time to and from the metropolitan market. When MM and NN increase by the same proportion, commuters decrease by roughly the same proportion in both markets. However, commuters are a much more important fraction of the nonmetropolitan population. Consequently, the negative effect on the nonmetropolitan commuter population is sufficiently large to cause a net reduction of the nonmetropolitan population. Over time, improvements in highways have reduced commuting times from rural to urban markets. Every 10% reduction in commuting time raises nonmetropolitan population by 1.1% while it reduces the metropolitan population by 1.9%. The disproportionate share of the increase in the metropolitan population comes from an increase in commuters to metropolitan jobs.

The large negative effect of commuting time on probability of commuting implies a substantial associated disamenity. Therefore, a wage premium over the local wage is required to compensate commuters for the disamenity. A 10% increase in commuting time lowers nonmetropolitan population by 1.1%.[14] Holding housing prices fixed, the real wage increase required in the metropolitan market over the local market is 7.7% if we use the comparative static wage elasticity, or 12.8% if we use the total wage elasticity.[15] Therefore, the implied elasticity of W_M with respect to commuting time lies in the range (0.7, 1.3). Of course, commuters can also be compensated by lower housing prices as distance from the metropolitan area increases. Thus, the required gradient in nominal wages will be less than the real wage gradient implied by the elasticity of W_M with respect to commuting time. In fact, the implied elasticity of P_M with respect to commuting time is even larger than the elasticity of W_M with respect to commuting time.

As distance to the metropolitan area increases, the wage premium commuters will require increases. Given an invariant distribution of metropolitan wages, the costs of job search necessary to capture progressively higher commuting reservation wages are expected to increase, and so there will be an inverse relationship between number of commuters and distance from the metropolitan market, even as the wage premium paid to more distant commuters increases.

Conclusions

This study shows that an intraregional empirical model of individual joint choices of residential and job locations can yield plausible results. Nonmetropolitan residents trade off lower housing costs for lower wages in the local labor market. Those that opt to commute to urban markets trade off higher wages for the disamenity of commuting time. All of these results are consistent with the underlying predictions of the Alonso–Mills–Muth model. That residential choices were influenced by differences in wages and housing prices is also consistent with previous interregional empirical studies based on the Roback model. A valuable extension of this work would be to nest our model of intraregional job/residence choice within the broader choice of which region in which to live.

Our results suggest that improvements in transportation that lower commuting time will increase nonmetropolitan populations and will increase the number of nonmetropolitan commuters to metropolitan markets. If, instead, policies encouraged economic expansion in both markets which increased wages equally, population growth would be concentrated in metropolitan areas. Consequently, improvements in transportation to metropolitan markets may be an effective means of extending economic gains to rural areas. It appears that nonmetropolitan residents are willing to commute to the metropolitan markets if they live within one hour's distance or if transportation improvements (or speed limit changes) bring them within one hour's distance. These results are consistent with the Renkow and Hoover study in North Carolina where metro areas were increasingly drawing commuters

[14] Using the sample population in table 1, the number of nonmetropolitan commuters falls by 127, but 83 remain in the nonmetropolitan market in local jobs, so the nonmetro population decreases by 44.

[15] With 759 commuters initially, and with a commuter elasticity with respect to W_M of 0.75, the implied wage increment necessary to include 44 more commuters is (44)/(0.75)(759) = 0.077 or 7.7%. If the NM elasticity with respect to W_M is 0.45, the compensating differential is (44)/(0.45)(759) = 0.128 or 12.8%.

from surrounding (less than 35 miles) and from second-ring counties (between 35 and 70 miles) when interstate highways were present. Alternatively, policies which lower housing prices in nonmetropolitan areas or cause an overall increase in both metro and nonmetro housing prices will cause a shift of population away from cities. The opposite policies will shift the population to the urban center.

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Appendix

Hourly Wage Equations for Metropolitan and Nonmetropolitan Labor Markets, 1990

	Metropolitan	Nonmetropolitan
Education		
8 to <12 years	3.08*	1.19
	(4.61)	(.99)
12 years	4.07*	1.77
	(4.60)	(1.06)
>12 to <16 years	6.54*	4.28*
	(9.30)	(3.22)
≥16 years	14.7*	8.29*
	(12.8)	(3.66)
Age		
30 to 34 years	2.42*	1.40
	(4.92)	(1.31)
35 to 39 years	3.73*	2.01
	(7.49)	(1.89)
40 to 44 years	4.49*	2.24*
	(8.67)	(1.97)
45 to 49 years	5.44*	3.58*
	(9.57)	(2.86)
50 to 54 years	5.64*	4.87*
	(8.78)	(3.82)
55+ years	4.57*	6.46*
	(6.38)	(4.96)
Female	−3.94*	−4.11*
	(11.1)	(5.09)
Constant	6.64*	7.80*
	(9.2)	(5.8)
R^2	0.16	0.02
N	2910	3404

*Significant at the 0.05 level.

Unrestricted and Restricted Forms of the Joint Model of Residential and Job Location

	Unrestricted		Restricted[b] 1	Restricted[b] 2
Wage(α_w)				
MM	0.75			
	(2.42)[a]			
MN	0.466		0.081	0.035
	(4.22)		(3.90)	(2.17)
NM	0.094			
	(2.69)			
Commute time (γ_t)				
MM	−0.231			
	(3.20)			
MN	−0.088		−0.052	−0.078
	(2.85)		(2.39)	(4.88)
NM	−0.035			
	(1.00)			
Housing price (α_p)				
MM	−0.003			
	(0.37)			
MN	−0.086		−0.012	−0.009
	(1.84)		(2.22)	(2.30)
NM	−0.018			
	(2.40)			
Children				
MM	−0.189	Metro[c]	−0.185	−0.161
	(7.39)		(7.46)	(7.58)
MN	−0.072	Commute	−0.007	0.013
	(0.68)		(0.21)	(0.43)
NM	−0.019			
	(0.55)			
Nonlabor income				
MM	0.029	Metro	0.030	0.008
	(2.76)		(2.89)	(1.31)
MN	0.013	Commute	−0.002	−0.045
	(0.26)		(0.10)	(3.18)
NM	0.001			
	(0.05)			
Education				
MM	0.054	Metro	0.068	0.092
	(1.69)		(5.51)	(8.62)
MN	−0.103	Commute	−0.008	−0.007
	(1.43)		(0.46)	(0.50)
NM	−0.015			
	(0.82)			
Age				
MM	−0.014	Metro	−0.013	−0.019
	(5.07)		(4.88)	(8.37)
MN	−0.025	Commute	−0.008	−0.014
	(2.01)		(2.10)	(3.98)
NM	−0.008			
	(2.03)			
N	6549		6549	9438
£	−6524.2		−6536.9	−8806.1

[a] Estimated t-statistics in parentheses.
[b] Column 1 is the sample excluding the self-employed and those working at home. Column 2 includes these groups.
[c] Metro means metropolitan residence dummy. Commute means commuting from N to M or M to N.
Notes: All estimates are from maximum likelihood of restricted or unrestricted multinomial logit models. Estimates also included mode-specific constants for MM, MN, and NM.

ATTACHMENT 4

Attachment to Letter 93

Oregon Healthcare Workforce Institute

The Economic Contributions of Oregon's Physician Practices

Jo Isgrigg, Ph.D., Nick Beleiciks, M.A., John Moorhead, M.D., Lisa Dodson, M.D., Jennifer Swendsen, Joy Conkin, Reina Beck, M.S.
AAMC Physician Workforce Conference, Alexandria, Virginia, May 7, 2010

Background:

Studies have shown the importance of health care services, particularly in rural communities, for developing new industries, recruiting new businesses, and attracting new residents. Oregon has a strong and growing need for physicians, particularly in rural communities. In fact, 32 of Oregon's 36 counties have federal primary care health professional shortage area designations. While the shortage of physicians can adversely affect health care delivery, the economic contribution of physicians' practices should also be considered in decisions regarding public and private policies and investments in the physician workforce.

Purpose:

This study estimates the economic contributions of physician practices statewide and for each of Oregon's 36 local county economies, including:

1. The direct and total employment contributions of physician practices.
2. The percent of jobs attributed to the economic contribution of physician practices.
3. The physician contribution to state and county Gross Domestic Product (GDP).
4. The total annual value of production of physicians and physician-related firms.
5. The annual taxes paid to state and local governments through the total contribution of physicians and physician-related employment.

Methodology:

The study used 2008 physician and physician-related employment figures abstracted directly from administrative records provided by employers to the Oregon Employment Department as part of the state's unemployment insurance program. Direct employment includes all employees in offices of physicians, drugstores, home health care services, outpatient care centers, medical and diagnostic labs, other ambulatory health care services, hospitals, and nursing care facilities as categorized under the North American Industrial Classification System. Corporate officers at physician offices who opt out of unemployment insurance coverage were added as physician-related employment. Additional data regarding the number of pharmacy workers in general merchandise and grocery stores (N=305) was obtained by contacting corporate offices. Seventy-three percent responded and identified 1,589 additional pharmacy workers who were added as physician-related employment.

The Oregon Medical Board's June 2008 licensing database identified 9,469 physicians who had an active license and listed an Oregon practice address. Physicians who had administrative, teleradiology or surgical assisting license limits were excluded from the count of active physicians.

An economic input/output statistical modeling software program (IMPLAN) was used to measure the direct and indirect employment, GDP, total production output, and state and local tax contributions. By capturing county level economic leakages in the statewide model and including employment data that cannot be attributed to a specific county, the findings for statewide data are larger than the cumulative total of the county findings.

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KEY FINDINGS:

Oregon's physicians not only provide health care services to the residents of their community, they are an economic foundation of their community. Physician practices contribute significantly to Oregon's local economies by creating and supporting jobs and purchasing products and services. In addition, physician activity shows a cumulative economic ripple effect, such as when patients fill prescriptions at a local pharmacy or receive treatment at a local hospital.

Statewide, Oregon's active physician workforce supported 242,084 jobs, or 11% of the state's labor market, added over $17 billion, or 11%, to the state's GDP, created nearly $29 billion in total production value and generated $1.48 billion in state and local taxes.

Statewide on average, one physician supported 25 total jobs, contributed $1.8 million to the state's GDP, created $3.05 million in total production value, and generated $150,000 in state and local taxes.

The county level data shows that on average, one Oregon physician supported 14 to 48 total jobs, contributed $800,000 to $2.4 million to a county's GDP, created $1.17 million to $3.7 million in total production value and generated $60,000 to $170,000 in state and local taxes.

IMPLICATIONS OF FINDINGS:

The cumulative economic effect of a physician's presence is convincing justification in recruiting and retaining even just one professional, particularly during the current economic recessionary period. A county that is able to attract and retain just one physician not only improves its health care access, it puts in place an economic ripple-effect that generates millions of dollars and impacts residents, businesses and government. With this data, a clear picture emerges on the return on investment for medical student loan repayment programs, expansion of medical, residency and professional education programs, tax incentives, and other efforts to train, recruit and retain physicians in Oregon.

The findings also point to an important role for community engagement. The presence of a physician practice has an economic effect on the local business sector, creates living wage jobs and improves health care access. Therefore, it is in a community's best interest to be aware of this broader perspective of community health and promote the multiple advantages of a physician's practice. Health care access and a healthier local economy are not just outcomes of the local health care infrastructure, but should also be goals of the entire community.

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ATTACHMENT 5

Attachment to
Letter 93

VII. DIRECT, INDIRECT, AND INDUCED ECONOMIC IMPACTS OF UC SAN DIEGO

THE CONCEPT OF INDIRECT AND INDUCED ECONOMIC IMPACTS

The impact of UC San Diego on the local, regional, and state economies is greater than the total of the University's direct spending on payroll, goods and services, and construction. This is because money spent by the University is spent again by the recipient employees and local businesses. Employees use their salaries and wages to purchase goods and services from other businesses. Businesses make their own purchases and hire employees, who also spend their salaries and wages throughout the local, regional, and state economies. A chain reaction of indirect and induced spending continues, with subsequent rounds of additional spending gradually diminished through savings, taxes, and expenditures made outside the state. This economic ripple effect is measured by what is known as an "Input-Output" economic model, which uses a series of "multipliers" to provide estimates of the number of times each dollar of "input," or direct spending, cycles through the economy in terms of "indirect and induced output," or additional spending, personal income, and employment.[58] The mechanics of the input-output model are described in more detail in Appendix A.

IMPLAN Model

There are several input-output models commonly used by economists to estimate multiplier effects. With the assistance of the economic consulting firm Applied Economics, CBRE Consulting employed the IMPLAN input-output model in developing the estimates of UC San Diego's spending, income, and employment impacts. This model, initially developed by the U.S. Department of Agriculture, is described in more detail in Appendix A. The IMPLAN model examines inter-industry relationships in the local, regional, and national economies. Through Applied Economics, CBRE Consulting relied on IMPLAN to provide estimates of indirect and induced output, income, and employment impacts based on multipliers for the City of San Diego, San Diego County, and the State of California.

Multipliers and Spending, Employment, and Income Impacts

IMPLAN multipliers indicate the ratio of direct impacts to indirect and induced impacts. For example, a spending multiplier of 0.25 indicates that one dollar of direct spending generates an additional $0.25 in indirect and induced spending.[59] Put differently, a spending multiplier of 0.25 can also be interpreted as indicating that $1 of direct spending generates total spending of $1.25. In the case of employment impacts, the multipliers measure the number of full-time equivalent (FTE) jobs supported by $1.000 million in direct spending; for example, an employment multiplier of 10 indicates that $1.000 million in spending generates 10 indirect and induced FTE jobs.

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[58] Indirect impacts are the changes in inter-industry purchases as they respond to new demands of directly affected industries. Induced impacts typically reflect changes in spending from households as income increases or decreases due to changes in production. For more explanation of indirect and induced impacts, see Appendix A.

[59] Multipliers are rounded to two decimal places, throughout this report, to reflect their high level of precision.

Unless otherwise indicated, the reader should interpret the multipliers and impacts described in the following sections, and provided in Tables 16, 17, and 18 and Figures 3, 4, and 5, as cumulative – as multipliers and impacts attributed to larger geographies are inclusive of the multipliers and impacts found in smaller or subordinate geographies. For example, the impact of the University's spending in San Diego County includes the impact of the University's spending in the City of San Diego. Instances where tables and figures present non-cumulative impacts are labeled as such, with geographies labeled "Other San Diego County," and "Other California."

DIRECT, INDIRECT, AND INDUCED SPENDING IMPACTS

This chapter discusses the "total" economic impacts – including direct, indirect, and induced economic impacts – of University purchases of goods and services, payroll expenditures, and spending on construction projects. The analysis estimates total impacts in three distinct ways – spending, employment, and income. These spending, employment, and income impacts are estimated at the state, county, and city levels.

The methodology of estimating indirect and induced economic impacts is based on estimates of direct University spending in particular geographic areas. In order to estimate direct University spending in this way, UC San Diego staff identified the addresses of all vendors and employees who received payments from the University during the 2006-07 fiscal year. Appendix A provides further detail on the assumptions and methodology used in deriving these estimates.

Table 16: Total UC San Diego Spending in California, 2006-07

Geography	Direct Spending	Multiplier	Indirect and Induced Spending	Total Direct, Indirect, and Induced Spending	Percentage of Total Impacts
City of San Diego	$1,240,202,638	0.83	$1,034,791,566	$2,274,994,174	56.6%
All San Diego County	$1,659,646,328	0.92	$1,532,666,359	$3,192,314,686	79.4%
All California	$1,968,739,244	1.04	$2,053,463,743	$4,022,202,987	100.0%
TOTAL	$1,968,739,244	1.04	$2,053,463,743	$4,022,202,987	

Sources: UC San Diego Office of Design and Construction, General Accounting Services, and Payroll; Applied Economics; and CBRE Consulting.

Notes: Total does not account for spending that occurred outside of California. Figures may not add due to rounding. Spending and multiplier calculations are cumulative of all inclusive geographies.

In FY 2006-07, direct spending by UC San Diego on goods and services purchases, payroll, and construction projects in the State of California totaled $1.969 billion.[68] This direct spending led to an estimated $2.053 billion in indirect and induced spending throughout the state, for an estimated $4.022 billion in total spending impact by UC San Diego during the fiscal year.

San Diego County benefited from the lion's share of the University's direct spending in California, with approximately $1.660 billion, or 84.3 percent of the University's statewide direct spending occurring within the county. This spending generated an additional $1.533 billion in indirect and induced spending in San Diego County, for a total spending impact of

[68] For the purposes of the analysis of total economic impacts, the University direct payroll number excludes the payroll received by student employees. CBRE Consulting measures the impact of student spending in a separate analysis; therefore, to avoid double counting, students' share of the total payroll is excluded from the analysis of University payroll impacts.

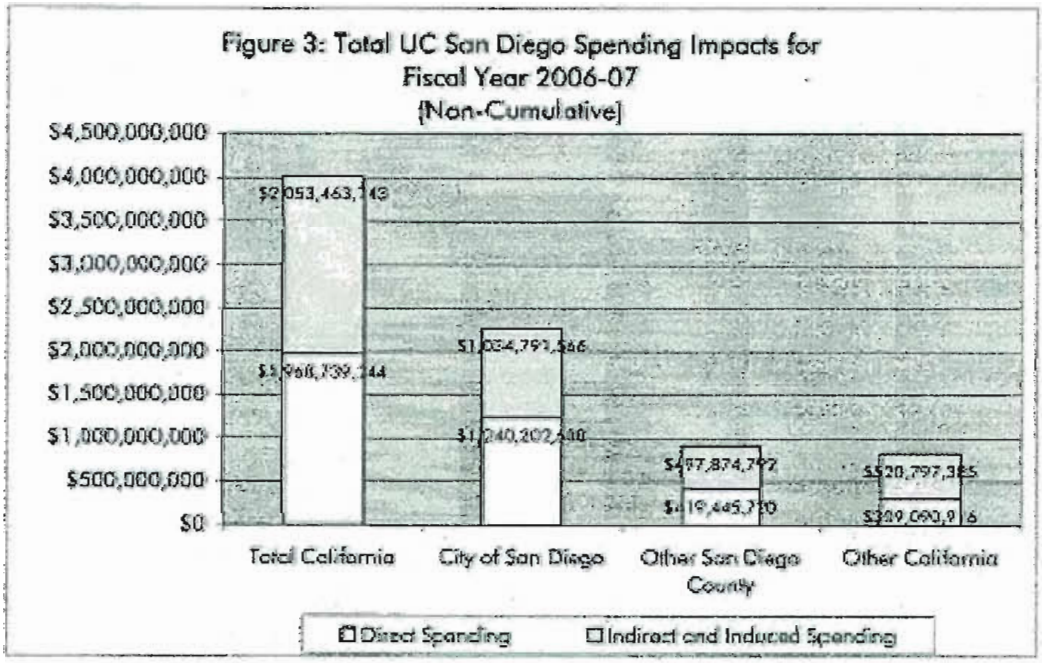
$3.192 billion. This indicates that 79.4 percent of the University's total spending impact was concentrated within San Diego County.

Within the City of San Diego, direct University spending in FY 2006-07 totaled approximately $1.240 billion, and indirect and induced spending impacts are estimated at approximately $1.035 billion. This indicates that the University generated $2.275 billion in total spending impacts within the City of San Diego in FY 2006-07, which is approximately 56.6 percent of the University's total spending impact statewide.

The estimates of indirect and induced spending reflect multipliers for the University's spending at the state, county, and city level. Table 16 shows that the average state-level multiplier for UC San Diego's direct spending is 1.04, which indicates that for every $1.00 of UC San Diego direct spending in the state there is an estimated additional $1.04 in indirect and induced spending throughout the state. The spending multipliers for San Diego County and the City of San Diego indicate that $1.00 of direct University spending generates $0.92 in indirect and induced spending in San Diego County, with the City of San Diego capturing approximately $0.83 of that indirect and induced spending impact.

Figure 3 shows the spending impacts disaggregated by geography, indicating the discrete share of impacts for the City of San Diego, other San Diego County, and other California.

Figure 3: Total UC San Diego Spending Impacts for Fiscal Year 2006-07
(Non-Cumulative)



Sources: UC San Diego Accounting Services; Applied Economics; and CBRE Consulting.

EMPLOYMENT IMPACTS

Employment impacts and multipliers for UC San Diego are summarized in Table 17 and Figure 4. Based on IMPLAN multiplier estimates, spending by UC San Diego in FY 2006-07

supported a total of 34,230 full-time equivalent (FTE) jobs in the State of California. Approximately 55.1 percent, or 18,850 of these jobs, were indirect and induced jobs – or jobs in addition to the direct employment of University faculty, staff, and students. This reflects an average indirect and induced jobs multiplier of 9.57, which indicates that $1.000 million in University spending supports approximately 9.57 jobs statewide *in addition* to the direct employment of the University. Looking at this information another way, UC San Diego supported approximately 1.23 indirect and induced jobs (FTE) for every direct University job (FTE).

Table 17: Total FTE Jobs in California Produced by UC San Diego Spending, 2006-07

Geography	Direct Jobs (UCSD Employment)	Direct Spending	Multiplier	Indirect and Induced Jobs (FTE)	Total Direct & Indirect Jobs	Percent of Total California Jobs
City of San Diego	10,394	$1,240,202,608	8.38	10,397	20,786	60.7%
Other San Diego County	4,405	$419,445,720	9.42	3,950	8,355	24.4%
Other California	580	$309,090,916	14.58	4,507	5,087	14.9%
TOTAL	15,379	$1,968,739,244	9.57	18,850	34,229	

Sources: UC San Diego Office of Student Research, Design and Construction, General Accounting Services, and Medical Center Accounting Services; Applied Economics; and CBRE Consulting.
Notes: Figures may not add due to rounding. Spending and multiplier calculations are geographically non-cumulative. Job multipliers are calculated per $1 million of output.

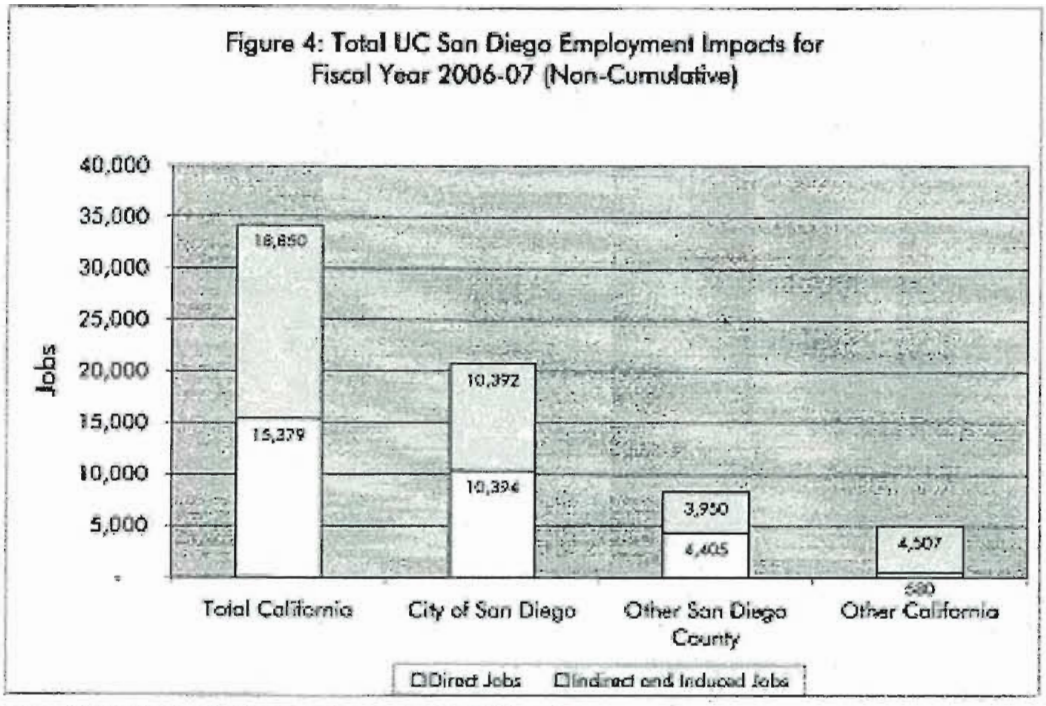
University spending supported 20,790 total FTE jobs in the City of San Diego, 10,390 of which were indirect and induced jobs. This reflects an employment multiplier of 8.38 indirect and induced jobs per $1.000 million in University spending within the city's economy. Within the City of San Diego, the University supports 1.00 indirect and induced job for every direct University job.

UC San Diego supported an additional 8,360 FTE jobs in San Diego County, of which 3,950, or 47.3 percent, were indirect and induced jobs. This reflects an average employment multiplier of 9.42 indirect and induced jobs per $1.000 million of University spending in the unincorporated county.

Outside San Diego County but within California, University spending generated another 5,090 FTE jobs, of which 4,510 were indirect and induced jobs. This reflects an average employment multiplier of 14.58 indirect and induced jobs per $1.000 million of University spending in California outside of San Diego County.

While the employment multipliers are greater at the state level than at the local level, the City of San Diego received a considerable share of the overall employment impacts. Of the total jobs generated by University spending in FY 2006-07, 60.7 percent were located within the City of San Diego. Excluding direct University employment, the City of San Diego benefited from 55.1 percent of the indirect and induced jobs generated by University spending statewide.

Figure 4: Total UC San Diego Employment Impacts for Fiscal Year 2006-07 (Non-Cumulative)



Sources: UC San Diego Payroll Office; Applied Economics; and CBRE Consulting.

PERSONAL INCOME IMPACTS

Personal income impacts and multipliers are shown in Table 18 and Figure 5. Spending by UC San Diego in FY 2006-07 generated total personal income of approximately $2.324 billion in the State of California. This total includes approximately $1.071 billion in direct UC San Diego payroll as well as $1.253 billion in indirect and induced personal income – or income in addition to the direct payroll of University faculty and staff. The indirect and induced personal income impacts are generated by the spending associated with UC San Diego payroll as well as goods and services purchases and capital expenditures. The estimated personal income multiplier associated with the University's total spending statewide was 0.64 in FY 2006-07, which indicates that $1.00 of University spending generated $0.64 in personal income throughout the state.

Of UC San Diego's total impact on personal income statewide, approximately 73.6 percent, or $1.711 billion, was generated within San Diego County. This includes $1.034 billion in direct University payroll and an additional $676.2 million in indirect and induced personal income generated by University spending in the area. The estimated personal income multiplier for UC San Diego spending in San Diego County was 0.41, which indicates that $1.00 of University spending generated an estimated $0.41 in personal income in San Diego County.

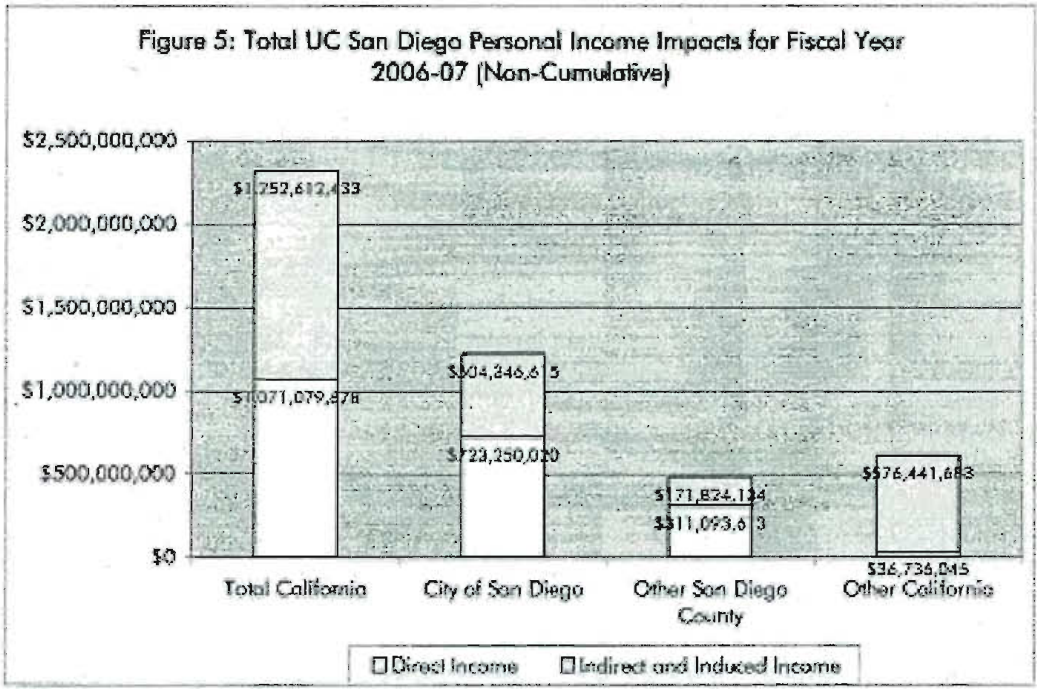
Table 18: Total Personal Income Produced in California From UC San Diego Spending, 2006-07

Geography	Direct Income (UCSD Payroll)	Direct Spending	Multiplier	Indirect and Induced Income	Total Personal Income Generated	Percent of Total California
City of San Diego	$723,250,020	$1,240,202,608	0.41	$504,346,615	$1,227,596,635	52.8%
Other San Diego County	$1,004,348,658	$1,669,648,528	0.41	$676,170,750	$1,730,514,383	73.6%
All California	$1,071,079,678	$1,968,739,244	0.64	$1,252,612,433	$2,323,692,111	100.0%
TOTAL	$1,071,079,678	$1,968,739,244	0.64	$1,252,612,433	$2,323,692,111	

Sources: UC San Diego Office of Student Research and Information, Design and Construction, General Accounting Services, Medical Center Accounting Services, Applied Economics, and CBRE Consulting.
Notes: Figures may not total due to rounding. Spending and multiplier calculations are cumulative of all exclusive geographies.

Finally, UC San Diego spending within the City of San Diego contributed to $1.228 billion in personal income for San Diego residents. This includes approximately $723.3 million in direct University payroll and an additional $504.3 million in indirect and induced personal income. The total income impacts reflect an estimated average income multiplier of 0.41, which indicates that $1.00 of UC San Diego spending generated $0.41 in personal income. The total personal income impact of University spending in the City of San Diego was approximately 52.8 percent of the total impact of University spending statewide.

Figure 5: Total UC San Diego Personal Income Impacts for Fiscal Year 2006-07 (Non-Cumulative)



Sources: UC San Diego Accounting Services; Applied Economics; and CBRE Consulting.

SUMMARY OF SPENDING, EMPLOYMENT, AND PERSONAL INCOME IMPACTS BY GEOGRAPHY

The estimated spending, employment, and personal income impacts of UC San Diego spending in the City of San Diego, San Diego County, and the State of California are summarized in Table 19.

Table 19: Summary of UC San Diego Impacts By California Geography (Non-Cumulative)
Fiscal Year 2006-07

	City of San Diego	Other San Diego County	Other California	Total Statewide
Spending				
Direct	$1,240,202,608	$419,445,720	$309,090,916	$1,968,739,244
Indirect	$1,034,791,566	$497,874,792	$520,797,385	$2,053,463,743
Total Spending	$2,274,994,174	$917,320,512	$829,888,301	$4,022,202,987
Employment (FTE)				
Direct	10,394	4,405	580	15,379
Indirect	10,392	3,950	4,507	18,850
Total Jobs	20,786	8,355	5,087	34,229
Income				
Direct	$723,250,020	$311,093,613	$36,736,045	$1,071,079,678
Indirect	$504,346,615	$171,824,134	$576,441,683	$1,252,612,433
Total Income	$1,227,596,635	$482,917,747	$613,177,728	$2,323,692,111

Sources: UC San Diego Office of Student Research and Information, Design and Construction, General Accounting Services, and Medical Center Accounting Services; Applied Economics; and CBRE Consulting.
Note: Figures may not add due to rounding.

- Overall, in Fiscal Year 2006-07, the impact of spending by UC San Diego in the City of San Diego was $2.275 billion in total spending, 20,790 jobs, and $1.228 billion in personal income, excluding UC San Diego employees.
- UC San Diego's spending generated an additional impact of approximately $917.3 million in total spending, 8,360 jobs, and $482.9 million in personal income, excluding UC San Diego employees, elsewhere in San Diego County.
- UC San Diego spending contributed another $829.9 million in total spending, 5,090 jobs, and $613.2 million in personal income, excluding UC San Diego employees, elsewhere in the state.
- In all, UC San Diego's total economic impact in California was $4.022 billion in total spending, 34,230 full time equivalent jobs, and $2.324 billion in personal income, excluding UC San Diego employees, in the 2006-07 Fiscal Year.

VII. DIRECT, INDIRECT, AND INDUCED ECONOMIC IMPACTS OF UC SAN DIEGO

THE CONCEPT OF INDIRECT AND INDUCED ECONOMIC IMPACTS

The impact of UC San Diego on the local, regional, and state economies is greater than the total of the University's direct spending on payroll, goods and services, and construction. This is because money spent by the University is spent again by the recipient employees and local businesses. Employees use their salaries and wages to purchase goods and services from other businesses. Businesses make their own purchases and hire employees, who also spend their salaries and wages throughout the local, regional, and state economies. A chain reaction of indirect and induced spending continues, with subsequent rounds of additional spending gradually diminished through savings, taxes, and expenditures made outside the state. This economic ripple effect is measured by what is known as an "Input-Output" economic model, which uses a series of "multipliers" to provide estimates of the number of times each dollar of "input," or direct spending, cycles through the economy in terms of "indirect and induced output," or additional spending, personal income, and employment.[58] The mechanics of the input-output model are described in more detail in Appendix A.

IMPLAN Model

There are several input-output models commonly used by economists to estimate multiplier effects. With the assistance of the economic consulting firm Applied Economics, CBRE Consulting employed the IMPLAN input-output model in developing the estimates of UC San Diego's spending, income, and employment impacts. This model, initially developed by the U.S. Department of Agriculture, is described in more detail in Appendix A. The IMPLAN model examines inter-industry relationships in the local, regional, and national economies. Through Applied Economics, CBRE Consulting relied on IMPLAN to provide estimates of indirect and induced output, income, and employment impacts based on multipliers for the City of San Diego, San Diego County, and the State of California.

Multipliers and Spending, Employment, and Income Impacts

IMPLAN multipliers indicate the ratio of direct impacts to indirect and induced impacts. For example, a spending multiplier of 0.25 indicates that one dollar of direct spending generates an additional $0.25 in indirect and induced spending.[59] Put differently, a spending multiplier of 0.25 can also be interpreted as indicating that $1 of direct spending generates total spending of $1.25. In the case of employment impacts, the multipliers measure the number of full-time equivalent (FTE) jobs supported by $1.000 million in direct spending; for example, an employment multiplier of 10 indicates that $1.000 million in spending generates 10 indirect and induced FTE jobs.

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[58] Indirect impacts are the changes in inter-industry purchases as they respond to new demands of directly affected industries. Induced impacts typically reflect changes in spending from households as income increases or decreases due to changes in production. For more explanation of indirect and induced impacts, see Appendix A.

[59] Multipliers are rounded to two decimal places, throughout this report, to reflect their high level of precision.

Unless otherwise indicated, the reader should interpret the multipliers and impacts described in the following sections, and provided in Tables 16, 17, and 18 and Figures 3, 4, and 5, as cumulative – as multipliers and impacts attributed to larger geographies are inclusive of the multipliers and impacts found in smaller or subordinate geographies. For example, the impact of the University's spending in San Diego County includes the impact of the University's spending in the City of San Diego. Instances where tables and figures present non-cumulative impacts are labeled as such, with geographies labeled "Other San Diego County," and "Other California."

DIRECT, INDIRECT, AND INDUCED SPENDING IMPACTS

This chapter discusses the "total" economic impacts – including direct, indirect, and induced economic impacts – of University purchases of goods and services, payroll expenditures, and spending on construction projects. The analysis estimates total impacts in three distinct ways – spending, employment, and income. These spending, employment, and income impacts are estimated at the state, county, and city levels.

The methodology of estimating indirect and induced economic impacts is based on estimates of direct University spending in particular geographic areas. In order to estimate direct University spending in this way, UC San Diego staff identified the addresses of all vendors and employees who received payments from the University during the 2006-07 fiscal year. Appendix A provides further detail on the assumptions and methodology used in deriving these estimates.

Table 16: Total UC San Diego Spending in California, 2006-07

Geography	Direct Spending	Multiplier	Indirect and Induced Spending	Total Direct, Indirect, and Induced Spending	Percentage of Total Impacts
City of San Diego	$1,240,202,808	0.83	$1,034,791,366	$2,274,994,174	56.6%
All San Diego County	$1,659,648,328	0.92	$1,532,666,358	$3,192,314,686	79.4%
All California	$1,968,739,244	1.04	$2,053,463,743	$4,022,202,987	100.0%
TOTAL	$1,968,739,244	1.04	$2,053,463,743	$4,022,202,987	

Sources: UC San Diego Office of Design and Construction, General Accounting Services, and Payroll; Applied Economics; and CBRE Consulting.

Notes: Total does not account for spending that occurred outside of California. Figures may not add due to rounding. Spending and multiplier calculations are cumulative of all inclusive geographies.

In FY 2006-07, direct spending by UC San Diego on goods and services purchases, payroll, and construction projects in the State of California totaled $1.969 billion.[60] This direct spending led to an estimated $2.053 billion in indirect and induced spending throughout the state, for an estimated $4.022 billion in total spending impact by UC San Diego during the fiscal year.

San Diego County benefited from the lion's share of the University's direct spending in California, with approximately $1.660 billion, or 84.3 percent of the University's statewide direct spending occurring within the county. This spending generated an additional $1.533 billion in indirect and induced spending in San Diego County, for a total spending impact of

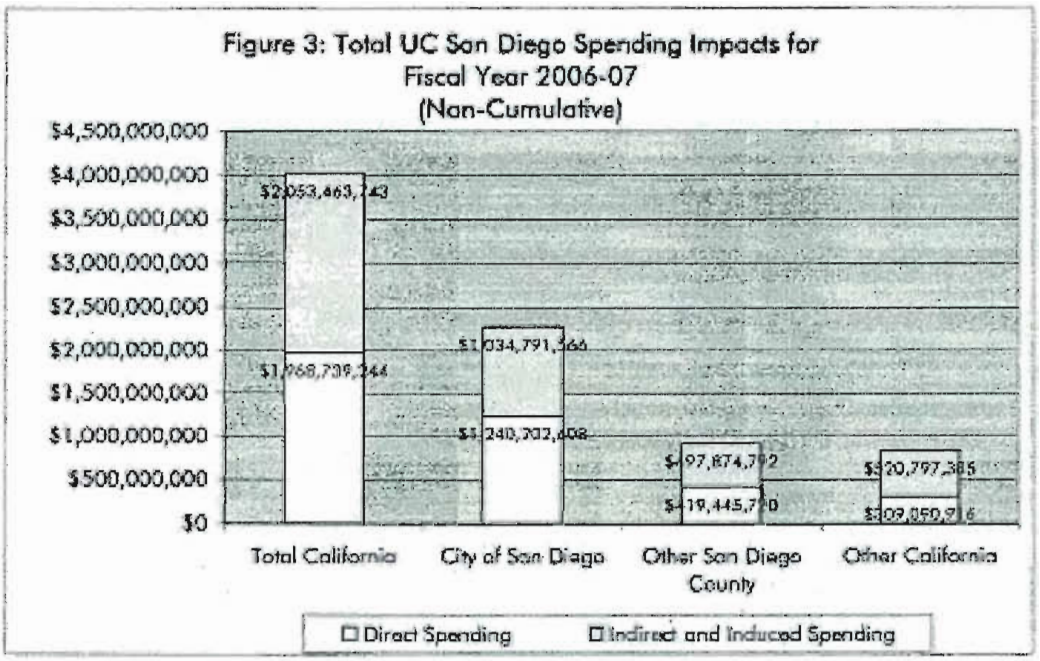
[60] For the purposes of the analysis of total economic impacts, the University direct payroll number excludes the payroll received by student employees. CBRE Consulting measures the impact of student spending in a separate analysis; therefore, to avoid double counting, students' share of the total payroll is excluded from the analysis of University payroll impacts.

$3.192 billion. This indicates that 79.4 percent of the University's total spending impact was concentrated within San Diego County.

Within the City of San Diego, direct University spending in FY 2006-07 totaled approximately $1.240 billion, and indirect and induced spending impacts are estimated at approximately $1.035 billion. This indicates that the University generated $2.275 billion in total spending impacts within the City of San Diego in FY 2006-07, which is approximately 56.6 percent of the University's total spending impact statewide.

The estimates of indirect and induced spending reflect multipliers for the University's spending at the state, county, and city level. Table 16 shows that the average state-level multiplier for UC San Diego's direct spending is 1.04, which indicates that for every $1.00 of UC San Diego direct spending in the state there is an estimated additional $1.04 in indirect and induced spending throughout the state. The spending multipliers for San Diego County and the City of San Diego indicate that $1.00 of direct University spending generates $0.92 in indirect and induced spending in San Diego County, with the City of San Diego capturing approximately $0.83 of that indirect and induced spending impact.

Figure 3 shows the spending impacts disaggregated by geography, indicating the discrete share of impacts for the City of San Diego, other San Diego County, and other California.



Sources: UC San Diego Accounting Services; Applied Economics; and CBRE Consulting.

EMPLOYMENT IMPACTS

Employment impacts and multipliers for UC San Diego are summarized in Table 17 and Figure 4. Based on IMPLAN multiplier estimates, spending by UC San Diego in FY 2006-07

supported a total of 34,230 full-time equivalent (FTE) jobs in the State of California. Approximately 55.1 percent, or 18,850 of these jobs, were indirect and induced jobs – or jobs in addition to the direct employment of University faculty, staff, and students. This reflects an average indirect and induced jobs multiplier of 9.57, which indicates that $1.000 million in University spending supports approximately 9.57 jobs statewide *in addition* to the direct employment of the University. Looking at this information another way, UC San Diego supported approximately 1.23 indirect and induced jobs (FTE) for every direct University job (FTE).

Table 17: Total FTE Jobs in California Produced by UC San Diego Spending, 2006-07

Geography	Direct Jobs (UCSD Employment)	Direct Spending	Multiplier	Indirect and Induced Jobs (FTE)	Total Direct & Indirect Jobs	Percent of Total California Jobs
City of San Diego	10,394	$1,240,202,608	8.38	10,392	20,786	60.7%
Other San Diego County	4,405	$419,445,730	9.42	3,950	8,355	24.4%
Other California	580	$309,090,916	14.58	4,507	5,087	14.9%
TOTAL	15,379	$1,968,739,244	9.57	18,850	34,229	

Sources: UC San Diego Office of Student Research, Design and Construction, General Accounting Services, and Medical Center Accounting Services; Applied Economics; and CBRE Consulting.
Notes: Figures may not add due to rounding. Spending and multiplier calculations are geographically non-cumulative. Job multipliers are calculated per $1 million of output.

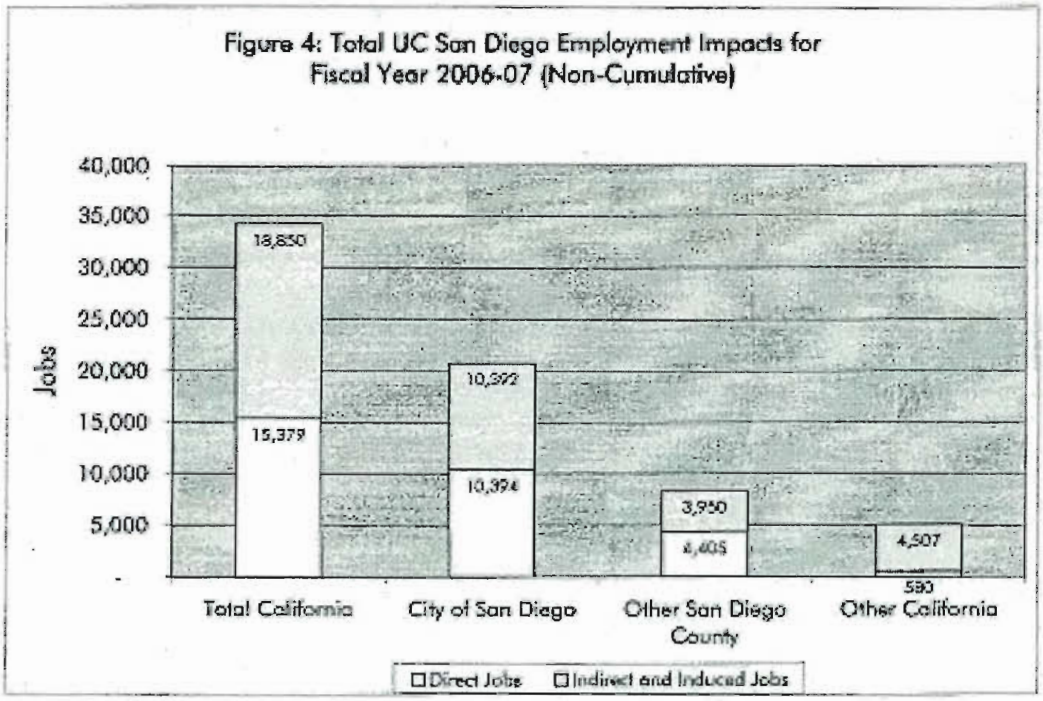
University spending supported 20,790 total FTE jobs in the City of San Diego, 10,390 of which were indirect and induced jobs. This reflects an employment multiplier of 8.38 indirect and induced jobs per $1.000 million in University spending within the city's economy. Within the City of San Diego, the University supports 1.00 indirect and induced job for every direct University job.

UC San Diego supported an additional 8,360 FTE jobs in San Diego County, of which 3,950, or 47.3 percent, were indirect and induced jobs. This reflects an average employment multiplier of 9.42 indirect and induced jobs per $1.000 million of University spending in the unincorporated county.

Outside San Diego County but within California, University spending generated another 5,090 FTE jobs, of which 4,510 were indirect and induced jobs. This reflects an average employment multiplier of 14.58 indirect and induced jobs per $1.000 million of University spending in California outside of San Diego County.

While the employment multipliers are greater at the state level than at the local level, the City of San Diego received a considerable share of the overall employment impacts. Of the total jobs generated by University spending in FY 2006-07, 60.7 percent were located within the City of San Diego. Excluding direct University employment, the City of San Diego benefited from 55.1 percent of the indirect and induced jobs generated by University spending statewide.

Figure 4: Total UC San Diego Employment Impacts for Fiscal Year 2006-07 (Non-Cumulative)



Sources: UC San Diego Payroll Office; Applied Economics; and CBRE Consulting.

PERSONAL INCOME IMPACTS

Personal income impacts and multipliers are shown in Table 18 and Figure 5. Spending by UC San Diego in FY 2006-07 generated total personal income of approximately $2.324 billion in the State of California. This total includes approximately $1.071 billion in direct UC San Diego payroll as well as $1.253 billion in indirect and induced personal income – or income in addition to the direct payroll of University faculty and staff. The indirect and induced personal income impacts are generated by the spending associated with UC San Diego payroll as well as goods and services purchases and capital expenditures. The estimated personal income multiplier associated with the University's total spending statewide was 0.64 in FY 2006-07, which indicates that $1.00 of University spending generated $0.64 in personal income throughout the state.

Of UC San Diego's total impact on personal income statewide, approximately 73.6 percent, or $1.711 billion, was generated within San Diego County. This includes $1.034 billion in direct University payroll and an additional $676.2 million in indirect and induced personal income generated by University spending in the area. The estimated personal income multiplier for UC San Diego spending in San Diego County was 0.41, which indicates that $1.00 of University spending generated an estimated $0.41 in personal income in San Diego County.

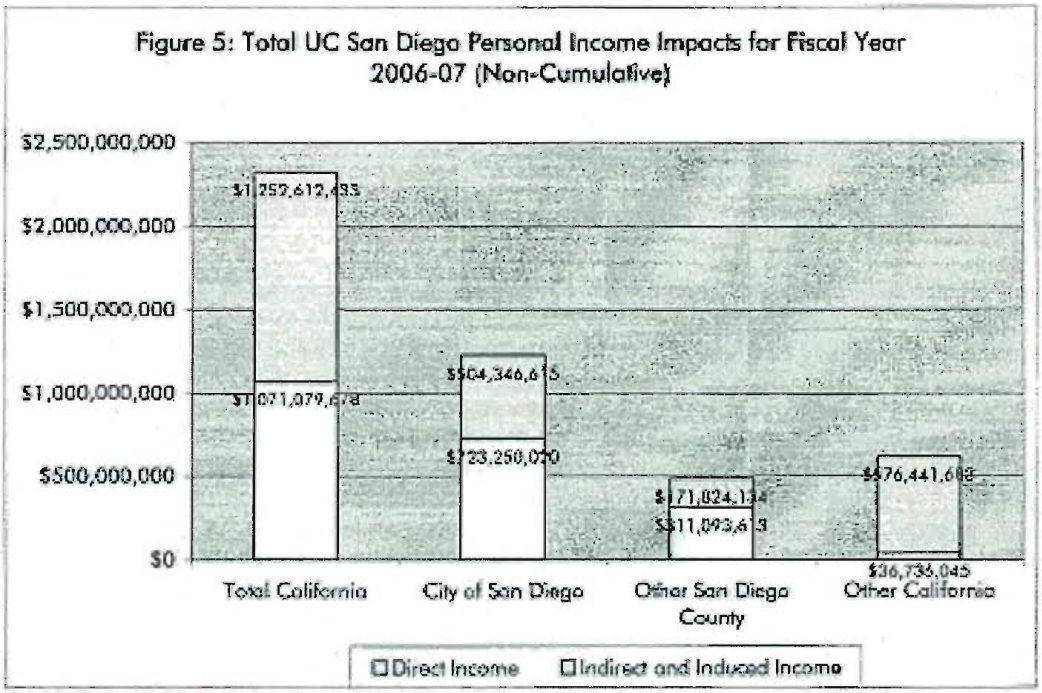
Table 18: Total Personal Income Produced in California From UC San Diego Spending, 2006-07

Geography	Direct Income (UCSD Payroll)	Direct Spending	Multiplier	Indirect and Induced Income	Total Personal Income Generated	Percent of Total California
City of San Diego	$723,250,020	$1,240,202,608	0.41	$504,346,615	$1,227,596,635	52.8%
Other San Diego County	$1,034,343,633	$1,659,648,328	0.41	$676,170,750	$1,710,514,383	73.6%
All California	$1,071,079,678	$1,968,739,244	0.64	$1,252,612,483	$2,323,692,131	100.0%
TOTAL	$1,071,079,678	$1,968,739,244	0.64	$1,252,612,483	$2,323,692,131	

Sources: UC San Diego Office of Student Research and Information, Design and Construction, General Accounting Services, Medical Center Accounting Services, Applied Economics, and CBRE Consulting.
Notes: Figures may not add due to rounding. Spending and multiplier calculations are cumulative of all inclusive geographies.

Finally, UC San Diego spending within the City of San Diego contributed to $1.228 billion in personal income for San Diego residents. This includes approximately $723.3 million in direct University payroll and an additional $504.3 million in indirect and induced personal income. The total income impacts reflect an estimated average income multiplier of 0.41, which indicates that $1.00 of UC San Diego spending generated $0.41 in personal income. The total personal income impact of University spending in the City of San Diego was approximately 52.8 percent of the total impact of University spending statewide.

Figure 5: Total UC San Diego Personal Income Impacts for Fiscal Year 2006-07 (Non-Cumulative)



Sources: UC San Diego Accounting Services; Applied Economics; and CBRE Consulting.

SUMMARY OF SPENDING, EMPLOYMENT, AND PERSONAL INCOME IMPACTS BY GEOGRAPHY

The estimated spending, employment, and personal income impacts of UC San Diego spending in the City of San Diego, San Diego County, and the State of California are summarized in Table 19.

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Fiscal Year 2006-07

	City of San Diego	Other San Diego County	Other California	Total Statewide
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Direct	$1,240,202,608	$419,445,720	$309,090,916	$1,968,739,244
Indirect	$1,034,791,566	$497,874,792	$520,797,385	$2,053,463,743
Total Spending	$2,274,994,174	$917,320,512	$829,888,301	$4,022,202,987
Employment (FTE)				
Direct	10,394	4,405	580	15,379
Indirect	10,392	3,950	4,507	18,850
Total Jobs	20,786	8,355	5,087	34,229
Income				
Direct	$723,250,020	$311,093,613	$36,736,045	$1,071,079,678
Indirect	$504,346,615	$171,824,134	$576,441,683	$1,252,612,433
Total Income	$1,227,596,635	$482,917,747	$613,177,728	$2,323,692,111

Sources: UC San Diego Office of Student Research and Information, Design and Construction, General Accounting Services, and Medical Center Accounting Services; Applied Economics; and CBRE Consulting.
Note: Figures may not add due to rounding.

- Overall, in Fiscal Year 2006-07, the impact of spending by UC San Diego in the City of San Diego was $2.275 billion in total spending, 20,790 jobs, and $1.228 billion in personal income, excluding UC San Diego employees.
- UC San Diego's spending generated an additional impact of approximately $917.3 million in total spending, 8,360 jobs, and $482.9 million in personal income, excluding UC San Diego employees, elsewhere in San Diego County.
- UC San Diego spending contributed another $829.9 million in total spending, 5,090 jobs, and $613.2 million in personal income, excluding UC San Diego employees, elsewhere in the state.
- In all, UC San Diego's total economic impact in California was $4.022 billion in total spending, 34,230 full time equivalent jobs, and $2.324 billion in personal income, excluding UC San Diego employees, in the 2006-07 Fiscal Year.

ATTACHMENT 6

Attachment to Letter 93

UK COOPERATIVE EXTENSION SERVICE
UNIVERSITY OF KENTUCKY—COLLEGE OF AGRICULTURE

Economic Impact of

Rockcastle Hospital and Respiratory Care Center, Inc.

On Four Kentucky Counties:

Fayette, Jefferson, Franklin & Madison

Prepared By:

KY Rural Health Works[1]

UK Department of Agricultural Economics

KY State Office of Rural Health

UK Center for Rural Health

UK Cooperative Extension Service

January, 2005

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- Data 5

Economic Multipliers 6

Economic Impact Results 8

Summary 12

PREFACE

This report is being furnished to the Rockcastle Hospital and Respiratory Care Center, Inc. through their request. The Kentucky Rural Health Works Program (a program of the University of Kentucky Department of Agricultural Economics, UK Cooperative Extension Service, Kentucky State Office of Rural Health and UK Center for Rural Health) was contacted to conduct an economic impact study. The Kentucky Rural Health Works Program offers decision-making information to rural health care providers, local community leaders and policymakers regarding health care and its impact on rural economies. This is carried out through market demand studies, feasibility studies, policy research studies and economic impact studies. The Kentucky Rural Health Works Program combines the health care knowledge and strengths of the UK Center for Rural Health with economic development expertise of the UK College of Agriculture.

Questions or concerns regarding this analysis should be directed to Dr. Eric Scorsone, Assistant Professor of Agricultural Economics at the University of Kentucky College of Agriculture. For more information, contact:

Eric Scorsone, Ph.D.
University of Kentucky
Department of Agricultural Economics
Lexington, Kentucky
E-mail: escorson@uky.edu

INTRODUCTION

This report examines the economic impact of Rockcastle Hospital and Respiratory Care Center on the following four Kentucky counties: Fayette, Jefferson, Franklin and Madison. This analysis shows the economic impact of output (sales), employment and labor income due to Rockcastle Hospital and Respiratory Care Center on the local economies of these four counties. On average, the Rockcastle Hospital and Respiratory Care Center generates an approximate total impact of $9,162,185 in output (sales) within the 4 counties. The 9,162,185 represents the amount of local sales or revenue generated in Fayette, Jefferson, Franklin and Madison Counties due to the impact of the Rockcastle Hospital and Respiratory Care Center. As a result, Rockcastle Hospital and Respiratory Care Center's expenditures create nearly 139 jobs and have a total impact of $4,675,985 in labor income in these areas.

METHODOLOGY AND DATA

Methodology

The IMPLAN Model was used to generate the economic impact of Rockcastle Hospital and Respiratory Care Center. IMPLAN is an input-output Model that can be used to examine the economic impact of new industries, loss of an existing industry, fiscal impact analysis and the existence of supply demand gaps. Model version 2.0 was used in this study with the 2000 Kentucky data and structural matrices.

For this study, it was important to capture the nature of Rockcastle Hospital's purchasing patterns as opposed to the use of national standard production function. After the initial models for Fayette, Jefferson, Franklin and Madison Counties were developed, the expenditure records for the hospital were reviewed to determine hospital spending patterns in each of the four counties. These patterns were in some cases slightly different from the original IMPLAN hospital expenditure patterns. Also, the regional purchase coefficients were significantly

different in some cases between the original IMPLAN Model and the revisions based on Fayette, Jefferson, Franklin and Madison Counties records. The revisions of local spending correspond with findings from other studies that indicate how rural hospitals generally affect wholesale and retail trade activities on a county level

A series of steps were followed to generate the economic impact results. First, the Fayette, Jefferson, Franklin and Madison Counties 2000 Models were estimated from IMPLAN. Second, the study area data was edited to include the actual hospital figures in sector 492. Under the hospital sector, the sales and employment (where appropriate) figures were entered along with the changes in the gross absorption coefficients, as well as, the differences between national and local production functions. Changes in the production functions were based on an examination of hospital records for the 2003 preliminary financial report. Finally, the model was re-run to calculate the new multiplier values. These new multipliers represent the revised Rockcastle Hospital's direct, indirect and induced economic effects. The economic impact was calculated by removing the hospital sector through the Impact screen and determining the loss in employment, labor income and output.

Data

The data for this report came from the IMPLAN Model and the Rockcastle Hospital and Respiratory Care Center's accounting records and financial statements. The 2000 Kentucky data set was used for the IMPLAN Model. The Rockcastle Hospital financial statements indicated a total expenditure of $27,237,072 during the 2003 fiscal year. This figure includes cash expenses related to depreciation and amortization.

In 2003, Rockcastle Hospital spent approximately $7,224,073 in other expenditures (less wages and benefits) within 27 Kentucky counties. However, of the $7,224,073, over 90% was spent in Fayette, Rockcastle, Jefferson, Franklin and Madison Counties. Among these four

counties, Rockcastle Hospital spent approximately 41% in Fayette county, nearly 17% in Jefferson County, 10% in Franklin County and about 3.4% in Madison County, Kentucky.

ECONOMIC IMPACT MULTIPLIERS

The impact of the local health care system and health care employee expenditures on the local economy are called multiplier effects. Multiplier effects are a simplified and compact way of representing these economic effects in a local economy. The multiplier is interpreted as the impact of a one-unit change in sales, employment or labor income that results in an "X" impact on the local economy. In essence, the multiplier represents the recycling of local dollars and income in the community. This recycling process creates new job opportunities and higher wages for individuals. Leakage of dollars and income out of the community, via taxes or non-local spending, reduces the size of the multiplier effect and the potential size of the local economy.

There are three multipliers effects based on the type of economic impact analysis: direct effect, indirect effect and induced effect (see Table 1). The direct multiplier effect is based on an industry's initial economic impact on the community. For example, if a manufacturing plant has revenue of 5 million dollars, then this figure becomes the direct economic impact on the community. The indirect multiplier effect is based on industry-to-industry transactions only. For example, health care providers may purchase laundry, food, landscaping and floral services from local businesses. It is important to note that the indirect multiplier does not include the effect of employee spending on retail and service sectors in the community. Alternatively, the induced multiplier effect includes both the industry-to-industry transactions and household purchases, which includes employee spending. The total economic impact is defined as the direct plus indirect plus induced economic effects.

The direct, indirect and induced multiplier effects can be classified as output (sales), employment and labor income multipliers (see Table 1). Output (sales) multipliers represent the change in local sales or revenue due to a change in an industry. Economic output is measured as a change in total sales for a new or existing business or institution in a region. Employment multipliers are the impact of a one million dollar change in economic output on the number of jobs in a local economy. Labor income multipliers represent a one-unit change in economic output on local income.

Table 1: Health Care Related Economic Impact Multipliers

Multiplier Type	Direct Impact	Indirect Impact	Induced Impact
Employment	Health care jobs	Health care supplier jobs	Local retail and service jobs related to health care employee spending
Income	Health care employee income	Health care supplier employee income	Local retail and service income related to health care employee spending
Output (Sales)	Health care revenue	Health care supplier revenue	Local retail and service revenue related to health care employee spending

ECONOMIC IMPACT ANALYSIS

The analysis is divided into three sections according to following multipliers: 1) output or sales, 2) employment, and 3) labor income. Each section shows the direct, indirect, induced and total economic impacts for the various economic impact categories.

The sales or output multiplier represents the amount of local sales or revenue generated in the Fayette, Jefferson, Franklin and Madison Counties due to the impact of the Rockcastle Hospital and Respiratory Care Center expenditures in those counties (see Table 2). The hospital expenditures represent the direct impact on these particular counties. For example in Table 2, Rockcastle Hospital spent $3,032,493 in Fayette County, Kentucky, which is the direct impact of the hospital on output or sales in Fayette County. Rockcastle Hospital vendors are supplied by other vendors, which creates more employment and income opportunities. Therefore, the indirect impact on Fayette County, Kentucky is $651,478 and represents the Rockcastle Hospital vendors' spending within Fayette County, Kentucky. This $651,478 is associated with industry-to-industry transactions within Fayette County.

Employees who are associated with hospital vendor firms and the firms whom supply those vendors in the region purchase goods and services in the local economy and represent the induced impact on the community. The induced impact on Fayette County economy is $1,077,762 and is associated with the employees' purchases of goods and services within Fayette Count, Kentucky. Based on the direct impact of $3,032,493, Rockcastle Hospital has a significant total economic impact of $4,761,734 on Fayette County, Kentucky. This total impact represents generated revenue based on direct suppliers to the hospital, indirect suppliers to the hospital and employees purchases in the local economy. Overall, Rockcastle Hospital had a direct impact of $6,096,197, indirect impact of $1,122,710, induced impact of $1,122,710, and a total impact of $9,162,185 on these four Kentucky counties.

Table 2: Rockcastle Hospital and Respiratory Care Center

Impact on County Output (Sales)

County	Direct Impact	Indirect Impact	Induced Impact	Multiplier	Total Impact
Fayette	$3,032,493	$651,476	$1,077,762	1.57	$4,761,734
Jefferson	$1,221,370	$256,187	$459,178	1.59	$1,936,735
Franklin	$729,945	$ 57,374	$ 94,922	1.21	$882,241
Madison	$1,112,369	$157,671	$311,415	1.42	$1,581,475
Total	$6,096,197	$1,122,710	$1,943,277	—	$9,162,185

Source: 2000 IMPLAN Data Base and 2002 hospital data

The employment multiplier demonstrates the relationship between the Rockcastle Hospital and Respiratory Care Center expenditures and employment creation in the Fayette, Jefferson, Franklin and Madison Counties. Rockcastle Hospital and Respiratory Care Center actually employs 36 people who live in Fayette and Madison Counties (See Table 3 below). However, the direct impact represents the hospital jobs plus jobs associated with the hospital vendors' within these counties. Therefore, the direct impact due to Rockcastle Hospital on Fayette County employment is about 48 jobs. The indirect impact represents industry to industry transactions; thus the indirect effect creates another 8.4 jobs in Fayette County, Kentucky. Moreover, employee spending within Fayette County creates and induced impact of 14.7 jobs (see Table 3). Overall, Rockcastle Hospital has a total impact of 71.3 jobs on Fayette County employment. Fayette County is the biggest employment impact recipient from the expenditures of Rockcastle County Hospital.

The Rockcastle Hospital and Respiratory Care Center employment multiplier for Fayette County is 1.48 as shown in Table 3. This employment multiplier indicates that for every Rockcastle Hospital job, an additional 0.48 jobs are created in Fayette County local economy.

In total, 138.6 jobs in Fayette, Jefferson, Franklin and Madison Counties are directly or indirectly tied to the existence of the Rockcastle Hospital and Respiratory Care Center.

Table 3: Rockcastle Hospital and Respiratory Care Center
Impact on County Employment

County	Actual Hospital Jobs	Direct Impact	Indirect Impact	Induced Impact	Multiplier	Total Impact
Fayette	3 jobs	48.1 Jobs	8.4 Jobs	14.7 Jobs	1.48	71.3 Jobs
Jefferson	0 jobs	17.3 Jobs	3.2 Jobs	6.0 Jobs	1.53	26.4 Jobs
Franklin	0 jobs	12.0 Jobs	0.9 Jobs	1.5 Jobs	1.20	14.4 Jobs
Madison	33 jobs	18.5 Jobs	2.7 Jobs	5.4 Jobs	1.44	26.5 Jobs
Total	36 jobs	95.9 jobs	15.2 jobs	27.6 jobs	—	138.6 jobs

Source: 2000 IMPLAN Data Base and 2002 hospital data

Table 4 depicts the direct, indirect and induced impact on Fayette, Jefferson, Franklin and Madison Counties' labor income due to Rockcastle Hospital and Respiratory Care Center. The impact from labor income indicates the level of personal income dependent on the existence of the hospital. In Fayette, Jefferson, Franklin and Madison Counties, employees are paid an estimated $ 3,512,965 in direct payroll. In Fayette County, the direct impact of Rockcastle Hospital on the local economy is about $1,739,943. The direct economic impact of this payroll is due to hospital employees and vendors who serve the Rockcastle Hospital in these counties.

This direct payroll impact translates into local spending and more jobs, which creates more income and economic opportunity in these counties. The indirect impact from labor income for the Rockcastle Hospital is estimated to be $446,806 on all four counties. This indirect impact represents the expenditures of the hospital vendors on the payroll of other

business in these counties. In other words, the vendors serving the hospital spend their money on needed supplies and materials which has the effect of increasing employment and payroll for other firms in the four counties.

The induced labor income impact on Fayette, Jefferson, Franklin and Madison Counties due to Rockcastle Hospital is $716,213 and the total labor income impact is $4,675,985. In Fayette County, the indirect impact is $261,095, the induced impact is $399,405 and the total impact is $2,400,444. The induced impact represents the spending of hospital vendor employees and the employees of other firms on the labor income and payroll of service, retail and other consumer-oriented establishments in the four county economies. The Rockcastle Hospital income multiplier on Fayette County is 1.38. This means that for every dollar of income generated due to Rockcastle Hospital and Respiratory Care Center, an additional 0.38 cents of income is generated in the Fayette County local economy.

Table 4: Rockcastle Hospital and Respiratory Care Center
Impact on County Labor Income

County	Direct Impact	Indirect Impact	Induced Impact	Multiplier	Total Impact
Fayette	$1,739,943	$261,095	$399,405	1.38	$2,400,444
Jefferson	$737,496	$101,237	$172,768	1.37	$1,011,501
Franklin	$411,492	$24,420	$32,462	1.14	$468,374
Madison	$624,034	$60,054	$111,578	1.28	$795,666
Total	$3,512,965	$446,806	$716,213	—	$4,675,985

Source: 2000 IMPLAN Data Base and 2002 hospital data

SUMMARY

The results indicate that Rockcastle Hospital and Respiratory Care Center is an important economic contributor to the Fayette, Jefferson, Franklin and Madison County local economies. The economic impact is primary felt through hospital expenditures on local services and employee spending in the local retail and service sector. Like many rural and urban hospitals, complex medical equipment and other supplies must be purchased outside the local community, which reduces the size of the economic impact.

To reiterate, the sales or output multiplier represents the amount of revenue that is generated in Fayette, Jefferson, Franklin and Madison Counties due to the impact of the Rockcastle Hospital and Respiratory Care Center expenditures in those counties. Based on the output multiplier, the Rockcastle Hospital has a total economic impact of nearly $9,162,185 on Fayette, Jefferson, Franklin and Madison Counties. The employment multiplier demonstrates the relationship between the Rockcastle Hospital and Respiratory Care Center expenditures and employment creation in these four counties. Overall, approximately 138 jobs in Fayette, Jefferson, Franklin and Madison Counties are directly or indirectly associated with Rockcastle Hospital expenditures within those respective counties. The labor income multiplier indicates the level of personal income in Fayette, Jefferson, Franklin and Madison Counties that is dependent on Rockcastle Hospital expenditures in those counties. The total impact on county labor income on all four counties due to Rockcastle Hospital is estimated to be $4,675,985.

Kentucky Rural Health Works

www.cauky.edu/krhw

Educational programs of the Kentucky Cooperative Extension Service serve all people regardless of race, color, age, sex, religion, disability, or national origin.

Letter 95

Devyani Jain /CTYPLN/SFGOV
10/20/2010 10:16 AM

To Chelsea Fordham/CTYPLN/SFGOV@SFGOV
cc
bcc
Subject Fw: CNA Comments on CPMC DEIR: Email 6

DEVYANI JAIN, *Senior Planner*
Major Environmental Analysis

San Francisco Planning Department
1650 Mission Street, Suite 400
San Francisco, CA 94103

P: 415.575.9051 | F: 415.558.6409

----- Forwarded by Devyani Jain/CTYPLN/SFGOV on 10/20/2010 10:16 AM -----

Gloria D Smith <gloria@gsmithlaw.com>
10/19/2010 10:02 PM
Please respond to
gloria@gsmithlaw.com

To bill wycko <bill.wycko@sfgov.org>, Devyani Jain <Devyani.Jain@sfgov.org>
cc ngreen@calnurses.org
Subject CNA Comments on CPMC DEIR: Email 6

Please find attached the resumes of experts who prepared comments for the California Nurses Association for the CPMC DEIR.

The Law Offices of Gloria D. Smith

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Brohard 2009 08 Short.pdf mhagemann cv.pdf Petra Pless CV[1].pdf

Attachment to Letter 92

Tom Brohard, PE

Licenses:	1975 / Professional Engineer / California – Civil, No. 24577 1977 / Professional Engineer / California – Traffic, No. 724 2006 / Professional Engineer / Hawaii – Civil, No. 12321
Education:	1969 / BSE / Civil Engineering / Duke University
Experience:	40 Years
Memberships:	1977 / Institute of Transportation Engineers – Fellow, Life 1978 / Orange County Traffic Engineers Council - Chair 1982-1983 1981 / American Public Works Association - Member

Tom is a recognized expert in the field of traffic engineering and transportation planning. His background also includes responsibility for leading and managing the delivery of various contract services to numerous cities in Southern California.

Tom has extensive experience in providing transportation planning and traffic engineering services to public agencies. Since May 2005, he has served as Consulting City Traffic Engineer three days a week to the City of Indio. He also currently provides "on call" Traffic and Transportation Engineer services to the Cities of Big Bear Lake and San Fernando. In addition to conducting traffic engineering investigations for Los Angeles County from 1972 to 1978, he has previously served as City Traffic Engineer in the following communities:

- Bellflower ..... 1997 - 1998
- Bell Gardens ..... 1982 - 1995
- Huntington Beach ..... 1998 - 2004
- Lawndale ..... 1973 - 1978
- Los Alamitos ..... 1981 - 1982
- Oceanside ..... 1981 - 1982
- Paramount ..... 1982 - 1988
- Rancho Palos Verdes ..... 1973 - 1978
- Rolling Hills ..... 1973 - 1978, 1985 - 1993
- Rolling Hills Estates ..... 1973 - 1978, 1984 - 1991
- San Marcos 1981
- Santa Ana ..... 1978 - 1981
- Westlake Village ..... 1983 - 1994

During these assignments, Tom has supervised City staff and directed other consultants including traffic engineers and transportation planners, traffic signal and street lighting personnel, and signing, striping, and marking crews. He has secured over $5 million in grant funding for various improvements. He has managed and directed many traffic and transportation studies and projects. While serving these communities, he has personally conducted investigations of hundreds of citizen requests for various traffic control devices. Tom has also successfully presented numerous engineering reports at City Council, Planning Commission, and Traffic Commission meetings in these and other municipalities.

In his service to the City of Indio since May 2005, Tom has accomplished the following:

- Oversaw preparation and adoption of the Circulation Element Update of the General Plan including development of Year 2035 buildout traffic volumes, revised and simplified arterial roadway cross sections, and reduction in acceptable Level of Service criteria under certain constraints

- Oversaw preparation of fact sheets/design exceptions to reduce shoulder widths on Jackson Street over I-10 as well as justifications for protected-permissive left turn phasing at I-10 on-ramps, the first such installation in Caltrans District 8 in Riverside County; oversaw preparation of plans and provided assistance during construction of a $1.5 million project to install traffic signals and widen three of four ramps at the I-10/Jackson Street Interchange under a Caltrans encroachment permit issued under the Streamlined Permit Process

- Oversaw preparation of fact sheets/design exceptions to reduce shoulder widths on Monroe Street over I-10 as well as striping plans to install left turn lanes on Monroe Street at the I-10 Interchange under a Caltrans encroachment permit

- Oversaw preparation of traffic impact analyses for Project Study Reports evaluating different alternatives for buildout improvement of the I-10/Monroe Street and the I-10/Golf Center Parkway Interchanges

- Oversaw preparation of plans, specifications, and contract documents and provided assistance during construction of 22 new traffic signal installations

- Oversaw preparation of plans and provided assistance during construction for the conversion of two traffic signals from fully protected left turn phasing to protected-permissive left turn phasing with flashing yellow arrows

- Reviewed and approved over 450 work area traffic control plans as well as signing and striping plans for all City and developer funded roadway improvement projects

- Oversaw preparation of a City wide traffic safety study of conditions at all schools

- Prepared over 350 work orders directing City forces to install, modify, and/or remove traffic signs, pavement and curb markings, and roadway striping

- Oversaw preparation of engineering and traffic surveys to establish enforceable speed limits on over 125 street segments

- Reviewed and approved traffic impact studies prepared for more than 16 major development projects

Since forming Tom Brohard and Associates in 2000, Tom has reviewed many traffic impact reports and environmental documents for various development projects. He has provided expert witness services and also prepared traffic studies for public agencies and private sector clients.

Attachment to Letter 92

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

2503 Eastbluff Dr.
Suite 206
Newport Beach, California92660
Tel: (949) 887-9013
Fax: (949) 717-0069
Email: mhagemann@swape.com

Matthew F. Hagemann, P.G.

Geologic and Hydrogeologic Characterization
Investigation and Remediation Strategies
Regulatory Compliance
CEQA Review
Expert Witness

Education:

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.
B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

Professional Certification:

California Professional Geologist, License Number 8571.

Professional Experience:

Matt has 25 years of experience in environmental policy, assessment and remediation. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) while also working with permit holders to improve hydrogeologic characterization and water quality monitoring.

Matt has worked closely with U.S. EPA legal counsel and the technical staff of several states in the application and enforcement of RCRA, Safe Drinking Water Act and Clean Water Act regulations. Matt has trained the technical staff in the States of California, Hawaii, Nevada, Arizona and the Territory of Guam in the conduct of investigations, groundwater fundamentals, and sampling techniques.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – present;
- Senior Environmental Analyst, Komex H2O Science, Inc (2000 -- 2003);
- Executive Director, Orange Coast Watch (2001 – 2004);
- Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);

- Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);
- Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
- Instructor, College of Marin, Department of Science (1990 – 1995);
- Geologist, U.S. Forest Service (1986 – 1998); and
- Geologist, Dames & Moore (1984 – 1986).

Senior Regulatory and Litigation Support Analyst:

With SWAPE, Matt's responsibilities have included:

- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a project to provide technical assistance to a comunity adjacent to a former Naval shipyard under a grant from the U.S. EPA.
- Lead analyst and testifying expert in the review of numerous environmental impact reports under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, greenhouse gas emissions and geologic hazards.
- Lead analyst and testifying expert in the review of environmental issues in license applications for large solar power plants before the California Energy Commission.
- Stormwater analysis, sampling and best management practice evaluation at industrial facilities.
- Technical assistance and litigation support for vapor intrusion concerns.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.
- Expert witness on two cases involving MTBE litigation.
- Expert witness and litigation support on the impact of air toxins and hazards at a school.
- Expert witness in litigation at a former plywood plant.

With Komex H2O Science Inc., Matt's duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.
- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.
- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

Executive Director:

As Executive Director with Orange Coast Watch, Matt led efforts to restore water quality at Orange County beaches from multiple sources of contamination including urban runoff and the discharge of wastewater. In reporting to a Board of Directors that included representatives from leading Orange County universities and businesses, Matt prepared issue papers in the areas of treatment and disinfection of wastewater and control of the dischrge of grease to sewer systems. Matt actively participated in the development of countywide water quality permits for the control of urban runoff and permits for the discharge of wastewater. Matt worked with other nonprofits to protect and restore water quality, including Surfrider, Natural Resources Defense Council and Orange County CoastKeeper as well as with business institutions including the Orange County Business Council.

Hydrogeology:

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, Matt led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities were as follows:

- Led efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiated a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identified emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, Matt developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. He used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, Matt worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted public hearings, and responded to public comments from residents who were very concerned about the impact of designation.
- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Matt served as a hydrogeologist with the RCRA Hazardous Waste program. Duties were as follows:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliance with Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.
- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S. EPA legal counsel.
- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, Matt directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following tasks:

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexico and advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nation-wide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

Policy:

Served senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9. Activities included the following:

- Advised the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinking water supplies.
- Shaped EPA's national response to these threats by serving on workgroups and by contributing to guidance, including the Office of Research and Development publication, Oxygenates in Water: Critical Information and Research Needs.
- Improved the technical training of EPA's scientific and engineering staff.
- Earned an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific principles into the policy-making process.
- Established national protocol for the peer review of scientific documents.

Geology:

With the U.S. Forest Service, Matt led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities were as follows:

- Mapped geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinated his research with community members who were concerned with natural resource protection.
- Characterized the geology of an aquifer that serves as the sole source of drinking water for the city of Medford, Oregon.

As a consultant with Dames and Moore, Matt led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large hazardous waste site in eastern Oregon. Duties included the following:

- Supervised year-long effort for soil and groundwater sampling.
- Conducted aquifer tests.
- Investigated active faults beneath sites proposed for hazardous waste disposal.

Teaching:

From 1990 to 1998, Matt taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.

In Fall 2010, Matt taught Physical Geology (lecture and lab) to students at Golden West College in Huntington Beach, California.

Invited Testimony, Reports, Papers and Presentations:

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S. EPA Region 9, San Francisco, California.

Hagemann, M.F., 2005. Use of Electronic Databases in Environmental Regulation, Policy Making and Public Participation. Brownfields 2005, Denver, Coloradao.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

Hagemann, M.F., 2004. Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.

Brown, A., Farrow, J., Gray, A. and **Hagemann, M.**, 2004. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells.

Presentation to the Ground Water and Environmental Law Conference, National Groundwater Association.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a tribal EPA meeting, Pechanga, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal repesentatives, Parker, AZ.

Hagemann, M.F., 2003. Impact of Perchlorate on the Colorado River and Associated Drinking Water Supplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

Hagemann, M.F., 2003. The Emergence of Perchlorate as a Widespread Drinking Water Contaminant. Invited presentation to the U.S. EPA Region 9.

Hagemann, M.F., 2003. A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

Hagemann, M.F., 2003. Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. A Chronology of MTBE in Groundwater and an Estimate of Costs to Address Impacts to Groundwater. Presentation to the annual meeting of the Society of Environmental Journalists.

Hagemann, M.F., 2002. An Estimate of the Cost to Address MTBE Contamination in Groundwater (and Who Will Pay). Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to a meeting of the U.S. EPA and State Underground Storage Tank Program managers.

Hagemann, M.F., 2001. From Tank to Tap: A Chronology of MTBE in Groundwater. Unpublished report.

Hagemann, M.F., 2001. Estimated Cleanup Cost for MTBE in Groundwater Used as Drinking Water. Unpublished report.

Hagemann, M.F., 2001. Estimated Costs to Address MTBE Releases from Leaking Underground Storage Tanks. Unpublished report.

Hagemann, M.F., and VanMouwerik, M., 1999. Potential Water Quality Concerns Related to Snowmobile Usage. Water Resources Division, National Park Service, Technical Report.

VanMouwerik, M. and **Hagemann, M.F.** 1999, Water Quality Concerns Related to Personal Watercraft Usage. Water Resources Division, National Park Service, Technical Report.

Hagemann, M.F., 1999, Is Dilution the Solution to Pollution in National Parks? The George Wright Society Biannual Meeting, Asheville, North Carolina.

Hagemann, M.F., 1997, The Potential for MTBE to Contaminate Groundwater. U.S. EPA Superfund Groundwater Technical Forum Annual Meeting, Las Vegas, Nevada.

Hagemann, M.F., and Gill, M., 1996, Impediments to Intrinsic Remediation, Moffett Field Naval Air Station, Conference on Intrinsic Remediation of Chlorinated Hydrocarbons, Salt Lake City.

Hagemann, M.F., Fukunaga, G.L., 1996, The Vulnerability of Groundwater to Anthropogenic Contaminants on the Island of Maui, Hawaii. Hawaii Water Works Association Annual Meeting, Maui, October 1996.

Hagemann, M. F., Fukanaga, G. L., 1996, Ranking Groundwater Vulnerability in Central Oahu, Hawaii. Proceedings, Geographic Information Systems in Environmental Resources Management, Air and Waste Management Association Publication VIP-61.

Hagemann, M.F., 1994. Groundwater Characterization and Cleanup at Closing Military Bases in California. Proceedings, California Groundwater Resources Association Meeting.

Hagemann, M.F. and Sabol, M.A., 1993. Role of the U.S. EPA in the High Plains States Groundwater Recharge Demonstration Program. Proceedings, Sixth Biennial Symposium on the Artificial Recharge of Groundwater.

Hagemann, M.F., 1993. U.S. EPA Policy on the Technical Impracticability of the Cleanup of DNAPL-contaminated Groundwater. California Groundwater Resources Association Meeting.

Hagemann, M.F., 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35.

Other Experience:

Selected as subject matter expert for the California Geologist licensing examination, 2009-2010.

Attachment to Letter 91

Petra Pless, D.Env.

440 Nova Albion Way, Suite 2
San Rafael, CA 94903
(415) 492-2131 phone
(815) 572-8600 fax
petra@ppless.com

Dr. Pless is a court-recognized expert with over 10 years of experience in environmental consulting conducting and managing interdisciplinary environmental research projects and preparing and reviewing environmental permits and other documents for U.S. and European stakeholder groups. Her broad-based experience includes air quality and air pollution control; water quality, water supply, and water pollution control; biology; public health and safety; and noise studies; California Environmental Quality Act ("CEQA"), Clean Air Act ("CAA"), and National Environmental Policy Act ("NEPA") review; industrial ecology and risk assessment; and use of a wide range of environmental software.

EDUCATION

Doctorate in Environmental Science and Engineering (D.Env.), University of California Los Angeles, 2001

Master of Science (equivalent) in Biology, Technical University of Munich, Germany, 1991

PROFESSIONAL HISTORY

Pless Environmental, Inc., Principal, 2008–present

Environmental Consultant, Sole Proprietor, 2006–2008

Leson & Associates (previously Leson Environmental Consulting), Kensington, CA, Environmental Scientist/Project Manager, 1997–2005

University of California Los Angeles, Graduate Research Assistant/Teaching Assistant, 1994–1996

ECON Research and Development, Environmental Scientist/Project Manager, Ingelheim, Germany, 1992–1993

Biocontrol, Environmental Project Manager, Ingelheim, Germany, 1991–1992

REPRESENTATIVE EXPERIENCE

Air Quality and Pollution Control

Projects include CEQA/NEPA review; attainment and non-attainment new source review ("NSR"), prevention of significant deterioration ("PSD") and Title V permitting; control technology analyses (BACT, LAER, RACT, BARCT, BART, MACT); technology evaluations and cost-effectiveness analyses; criteria and toxic pollutant emission inventories; emission offsets; ambient and source monitoring; analysis of emissions estimates and ambient air pollutant concentration modeling. Some typical projects include:

- Critically reviewed and prepared technical comments on the air quality, biology, noise, water quality, and public health and safety sections of CEQA/NEPA documents for numerous commercial, residential, and industrial projects (*e.g.*, power plants, airports, residential developments, retail developments, hospitals, refineries, slaughterhouses, asphalt plants, material transfer/recycling facilities, food processing facilities, printing facilities, quarries, and mines) and provided litigation support in a number of cases filed under CEQA.
- Critically reviewed and prepared technical comments on the air quality and public health sections of the Los Angeles Airport Master Plan (Draft, Supplement, and Final Environmental Impact Statement/Environmental Impact Report) for the City of El Segundo. Provided technical comments on the Draft and Final General Conformity Determination for the preferred alternative submitted to the Federal Aviation Administration.
- For several California refineries, evaluated compliance of fired sources with Bay Area Air Quality Management District Rule 9-10. This required evaluation and review of hundreds of source tests to determine if refinery-wide emission caps and compliance monitoring provisions were being met.
- Critically reviewed and prepared technical comments on Draft Title V permits for several refineries and other industrial facilities in California.
- Evaluated the public health impacts of locating big-box retail developments in densely populated areas in California and Hawaii. Monitored and evaluated impacts of diesel exhaust emissions and noise on surrounding residential communities.
- In conjunction with the permitting of several residential and commercial developments, conducted studies to determine baseline concentrations of diesel exhaust particulate matter using an aethalometer.
- For an Indiana steel mill, evaluated technology to control NOx and CO emissions from fired sources, including electric arc furnaces and reheat furnaces, to establish BACT. This required a comprehensive review of U.S. and European operating experience. The lowest emission levels were being achieved by steel mills using selective catalytic reduction ("SCR") and selective non-catalytic reduction ("SNCR") in Sweden and The Netherlands.
- For a California petroleum coke calciner, evaluated technology to control NOx, CO, VOCs, and PM10 emissions from the kiln and pyroscrubbers to establish BACT and LAER. This required a review of state and federal clearinghouses, working with regulatory agencies and pollution control vendors, and obtaining and reviewing permits and emissions data from other similar facilities. The best-controlled facilities were located in the South Coast Air Quality Management District.
- For a Kentucky coal-fired power plant, identified the lowest NOx levels that had been permitted and demonstrated in practice to establish BACT. Reviewed operating experience of European, Japanese, and U.S. facilities and evaluated continuous emission monitoring data. The lowest NOx levels had been permitted and achieved in Denmark and in the U.S. in Texas and New York.
- In support of efforts to lower the CO BACT level for power plant emissions, evaluated the contribution of CO emissions to tropospheric ozone formation and co-authored report on same.
- Critically reviewed and prepared technical comments on applications for certification ("AFCs") for numerous natural-gas fired, solar, biomass, and geothermal power plants in

California permitted by the California Energy Commission. The comments addressed construction and operational emissions inventories and dispersion modeling, BACT determinations for combustion turbine generators, fluidized bed combustors, diesel emergency generators, etc.

- Critically reviewed and prepared technical comments on draft PSD permits for several natural gas-fired power plants in California, Indiana, and Oregon. The comments addressed emission inventories, greenhouse gas emissions, BACT, case-by-case MACT, compliance monitoring, cost-effectiveness analyses, and enforceability of permit limits.
- For a California refinery, evaluated technology to control NOx and CO emissions from CO Boilers to establish RACT/BARCT to comply with BAAQMD Rule 9-10. This required a review of BACT/RACT/LAER clearinghouses, working with regulatory agencies across the U.S., and reviewing federal and state regulations and State Implementation Plans ("SIPs"). The lowest levels were required in a South Coast Air Quality Management District rule and in the Texas SIP.
- In support of several federal lawsuits filed under the federal Clean Air Act, prepared cost-effectiveness analyses for SCR and oxidation catalysts for simple cycle gas turbines and evaluated opacity data.
- Provided litigation support for a CEQA lawsuit addressing the pollution control equipment at a proposed biomass cogeneration plant.
- Prepared comments and provided litigation support on several proposed regulations including the Mojave Desert Air Quality Management District Rule 1406 (fugitive dust emission reduction credits for road paving); South Coast Air Quality Management District Rule 1316, San Joaquin Valley Air Pollution Control District Rule 2201, Antelope Valley Air Quality Management District Regulation XIII, and Mojave Desert Air Quality Management District Regulation XIII (implementation of December 2002 amendments to the federal Clean Air Act).
- Critically reviewed draft permits for several ethanol plants in California, Indiana, Ohio, and Illinois and prepared technical comments.
- Reviewed state-wide average emissions, state-of-the-art control devices, and emissions standards for construction equipment and developed recommendations for mitigation measures for numerous large construction projects.
- Researched sustainable building concepts and alternative energy and determined their feasibility for residential and commercial developments, *e.g.*, regional shopping malls and hospitals.
- Provided comprehensive environmental and regulatory services for an industrial laundry chain. Facilitated permit process with the South Coast Air Quality Management District. Developed test protocol for VOC emissions, conducted field tests, and used mass balance methods to estimate emissions. Reduced disposal costs for solvent-containing waste streams by identifying alternative disposal options. Performed health risk screening for air toxics emissions. Provided permitting support. Renegotiated sewer surcharges with wastewater treatment plant. Identified new customers for shop-towel recycling services.
- Designed computer model to predict performance of biological air pollution control (biofilters) as part of a collaborative technology assessment project, co-funded by several major chemical manufacturers. Experience using a wide range of environmental software, including air

dispersion models, air emission modeling software, database programs, and geographic information systems ("GIS").

Water Quality and Pollution Control

Experience in water quality and pollution control, including surface water and ground water quality and supply studies, evaluating water and wastewater treatment technologies, and identifying, evaluating and implementing pollution controls. Some typical projects include:

- Evaluated impacts of on-shore oil drilling activities on large-scale coastal erosion in Nigeria.
- For a 500-MW combined-cycle power plant, prepared a study to evaluate the impact of proposed groundwater pumping on local water quality and supply, including a nearby stream, springs, and a spring-fed waterfall. The study was docketed with the California Energy Commission.
- For a 500-MW combined-cycle power plant, identified and evaluated methods to reduce water use and water quality impacts. These included the use of zero-liquid-discharge systems and alternative cooling technologies, including dry and parallel wet-dry cooling. Prepared cost analyses and evaluated impact of options on water resources. This work led to a settlement in which parallel wet dry cooling and a crystallizer were selected, replacing 100 percent groundwater pumping and wastewater disposal to evaporation ponds.
- For a homeowner's association, reviewed a California Coastal Commission staff report on the replacement of 12,000 linear feet of wooden bulkhead with PVC sheet pile armor. Researched and evaluated impact of proposed project on lagoon water quality, including sediment resuspension, potential leaching of additives and sealants, and long-term stability. Summarized results in technical report.

Applied Ecology, Industrial Ecology and Risk Assessment

Experience in applied ecology, industrial ecology and risk assessment, including human and ecological risk assessments, life cycle assessment, evaluation and licensing of new chemicals, and fate and transport studies of contaminants. Experienced in botanical, phytoplankton, and intertidal species identification and water chemistry analyses. Some typical projects include:

- Conducted technical, ecological, and economic assessments of product lines from agricultural fiber crops for European equipment manufacturer; co-authored proprietary client reports.
- Developed life cycle assessment methodology for industrial products, including agricultural fiber crops and mineral fibers; analyzed technical feasibility and markets for thermal insulation materials from natural plant fibers and conducted comparative life cycle assessments.
- For the California Coastal Conservancy, San Francisco Estuary Institute, Invasive Spartina Project, evaluated the potential use of a new aquatic pesticide for eradication of non-native, invasive cordgrass (*Spartina spp.*) species in the San Francisco Estuary with respect to water quality, biological resources, and human health and safety. Assisted staff in preparing an amendment to the Final EIR.
- Evaluated likelihood that organochlorine pesticide concentrations detected at a U.S. naval air station are residuals from past applications of these pesticides consistent with manufacturers' recommendations. Retained as expert witness in federal court case.

- Prepared human health risk assessments of air pollutant emissions from several industrial and commercial establishments, including power plants, refineries, and commercial laundries.
- Managed and conducted laboratory studies to license pesticides. This work included the evaluation of the adequacy and identification of deficiencies in existing physical/chemical and health effects data sets, initiating and supervising studies to fill data gaps, conducting environmental fate and transport studies, and QA/QC compliance at subcontractor laboratories. Prepared licensing applications and coordinated the registration process with German environmental protection agencies. This work led to regulatory approval of several pesticide applications in less than six months.
- Designed and implemented database on physical/chemical properties, environmental fate, and health impacts of pesticides for a major multi-national pesticide manufacturer.
- Designed and managed experimental toxicological study on potential interference of delta-9-tetrahydrocannabinol in food products with U.S. employee drug testing; co-authored peer-reviewed publication.
- Critically reviewed and prepared technical comments on applications for certification for several natural-gas fired, solar, and geothermal power plants and transmission lines in California permitted by the California Energy Commission. The comments addressed avian collisions and electrocution, construction and operational noise impacts on wildlife, risks from brine ponds, and impacts on endangered species.
- For a 180-MW geothermal power plant, evaluated the impacts of plant construction and operation on the fragile desert ecosystem in the Salton Sea area. This work included baseline noise monitoring and assessing the impact of noise, brine handling and disposal, and air emissions on local biota, public health, and welfare.
- Designed research protocols for a coastal ecological inventory; developed sampling methodologies, coordinated field sampling, determined species abundance and distribution in intertidal zone, and conducted statistical data analyses.
- Designed and conducted limnological study on effects of physical/chemical parameters on phytoplankton succession; performed water chemistry analyses and identified phytoplankton species; co-authored two journal articles on results.
- Organized and conducted surveying and mapping of aquatic plant species in several lakes and rivers in Sweden and Germany as ecological indicators for the health of limnological ecosystems.

PRO BONO ACTIVITIES

Founding member of "SecondAid," a non-profit organization providing tsunami relief for the recovery of small family businesses in Sri Lanka. (www.secondaid.org.)

PROFESSIONAL AFFILIATIONS

Association of Environmental Professionals

PUBLICATIONS

Available upon request

Letter 96

Devyani Jain/CTYPLN/SFGOV
10/20/2010 10:16 AM

To Chelsea Fordham/CTYPLN/SFGOV@SFGOV
cc
bcc
Subject Fw: CNA Comments on CPMC DEIR: Email 7

DEVYANI JAIN, *Senior Planner*
Major Environmental Analysis

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1650 Mission Street, Suite 400
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----- Forwarded by Devyani Jain/CTYPLN/SFGOV on 10/20/2010 10:16 AM -----

Nato Green
<NGreen@CalNurses.Org>
10/20/2010 12:00 AM

To bill wycko <bill.wycko@sfgov.org>, Devyani Jain <Devyani.Jain@sfgov.org>
cc "'gloria@gsmithlaw.com'" <gloria@gsmithlaw.com>
Subject CNA Comments on CPMC DEIR: Email 7

Please find attached comments from the California Nurses Association on the CPMC DEIR. Will be resent on letterhead tomorrow. Thanks.

Nato Green, Labor Representative
California Nurses Association/National Nurses Organizing Committee, AFL-CIO
Caregivers & Healthcare Employees Union
2000 Franklin St., Oakland, CA 94612
Tel: (510) 273-2269 I Fax: (510) 663-5712
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2010_10_19 CNA Comments - Draft Final.doc

October 19, 2010

Environmental Review Officer
San Francisco Planning Department
1650 Mission Street, Suite 400
San Francisco, CA 94103

Re: Preliminary Comments on the Draft Environmental Impact Report for the California Pacific Medical Center Long Range Development Plan

Dear Review Officer:

I have reviewed the Draft Environmental Impact Report ("Draft EIR") for the California Pacific Medical Center ("CMPC") Long Range Development Plan ("LRDP"). The Draft EIR was published by the City of San Francisco ("City") as the lead agency under the California Environmental Quality Act ("CEQA") for public review on July 21, 2010.[1] My comments below pertain to health care issues and environmental impacts that would result from implementation of the LRDP.

It is my opinion that the Draft Environmental Impact Report to implement California Pacific Medical Center's Long-Range Development Plan is critically flawed in deciding to ignore healthcare in its impact analyses, particularly in its cumulative impact analyses. All of the land use arguments are in their essence cost-benefit arguments about health care. Therefore, an analysis of the CEQA impacts of the LRDP, possible mitigation measures, and alternatives is incomplete and meaningless without an analysis of its health care implications. 96-1 HC

My qualifications as a health expert include Director of Public Policy for the California Nurses Association/National Nurses United, former Oakland Planning Commissioner, and member of the San Francisco Blue Ribbon Panel for the St. Luke's Campus. My résumé is attached to this letter.

Background

CPMC consists of four hospitals in San Francisco, CA, and is affiliated with Sutter Health ("Sutter"). The LRDP is CPMC's multi-phased strategy to meet state seismic safety requirements for its hospitals and create a 20-year framework and institutional master plan for CPMC's four existing medical campuses and one proposed new medical campus, the Cathedral Hill Campus. The four existing CPMC medical campuses are the Pacific Campus in the Pacific Heights area, the California Campus in the Presidio Heights area, the Davies Campus in the Duboce Triangle area, and the St. Luke's Campus in the Mission District. 96-2 PD

[1] City of San Francisco, California Pacific Medical Center (CPMC) Long Range Development Plan, Draft Environmental Impact Report, SCH No. 2006062157, July 21, 2010.

I. Elimination of Services and Patient Transfers in the Bay Area Resulting from Sutter's Regionalization

Sutter is going through a process of "regionalization," in which its twenty-six affiliate hospitals are collapsed into five regional structures. As a result, the corporate entity of CPMC has ceased to exist, while all CPMC operations, finance, and governance have dissolved into Sutter West Bay. Sutter West Bay is the region covering Sutter operations from San Francisco north to Clear Lake.[2]

Historically, Sutter has tied together its affiliate networks with shared purchasing, compliance, contracting, treasurer, government relations, legal, pensions, employee benefits, etc. However, each affiliate also had relative autonomy in the pursuit of its own business plans. Sutter's major leverage over its affiliates was their participation in the Sutter Health Obligated Group. By affiliating with Sutter, previously independent hospitals agreed to keep only two weeks of operating cash on hand, while transferring all excess cash to Sutter Corporate. In practice, cash transfers through the Obligated Group have been inconsistent, and apparently political among the Sutter affiliates. (It is this inconsistency that is in part the basis of the current lawsuit by Marin General Hospital to recover the over $120 million Sutter transferred out of the Marin Healthcare District in the years leading up to the restoration of local governance.)[3]

96-3 HC

As Sutter regionalizes its hospitals, it is engaged in a parallel regionalization of all its affiliated physician foundations. It appears that in the next five years, assuming the regionalization process is successful, Sutter intends to roll out a commercial insurance product to make it competitive with Kaiser Permanente ("Kaiser"). It can be assumed that Sutter has been imposing this insurance, named "Sutter Select," on its employees as a captive patient population to seed the launch of the product.

More important for CEQA review, Sutter's regionalization entails large-scale closures of services and increased transfer of patients between cities in the Bay Area. CNA has now been involved in CEQA review regarding Sutter's construction plans in Castro Valley, Oakland, Santa Rosa, San Mateo County, and San Francisco. In each instance, Sutter presents the respective plan in a vacuum, isolated from the simultaneous rebuilds the next town over.

Over the years, Sutter has drastically reduced the number of licensed hospital beds both at CMPC campuses and regionally. Specifically, if all of Sutter's plans in the Bay Area were approved, would entail eliminating 881 licensed hospital beds in the Bay Area between the CPMC campuses, Alta Bates Summit Medical Center in Berkeley and Oakland (Herrick Campus and Summit Campus), San Leandro Medical Campus (complete closure proposed), Eden Medical Center in Castro Valley, Sutter Medical Center of Santa Rosa, and Mills-Peninsula Health Services ("Mills Peninsula") in Burlingame and San Mateo.

96-4 HC

The planned consolidation of by Sutter across the Bay Area assumes increased transfer of patients between cities. For example, earlier this spring a stroke patient in Novato was transferred to CPMC in San Francisco rather than to the nearest stroke center in Greenbrae in Marin County.[4] Traffic burdens (and associated air quality and greenhouse gas emissions) caused by additional

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[2] San Francisco Business Times, Cal Pacific Chief Takes on Regional Role, March 6, 2009; North Bay Business Journal, Sutter hospital CAO has history of managing quality, change, October 26, 2009.
[3] Sacramento Bee, Marin Hospital District Sues Sutter, August 27, 2010
[4] Marin Independent Journal, Doctors Criticize Sutter Handling of Stroke Patient, May 18, 2010

patient transports to and from San Francisco as a result of regionalization are not addressed in the Draft EIR.

Table 1 below summarizes the past and planned future loss of licensed beds in the Bay Area.

Table 1: Reduction in number of licensed beds at Sutter-affiliated campuses in the Bay Area

Sutter Facility	2010 licensed beds	Rebuild plans	Recent past cuts	Future cuts outside rebuild plans	Total loss of licensed beds
Alta Bates Summit (Summit Campus, Oakland[a]	(345)	(309)	0	0	(36)
Alta Bates Summit (Herrick Campus, Berkeley)[b]	(180)	unknown	(18)	(77)	(95)
California Pacific Medical Center (San Francisco)[c]	(1,042)	(854)	(231)	0	(419)
Eden Medical Center (Castro Valley)[d]	(178)	(130)	(31)	0	(79)
San Leandro Hospital (San Leandro)[e]	(122)	0	0	(122)	(122)
Santa Rosa Medical Center (Santa Rosa)[f]	(135)	(70)	0	0	(65)
Mills Peninsula (San Mateo/Burlingame)[g]	(288)	(243)	(20)	0	(65)
				TOTAL	**(881)**

a Phase I of the rebuild at Summit Campus only

b 18 beds eliminated from adolescent psychiatric care in 2007; further cuts planned when Herrick Campus moves to Summit Campus include: closure of 40-unit pulmonary sub-acute care and reduction of adult/adolescent psychiatric care from 105 to 68 beds

c Based on Draft EIR, Table 2-2, *see* Table below

d 31-bed acute rehabilitation unit closed in 2010

e Sutter intends to close the San Leandro Hospital; currently lawsuits are pending with hospital district, community, doctors, nurses, and other health care workers fighting to maintain San Leandro Hospital as a full-service acute care hospital

f Sutter recently obtained approval to rebuild Sutter Medical Center of Santa Rosa at a much smaller size; a lawsuit has been filed challenging the EIR

g 20-bed acute rehabilitation unit closed in 2010; cuts in addition to those listed in the table would result from closures of pediatrics and skilled nursing facility beds as announced by Mills-Peninsula in the past week

As Table 1 shows, almost half of the licensed beds eliminated by Sutter region-wide (881 beds) are removed at the CPMC campuses (419 beds) in San Francisco. Table 2 below shows a summary of licensed beds at the CPMC campuses for the time period from 2006 through 2010 and the future reductions proposed under the LRDP.

96-4 HC

Table 2: CPMC historic and proposed licensed hospital beds under LRDP by bed type[a,b]

Bed Type	2006	2007	2008	2009	2010	LRPD	A Δ (2010 - 2006)	B Δ (LRDP - 2010)
Cathedral Hill Campus								
Acute care	-	-	-	-	-	555	-	555
Rehabilitation	-	-	-	-	-	-	-	-
Psychiatric care	-	-	-	-	-	-	-	-
Skilled nursing	-	-	-	-	-	-	-	-
TOTAL	**-**	**-**	**-**	**-**	**-**	**555**	**-**	**555**
Pacific Campus								
Acute care	295	295	295	295	295	-	-	(295)
Rehabilitation	-	-	-	-	-	-	-	-
Psychiatric care	18	18	18	18	18	18	-	-
Skilled nursing	-	-	-	-	-	-	-	-
TOTAL	**313**	**313**	**313**	**313**	**313**	**18**	**-**	**(295)**
California Campus								
Acute care	319	299	299	299	299	-	(20)	(299)
Rehabilitation	-	-	-	-	-	-	-	-
Psychiatric care	-	-	-	-	-	-	-	-
Skilled nursing	101	101	101	101	-	-	(101)	-
TOTAL	**420**	**400**	**400**	**400**	**299**	**-**	**(121)**	**(299)**
Davies Campus								
Acute care	219	219	219	115	115	115	(104)	-
Rehabilitation	32	32	32	48	48	48	16	-
Psychiatric care	22	22	22	-	-	-	(22)	-
Skilled nursing	38	38	38	38	38	38	-	-
TOTAL	**311**	**311**	**311**	**201**	**201**	**201**	**(110)**	**-**
St. Luke's Campus								
Acute care	150	150	150	150	150	80	-	(70)
Rehabilitation	-	-	-	-	-	-	-	-
Psychiatric care	-	-	-	-	-	-	-	-
Skilled nursing	79	79	79	79	79	-	-	(79)
TOTAL	**229**	**229**	**229**	**229**	**229**	**80**	**-**	**(149)**
All Campuses								
Acute care	983	963	963	859[c]	859[c]	750	(124)	(109)
Rehabilitation	32	32	32	48	48	48	16	-
Psychiatric care	40	40	40	18	18	18	(22)	-
Skilled nursing	218	218	218	218	117	38	(101)	(79)
TOTAL	**1,273**	**1,253**	**1,253**	**1,143[c]**	**1,042[c]**	**854**	**(231)**	**(188)**

a Data from Draft EIR, Table 2-2, page 2-10

b Shaded cells indicate years in which the number of licensed beds were reduced compared to the prior year(s)

c The Draft EIR, Table 2-2, incorrectly adds up the number of existing acute care beds for all campuses and, consequently, the total number of beds for 2009 and 2010

This summary table shows that from 2006 to 2010, Sutter eliminated a total of 231 licensed beds at the CPMC campuses: 124 acute care beds, 22 psychiatric care beds, and 101 skilled nursing beds; only the number of rehabilitation beds increased by 16 (*see* Column A). Now, even though the LRDP would include construction of a brand-new 555-bed hospital at the Cathedral Hill Campus, Sutter proposes to further eliminate another 188 licensed beds: 109 acute care beds and 79 skilled nursing beds (*see* Column B). Thus, between the year 2006 and the proposed LRDP at total of 419 licensed beds are removed from service including 233 acute care beds, 22 psychiatric care beds, and

96-4 HC

180 skilled nursing beds. And, on November 1, 2010, CPMC will sell its dialysis program at the Pacific and Davies Campuses.[5]

96-4 HC

II. Impacts on Health Care Access and Quality Resulting from Citywide and Regional Reduction of Licensed Beds

In addition to the drastic reduction of acute care, psychiatric care and skilled nursing facility ("SNF") beds under the LRDP as shown in Table 2, several other hospitals in the region are or have been reducing their services. The Sutter-affiliate Mills Peninsula recently closed their acute rehabilitation unit in Burlingame, San Mateo County,[6] advising patients to come to acute rehabilitation units at CMPC campuses in the City, specifically the Davies Campus. Sutter also plans on closing the SNF and dialysis unit at the Mills-Peninsula campus[7] and the SNF at the Santa Rosa Hospital. Now, CPMC plans to close the only sub-acute unit in San Francisco, forcing patients and their families to leave San Francisco for care. Combined with the recent closure of the SNF and sub-acute care at the Seton Medical Center in Daly City[8] and reductions at the Laguna Honda Hospital and Rehabilitation Center, the elimination of SNF beds and acute care beds under the LRDP further compounds the existing regional shortage.

In San Francisco, the proposed closure of the SNF at the St. Luke's Hospital in addition to the recent reductions in SNF beds at the California Campus in 2009/2010 represents an 83% reduction in CPMC's SNF bed capacity. SNF is the state licensing category for nursing homes, but historically a number of hospitals have opened licensed SNFs for patients who were too sick to be transferred to free-standing nursing homes. The only additional SNF services planned in San Francisco are 22 extra SNF beds part of the proposed rebuild of the Chinese Hospital. Patients will be put at risk if the patient population currently treated by the 178 historically offered by CPMC is simply placed in lower-level care SNFs. Worse still, if the need for SNFs is not met, these patients will need to be shipped out of San Francisco. SNF patients tend to have stays from three days to several weeks, which will result in multiple additional trips by their family members out of the City to visit them.

96-5a HC

The CPMC LRDP is part of Sutter's business plan for the Bay Area and must be analyzed in the context of the cumulative effects of those plans. This includes: transfer of stroke patients from the Novato Community Hospital in Marin County to CPMC; transfer of sub-acute patients and psychiatric patients out of San Francisco; transfer of SNF patients out of San Francisco; transfer of pediatric and acute rehabilitation patients into San Francisco from San Mateo County; and potential closure of the San Leandro Hospital. The Draft EIR fails entirely to analyze those cumulative impacts.

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[5] San Francisco Business Times, CPMC Will Sell Dialysis Unit to DaVita, September 3, 2010; http://www.bizjournals.com/sanfrancisco/stories/2010/09/06/story12.html.

[6] San Mateo Daily Journal, Nurses Oppose Acute Rehab Move, September 24, 2009; http://www.smdailyjournal.com/article_preview.php?type=lnews&id=117024; and San Jose Mercury News, Nurses, Mills-Peninsula Square Off Over Rehab Care in San Mateo County, September 23, 2009.

[7] San Francisco Business Times, Mills-Peninsula Taking Scalpel to Money-Losers, October 15, 2010; http://www.bizjournals.com/sanfrancisco/stories/2010/10/18/story3.html?b=1287374400%255E4103181 *or* http://snipurl.com/1bdg6v [www_bizjournals_com].

[8] Silicon Valley Mercury News, Seton Medical Center to Close Skilled-Nursing Unit, October 7, 2010; http://www.mercurynews.com/ci_16283420?source=most_emailed.

A report by the Lewin Group that analyzed changes to inpatient services proposed by the CPMC 2008 Institutional Master Plan ("2008 IMP") within the context of citywide health needs, including emergency department capacity, transitional care, urgent care services, and behavioral health services,[9] anticipates a citywide shortage of 30% above available skilled nursing bed capacity in the next ten years based on the City's aging baby boomer population.[10] The Lewin Group Report did not distinguish among different types of SNF beds. The complexity of care for patients in SNFs connected to an acute care is much higher. Patients in units licensed as SNFs that are connected to acute care hospitals need a higher level of care than patients in freestanding SNFs. Hospital-based SNFs, often called Post-Acute units, can provide peripherally inserted central catheters (PICC or PIC lines), multiple IV medications, complex wound care, daily labs, daily diagnostic services, easy transfer to more critical units, and on-site hospitalists. CPMC claims not to track re-admissions from SNFs back to acute care or from freestanding facilities back to acute care. However, there have been pilot programs in which patients died or were readmitted because they were prematurely discharged to lower acute care facilities. 96-5b HC

CPMC has stated publicly that it will restore 62 SNF beds to the LRDP, however, these additional beds are not reflected anywhere in the Draft EIR. Making this change requires either new construction or modification to the proposed uses of the existing sites. The Draft EIR will be incomplete if it does not make clear where and when SNF beds will be provided. Patients will be at risk if those SNF beds are not on an acute care campus. CPMC has argued that it is cost-prohibitive to build SNFs into an acute care building, because SNFs are not required to meet the same standards of seismic compliance (although the Chinese Hospital is doing just that). CPMC could easily locate 62 SNF beds on two to three floors of a non-acute care building or medical office building adjoining an acute care hospital.

The Lewin Group Report found that the CPMC IMP "does not address a potential city-wide shortage of transitional and skilled nursing service capacity, nor does it aim to improve access to mental health services…"[11] Many of the licensed beds proposed to be reduced by the 2008 IMP have already been eliminated, as shown in Table 2. For example, the Davies Campus has eliminated 104 acute care beds and 22 psychiatric care beds in 2008/2009. (*See* Table 2.)

The Lewin Group Report also found that "full execution of the IMP will further stress the system's capacity to treat and care for patients requiring transitional care, chronic condition support and inpatient mental health services."[12] The report concluded that "[w]ithout an alteration in how care is delivered throughout the city, a significant shortage or change in migration patterns is projected to occur."[13] The Draft EIR fails to address these shortages and the physical and associated social and economic impacts attributable to the migration of patient populations in and out of San Francisco including the resulting longer travel distances and reduced access to health care. 96-6 HC

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[9] The Lewin Group, California Pacific Medical Center Institutional Master Plan Review, June 26, 2009 (hereafter "Lewin Group Report"); www.rebuildcpmc.org/assets/FinalLewinReport.pdf *or* http://snipurl.com/1b9pxd [www_google_com].

[10] Lewin Group Report at page 22.

[11] Lewin Group Report at page 1.

[12] Lewin Group Report at page 33.

[13] Lewin Group Report at page 22.

III. Reduced Access to Health Care for St. Luke's Hospital Patients

In addition to the 231 licensed beds that were removed in the past years (2006-2010) at the CPMC campuses, under the LRDP, CMPC would remove from service another 743 licensed beds at the existing St. Luke's Hospital (149 beds), California Campus (299 beds), and Pacific Campus (295 beds). The newly constructed Cathedral Hill Hospital would only provide 555 beds, exclusively in private single-occupancy rooms,[14] *i.e.*, 188 fewer beds than currently provided by the existing CPMC campuses many of which are in double-occupancy rooms.[15] This removal of beds would result in reduced access to health care and a major shift of the current hospital patient population to other hospitals in the region, particularly for patients at the St. Luke's Campus. The Draft EIR fails entirely to address any of the associated impacts on traffic, transportation, parking, air quality, and public services. 96-7 HC

At present, St. Luke's Hospital provides accessible acute care and inpatient services to the local community consisting of ethnically diverse, predominantly low-income patients from neighborhoods regardless of the patients' economical class or hospital reimbursement status. The most recent available data for the St. Luke's Hospital indicate that in 74.5% of the inpatient population was covered by Medicare, Medi-Cal, Workers' Compensation, or other government health programs (38.1% were covered by Medi-Cal, California's public health insurance program which provides needed health care services for low-income individuals including families with children, seniors, persons with disabilities, foster care, pregnant women, and low income people with specific diseases such as tuberculosis, breast cancer or HIV/AIDS[16]), and only 21.3% were covered by private insurance.[17] In contrast, the most recent available data for the Pacific Campus indicate that only 34.3% of the inpatient population was covered by government programs (7.5% by Medi-Cal) and that 63.5% of patients were covered by private insurance.[18] 96-8 HC

The Cathedral Hill Hospital (555 beds) would barely accommodate the 594 acute-care services and Women's and Children's Center that would be relocated from the California Campus (299 beds) and the Pacific Campus (295 beds) to the proposed Cathedral Hill. It can be anticipated that few patients currently relying on the 229 beds at the existing St. Luke's Hospital would be accommodated at the new Cathedral Hill Hospital for a number of reasons: 96-9 HC

- Not all services that are currently available at St. Luke's Hospital would be available at the Cathedral Hill Hospital, including SNF beds.

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[14] Draft EIR at page 1-21.

[15] Draft EIR at page 2-8.

[16] Medi-Cal is financed equally by the State and federal government.

[17] California Office of Statewide Health Planning and Development, Hospital Discharge Summary Reports, St. Luke's Hospital, Report Period: January 1, 2009 – June 30, 2009 and Report Period: July 1, 2009 – December 31, 2009; http://www.oshpd.ca.gov/MIRCal/Default.aspx.

[18] California Office of Statewide Health Planning and Development, Hospital Discharge Summary Reports, California Pacific Medical Center - Pacific Campus, Report Period: July 1, 2009 – December 31, 2010 and Report Period: January 1, 2010 – June 30, 2010; http://www.oshpd.ca.gov/MIRCal/Default.aspx.

- Physicians are free to decide whether they will accept Medi-Cal patients, which constitute a large portion of St. Luke's Hospital patient population. Given the choice between higher-paying private or government insurance, they often deny Medi-Cal patients.
- Beneficiaries of government programs are often not eligible for private single-occupancy room services[19] if multiple-occupancy rooms are available.

As a result, most patients with insurance coverage limitations and relying on the acute care and SNF beds at the existing St. Luke's Hospital would not have access to the services offered by the new Cathedral Hill Hospital and would have to resort to accessing other hospitals in the City, or when those hospitals are overwhelmed as is often the case, in the greater region. Many of the patients currently frequenting St. Luke's Hospital do not have access to personal transportation and would be limited to time-consuming public transportation from the City to elsewhere. This may severely affect their health care. 96-9 HC

The shift of the current patient population with insurance coverage limitations from the community-accessible St. Luke's Hospital to other hospitals in the City and region would have a number of adverse effects and consequences. For one, it would increase the regional vehicle miles traveled as patients and visitors would be forced to travel to hospitals that are located further from their homes and out of the City. Emergency service vehicles, forced to transport patients to hospitals located further away, would be tied up longer for transports to emergency departments at other hospitals which, in turn, would put additional pressure on the dispatch capacity at the City and County's Police Department and the Fire Department and increase the average response time and associated adverse consequences on the timely delivery of emergency cases to acute care units.

The increased vehicle miles traveled associated with the longer trips of patient, visitor, and emergency vehicles to and from other hospitals would also increase the regional air pollutant and greenhouse gas emissions and associated adverse impacts on public health. Most importantly, however, the shift of patient populations from the existing St. Luke's Hospital to other hospitals, including government and county-funded community hospitals (*e.g.*, San Francisco General Hospital and Laguna Honda Hospital and Rehabilitation Center) and the loss of an additional 109 acute care beds would put a severe strain on the already severely overtaxed acute care capacity in the City and County. For example, because the San Francisco General Hospital is the only Level I Trauma Center in a service area of over one million people, the hospital maintains a very high patient volume and is usually on a constant "Total Divert" status, which means that incoming emergency patients (with the exception of trauma, psychiatric, pediatrics, and obstetrics and gynecology) are diverted to other nearby hospitals. In addition, the loss of local access to acute care would result in disproportionate adverse socio-economic impacts on low-income residents who are already faced with a lack of and access to other medical care, child care, transportation, etc. Adding this extra burden of not having local access to community-based acute care would constitute environmental injustice. 96-10 HC 96-11 HC

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[19] *See*, for example, the following provisions of the Medicare Claims Processing Manual: Chapter 2: Admission and Registration Requirements, Section 10.6 – Hospitals May Require Payment for Noncovered Services, Revision 1472 dated March 6, 2008, and Chapter 3: Inpatient Hospital Billing, Section 40.2.2 – Charges to Beneficiaries for Part A Services, (I) Private Room Care, Revisions 1609 and 1612 dated October 3, 2008. These rules provide that private room (1-bed patient care room) care is not a Medicare covered service. Thus, private rooms may be denied by a Medicare provider to a beneficiary "who requests it but is unable to prepay or offer the assurance of payment..." (*see* Chapter 2, Section 10.6.)

The Draft EIR is inadequate because it does not analyze the burden on City services for the services CPMC has already eliminated or would not provide in the future. CPMC has already closed 55% of its psychiatric services (at the Davies Campus) over the course of the past five years (*see* Table 2) and 70% over the past decade, despite a growing need for those same services. From 2000 through 2007, inpatient psychiatric census went up 20% at CPMC, before the closure at Davies Campus. Instead, their psychiatric patients are shifted to other providers. Citywide there is a crisis of inpatient adult psychiatric services. Citywide inpatient psychiatric bed capacity has dropped by 23% since 2000, according to licensing data published by the Office of Statewide Health Planning and Development ("OSHPD"). CPMC is responsible for 63 of the 79 psychiatric beds that have been closed in the City since 2000. This primarily places additional burden on San Francisco General Hospital ("SF General"), but also on St. Francis Memorial Hospital ("St. Francis") which is operated by Catholic Health Care West ("CHW"). The City has no data about the need for psychiatric services, let alone psychiatric emergencies, 5150s[20], substance abuse, drug detoxification, etc. and the Draft EIR fails to provide any information how the LRDP would impact the need and supply for these services. 96-12 HC

In addition, there are unknown and unexamined additional losses of services at Davies Medical Center. Davies has historically served as a community hospital for the Castro District, and has been home to AIDS and HIV services. The LDRP reduces licensed bed capacity at the Davies Campus substantially and proposes to shift its clinical focus away from community-serving functions to neuroscience services. The Draft EIR, IMP, and LDRP lack any explanation of what services would be lost at the Davies Campus in order to make way for the new expanded neurosciences program, and specifically any commitments to maintain AIDS/HIV programs. It would be a significant loss of services if AIDS/HIV patients had to travel to new providers because of an erosion of CPMC's commitment as a result of its clinical realignment. 96-13 HC

In sum, the Draft EIR fails entirely to discuss the direct physical changes and reasonably foreseeable indirect physical changes and to analyze the potentially significant adverse individual and cumulative impacts associated with the physical change of closing the existing hospital facilities and the resulting transfer of a large portion of the existing patient population to other hospitals. 96-14 HC

IV. Potential Future Failure of St. Francis Memorial Hospital and St. Luke's Hospital

The Draft EIR is inadequate because it fails to analyze the potential future failure of St. Francis and St. Luke's Hospital and the associated impacts on health care services, which have cumulative environmental impacts on traffic and transit, parking, blight, and public services. 96-15 HC

St. Francis

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[20] Section 5150 is a section of the California Welfare and Institutions Code (specifically, the Lanterman-Petris-Short Act) which allows a qualified officer or clinician to involuntarily confine a person deemed to have a mental disorder that makes them a danger to him or her self, and/or others and/or gravely disabled. A qualified officer, which includes any California peace officer, as well as any specifically designated county clinician, can request the confinement after signing a written declaration. When used as a term, 5150 (pronounced "fifty-one-fifty") can informally refer to the person being confined or to the declaration itself.

The Draft EIR fails to analyze the risk of blight and reduced access to health care in case CHW's Saint Francis should fail as a result of CPMC taking over their few lucrative patients. CHW has currently budgeted St. Francis at a loss of $2 million per year. This loss is sustainable because St. Francis' charity care, psychiatric care, and emergency room care are offset by a few services to insured patients. St. Francis has the City's premier burn unit, sports medicine, infusion, spine and joint surgeries. It does not make sense for Cathedral Hill to duplicate services provided five blocks away at St. Francis rather than ensuring that St. Francis will continue to be efficiently utilized and successful. 96-16 HC

The DEIR is inadequate because it fails to analyze the potential risk of failure of St. Francis as a result of the duplication of services at the Cathedral Hill Campus and the related blight on the surrounding neighborhood and burden on city services which are left to pick up additional low-income patient loads from displaced patients.

St. Luke's Hospital

CPMC identifies eight of San Francisco's 24 zip codes as "primary St. Luke's service area."[21] Those eight zip codes combined generate 42% of the City's emergency room visits; 49% if patients with no zip codes are included, many of whom are homeless. Using CPMC's benchmarking year of 2007, those eight zip codes generate about 4,200 inpatient discharges from St. Luke's Hospital, but almost 8,000 inpatient discharges from other CPMC campuses.[22] This demonstrates that there is a need for services in the southeastern part of the City that is not currently met, a fact that would be further exacerbated by reducing St. Luke's Hospital to an unsustainable 80 beds. Clearly, this argues for shifting more services into the southeastern part of the City to respond to the proportionally higher emergency room volume which would also reduce traffic impacts caused by reducing the distance patients must currently (and under the LRDP) travel to get to the emergency room. Shifting services to St. Luke's Hospital would also reduce the burden on San Francisco General Hospital's already overwhelmed emergency department. 96-17 HC

The plan for the St. Luke's Campus is not a plan for a viable hospital but a plan for maintaining segregation under which underinsured patients would go to St. Luke's Hospital while insured patients would go to Cathedral Hill Campus for better services. The emergency room at the St Luke's Hospital is the busiest CPMC emergency room and would be expanded under the plan. However, the plan for St. Luke's Hospital is basically a plan for as many beds as are needed to minimally support the emergency room and no more. None of the underlying problems due to which Sutter wanted to close the hospital in the past are solved. At present, the St. Luke's Hospital is planned with only 80 beds, which is likely too small to succeed. 96-18 HC

If the hospital turns out to be unprofitable in the future, Sutter would likely close it, further exacerbating health care access to underinsured patients as well as the shortage of beds in San Francisco. As an 80-bed hospital, St. Luke's Hospital is also too small to be viable for sale or transfer to another hospital operator should Sutter decide to stop maintaining acute care services.

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[21] Lewin Group Report.

[22] Based on data from California Office of Statewide Health Planning and Development, Hospital Discharge Summary Reports; http://www.oshpd.ca.gov/MIRCal/Default.aspx.

V. Traffic and Transportation Problems Due to Increased Traffic at Cathedral Hill Campus

The Draft EIR's traffic and transportation analyses all suffer from the same fundamental mistake, *i.e.,* failing to recognize that the projected future *levels of service* at intersections in the vicinity of the CPMC campuses is *not the only relevant criterion* that needs to be analyzed and would *not be the only consequence* of implementing the LRDP. 96-19 TR

The Draft EIR does not adequately analyze how the increased traffic around the Cathedral Hill Campus will affect access for ambulances, patients being transferred to and from other Sutter hospitals, patients attempting to reach the emergency room, and labor and delivery vehicles. The traffic engineer Tom Brohard concludes in his comments on the Draft EIR:

> Many of the intersections studied in the Draft EIR already operate at LOS F[23] in peak hours under existing conditions, and the number of these failing intersections will significantly increase [in future years] … Adding [LRDP] … trips to these failing intersections will increase vehicle delay beyond what is already being experienced, with no relief in sight. This issue is particularly critical for a hospital project. For example, the Draft EIR does not analyze how the increased traffic around the Cathedral Hill Campus will affect access for ambulances and labor and delivery vehicles. During gridlock traffic conditions which are much of the time on Van Ness Avenue, emergency patients could face life threatening delays while waiting in traffic.[24]

In other words, due to the location of the Cathedral Hill Campus as it sits in a high-density neighborhood at the intersection of two major traffic corridors experiencing heavy use and congestion and the fact that most patients and employees would be concentrated at one campus rather than being spread out across several campuses, chances are that in a bad traffic jam on Van Ness Avenue babies will be born in traffic and patients will die trying to get to the emergency room. Such patient safety hazards will be a daily event during rush hour, and potentially worse in the event of an accident, construction, or other disruption as occurred last year one block away.[25] This cannot be the intention of a health care provider for providing optimal care for its patients. 96-20 TR

To mitigate access problems at the Cathedral Hill Campus, Mr. Brohard recommends:

> To reduce these impacts and better serve the community, CPMC should spread the proposed development to several other campuses including to the St. Luke's Campus rather than concentrating services at the Cathedral Hill Campus. Access to and from St. Luke's Campus is closer to Highway 101 for vehicles and to major transit facilities such as the 24th Street BART Station for transit patrons. Moreover, the St. Luke's Campus is the most accessible

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[23] Level of Service ("LOS") F is the lowest measurement of efficiency for a road's performance. Flow is forced; every vehicle moves in lockstep with the vehicle in front of it, with frequent slowing required. Facilities operating at LOS F generally have more demand than capacity.

[24] Letter from Tom Brohard and Associates to Law Offices of Gloria Smith, Re: Review of Draft Environmental Impact Report for the California Pacific Medical Center Long Range Development Plan – Transportation and Circulation Comments, October 18, 2010.

[25] San Francisco Chronicle, PG&E Says 1920s Power Line Sparked SF Fire, July 16, 2009; http://articles.sfgate.com/2009-07-16/bay-area/17217311_1_power-line-pg-e-underground-fire.

> CPMC facility for those Sutter patients traveling from San Mateo and Santa Clara counties. From a transportation perspective, a Project alternative that distributes patients and services equally across the City should be evaluated in a revised EIR.

96-20 TR

Since more patients come to CPMC from San Mateo County than from Marin County, shifting services to St. Luke's Hospital would reduce this traffic impact. A bigger St. Luke's Hospital also makes more sense for CPMC's patient population and would reduce the above discussed health care access issues for patients currently frequenting St. Luke's Hospital.

VI. The Draft EIR Fails to Evaluate Potentially Significant Adverse Impacts on Public Services Associated with the CPMC LRDP

The California Environmental Quality Act ("CEQA") Guidelines, Appendix G, require that the environmental review of a project include the assessment of impacts to public services. Specifically, Appendix G requires the lead agency to identify:

> "Would the project result in substantial adverse impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered facilities..., *in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:*
>
> Fire Protection?
> Police Protection?
> Schools?
> Parks?
> Other public facilities?"

96-21 PS

While the Draft EIR contains a discussion of response times of the City's Fire Department, Police Department and finds these adequate to handle the demand by the LRDP[26], it does not analyze the impacts on these services associated with the qualitative changes in the patient population described above and the associated impacts on response times due to transfer of patients to other hospitals in the region. The Draft EIR entirely fails to address the impacts on service ratios, response times, and other performance objectives to other public hospitals, including government and county-funded community hospitals, that would result from patient populations having to migrate within or out of the City.

The CEQA Guidelines, Section 15126.2, provide that:

> "An EIR shall identify and focus on the significant environmental effects of the proposed project. ... Direct and indirect significant effects of the project on the environment shall be clearly identified and described, giving due consideration to both the short-term and long-term effects. The discussion should include relevant specifics of the area, the resources involved, *physical changes,* alterations to ecological systems, and changes induced in population distribution, population concentration, the human use of the land (including commercial and

96-22 HC

[26] Draft EIR at Section 4.11 Public Services.

> residential development), *health and safety problems caused by the physical changes,* and other aspects of the resource base such as water, historical resources, scenic quality, *and public services.* ..."

96-22 HC

Here, the Draft EIR fails to identify and describe the short-term and long-term effects with respect to *physical changes, health and safety problems caused by the physical changes, and public services* associated with implementation of the LRDP. As a result, the Draft EIR fails to assess the any associated significant impacts.

VII. The Draft EIR Fails to Evaluate Potentially Significant Adverse Social and Economic Impacts Associated with the CPMC LRDP

Elsewhere the CEQA Guidelines, Section 15382, define a significant effect on the environment to mean:

> "... a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. *A social or economic change related to a physical change may be considered in determining whether the physical change is significant.*

96-23 INTRO

The above discussed reduction of licensed beds at three of the CPMC hospitals and the change in service resulting from the restricted access to service provided by the new Cathedral Hill Hospital would result in direct environmental impacts (*e.g.*, increased vehicle miles traveled and associated increased air pollutant and greenhouse gas emissions) and would result in adverse economic and social effects. These effects must be analyzed under CEQA.

Title 14, Section 15064, Subsection (e) of the California Administrative Code provides the following guidance for evaluating the changes:

> "Economic and social changes resulting from a project shall not be treated as significant effects on the environment. Economic or social changes may be used, however, to determine that a physical change shall be regarded as a significant effect on the environment. Where a physical change is caused by economic or social effects of a project, the physical change may be regarded as a significant effect in the same manner as any other physical change resulting from the project. Alternatively, economic and social effects of a physical change may be used to determine that the physical change is a significant effect on the environment. *If the physical change causes adverse economic or social effects on people, those adverse effects may be used as a factor in determining whether the physical change is significant. For example, if a project would cause overcrowding of a public facility and the overcrowding causes an adverse effect on people, the overcrowding would be regarded as a significant effect."*

96-24 INTRO

The Court in Bakersfield for Local Control v. City of Bakersfield (5th Dist. 2004), Cal. App. 4th 1184 [22 Cal Rptr. 3d 203], affirmed:

> "Subdivision (e) of Guidelines section 15064 provides that when the economic or social effects of a project cause a physical change, this change is to be regarded as a significant effect in the same manner as any other physical change resulting from the project. (...) *Conversely, where economic and social effects result from a physical change that was itself caused by a proposed*

96-24 INTRO

> *project, then these economic and social effects may be used to determine that the physical change constitutes a significant effect on the environment.*"

All patients depend on their local community hospitals for critical health care services, regardless of their ability to pay. Clearly, the elimination of service to a large portion of the patient population that currently frequents St. Luke's Hospital constitutes a significant effect on public health caused *directly* by the elimination of services at existing CPMC hospital and the replacement with far fewer beds at the Cathedral Hill Hospital that would only be accessible to patients without insurance coverage limitations. What's more, these changes in service would not only affect the patient population with insurance coverage limitations but also all other Californians due to the increased pressure on emergency department services when beds are not available.

96-25 HC

What's more, impending Medi-Cal cuts will affect all hospitals and will even more severely impact "safety net" hospitals. The severity of the cuts could force some hospitals to close or reduce access to essential health care services. As a result, hospitals with already overcrowded emergency rooms will be further inundated with more patients, longer wait times, and financial stresses.

96-26 HC

As Sutter aptly summarizes on one of its websites:

> "The loss of critical hospital services will not only be devastating for low income Californians but will also present an increasingly harmful public health scenario for all Californians.
> ...
> Most important, where will patients go when hospitals are forced to close their doors? More than 70 California hospitals have closed in the past 10 years. Statewide, nearly half of California's hospitals operate in the red and many are either near or already in bankruptcy proceedings. When hospital ERs are backlogged with Medi-Cal and other patients who can't find doctors to care for them, *it doesn't matter how good the insurance coverage is when patients have to drive several hours to receive emergency care.*"[27]

These impacts should have been analyzed by the Draft EIR but were not.

VIII. The Large Size of the Cathedral Hill Hospital Does Not Guarantee Better-Quality Patient Care

96-27 HC

The LRDP proposes to build a 555-bed hospital at the Cathedral Hill Campus, at the same time reducing the St. Luke's Hospital from 229 acute care and skilled nursing beds to 80 licensed acute care beds, terminating services at the California Campus, and all but eliminating services at the Pacific Campus (295 acute care beds eliminated, 18 psychiatric care beds remaining). (*See* Table 2.)

96-28 LU

The 555-bed Cathedral Hill Hospital would require a myriad of variances, major entitlements, amendments and exceptions from existing plans, policies and regulations. The Draft EIR's consistency determination for the LRDP is based on the presumption that CPMC would successfully obtain changes to the following:

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[27] Eden Medical Center, A Sutter-Affiliate, What's New At Eden, California's Fiscal Emergency Puts Hospitals and Patients in Jeopardy, May 22, 2008; http://www.edenmedcenter.org/whatsnew/whatsnew_new.html.

- San Francisco General Plan and all applicable elements, including the Housing Element
- Regional plans and policies (*e.g.*, Bay Area Air Quality Management District plans and regulations)
- Van Ness Avenue Area Plan ("VNAP")
- Market & Octavia Neighborhood Plan
- Mission Area Plan
- Japan town Better Neighborhood Plan
- Mission District Streetscape Plan
- Measure M

96-28 LU

It is no secret why Sutter is intent on building such a large hospital despite all the variances, major entitlements, amendments and exceptions from existing plans, policies and regulations it needs: profit. Research on hospital size and profitability indicates that large hospitals are more profitable. According to a 2002 article in the Journal of Health Care Finance: "The relationship between hospital profitability and hospital bed size revealed that when bed size increases, hospital profitability increases, decreases, and then increases again."[28] The study found that the turning points for patient profit proportion are 238 and 560 beds, respectively for the total profit proportion; the turning points in bed size are 223 and 504, respectively. These results on the relationship between bed size and hospital profitability indicate that medium-size hospitals are in general the least profitable. The findings regarding the profitability of large hospitals in this study are supported by the Medicare Cost Reports for 2006 which show that the more beds a hospital has, the more likely it will be profitable. For hospitals with more than 550 beds, 90% had a positive net income; for smaller hospitals, the percentage with positive net income drops to 72%.

96-29 HC

The Cathedral Hill Campus is too big for the site. The benchmarking report provided by the City's and County's Office of the Legislative Analyst ("OLA") showed that most hospitals of the size of Cathedral Hill in major urban areas occupy far larger sites.[29] In fact, for its Santa Rosa facility, Sutter tried to justify that 25 acres of land would be necessary to accommodate a 174-bed, 360,000-square foot hospital.[30] Here, Sutter would squeeze 555-bed, 655,100-square foot hospital and 307,400 square feet of MOB buildings onto 3.85 acres.[31] As discussed before, this would result in numerous impacts including impacts on health care, traffic and transportation, parking, air quality, greenhouse gas emissions, to name a few.

96-30 HC

96-31 HC

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[28] Kim YK, Glover SH, Stoskopf CH, Boyd SD, The Relationship between Bed Size and Profitability in South Carolina Hospitals, J Health Care Finance, Vol. 29(2):53-63, Winter 2002; abstract available at http://www.ncbi.nlm.nih.gov/pubmed/12462659.

[29] Alexa Delwiche and Frances Zlotnick, City and County of San Francisco, Office of the Legislative Analyst, Legislative Analyst Memorandum, April 3, 2009, Re: OLA No. 003-009).

[30] Sutter Health statement at May 27, 2010 County of Sonoma Board of Supervisors hearing.

[31] San Francisco Planning Department, Notice of Preparation of an Environmental Impact Report and Notice of Public Scoping Meeting, California Pacific Medical Center Long Range Development Plan, May 27, 2009 at pages 13 and 18.

So far, CPMC has not provided any evidence that health care benefits from a large hospital would outweigh the significant land use and environmental impacts that would result from locating this hospital on a very small site on one of the City's major thoroughfares with already compromised traffic flow and reducing its services in other parts of the City. Neither has CPMC presented any evidence that the environmentally superior project alternative of a bigger St Luke's and smaller Cathedral Hill would diminish health care benefits from the entire project. 96-32 HC

The only evidence CPMC has produced so far in support of concentrating services at the Cathedral Hill Campus is a selection from the U.S. News & World Report hospital rankings that show that some of the top-rated hospitals are also big.[32] The comparison is irrelevant because those bigger hospitals are not on a single city block. It might be a relevant comparison if CPMC had 20+ acres, but they do not. Moreover, the methodology of the U.S. News & World Report rankings does not conclude that bigger hospitals are better are better than smaller hospitals. In fact, it uses 200 beds as a threshold criterion for being on the list and only looks at admittedly "cherry-picked" specialties. The rankings are not designed to show overall hospital quality and outcomes, and rely on indicators of dubious healthcare value (like magnet status and physician opinion polling). The rankings are designed to guide consumers with rare conditions who can travel for low-volume, high-cost, high-risk specialists; they are useless for health care planning purposes.

In fact, scientific studies on the issue of hospital size versus health care benefits are inconclusive and most conclusions are dependent on specialization of services. There is evidence supporting specialization and arguing for consolidation of services to achieve higher case volume, up to a point and only for certain services. There is evidence that certain services achieve better outcomes from higher volume, but not that higher volume of specific services indicates overall larger hospital size. There is no evidence that patients benefit from co-location of clinically unrelated services, like birthing and cardiology. There is no evidence that hospital size is proportional to any indicator of patient care above certain thresholds. There is only limited evidence that what relationship exists between size and patient outcomes is a causal relationship rather than related to factors other than size. Moreover, some studies conclude that large hospitals have higher costs, longer patient stays, lower patient satisfaction in emergency room care, and higher rates of infection or sepsis. 96-33 HC

What evidence exists on the relationship between size and quality argues less in favor of an oversized 555-bed Cathedral Hill Hospital but clearly against an undersized 86-bed hospital at St. Luke's Campus. Some of the health problems associated with very small hospitals would be solved if St. Luke's Hospital were increased to 200 beds. The fact is that the trend in California is not to build hospitals as large as 555 beds, except those connected to universities. Most hospitals are between 200-300 beds, and California is almost never building urban hospitals as small as 80 beds, as is proposed for the St. Luke's Campus.

IX. Conclusion

As explained above, the Draft EIR is inadequate because it fails to analyze the health care implications of the LRDP and associated impacts on air quality, greenhouse gas emissions, public health, and public services. Specifically, the Draft EIR fails to include an evaluation of the potentially significant impacts due to the change in patient population resulting from loss of access to acute care 96-34 HC

[32] Presented at Planning Commission hearing, November 19, 2009.

to patients with insurance coverage limitations associated with the elimination of acute care and SNF at the St. Luke's Hospital.

96-34 HC

CPMC has asked the City for numerous variances and massive entitlements and concessions from a land use perspective. The LRDP as proposed has several significant and unavoidable environmental impacts. The Draft EIR concludes that the environmentally superior alternative is a bigger St. Luke's Hospital and smaller Cathedral Hill Hospital. CPMC's justification for not choosing this environmentally superior alternative is that healthcare benefits would vastly offset the environmental problems. Unfortunately for CPMC, the balance of evidence on healthcare is that healthcare would also be better served by the environmentally superior alternatives.

96-35 HC

It is not acceptable that a health care provider with a dominant market share in San Francisco (33% in 2007) deliberately changes its services to reap greater profits while denying access to health care to a large part of its patient population that is not profitable. To put the non-profit status of Sutter into perspective: as of December 31, 2009, Sutter had a $2.63 billion investment portfolio and paid its CEO $2.8 million in 2008; the CEO's top 14 lieutenants each made between $830,000 and $1.8 million annually.[33] Sutter's operations at the CPMC campuses in San Francisco contributed $150-180 million in profit annually, representing the largest single source of Sutter's total profits of $700 million per year. Sutter must rebuild CPMC to comply with state seismic deadlines and will not risk loss of its most profitable affiliate. This means that there is no credible alternative of "no project." Sutter will rebuild, and can easily afford any additional costs of redesign, project alternatives, community benefits, development agreements, and any mitigation measures.

96-36 HC

As the San Francisco Chronicle and Business Week reported in August, the Sacramento Bee reported in April, and Kaiser Health News and San Jose Mercury News reported in October of this year, Sutter's business model is designed as a monopoly model, in which it makes itself indispensable to insurers and then charges higher rates.[34] The LRDP as proposed will increase Sutter's regional monopoly, and increase costs of health care for everyone, including taxpayer-funded health plans for public employees. The Draft EIR is incomplete if it does not address the ways in which the LRDP will increase cost of care for everyone and consider appropriate mitigation measures in this area.

96-37 HC

The Draft EIR concludes that the environmentally superior alternative is alternative 3A, which is a bigger St Luke's Hospital and smaller Cathedral Hill Hospital. However, the Draft EIR designs a bigger St Luke's Hospital around a relocated women's and children's program. This creates an alternative that is not supportable because it would shift most women's and children's services to the southern half of the City (CPMC, University of California at Mission Bay, SF General). CNA supports the environmentally superior alternative of a bigger St Luke's, but with a different complement of services. Instead of all of women's and children's services being moved, CPMC can easily centralize other services already planned at St Luke's Hospital. CPMC currently plans to offer some level of cardiology, oncology, orthopedics, gastroenterology, respiratory, and urology at

96-38 ALT3A

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[33] Health Care Renewal, How Oligopolists Rationalize Their Market Domination: the Examples of Sutter and the Carilion Clinic, August 20, 2010; http://hcrenewal.blogspot.com/2010/08/how-oligopolists-rationalize-their.html.

[34] Bloomberg News/BusinessWeek, Hospital Monopolies Ruin MRI Bill as Sutter Gets Price it Wants, August 20, 2010; Kaiser Health News, California Hospitals: Prices Rising Rapidly, but Quality Varies, October 17, 2010; Sacramento Bee, California's Higher Hospital Costs Add to Health Insurance Hikes, April 18, 2010.

St. Luke's Hospital and to duplicate every single one of these services at Cathedral Hill Hospital with a higher standard of care for insured patients. Instead, CPMC could centralize some combination of these services for all CPMC patients at St. Luke's Hospital.[35]

96-38 ALT

In contrast to the proposed project, a smaller Cathedral Hill Hospital and a larger St. Luke's Hospital would be by far preferable in terms of health care and would also considerably reduce environmental impacts. We support the environmentally superior alternative of a larger St. Luke's Hospital with a clinical anchor and a smaller Cathedral Hill Hospital.

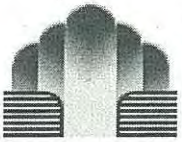
I recommend that the City require a revision of the Draft EIR that adequately discusses and mitigates these issues.

Sincerely,

Michael Lighty,
CNA/NNU Director of Public Policy

[35] Camden Group Utilization Project Report at page 22.

LETTER 97



Devyani Jain/CTYPLN/SFGOV
10/20/2010 10:17 AM

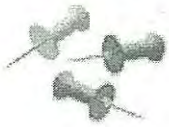
To Chelsea Fordham/CTYPLN/SFGOV@SFGOV
cc
bcc
Subject Fw: Comments on CPMC DEIR

DEVYANI JAIN, *Senior Planner*
Major Environmental Analysis

San Francisco Planning Department
1650 Mission Street, Suite 400
San Francisco, CA 94103

P: 415.575.9051 | F: 415.558.6409

----- Forwarded by Devyani Jain/CTYPLN/SFGOV on 10/20/2010 10:17 AM -----



Bill Wycko/CTYPLN/SFGOV
10/20/2010 09:41 AM

To Devyani Jain/CTYPLN/SFGOV@SFGOV
cc
Subject Fw: Comments on CPMC DEIR

----- Forwarded by Bill Wycko/CTYPLN/SFGOV on 10/20/2010 09:41 AM -----

Kett Kettunen Zegart <kettz@aol.com>
10/20/2010 12:06 AM

To Bill.Wycko@sfgov.org
cc
Subject Re: Comments on CPMC DEIR

I came home late this evening as was distressed that my original letter not sent. I hope these comments will be included. Thank you.

Margaret Kettunen Zegart

118 Highland Lane

Mill Valley, CA 94941 415-383-2771

October 18, 2010

Bill Wycko, Environmental Review Officer, San Francisco Planning Department

1650 Mission Street, Suite 400

San Francisco, CA 94103

Bill.Wycko@sfgov.org

RE: DEIR- Sutter Hospital's Expansion, **Case 2005.0555E California Pacific Medical Center (CPMC) Long Range Development Plan (LRDP), States Clearing House #2006062157**

Dear Mr. Wycko:

I support the Cathedral Hill Neighbors' observations regarding the CPMC and LFPD and the DEIR assessment and choice of a new an enlarged St.Lukes, serving the neighborhood with additional beds, and its focus for women's and childrens'care.

97-1 HC

Sutter Health Corporation shall use this proposed long range development for increased regional medical services (as they do now for existing specialty diagnostic, treatment/ surgery and inpatient care.) Rather than providing improving all sites' medical facilities and services in all areas of medical need in a balanced traffic accessible and distribution of care, the Cathedral Hill 331-385 foot high (15 story plus rooftop mechanics) and 3 underground levels mega-structure with a Van Ness tunnel serving a medical office complex is planned with the many more adverse impacts than analyzed in this DEIR. **The existing 4.9 acre California Campus should retain its range of services and renovate all its structures**. For the family and medically underserved in the Tenderloin, South of Market, BayView-Hunters Point (increasing its residents), Potrero Hill, Visitation Valley, the Mission etc. demographic areas of San Francisco, would be best served by **the revised larger 3A St. Lukes Hospital.**

97-2 PD

97-3 ALT3A

° **"A growing Concern** Improving overall health and reducing health inequities between people of different races, geographies and socio-economic statuses has been a growing interesting pujblic health circles. The reasons for these differences are varied but include lack of access to health care and unhealthy conditions in neighborhoods, such as high raes of violence and a dearth of affordable, nutritious food options." *Report Card* , Community Benefit Partnership and Community Health Matters groups, 09/2010

97-4 HC

° Future television and communications services allow integration of all services in present complexes and in a reduced Cathedral Hill size and mass facility size and mass and height to comply with all City Codes. Smaller scale / mass and height of structures with increased setbacks from property lines and Class 1 bicycle lanes should be added in planning as well as transit pull outs. The Geary street location for the main entrance is questionable along the one way arterial, Geary and the plan needs some landscaped open areas (down town density requirement).

97-5 ALT

97-6 TR

97-7 LU

° **This is an area of four urban scenic drives** along Gough Street, particularly the Cathedral of St. Mary and some of the older homes and those in the area of Pacific Heights; Franklin Street has magnificent San Francisco Bay views down to the entrance to the National Park Service, and the two of the City's "scenic Boulevards" are Van Ness, begins from City Hall, Davies Symphony, and Veterans Building to the Maritime Museum, Geary Boulevard outbound starting

97-8 AE

a block from the hospital site. The existing plans for the Geary Boulevard upgrade extends to ocean and Cliff House and National Park lands and Lincoln Museum. 97-8 AE

° Partial observations result in false conclusions regarding the scale, height and mass and construction materials to the neighborhood. "The scale and height of the buildings would be generally large but compatible elements, architectural designs and similar façade materials. The reslt would be an integrated, visually harmonious composition foir the campus as a whole. The proposed new Cathedral Hill campus would appear consistent in scale with the development in the surrounding area..." Therefore the impact is less than significant DEIR p.4....2-139. 97-9 AE

° Skyline views from 6 distant parks but no views from corners of St. Marks Square or the historic brick church, no views from the Unitarian Universalist stone sanctuary, the stucco appearing façade of the Hamilton Baptist Church or the elegant sculptured free form contemporary designed Cathedral of St. Mary. 97-10 AE

° Photographs should be provided for accurate viewing of the adverse design impacts as well as that of remaining 1930's low scale buildings protected now by City codes. (MOB and hospital. 97-11 AE

° **No project waivers** because present restrictions at St. Lukes and Cathedral Hill shall have many advantages – including shorter distances in seismic events and more circulation opportunities. The codes offer protection of ambiance of neighborhoods housing, opportunities and scale for a viable tourist / commuter VanNess to and along Lombard to Presideo / Marin's GGNRA, and Japan Town and the four worship centers. 97-12 OTH

° The location and number of additional relevant earthquake faults and their liklihood should be included in the DEIR. 97-13 GE

° **DEIR'S environmental choice of alternative 3A, focus to serve women and children. should have a complete EIR assessment.** (Financial gains for Sutter Health (should not be basis for retaining massive Cathedral Hill development with related offices) 97-14 ALT3A

° DEIR program-level should analyze current (and projected, too) congestion of Franklin, Gough, Van Ness and, Geary. Post and Sutter streets are primary traffic and transit corridors for downtown and weekday commute access and need to be studied for impacts of daily traffic and adverse impacts of "cultural congestion" at afternoon, evening, and weekends (serving the local and regional cultural / entertainment events (Symphony, SF Ballet, Opera, City Hall centered gatherings, Herbst Theater, Conservatory of Music, local theatres and the destinations of National Park Service and Presidio.) Further study of traffic and already over burdened transit is needed, not only for peak hours' users. 97-15 TR

° Adverse impact of "cut through" and alternative streets used for drivers through residential neighborhoods, such as Little Saigon, Tenderloin, the 20 residential high rise senior care facilities on Post and Sutter including the Towers (noise – sirens and increased traffic) and pedestrian safety. 97-16 TR

° Ill persons/ parents and sick or small children cannot be assumed to use public transit from the distance and transfers necessary from the range of the medically under served and tourists. Study of shuttle-on-demand or the taxi script service currently is insufficient, and cannot be a successful mitigation of the children's and women's at Cathedral Hill. 97-17 HC

° Emergency vehicles cannot meander – or speed – through present traffic jams. 97-18 TR

° Sirens penetrating the neighborhood and the churches, noises of loading docks and oxygen can be reduced by9 lower size of Cathedral Hill Hospital complex and the health of neighborhoods. A mitigation to reduce during Sunday worship Sunday services is meaningless since church facilities are used week round by different groups. For example, 5 congregations use space in the Unitarian Universalist sanctuary and center. 97-19 NO

° Culture is week in CEQA required analysis. Concerts and programs and meetings in St.Marks, UUSF and Cathedral of St. Mary and Hamilton Baptist activities are frequent. The Catholic school complex, Up on Top, and Montessori Schools require minimal noise. New Sutter Health structures are able to provide sound resistant glazing. 97-20 OTH 97-21 NO

° The DEIR should request a bond to finance / refurbish stained glass of the churches in the event of continues drilling and vibration caused damage although recent seismic restoration has been made. 97-22 NO

Sincerely,

Margaret Kettunen Zegart

On Oct 19, 2010, at 10:35 AM, Bill.Wycko@sfgov.org wrote:

> your email did not include any comments; please resend, as the DEIR comment period closes today

Kett Kettunen Zegart <kettz@aol.com>
10/19/2010 02:07 AM

To Bill.Wycko@sfgov.org

cc

Subject

Comments on CPMC DEIR

RECEIVED AT CPC HEARING 10-14-10
(WYCKO)

October 14, 2010

Letter 98

Bill Wycko, ERO
San Francisco Planning Department
1650 Mission St., Suite 400
San Francisco, CA 94103

Subject: **Comments and Questions on California Pacific Medical Center (CPMC) Long Range Development Plan -- Case No. 2005.0555E (Clearinghouse No. 2006062157) Draft Environmental Impact Report (DEIR) – Cultural and Paleontological Resources**

Dear Mr. Wycko,

This document supplements my earlier CPMC DEIR comments document I submitted on September 23, 2010 at the Planning Commission. Thank you and Mr. Randall Dean for providing the paleontological documents which I understand had to be in redacted form based on Public Records Act, Section 6254.10 which states as follows:

> 6254.10. Nothing in this chapter requires disclosure of records that relate to archaeological site information and reports maintained by, or in the possession of, the Department of Parks and Recreation, the State Historical Resources Commission, the State Lands Commission, the Native American Heritage Commission, another state agency, or a local agency, including the records that the agency obtains through a consultation process between a California Native American tribe and a state or local agency.

98-1 CP

As a note, some of the redacted information I read did not have to do with Section 6254.10 nor did it appear that the information was about specific addresses of persons nor any specific building that required privacy. Some of the information redacted seems to be about the general geographic direction of significant resources around and on the project sites.

This kind of information becomes important in instances when core samples are taken in places around all these areas and at depths not sufficient to reach the potentially significant resources to then arrive at a conclusion that nothing of any potential archeological/paleontological significant historic resource exists. I think, in light of the redacted information and the general idea I get from reading these documents, a more thorough up-to-date continuous core sampling at depths indicated may be warranted at all sites as recommended by the expert opinions of the 2006 Sonoma State University document which alludes to "incomplete" samples.

In regards to the DEIR itself, under Section 4.4, Cultural and Paleontological Resources, Pages S-38 through S-42:

> (Page S-38) Impact CP-2 states that "construction under the proposed LRDP could potentially adversely affect the significance of subsurface archaeological resources pursuant to Section 15064.5 of the State CEQA Guidelines."

98-2 CP

Again, based on the fact that potentially significant findings related to Native American tribes could exist at Davies and St. Luke's, it is suggested that CPMC would hire an archaeological monitor throughout the excavation tasks of the projects per the recommendations in the documents. Please refer to the Sonoma State University 2006 documents written for Archeo-Tec that state that some of the core samples were inadequate due to how they were collected.

The mitigation measure, M-CP-N2, states that an archaeological consultant will be retained should any findings surface with possible monitoring. If any artifacts are found, the maximum amount of time for project work suspension is stated as 4 weeks or beyond this timeframe if the suspension is the "only feasible means to reduce to a less-than-significant level potential effects on a significant archaeological resource, as defined in the State CEQA Guidelines, Section 15064.5(a)(c). The mitigation measure further states:

> At the completion of the archaeological testing program, the archaeological consultant shall submit a written report of the findings to the ERO. If, based on the archaeological testing program, the consultant finds that significant archaeological resources may be present, the ERO in consultation with the consultant shall determine whether additional measures are warranted.

98-2 CP

Since no drawings for alternative construction to the campus sites are included in the CPMC DEIR in case substantial paleontological findings are encountered to the point of interfering with construction schedules for 4 weeks or beyond perhaps this DEIR is not complete. Would it be safe to assume that should resources be found and a delay of over 4 weeks occur, that CPMC will nonetheless go forward with the projects as shown in the DEIR after proper local, state and federal laws for such artifacts are followed? I am aware of incidents in which resources were reburied or filled in on other construction jobs in the City.

After reading all these archeological research documents, a few key themes developed from prior scientific findings and historical uses of the sites. These include children/orphans history at the Cathedral Hill site, as well as Mexican-American, Chinese, Japanese, and German settlement in San Francisco. The project sites seem to have good potential for archeological resources eligible under Criterion 4 (i.e. the finding "has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation") per the California Register of Historic Resources. These resources would then be designated historical resources under the California Environmental Quality Act. It is suggested to take a serious look at these sites.

CATHEDRAL HILL CAMPUS PROJECT SITE:

98-3 CP

For this project site, per the AECOM document, an example of unique archaeological findings would be related to children/orphans and their artifact history at the Cathedral Hill Campus site where there used to be the Ladies' Protection Home Relief Society Children's Home. This document speaks of the history of orphanages in San Francisco and the lack of archaeological materials in relation to such things as children's toys from historic periods. Garbage pits, well pits, etc. which were filled in are likely to exist at the Cathedral Hill site, especially where the rear yard of the orphanage stood. This would be about 80 feet east of the Franklin Street property line towards the center of the block but slightly north bounded by Franklin, Geary, Van Ness and Post. Please see map included in the AECOM report. Per the AECOM document, Page 44, this is the land that Horace Hawes, an influential lawyer, legislator and philanthropist donated to the Ladies' Protection Home Relief Society. Will CPMC follow the AECOM findings and carefully excavate the area of artifacts that could be from this Children's Home? There could be evidence in the filled in pits as well. An archaeological monitor should be on site during the excavations of this area.

98-4 CP

In addition, "priority" buildings are noted in the AECOM report for the Cathedral Hill Project. One building is 117 Cedar which concerns a Mexican-American family; 1014 Geary which concerns a Chinese servant; and 1106 Van Ness which concerns a Japanese servant. Objects of unique archaeological significance could be encountered at these locations which could add to the cultural history and settlement of these peoples. The current Cathedral Hill Hotel may be sitting on some culturally

significant findings related to these "priority" buildings and again, a monitor should be on stand-by for the excavation and grading activities. 98-4 CP

PACIFIC CAMPUS PROJECT SITE:

The AECOM document, Page 30, states that there is a Chinese laundry that used to be immediately south of the Clay/Webster Street Garage. Apparently, many Chinese servants were also employed by the households in the immediate vicinity of the proposed project or moved to the project site area after the 1906 fire burned them out of the Chinatown area. In the AECOM report, via the 1910 U.S. Census data, several Chinese lived at 2117 Webster and their occupations are all listed as "laundryman." Based on the listing, their surname was Yee. Would the Chinese Historical Society be contacted? 98-5 CP

Also, for the Pacific Campus project site, 2415 Clay is mentioned as having employed Japanese laborers. Also the building location of 2310 Sacramento Street was considered a priority site due to a Japanese servant living there. So these are picked out as highly potential areas of significant archaeological finds. Will the local Japanese National Historical Society be contacted should there be findings? 98-6 CP

The Sonoma State University April 12, 2006 report states that for the Pacific Campus, "incomplete sampling techniques" were used "for the geotechnical borings." And that "there is no doubt that a large volume of the slope deposits will be impacted and/or completely removed, along with any unidentified paleosols that may be present in the dunes that overlie the slope deposits." The report states that "any attempt to identify potential buried sites will at least either require, (1) the use of a backhoe or subsurface coring device prior to construction, or (2) the use of archaeological monitors during construction."

Since requesting the paleontological and archaeological documents for the CPMC DEIR via the Sunshine Ordinance in September 2010 (and because twice I was denied access to all of these documents), I have not seen any additional documents that show that later additional geoarchaeological testing was performed as recommended in the 2006 Sonoma State University documents nor since the ARDT was written by AECOM in January of 2010. And although the mitigation measure states that monitoring may be used it is not clear to this day if it will be. Will monitoring be done on all sites at the areas that are most likely to yield significant historic artifacts? Will additional core samplings of scientific certainty be conducted? 98-7 CP

The Sonoma State University document recommendations included excavation of 3 or 4 backhoe trenches at depths of 14 feet or less to get 2 to 4 complete cores from each building site and supplementing with several targeted interval samples from any buried paleosols that are identified within the complete cores. This document suggested this would be cheaper than "the costs of stopping or slowing the construction work or redesigning the project if important deposits of buried archaeological materials were found during active construction."

DAVIES CAMPUS PROJECT SITE:

Because the Davies Campus site is close to the Mission Dolores historic landmark, and the AECOM report states that there could have been "camps" of Native Americans as early as the beginning of the Mission Period in the area even a half mile away, it would behoove CPMC to have an archeological monitor on site for this particular project especially since the Davies project is only 3 blocks away from Mission Dolores. I have read of shell middens being found in other publications where Native Americans could 98-8 CP

have had extensive activity. Also, please have increased security on this campus during and after breaking ground to protect the potential historic resources.

98-8 CP

The location of the proposed CPMC Davies Campus project appears to be on sensitive land and serious archeological excavation and handling techniques may be warranted.

Due to skip samples used at this Davies campus to determine if there are any prehistoric deposits, they could have been missed. The recommendations stated to take additional boring samples especially around the concrete piers that will be constructed. The Sonoma University document states that there were "limited number (of) geotechnical borings and the incomplete sampling techniques which could have easily skipped over prehistoric deposits, if present." Will more current testing be done?

98-9 CP

ST. LUKE'S CAMPUS PROJECT SITE:

From the archeological documents on the Davies Campus site, it appears that the LRDP project will run into some archeological resources very near. There is mention of the adobe ranch house that Jose Cornelio Bernal (for which Bernal Heights was named) lived in and later occupied by his wife Carmen on a map from 1861.

The report from AECOM states "without new or comparative data, many important questions regarding chronology, settlement, and subsistence cannot be properly addressed or answered, and the current research questions cannot be confirmed, denied, or refined beyond our present understanding. Thus a reasonable amount of subsurface exploration is often needed to determine whether earth-disturbing projects will impact buried archaeological resources." The report states a recommendation to perform subsurface coring or the use of an archaeological monitor.

98-10 CP

Overall, the mitigation measures in the DEIR give some broad guidelines as implementation measures to address how archaeologically significant areas will be handled once artifacts are found, but based on the scientific document by Sonoma State and the Holocene period soils level and the Colma formation levels, the samples should have gone deeper to really be able to come to any solid conclusions and the samples should have been more contiguous rather than shallow and random as were the samples taken. No substantial proof in the paleosols would occur if one already knows that the artifacts, e.g. are at 14 feet or deeper and the samples are taken up to 8 feet below the surface. To conclude that since these shallow and arbitrary paleosols contain no important Holocene era deposits or Colma formation artifacts or any other significant artifacts from 200 years or more ago and hence nothing of any paleontological or archaeological significance exists would be inaccurate science. That is why the Sonoma University documents suggest strongly to carry out archaeological monitoring or the subsurface coring in more contiguous spots and at the depths likely to yield the significant resources near the sensitive areas. Will additional testing be done?

I am not so sure that the archeological areas were or will be mitigated to "less-than-significant" based on pre-project samplings taken in 2005 and 2006, the uncertainty of whether additional monitoring and substantial core samples will be taken, and on whether, if a large paleontological resource is encountered that will require a construction delay of more than 4 weeks, alternate buildings plans will commence as no plans for such a circumstances are included in the DEIR. Perhaps as part of the alternatives, there could be a mitigation measure added that will address this.

98-11 CP

Also, since many of the pages of the documents were redacted per 6254.10 of the Public Records Act, as suggested by the Native American Heritage Commission, it is hoped that all possible indigenous people

98-12 CP

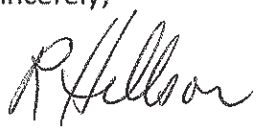
are made aware of the plans rather than expose the City to potential problems of having failed to notify the Indian tribal community, especially in relation to St. Luke's and Davies campus project sites. 98-12 CP

CALIFORNIA CAMPUS PROJECT SITE:

No additional paleontological or archeological reports were provided for this site. In this regard, I conclude that no excavation will be occurring at this campus site nor would there be any plans to until such reports are provided. Historical resource information as it related to the existing buildings was provided on CD of Administrative Documents for this CPMC DEIR which did not cover the archeological/paleontological aspects of this site. 98-13 CP

Thank you for this opportunity to comment on the paleontological and archaeological portion of this CPMC DEIR.

Sincerely,



Rose Hillson
Member, Jordan Park Improvement Association

cc: Ron Miguel, President, Planning Commission
Christina Olague, Vice President, Planning Commission
Michael Antonini, Planning Commissioner
Gwyneth Borden, Planning Commissioner
Kathrin Moore, Planning Commissioner
Hisashi Sugaya, Planning Commissioner
Linda Avery, Commission Secretary
Devyani Jain, Planner
Randall Dean, Planning Department, Archaeologist

Letter 99

October 19, 2010

Mr. Bill Wycko
Environmental Review Officer
San Francisco Planning Department
1650 Mission Street, Suite 400
San Francisco, CA 94103

SUBJECT: Draft Environmental Impact Report for California Pacific Medical Center Long Range Development Plan, Planning Department Case No. 2005.0555E – Pacific Campus

Dear Mr. Wycko,

We are responding to the invitation for public comment on the draft Environmental Impact Report (EIR) for the California Pacific Medical Center (CPMC) Long Range Development Plan.

For over 20 years, my family and I have owned our home on Washington Street which shares the northern property line of CPMC's Pacific campus. In reviewing the draft EIR, there appear to be glaring inconsistencies between the facts presented and the intentions of the project. In particular, there is a disconnect between the size of the proposed North of Clay aboveground parking facility and its stated usage. Given the primary (construction-related) and secondary (long term project induced) impacts of this parking structure, we request that further alternatives be considered. It is not apparent whether the purpose of the parking facility is to support the hospital's staff and patients or introduce a commercial development in violation of existing land use policies for our neighborhood. Further, the project as currently defined fails to achieve the CEQA requirement of reducing impacts to the point of insignificance.

99-1 TR

Specific comments on the draft EIR are attached. We request that the project sponsors address these comments and provide adequate answers before the City makes its determination on the EIR.

It is unfortunate that the project sponsors have chosen to introduce a negative amenity into our neighborhood. While we support the overall mission of CPMC, we wish they would take the opportunity to provide more open space and improve the quality of life in our area.

99-2 OTH

Please contact us if you need any clarification and keep us informed as this project develops. Thank you for the opportunity to comment.

Sincerely,

Arthur Cimento Jacqueline G Cimento

Arthur and Jacqueline Cimento
2317 Washington St.
San Francisco, CA 94115

COMMENTS ON THE DRAFT EIR FOR THE CPMC LONG RANGE DEVELOPMENT PLAN

The following are comments on the draft EIR. These comments are focused on the proposed changes to the Pacific campus, which is adjacent to our home. We request that the final EIR adequately address the issues outlined below and provide further mitigation of impacts than currently proposed. Since the EIR is vague in its assessment of many aspects of the Pacific campus project, we also request that a project level, focused EIR be conducted for the Pacific campus modifications before they are approved.

1) Project Violates Existing Conditional Use Permits

The draft EIR contains several references to the current conditional use permit under which the medical center is permitted to operate in a residential zone. This conditional use permit has been in place in the 1960's (page 3-16). The applicable planning code section permits this conditional use if inpatient care is the primary use (page 4.1-53). It is the stated intent of the long-range plan to convert this campus to outpatient care, which violates the terms of the existing conditional use permit. There is no analysis or discussion of why the inpatient use restrictions were originally put in place. Perhaps they were to preserve the unique character of our neighborhood. Furthermore, there is no discussion of whether a change in the permitted use would apply to similar facilities in other residential zones in the City or just to our neighborhood.

99-3 LU

Later in the EIR, the Pacific Heights neighborhood is described as an "Outstanding and Unique Area" (page 4.2-34). The proposed project would result in a campus with "denser more intense development than exists at present" (page 4.2-149). Why isn't this change considered a potentially significant impact? We believe there is inadequate discussion of this change to the conditional use restrictions which have been in place for 50 years. The project sponsors are well aware of the neighborhood opposition to the intensification of development associated with this project. Presumably the restrictions in the existing conditional use permit were intended to protect against just such development.

Further on, on page 5-8, the draft EIR states "all construction and renovation at the Pacific, Davies, and St. Luke's campus would occur entirely within the existing campus footprint; medical uses would continue on these campuses, and therefore **no change in land use would occur**." Since the proposed changes to the Pacific campus will violate its existing conditional use permit, this statement is inaccurate and misleading. We request that the conditional use permit for the Pacific campus not be modified until the full impact of this development on our neighborhood's essential character is understood and our community's position is considered.

2) **Long-term Secondary Impacts of the Project Are Not Adequately Addressed**

The draft EIR does not adequately address any induced development from the project. Such development could arise from a shift from inpatient to outpatient care (discussed above) and the addition of 688 new parking spots **in the middle of a residential neighborhood** (Table 2-7b).

The project is located two blocks off of the commercial district of Fillmore Street, which sees many visitors on most weekends and evenings. The availability of a large parking facility close to this district will undoubtedly attract more traffic into the neighboring streets, well above what is required for the medical facility. Also, it is of concern that the character of this traffic may differ from the traffic associated with an in-patient facility, since many users of the facility will be patronizing bars and restaurants at night. In addition, the facility is located on transit lines that are convenient to downtown, making the parking facility a magnet for commuter automobiles. The EIR is inadequate in that it does not consider such changed usage patterns.

99-4 TR

According to the EIR, the San Francisco Planning Code incorporates the Accountable Planning Initiative which includes "protection of neighborhood character" and "discouragement of commuter automobiles" (page 3-19). Residents of our neighborhood are entitled to quiet enjoyment of our homes. This facility has significant potential to become an attractive nuisance. The EIR needs to reconcile the apparent conflicts of the project with existing land use, zoning, and City Codes and identify specific mitigation measures to reduce its negative impacts to insignificance.

99-5 LU

As a minimum, we expect the facility will comply with existing noise regulations at the property boundary. We would also request additional mitigation measures such as limiting the parking facility's hours of operation to exclude evenings and weekends or restricting its use to bona fide users of the medical facility.

99-6 NO

99-7 TR

3) **Oversized Parking Requirement; No Alternatives Considered**

The draft EIR's analysis of the parking requirements and visitation patterns is inconsistent with the addition of 688 parking spots on the Pacific campus. On page 4.5-49, the draft EIR states that 1,095 parking spaces for CPMC employees and 410 parking spaces for visitors already exist. This parking supply is adequate for the existing use (pages 4.5-47 to 4.5-49).

99-8 TR

In the traffic analysis, there is an estimated **reduction** in net new parking demand at the Pacific campus of 229 parking spaces (Table 4.5-13) and an expected **reduction** of trips by 4,700 as a result of the proposed change in usage (Table 4.5-10). Even at peak hours, there are only 71 new vehicle trips at the Pacific campus (Table 4.5-11). This analysis is used to support the premise that there will be little impact on surface street traffic from the project.

The EIR cannot have it both ways. It is inconsistent to state that current parking provisions are adequate, there is a reduction in parking demand, and the proposed project reduces the number of trips, but then propose 688 additional parking spaces at the campus. Yet the project calls for excavation of two city blocks and construction of a seven story parking facility across an entire city block. We request that a revised EIR be issued that addresses a reduction, not an increase, in parking capacity to reflect the draft EIR's stated reduction in auto trips. 99-8 TR

We question whether the motive of the project sponsor is to support the medical mission of the campus or run a commercial parking business. There are no alternatives to this scheme considered in the EIR. Alternatives could include no parking facility at all or addition of additional underground parking which could eliminate the need for an above ground structure.

In particular, we would like consideration of using this footprint for more open space in our neighborhood as opposed to the current plan which reduces open space (page 4.2 -149). This project represents a rare opportunity to create open space. One viable alternative that should be considered is the elimination of the above ground portion of the garage entirely and the creation of an open space and park. Given the primary and secondary impacts of the parking facility, we believe that these are reasonable alternatives that should be considered. 99-9 RE

4) **Primary Impacts Cannot Be Mitigated**

There are numerous project impacts at the Pacific campus where no mitigation is provided. Construction noise could reach 90 Vdb in our home, which the draft EIR notes "could be significant" (page 4.6-95). The EIR notes additional primary impacts associated with construction (e.g., air quality) which are "significant and unavoidable" (section 4.7).

In addition, several primary impacts from the facility are noted without any mitigation provided. These include light from vehicle head lamps which will shine into homes (page 4.2-89) and noise from ventilation units. There are other impacts which are not discussed such as the noise from traffic entering and leaving the above ground parking facility and the increase in CO2 from vehicles idling in the garage. 99-10 OTH

Again, our understanding of CEQA is that project impacts must be mitigated to the point of insignificance. The draft EIR does not attain this standard.

5) **Inadequate Detail on Project Definition**

In numerous places, the draft EIR does not go into detail on the Pacific campus, using the rationale that the design on this campus is not finalized (e.g., pages 4.2-149, 4.6-80, and 4.9-31). Therefore, we would like clarification as to what entitlements CPMC would receive for the Pacific campus should this EIR be certified. 99-11 PD

Since many of the mitigation measures associated with the Pacific campus are vague and depend on the final design (e.g., page 4.6-82), we believe that CPMC should not have any entitlements to proceed with the Pacific campus portion of the long range plan until a Project EIR is completed. This EIR should address all of the primary and secondary impacts of the project and provide adequate mitigation.

99-11
PD-PA

Letter 100

PO Box 283044
San Francisco, CA 94128
October 19, 2010

San Francisco Planning Department
Attention: Mr. Bill Wycko
1650 Mission Street, Suite 400
San Francisco, CA 94103

Re: EIR–CPMC Long Range Development Plan - Alternative 3A

Dear Mr. Wycko,

The EIR for the CPMC project contains too many convenient assumptions that will come back to haunt the City if implemented. The gargantuan Cathedral Hill Hospital as Sutter prefers is too problematic and it's environmental impacts too great.

The EIR acknowledges that a significant number of traffic problems are significant, unavoidable (SU) and impossible to mitigate. Further, these issues impact a concentration of critical east/west and north/south arterials –Geary, Van Ness (Hwy 101), Franklin, and Gough. The streets surrounding this area that are expected to drain off this impacted flow are not efficient distributors and will simply exacerbate the problem. 100-1 TR

Parking challenges are given short shrift and yet what will be their real traffic friction flow impact? 100-2 TR

Construction impacts are particularly challenging, such as the proposed 185 truck trips per day which averages over 20 trucks per hour or 3 minutes per load time – an efficiency I have never seen in my over 30 years of engineering and construction management – is fiction. Particularly true for such a congested and compact construction site. 100-3 TR

While well detailed in some respects, the EIR contains recurring statements about the CEQA process not needing to address certain environmental aspects which are all too real to the surrounding Cathedral Hill community. The EIR analysis appears to conveniently support the desired outcome in too many instances, while making assumptions that may not come true. 100-4 OTH

The EIR discusses Alternate 3A which reduces the Cathedral Hill building by a third and increase the size at St. Luke's. This will reduce the number of cars and trucks by 1/3. The EIR indicates that this is the environmentally preferred option but then goes on to say that it is rejected by CPMC.

I believe that Alternative 3A is an effective solution. I would urge the City to require CPMC to redesign the project to stay within the existing zoning restrictions and to effectively mitigate those most challenging outcomes. 100-5 ALT3A

Sincerely,

Charles B. Freas BSCE

Letter 101

LAW OFFICES OF
MOSCONE EMBLIDGE & SATER LLP
220 MONTGOMERY STREET, SUITE 2100
SAN FRANCISCO, CALIFORNIA 94104
TELEPHONE: (415) 362-3599 FAX: (415) 362-2006

October 19, 2010

Via Hand Delivery
Bill Wycko
Environmental Review Officer
San Francisco Planning Department
1650 Mission Street, Suite 400
San Francisco, CA 94103

Re: Draft Environmental Impact Report for California Pacific Medical Center Long Range Development Plan

Dear Mr. Wycko:

We represent property owners and residents of a neighborhood located on the western end of the block currently occupied by St. Luke's Hospital, and west of the proposed St. Luke's Replacement Hospital. This neighborhood group, known as the Lost Block, along with the San Jose/Guerrero Coalition to Save Our Streets, submit the following comments on California Pacific Medical Center's ("CPMC") Long Range Development Plan ("LRDP") Draft Environmental Impact Report ("DEIR").

The Lost Block and the San Jose/Guerrero Neighborhood Coalition will be heavily impacted by the St. Luke's Campus proposal, both in the construction phase and after build-out. Unfortunately, the DEIR fails to adequately analyze potentially significant land use compatibility, plans and policies consistency, visual character, traffic, noise, light, wind, and shadow impacts, associated mitigation measures, and alternatives related to residential uses in the area of the Lost Block and surrounding neighborhood. As explained in the following comments, the additional evaluations and information necessary to correct these deficiencies and produce an adequate EIR would likely present new significant impacts and new mitigation measures requiring recirculation under CEQA in order to allow meaningful public disclosure and comment. The following analysis is organized by DEIR section.

101-1 OTH

1. Introduction

Page 1-13: The DEIR indicates that it is a project-level EIR for the four projects at the St. Luke's campus. However, as explained in the following comments, the setting, impacts, mitigations and alternatives are not sufficiently detailed with respect to the St. Luke's campus, and are inadequate for a project-level EIR. In particular, the DEIR lacks a sufficiently detailed analysis of the impacts of the St. Luke's Replacement Hospital and

101-2 LU

associated General Plan Amendment, Planning Code Amendment and Conditional Use Authorizations for use, height and bulk. 101-2 OTH

2. Project Description

2.6 St. Luke's Campus

Page 2-181: The DEIR notes that the St. Luke's Replacement Hospital would be exempt from Chapter 13C of the City's Building Code (San Francisco Green Building Requirements), but that CPMC is "considering implementing measures that would enable the St. Luke's Replacement Hospital to achieve LEED certification." Elsewhere, the DEIR indicates that "CPMC intends to attain LEED certification." Despite this uncertainty and lack of detail, various impact analyses rely on the implementation of measures for LEED certification as substantial evidence upon which to base a conclusion of a less-than-significant impact. The project description and the pertinent impact analyses should provide the detail necessary to reach this conclusion, including the specific measures that would be implemented regardless of whether LEED certification is sought or attained, the specific LEED credit categories intended, and how these measures would avoid or reduce each potentially significant impact. In addition, the LEED certification strategy for the project should target credit categories related to potentially significant impacts on the adjacent homes to the west, including light pollution, noise, on-site open space and vegetation. 101-3 PD

Figure 2-59 St. Luke's Campus-Proposed Site Plan, Figure 2-60 St. Luke's Campus Variant 1–Alternate Emergency Department Location, Figures 2-63 and 2-64 (elevations), 2-68 and 2-69 (sections), 2-71 and 2-72 (floor plans), and 2-77 (streetscape plan): These figures show the St. Luke's Replacement Hospital emergency department and associated ambulance bay, and the loading docks, trash and medical waste receptacles immediately adjacent to the residential uses at 26-28 27th Street and on Cesar Chavez Street. This location differs from the location shown in Figure 4.5-26 in Section 4.6, Transportation and Circulation, and used in the traffic, noise and air quality analyses, as well as potentially throughout the DEIR. Therefore, the impact assessment, and in particular, the analysis of noise impacts and the conclusion of less-than-significant noise impacts related to the emergency department and loading area, are based on incorrect plans and must be revised accordingly. The figures are also inconsistent with respect to the setback to and configuration of the west side of the replacement hospital. 101-4 PD 101-5 NO 101-6 PD

Figure 2-77, St. Luke's Streetscape Plan: Figure 2-77 shows an approximately 10-foot setback but does not indicate, and the project-level DEIR does not discuss, the type, number, density, and height at maturity of landscape plantings along the west side of the St. Luke's Replacement Hospital, or whether there would be any plantings at all. There is insufficient information upon which to conclude that the project would not cause a substantial change in character or substantially degrade visual character for the adjacent homes to the west. The DEIR should provide the necessary information. 101-7 AE

Figures 2-63 through 2-65 (elevations): The St. Luke's Replacement Hospital elevations must be revised to show the adjacent residential buildings to the west to allow for an understanding of the relationships to these sensitive adjacent residential uses, and an adequate project-level analysis of the potentially significant impacts related to land use character, visual character, light and glare, noise, and wind and shadow. 101-8 PD

3. Plans and Policies

Pages 3-10, 3-18 and 3-19: The analysis of consistency with the General Plan and Planning Code lacks sufficient evidence upon which to conclude that the project would not conflict with applicable plans and policies related to physical environmental issues or human health. The analysis merely refers to the various impact assessments in Chapter 4, which, as explained in the following comments, are also merely conclusory and lack sufficient evidence. The project, and the St. Luke's Replacement Hospital in particular, would have a significant impact on neighborhood character for the adjacent homes along 27th Street, Guerrero Street and Cesar Chavez Street to the west, with respect to land use character, visual character, light pollution, noise, traffic, wind and shadow, and residential open space. This would conflict with the priority policies of Section 101(b) of the Planning Code and the policies of the General Plan Urban Design Element, as well as other General Plan policies and Planning Code regulations. 101-9 LU

The analysis of consistency with the Planning Code merely indicates that, with approval of the required General Plan Amendment, Planning Code Amendment and Conditional Use Authorizations for use, height and bulk, the project would be consistent with the Planning Code. The analysis must be revised to evaluate the project with respect to the required findings for General Plan Amendment and Conditional Use Authorization, as they pertain to physical environmental issues or human health, including findings related to neighborhood character and livability, in light of the potentially significant impacts of the project on land use character, visual character, light pollution, noise, traffic, wind and shadow, and residential open space. 101-10 LU

4.1 Land Use

Page 4.1-61, Impact LU-2: The DEIR discussion of the change in land use character focuses on relationships to Cesar Chavez and Valencia Streets, and on the public realm along those streets, and inadequately characterizes the impact regarding change in character for more sensitive residential uses along 27th Street, Guerrero Street, Cesar Chavez Street, San Jose Avenue and Duncan Street. The discussion of the change in character for residential uses immediately adjacent to the west and south of the proposed St. Luke's Replacement Hospital does not support the conclusion that the change in character would be insubstantial and therefore less than significant. The discussion begins by saying there may be a change in character with the new hospital in place of the existing surface parking lot for employees. The only evidence given as to why this change would not be substantial is that, although the new hospital would stand out, its visual contrast would be less than the existing hospital, and normal practice is to turn 101-11 LU

ambulance sirens off within a few blocks of the hospital. However, whereas the existing hospital is on the east side of the campus 240 feet away from the nearest adjacent homes, the replacement hospital, and its emergency department entrance in particular, would be immediately adjacent to these homes. In addition, the analysis on page 4.1-61 incorrectly states that the western portion of the replacement hospital would be 51 feet tall and set back from the adjacent homes, whereas the Project Description shows only an approximately 10-foot setback along only a portion of the west side of the building, and the building would be 99 feet tall, with a stepback above 51 feet. The replacement hospital, by itself as well as together with the new medical office building, would also be more bulky than the existing comparatively slender tower, but this is not addressed in the analysis.

101-11 LU

101-12 LU

But the substantial land use change in character and associated significant impact is the result of not only the substantial visual change but also many other changes in character caused by the 99-foot tall hospital with emergency department ambulance bays, loading docks, more acute-care beds, a 1,200 person increase in the daily on-site population, new pick-up/drop-off location adjacent to the residential uses, 113 new parking spaces and associated traffic increases, as well as the new 100-foot tall medical office building. The DEIR needs to be revised to adequately characterize the existing land use character in terms of the location, number, height, orientation and dimensions of adjacent homes, rear yards and mid-block open space, useable open space, existing setback depths, and the views, light, air and privacy of the surface parking lot and perimeter mature screening trees. The project-level DEIR must be revised to describe adequately the existing land use character and potential project land use compatibility impacts in terms of height, bulk, setback, and the imposing length and height of the west-facing wall; screening landscaping and fencing; 24-hour emergency department activity and noise (not just siren noise but also noise from interior activities, idling emergency vehicles and emergency vehicle unloading/loading); building equipment noise; pedestrian entry; pick-up and drop-off zone; loss of sunlight, shadows and microclimate; loss of existing trees, view blockage and loss of privacy; and the increase in traffic on 27th Street, Guerrero Street and Cesar Chavez Street. All of these project-related changes contribute to a substantial change in character and thus significant land use compatibility impacts.

101-13 LU

101-14 LU

Page 4.1-62: The analysis of the Alternate Emergency Department Variant is deficient for the same reasons outlined above. Additionally, the analysis of the variant indicates that relocating the emergency department to Cesar Chavez Street would reduce ambulance siren noise impacts on residences. However, this conclusion ignores the immediately adjacent homes to the west on Cesar Chavez Street. In addition, this conclusion contradicts the discussion on page 4.1-61 which relies on the claim that normal practice is to turn ambulance sirens off within a few blocks of the hospital, in order to reach a conclusion of a less-than-significant impact. Further, the analysis does not indicate if turning sirens off is required by law or hospital policy. If not, it is not a reliable basis for a conclusion of less-than-significant impact. Notably, this practice is not identified in Section 4.6, Noise.

101-15 NO

4.2 Aesthetics

General: The analysis focuses on overall changes in buildings on the site and changes in views from streets. The analysis completely and inappropriately omits analysis of perimeter conditions, relationships to adjacent residential properties, and the substantial degradation in visual character for adjacent residential uses. That analysis must be provided. 101-16 AE

Page 4.2-176: The description of the west side of the building is inadequate to allow for a meaningful analysis of impacts on visual character and contains confusing errors. It incorrectly indicates that west-facing windows would be located in the lower two stories facing Guerrero Street. In fact, the windows would be on the upper two stories facing the rear yards, decks and rear windows of homes on 27th Street, Guerrero Street and Cesar Chavez Street. 101-17 AE

The analysis of changes in visual character evaluates the same visual simulation viewpoints as the analysis of impacts on scenic vistas and omits any discussion of changes in, and substantial degradation of, visual character for adjacent homes. The DEIR must be revised to include visual simulations from sensitive residential viewpoints. 101-18 AE

The DEIR dismisses impacts on visual character because residential uses "would not face or front" onto the project. The DEIR ignores that the proposed replacement hospital would substantially degrade the visual character at the rear of adjacent homes to the west on 27th Street, Guerrero Street and Cesar Chavez Street. The rear can be considered more sensitive because it contains the private living area with rear yards (required useable open space). 101-19 AE

Impact AE-4: The DEIR evaluation of light and glare impacts from the 24-hour emergency room operation, the brightly lit open ambulance bays, upper story windows and loading area is inadequate. Light and glare is an important component of land use character and, in this case, a cause of substantial degradation in visual character, representing a significant impact. The analysis of these impacts must be revised. 101-20 AE

4.5 Transportation and Circulation

Page 4.5-204, Improvement Measure I-TR-87, Provide Pedestrian/Bicycle Improvements: CEQA requires adequate disclosure and evaluation of the environmental impacts of proposed mitigation measures--i.e., secondary environmental impacts. The flashing lights and audible signals at the garage exits recommended under this measure could cause significant noise and light pollution impacts on surrounding residential uses. The impacts of this proposed improvement measure must be disclosed and evaluated. 101-21 TR

Pages 4.5-82 and 4.5-83: The DEIR indicates that, on a daily basis, approximately 66 trucks up to 55 feet in length would use the loading area; the loading dock would operate 24 hours per day; and CPMC deliveries, laundry services and trash haulers would be 101-22 NO

scheduled between 9:30 p.m. and 5:00 a.m. to minimize conflicts with other deliveries. These levels and hours of loading area activity would occur immediately adjacent to adjoining sensitive residential uses on the west, and in the more noise-sensitive evening and early morning hours. However, they are not, and must be, described and analyzed in the noise (Section 4.1) and land use character (Section 4.1) analyses.

101-22 NO

Page 4.5-207: The location of the emergency department and associated ambulance bay, and the three loading docks, trash and medical waste receptacles shown in Figure 4.5-26 differs from the location shown in Figure 2-59, St. Luke's Campus-Proposed Site Plan, Figure 2-60, St. Luke's Campus Variant 1–Alternate Emergency Department Location, as well as Figures 2-63 and 2-64 (elevations), 2-68 and 2-69 (sections), and 2-71 and 2-72 (floor plans), and 2-77 (landscape plan), in Chapter 2, Project Description. Therefore, the analysis of traffic and noise impacts and the conclusion of less-than-significant impacts are based on incorrect plans. The analysis is therefore fundamentally flawed and must be revised and the DEIR must be recirculated for meaningful public disclosure and comment.

101-23 PD

Page 4.5-209, Impact TR-94: The conclusion of less-than-significant construction traffic impacts is not supported by sufficient evidence. This is another instance of the project-level DEIR relying on ambiguous and inadequately detailed description of important components of the proposed project to conclude an impact would be less than significant. The DEIR states that "[c]arpooling and transit use by construction workers would be encouraged throughout the construction to reduce parking demand," and "[e]xisting off-site public parking garages and lots would be utilized." The DEIR acknowledges that, "[s]pecific locations of these off-site facilities have not been identified by CPMC. A shuttle service would be provided between the St. Luke's construction site and the off-site public parking garages and lots." Are lots with sufficient unused capacity available within a reasonable distance? What parking supply impacts would the project cause in the vicinity of those lots? Under CEQA, the DEIR needs to provide sufficient evidence to support the feasibility and effectiveness of such an approach. Accordingly, the DEIR must be revised to include this information and analysis.

101-24 TR

The DEIR notes that construction deliveries may cause congestion on 27th Street. The existing emergency department and ambulance access is on 27th Street. The DEIR states that, "[c]onstruction deliveries would be scheduled and coordinated to not hinder emergency vehicle access." How is it possible to schedule emergencies? Again, insufficient evidence is provided to conclude a less than significant impact.

101-25 TR

Impact TR-94 concludes that, because potential construction traffic and parking impacts would be temporary, they would be less than significant. It is not correct under CEQA to conclude that any impact, no matter how severe, would not be significant only because it would be temporary. In other sections of Chapter 4, the DEIR correctly finds temporary construction noise, construction dust, construction criteria air pollutants, and construction toxic air contaminants impacts to be significant and to require mitigation, despite being temporary. In addition, the temporary construction period for the four St. Luke's campus

101-26 TR

projects is proposed to begin in 2011 and last for seven years and, like many major construction projects, could experience delays and last even longer. This impact conclusion must be changed and the DEIR must be recirculated.

101-26 TR

Page 4.5-210: The parking discussion identifies a shortfall in parking of 309 spaces (41 percent of demand), notes that on-street parking occupancy adjacent to the St. Luke's campus ranges between 80 and 100 percent during the day and 70 percent after 8:00 p.m., and states that "[e]mployees unable to park at the campus would take transit, bicycle or walk to the campus or park in one of CPMC's off-site parking facilities." The DEIR also assumes that any secondary environmental impacts that might result from the shortfall in parking, such as traffic, air quality, noise and pedestrian safety impacts of drivers circling for parking, would be minor and are accounted for in the transportation, air quality and noise analyses. However, elasticity of parking demand is relatively low for a hospital use. Whereas employees may more readily change their travel behavior, patients and visitors accompanying patients, as well as physicians, which together account for more than half the parking demand, may be less able to use alternate modes. The parking discussion and the secondary traffic, air quality and noise impacts of the shortfall in parking need to be reevaluated. In addition, given the existing nearly 100 percent utilization of on-street parking, the impact of the 309-space parking shortfall on neighborhood character and livability must be considered in the land use character/compatibility and plans and policies consistency evaluations.

101-27 TR

Page 4.5-210: CPMC has acknowledged that the new medical office building may not be built due to the strong possibility of a lack of sufficient hospital use or market demand for medical office space at the St. Luke's Campus. However, the DEIR does not contain any analysis of the potential impacts of the LRDP without the new medical office building. Without construction of the new medical office building and associated underground parking garage, there would be a total of only 230 parking spaces provided at the St. Luke's Campus, compared to a parking demand of 759 spaces. (The DEIR does not indicate the portion of the St. Luke's Campus parking demand that would be generated by the new medical office building.) Thus, there would be a parking shortfall of 529 spaces, potentially including a shortfall of spaces for physicians. The parking discussion and the secondary traffic, air quality and noise impacts of the 529-space shortfall in parking must be reevaluated. The DEIR should also evaluate the impacts of a 529-space parking shortfall on neighborhood character and livability, land use character/compatibility, and plans and policies consistency.

101-28 TR

4.6 Noise

Page 4.6-27: The Existing Noise- and Vibration-Sensitive Land Uses discussion omits mention of residences on 27th Street or Cesar Chavez Street. Additionally, it incorrectly states that "[t]he closest of these residences are along San Jose Avenue and Duncan Street across from the St. Luke's campus, approximately 75 feet from campus buildings." In fact, the nearest residential noise-sensitive receptors are located immediately adjacent to

101-29 NO

the campus on the west, on 27th Street, Guerrero Street and Cesar Chavez Street. The analysis must be revised accordingly. 101-29 NO

Page 4.6-29: The noise measurements used to characterize the baseline and calibrate the noise models are inadequate. Only two noise measurements were conducted. No 24-hour noise measurements were conducted, only far less accurate 15-minute noise measurements. Additionally, the two noise measurements were taken on Cesar Chavez and Valencia Street, which is not representative of the more noise-sensitive, quieter residential noise environment along 27th Street, San Jose Avenue and Duncan Street. The two 15-minute noise measurements therefore represent an inadequate baseline against which to evaluate impacts, particularly with the DEIR application of narrow significance thresholds of 3dB and 5dB to this substantial, complex use with multiple, discrete, noise-generating activities operating 24 hours per day within the midst of a noise-sensitive residential neighborhood and immediately adjacent to several homes. Additional noise measurements must be taken to increase the accuracy of the baseline and the analysis must be revised and recirculated. 101-30 NO

Page 4.6-52, Impact NO-1: The DEIR indicates that construction work would occur Monday through Friday, 7:00 a.m. to 5:00 p.m. except holidays, but may continue to 8:00 p.m. on weekdays and Saturdays. The DEIR then states that work may occur on Saturdays but would stop at 5:00 p.m., if needed. These confusing inconsistencies need to be corrected. Additionally, Mitigation Measure M-NO-N1 for construction noise allows for nighttime construction. Would there be a possibility of nighttime construction at the St. Luke's campus? This must be clarified. 101-31 NO

Page 4.6-52, Impact NO-1: The City's Noise Ordinance is not an adequate significance criterion given the level and duration of project-related noise exposure, the sensitivity of the affected uses, and inherent flaws in the applicability of the Ordinance to the St. Luke's campus and Lost Block neighborhood situation. 101-32 NO

It is not clear where the construction equipment were assumed to have been placed for the noise modeling. This must be clarified. No existing noise measurements were taken adjacent to residential uses on 27th Street, Guerrero Street, Cesar Chavez Street, San Jose Avenue or Duncan Street. What is the basis for determining the baseline existing conditions against which to compare the project effects? 101-33 NO

Construction at the St. Luke's campus would occur continuously for at least seven years, including approximately four years for the replacement hospital and an additional approximately three years for the medical office building. Many homes on 27th Street, Guerrero Street and Cesar Chavez Street are located immediately adjacent to the construction site for the replacement hospital and thus would be continuously exposed to excessive noise levels for at least four years. Given the utilities work within the rights-of-way of 27th Street, Guerrero Street and Cesar Chavez Street, they would be effectively surrounded by construction noise on all sides. Exposure to noise levels up to (and 101-34 NO

exceeding, as explained below) 80 dB for up to 13 hours per day for up to four years or more could not reasonably be considered a less-than-significant impact.

Moreover, the Noise Ordinance standard of 80 dB at 100 feet means numerous residences within 100 feet of the project site would continue to experience unacceptable noise levels above 80dB, up to 13 hours per day for approximately four years. Nearly the entire new replacement hospital building would be located within 100 feet of the western property line and the abutting residences on 27th Street, Guerrero Street and Cesar Chavez Street. Therefore, all replacement hospital construction activities would occur within 100 feet of these noise-sensitive residences. According to the analysis in the DEIR, all of these homes would likely still be subject to noise levels exceeding 80 dB even with the identified mitigation up to 13 hours per day for approximately four years or more. These construction noise effects clearly amount to a significant unavoidable impact requiring recirculation and evaluation of alternatives to the proposed project that would move the replacement hospital at least 100 feet away from sensitive residential uses immediately adjacent to the construction site.

101-34 NO

The DEIR evaluation of construction noise impacts at the Cathedral Hill campus says a City permit would be needed for nighttime construction and obtaining the permit would make the impact less than significant. However, the issuance of a permit would not avoid or reduce the physical impact and the adverse health effects experienced. The DEIR should correctly disclose this impact as significant and unavoidable. Would there be a possibility of nighttime construction at the St. Luke's campus? If so, that must be disclosed and evaluated.

Page 4.6-53: There is insufficient evidence to demonstrate the effectiveness of mitigation measure M-NO-N1 in reducing construction noise levels to within City Noise Ordinance levels. The mitigation measure contains vague and unenforceable language that renders it ineffective, such as "as far as feasible," "for extended periods," "best available," "where feasible." Mitigation measure M-NO-N1b, community liaison, calls for reoccurring complaints to be evaluated by a qualified acoustical consultant. However, reoccurring is not defined and would presumably be left to the construction contractor or CPMC to define. Measure Nc says that noise may "exceed standards and result in complaints," yet action would only be taken if there are complaints, presumably reoccurring complaints, at each individual construction phase. If these mitigation measures cannot be shown to be effective, they may not be relied upon to reduce impacts in the impacts analysis.

101-35 NO

Pages 4.6-74 through 4.6-79: Each noise source (increases in traffic, stationary equipment, air handling equipment, cooling towers, emergency generators and exhaust fans, parking garage activities, passenger and shuttle drop-offs, loading dock and delivery activity, bulk liquid oxygen delivery, waste disposal activity, and ambulance entrance/exit activity) was considered individually. The DEIR omits evaluation of the additive noise levels of all of these new and additional noise sources together. This piecemeal approach substantially underestimates the noise impacts of the project and

101-36 NO

represents an inadequate evaluation under CEQA. This evaluation must be revised to consider the aggregate impacts of these noise sources. 101-36 NO

Page 4.6-77 and 4.6-78: The DEIR assumes that, except for sirens, emergency department and ambulance entrance/exit noise would be the same as typical parking lot noise. This is an inappropriate assumption. Ambulance entrance/exit noise is different than typical parking lot activity in terms of the size and type of vehicle, number of people, equipment, involvement of loud diesel vehicles, possible use of sirens, and frequency of activity, and also involves noise transmitted from the interior of the emergency department out the building doors. 101-37 NO

The DEIR states that the ambulance entrance/exit would be located across the street from residential uses, but ignores the immediately adjacent residential uses to the west on the same side of the street. The analysis must be revised to reflect these immediately adjacent residential uses.

The location of the emergency department and associated ambulance bay considered in the noise analysis (Figure 4.5-26) differs from the location shown in Figure 2-59, St. Luke's Campus-Proposed Site Plan, Figure 2-60, St. Luke's Campus Variant 1--Alternate Emergency Department Location, as well as Figures 2-63 and 2-64 (elevations), 2-68 and 2-69 (sections), and 2-71 and 2-72 (floor plans), and 2-77 (landscape plan), in Chapter 2, Project Description. Therefore, the analysis of noise impacts and the conclusion of less-than-significant impacts are based on incorrect plans. 101-38 NO

The DEIR states that sirens associated with the ambulance entrance/exit could result in a substantial increase in ambient noise levels above the City significance threshold of 8dB. But it does not state that this would be a significant impact. The mitigation measure calls for "implementing physical (e.g., equipment design) impact reduction measures related to stationary equipment and ambulance entrance/exit that are considered practical and feasible," and would reduce the impact to a less-than-significant level. However, the mitigation measures referred to (Mitigation Measure M-NO-N3 for the Davis Campus and Mitigation Measure M-NO-N3a for the Cathedral Hill Campus) include no mention of measures for ambulance noise. Thus, the mitigation measure is missing. This omission must be addressed by either a new mitigation measure or the identification of a new significant and unavoidable impact, both requiring recirculation of the DEIR. 101-39 NO

4.8 Greenhouse Gas Emissions

Page 4.8-32: The DEIR found that projected LRDP operational greenhouse gas ("GHG") emissions would exceed the Bay Area Air Quality Management District ("BAAQMD") significance thresholds and would therefore represent a significant impact. The DEIR notes that it is not likely that the energy reduction and sustainability measures intended for the project, but not accounted for in the GHG emissions modeling, would reduce GHG emissions below the BAAQMD significance thresholds, and that the impact would be significant and unavoidable. The DEIR neglects the City's obligation to identify and 101-40 NO

evaluate the effects of feasible mitigation measures to reduce GHG emissions. CEQA requires that a Lead Agency implement all feasible mitigation measures to reduce a significant impact, even if it concludes that the impact would be significant and unavoidable even after mitigation. Accordingly, the DEIR must be revised to include additional mitigation measures for this impact and recirculated. 101-40 GH

4.9 Wind and Shadow

Page 4.9-18: The wind and shadow significance criteria are too narrowly applied to public areas. The wind and shadow significance criteria must be modified to consider wind and shadow effects on adjacent sensitive residential uses. 101-41 WS

Page 4.9-30: The DEIR fails to consider the effects of wind on the rear yard open space of adjacent residences as well as interior living areas when windows are open, as well as these effects as a contributing factor to the land use character/compatibility and plans and policies consistency impacts discussed in DEIR Section 4.1. 101-42 WS

Page 4.9-56: The DEIR fails to consider shadow impacts on the rear yard open space of adjacent residences as well as these effects as a contributing factor to the land use character/compatibility, plans and policies consistency, and aesthetics impacts discussed in DEIR sections 4.1 and 4.2. It must be revised to consider such impacts. 101-43 WS

6. Alternatives

General: The alternatives evaluated in the DEIR are city-wide LRDP alternatives. Pursuant to CEQA, the DEIR must also consider project-level alternatives specific to the St. Luke's campus that would address identified significant impacts and, especially, identified significant and unavoidable impacts at the St. Luke's campus, including the potentially significant impacts of the replacement hospital on adjacent residential uses to the west. Alternative site plans, development intensities and activities at the St. Luke's campus are too inflexibly tied to the broader LRDP and thereby too readily dismissed. Therefore, the DEIR does not present a reasonable range of alternatives as required by CEQA. 101-44 ALT

Blue Ribbon Panel Options: In 2008, San Francisco Supervisor Michela Alioto-Pier and Mitch Katz, M.D., director of San Francisco's Department of Public Health, convened a 'blue ribbon' panel of experts to look at the health care needs of San Francisco, and in particular the role that St. Luke's plays in meeting those needs. The Blue Ribbon Panel recommended that the CPMC Board consider Option 5 (building over San Jose Street) and Option 3 (the 1912 Building and preserving the chapel and tree), with a preference for Option 5, because it better met identified value criteria: continuity of service to patients, low neighborhood impact, an accessible and welcoming presence, and lowest life cycle costs. In public hearings, CPMC has repeatedly claimed that it is following all of the Blue Ribbon's recommendations, and its Board formally resolved to follow the BRP's recommendations. Nevertheless, and despite an associated long public process 101-45 HC

involving dozens of stakeholder groups and an implied overall environmental impact-reducing objective, neither of the "blue ribbon" options was evaluated in the DEIR. As was recommended by the Blue Ribbon Panel, these alternatives should be thoroughly evaluated in the DEIR as a means of understanding project impacts and reducing or avoiding potentially significant impacts on the adjacent residential neighborhood to the west and south.

101-45 HC

Code-Complying Alternative: A code-complying alternative for the St. Luke's campus would limit the height and bulk of the replacement hospital and thereby avoid or reduce the potentially significant impacts of the replacement hospital on adjacent residential uses to the west. The DEIR indicates that a code-complying alternative for the St. Luke's Replacement Hospital was not evaluated because it would limit the number of licensed operational acute-care beds to 34, down from the 60 existing beds, and thus would not meet the objective of providing a community hospital to the same extent as the proposed LRDP. However, the code-complying alternative did not consider providing additional replacement beds within code-complying structures elsewhere on the campus. Additionally, the DEIR should evaluate a code-complying alternative for the St. Luke's campus alone, so that its feasibility is not unnecessarily contingent upon the feasibility of code-complying development at the Cathedral Hill campus and the other campuses.

101-46 ALT

No Medical Office Building Alternative: The DEIR should evaluate an alternative with no new medical office building and the construction of the St. Luke's Replacement Hospital where the new medical office building is proposed. The existing 60 licensed operational acute-care beds could be temporarily provided at the Cathedral Hill campus and/or the other three campuses to maintain continuum of care. CPMC has acknowledged that the new medical office building may not be built due to a possible lack of sufficient hospital use or market demand for medical office space at the St. Luke's Campus. This strong possibility requires an evaluation of the potential impacts of the LRDP without the new medical office building. It also presents an opportunity to evaluate a feasible location for the replacement hospital that would avoid or reduce the potentially significant impacts and unavoidable significant impacts of the replacement hospital on adjacent residential uses to the west.

101-47 ALT

Modified Campus Alternative: The DEIR should evaluate an alternative that involves expansion of the St. Luke's campus west to Guerrero Street through CPMC acquisition of the existing residential development between 27th Street, Guerrero Street and Cesar Chavez Street. This alternative would be comparatively feasible and would avoid the significant impacts on these homes.

101-48 ALT

Alternative 3A: The DEIR evaluates an Alternative 3A, which would move the women's and children's center and an associated 160 beds from the Cathedral Hill campus to the St. Luke's campus. This alternative appears to have considerable support in the community around the Cathedral Hill campus, as well as more broadly in the city. The deficiencies of the DEIR described in the foregoing comments with respect to analysis, determination of significance, and mitigation of land use compatibility, plans and policies

101-49 ALT3A

consistency, visual character, traffic, noise and vibration, light, wind, and shadow impacts are carried over into the evaluation of Alternative 3A.

The DEIR should evaluate a modified Alternative 3A that includes expansion of the St. Luke's campus west to Guerrero Street through CPMC acquisition of the existing residential development between 27th Street, Guerrero Street and Cesar Chavez Street. This comparatively feasible modified alternative would avoid and reduce significant impacts at the Cathedral Hill campus, and would allow more room for a site plan and building configuration that minimizes impacts on remaining homes on the south side of 27th Street, San Jose Avenue and Duncan Street. 101-49 ALT3A

Replacement Hospital at Existing Location: The DEIR should evaluate an alternative that involves demolition of the existing hospital tower and construction of a replacement hospital in the same location. This alternative would be comparatively feasible and would avoid or reduce the potentially significant impacts of the replacement hospital on adjacent residential uses to the west. The existing 60 licensed operational acute-care beds could be temporarily provided at the Cathedral Hill campus and/or the other three campuses to maintain continuum of care. The existing surface parking lot west of San Jose Street could continue to be used for employee parking. Or the medical office building included in the proposed LRDP could be developed on the existing surface parking lot west of San Jose Street, and thereby avoid 24-hour emergency department and loading area operations, with associated noise, lighting, visual and traffic impacts at that location. Alternatively the portion of the campus west of San Jose Street could be developed with residential uses consistent with the RH-2 zoning and compatible with existing adjacent residential uses. 101-50 ALT

Lower Impact Emergency Department and Loading Area Location: The DEIR should evaluate alternative locations for the emergency department and loading area, two aspects of the replacement hospital that are particularly incompatible with the adjacent residential uses. This alternative would avoid or reduce some potentially significant impacts and potentially unavoidable significant impacts of the replacement hospital on adjacent residential uses to the west. The DEIR should evaluate leaving San Jose Street open so ambulance access and loading could occur away from neighboring sensitive residential uses, thereby avoiding safety conflicts between vehicles, pedestrians and bicyclists on Valencia Street and Cesar Chavez Street, and impacts of loading space on traffic flow, pedestrians and bicycles along Cesar Chavez Street. The DEIR should also evaluate location of both emergency and loading access on Cesar Chavez Street. 101-51 ALT

Sincerely,
MOSCONE EMBLIDGE & SATER LLP

Rachel J. Sater

cc: Mark Farrar
Lost Block
San Jose/Guerrero Coalition to Save Our Streets
Hon. David Campos, Board of Supervisors

Letter 102

October 19, 2010

Bill Wycko, Environmental Review Officer
San Francisco Planning Department
1650 Mission Street, Suite 400
San Francisco, CA 94103

Subject: Comments on Draft Environmental Impact Report,
California Pacific Medical Center (CPMC) Long Range Development Plan
Planning Department Case # 2005.0555E
State Clearinghouse # 2006062157

Dear Mr. Wycko:

Thank you for the opportunity to comment on the subject Draft Environmental Impact Report (DEIR) for the California Pacific Medical Center (CPMC) Long Range Development Plan. CEQA, a law which emphatically provides for involvement the general public in assessment and mitigation of the impacts of development projects, affords the general public a rightful "place at the table" in the City's consideration of this Project. I hope and expect that the City, in response to these comments, will continue to closely include the public in further evaluation of the Project's environmental impacts, and in structuring alternatives to and/or mitigation for those impacts.

Background

Our comments are directed at how [1] constructing and [2] operating the new Cathedral Hill Campus will affect our property located at 1033-37 Polk Street [adjacent to the proposed Medical Office Building, see enclosed map]. 1033 Polk Street is the street-level commercial floor of a two-story building owned by Ron Case and Carolynn Abst. Our firm, Case+Abst Architects, is located at 1033 Polk Street. 1037 Polk Street is the second floor above 1033 Polk, and is the only residence of Ron Case and Carolynn Abst. Thus we, Ron Case and Carolynn Abst, occupy the entire building of 1033-37 Polk Street on a 24-hour basis, 7 days a week.

102-1 OTH

Our comments are directed at the environmental [and economic] impacts as described in CPMC's draft Environmental Impact Report, published July 21, 2010. The comments listed below are related to the following draft E.I.R. impacts: [most with "significant impact" listing]

Comments

4.5 Transportation and Circulation
- Impact TR -1 thru 2
- Impact TR- 3 thru 7
- Impact TR-9 thru 17
- Impact TR-30 thru 31
- Impact TR-34 thru 35
- Impact TR-37 thru 39
- Impact TR-44 thru 45
- Impact TR-51
- Impact TR-55 thru 57
- Impact TR-101 thru 103
- Impact TR-108 thru 109
- Impact TR-113 thru 115
- Impact TR-116 thru 118

Impact TR-120 thru 124
Impact TR-133 thru 147
Impact TR-152

4.6 Noise
Impact NO-1 thru 5

4.7 Air Quality
Impact AQ-1 thru 14

4.9 Wind and Shadow
Impact WS-1 thru 2

4.12 Utilities and Service Systems
Impact UT-1 thru 4
Impact UT-6

4.15 Hydrology and Water Quality
Impact HY-3

4.16 Hazards and Hazardous Materials
Impact HZ-1

102-1 OTH

I. Comments directed at the <u>construction effects</u> to our health and property:

A. We have one operable window on our 1st [office] floor for fresh air/air circulation for the entire office. The operable window is adjacent to new MOB site.
In summary, we are seriously concerned about:
1. The loss of the use of this window due to construction dust. [health issue]
2. The loss of the use of this window due to construction noise. [health and work issue]
3. The loss of the use of this window in order to keep out exhaust fumes from construction truck traffic and trucks and vans idling while waiting to be sequenced into the construction site for pick-up or delivery of materials. [health and work issues]
4. The loss of ventilation to the conference room and office in general. [health and work issue]
5. Uncomfortable raised temperatures at interior spaces due to the need to close this window due to noise and dust and exhaust fumes. [health and work issue]
6. The loss of natural light to the conference room due to the amount of construction dust on the window. [health issue]
7. The loss of natural light due to new MOB height. [health issue]

102-2 AQ

102-3 WS

We are also concerned with the conclusions contained throughout the draft EIR's Air Quality section with respect to the Cathedral Hill project. Generally, it appears that the conclusion that a number of the impacts will be reduced to a less than significant level appears cursory and based on impacts over a larger region. Our property's location on Cedar Street will result in a number of these "less than significant" impacts still having potentially significant impacts on our health, our business and our property.

102-4 AQ

For example, mitigation measures for Impact AQ-1 and AQ-8 identify actions to reduce fugitive dust before trucks leave the Cathedral Hill MOB construction site. Although this dust reduction could potentially reduce overall impacts for the area, the actions do not appear to reduce those impacts for residences and businesses located in immediate

proximity to construction sites. It appears that the majority of the fugitive dust reduction measures would not lessen the impact to properties in close proximity to the construction sites, but rather only for those potential impacts realized from trucks transporting the fugitive dust.

102-4 AQ

Further, we are concerned with the prevalence of a conclusion that there are significant, yet unavoidable impacts without a thorough consideration of mitigation measures or alternatives. For example, Impacts AQ-2, AQ-3, and AQ-9 through AQ-11 state that there are significant, but unavoidable impacts, mostly due to the uncertainty of equipment availability. There does not seem to be evidence that CPMC fully explored all if its options to mitigate potentially significant impacts.

102-5 AQ

These conclusions are particularly concerning given the location of our property. Not only is our property directly across the street from the future Cathedral Hill MOB construction site, it is also downwind of the majority of the Cathedral Hill construction. As a result, all significant air impacts will directly affect our business and residence. Further, as mentioned above our business has one operable window on the Cedar street level that provides the entire office with ventilation. We do not have an internal air circulation system. We rely on the natural wind patterns to provide air circulation for the business. As a result, all potentially harmful air pollutants would be carried into our business. Given the potential harmful effects of the air quality impacts, the apparently small amount of mitigation measures for these significant but unavoidable impacts is troubling for our health and business.

102-6 AQ

B. Our office windows are not acoustical. The construction noise will penetrate our working areas, making it hard to concentrate, talk on the phone, and communicate within the office. In other words, difficult to perform daily office functions. [health issue; also see attached noise report and noise article]

102-7 NO

In additional, the DEIR at Table 4.6-20 identifies significance thresholds as an increase existing ambient noise by 5 db or greater when existing ambient noise is less than 60 db and an increase of 3 db when existing ambient noise exceeds 60 db. In addition, the significance criteria identifies that the project could have a significant effect on noise if it would result in substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project or result in substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

The proposed construction of the Cathedral Hill Hospital and MOB would begin in early 2011 and would continue for approximately 4-1/2 years; the demolition time period would be 6-9 months; the excavation time period would be 5-6 months; the foundation work would take another 3-6 months; and the structural work would take an additional 16-18 months. The DEIR notes that the excavation and hauling associated with the Medical Office Building would involve 92,000 cubic yards excavated from the Medical Office Building site. Thus, the EIR concludes the loudest construction noise at the Cathedral Hill campus would occur in the first 11-15 months of construction. Table 4.6-22 indicates that the ambient existing noise level near our property is 66 db and would increase to 83 db, an increase of 17 db during demolition, excavation, and construction noise. Similarly, property close to ours would increase from 65 db to 75 db, or an increase of 10 db during that same time period. The EIR also acknowledges the maximum noise level generated by project construction activities at the exterior of these land uses could be up to 87 db.

102-8 NO

In addition, the EIR identifies that CPMC is proposing a second construction shift during the demolition and excavation phase at the MOB and Hospital. This second shift would be from 4 p.m. to midnight, Monday through Friday. This second shift would be proposed for

demolition and excavation, foundation and structural stages, and welding activities – again, extending years into the construction time period. The DEIR further acknowledges that in summary, the proposed construction would create noise that would be out of compliance with noise levels for daytime construction established by the San Francisco Noise Ordinance and would also be out of compliance for the proposed second shift nighttime construction.

The DEIR does contain some mitigation measures in an attempt to modify noise to a level of less than significant. These mitigation measures, and, specifically, M-No-N1C, involve the subsequent preparation of a construction noise management plan. This Construction Noise Management Plan should have been part of the EIR that has been circulated and made available for public comment. The proposed Construction Management Plan anticipates that if noise levels do actually exceed City noise standards, that the Management Plan and the retained consultant would review and approve additional mitigation measure to minimize prolonged sleep disturbance. The efficacy of these mitigation measures is, however, not able to be reviewed since the actual mitigation measures and the actual implementation of those measures have not been analyzed in this document. CEQA requires that all appropriate mitigation measures be fully analyzed as part of the EIR and not improperly delayed especially for the "project" level component of this development, which includes the hospital and MOB. 102- 8 NO

C. The access to our parking is in Cedar Street [bordering the MOB site]. Our access to and from will be limited and interrupted due to construction material, deliveries, trucks, etc. [work and living issue] 102-9 TR

D. With the daily construction activities and equipment having to pass our office [and residence] constantly we will be subject to loud noises, traffic congestion, vehicle emissions, debris, and dirt. [health issue] 102-10 AQ

E. Construction will result in vibration levels near our building that reach 82 (VdB) which the DEIR identifies as exceeding human annoyance thresholds and characterizes as a significant and unavoidable impact. (See Table 4.6-35) [health issue] 102-11 NO

E. With construction trucks and equipment moving throughout our drive areas we will be subject to construction debris all along area building and drive. [health and work issue] 102-12 AQ

F. The entire building is a major economic investment for us; the building will be coated with construction dirt and dust, damaging the finishes [roof, walls and windows] and hastening the durable life of the building and its components. [economic issue] 102-13 AQ

G. Even with shuttles being available for construction workers, they will need to drop off their equipment and tools at the site. This additional traffic noise, vehicle exhaust, and dirt will be a burden placed on our office, the employees, and our residence. 102-14 TR

H. There are no catch basins [storm and sewer inlets] at the corner of Polk and Cedar Street. Cedar Street slopes down from Van Ness to Polk. Construction water used to clean equipment, etc. will pond at our corner, next to our building entry, and construction detritus will be walked into our office and residence. We have seen this occur when other buildings along Cedar Street have undertaken construction projects, and we have had to involve DPW and owners to mitigate the mess. [This is a major health and work issue] 102-15 HY 102-16 AQ

I. As construction progresses, Cedar Street will become blocked at times and the paving will become torn up. This is our only means to get to our garage. We will have to endure five years of delays and accelerated wear and possible damage to our car. 102-17 TR

J. We are concerned with day and night security, not only within the construction site but all along the block. We need 24 hour security to prevent graffiti, vandalism and homeless encampments. 102-18 OTH

II. Comments directed at the long term affects to our health and property:
[Once Hospital and MOB are occupied]

A. With entry and exit of the MOB parking less than 50 feet away from our parking entry we will experience long waits and traffic congestion to get in and out of our own garage. The garage is use throughout the day and evening. This problem will be greater if the queue areas for cars entering the MOB parking garage on Cedar are inadequate. The DEIR fails to contain an adequate analysis of the required queuing space for the Cedar entrance. 102-19 TR

If the MOB parking is open in the evenings we will experience this problem continually.

B. If the MOB parking is open in the early morning and evening we will be forced to endure noise throughout the entire day. If the evening use is allowed we will be forced to the noise of people coming and going to their cars, plus the car noises and emissions. 102-20 NO

In addition to the construction noise, the operation of the hospital and the MOB will also significantly increase traffic noise. Specifically, the EIR notes that the increased traffic volumes could result in a noticeable 3 db or greater increase in traffic noise along roadways on or near the campus. The EIR further notes that the LRDP-related traffic noise would result in a noticeable 3 db or greater increase in the ambient traffic noise levels along Cedar Street between Polk and Van Ness. This increase would likely be perceivable to existing nearby noise sensitive receptors, such as our residential and commercial building. 102-21 NO

The actual net increase in db is an amazing 10.3 from the baseline existing condition of 52 along Cedar to a proposed cumulated plus project of 62.3. The 10.3 increase violates existing City policy, which provides that increases in ambient noise of 5 db are considered significant impacts. There is a brief discussion in the EIR which suggests that the ambient noise level along Cedar Street is actually higher than the amount recorded during the noise analysis of 52 db as a result of noise flowing from Van Ness and Polk Streets down and along Cedar Street. Because of this noise that originates off different streets, the DEIR asserts that the actual increase along Cedar Street is approximately 2 db. Thus, the DEIR requires no mitigation for this 10.3 db increase in the ambient conditions. The DEIR should have identified mitigation measures that would have been applicable to minimize the impact of the 10.3 actual increase in db along Cedar Street. 102-22 NO 102-23 NO

In addition, the DEIR discusses noise from stationery equipment. Specifically, the DEIR indicates that on-site sensitive receptors, such as our home and our business, which do rely on windows for ventilation, would experience a significant impact in that the resulting stationery noise for our property would be in excess of 45 db as the sound attenuation that would occur would be 15 db from the 70 db that is anticipated and identified at the property lines for the proposed Cathedral Hill campus. The DEIR should include mitigation for this significant effect on our property. 102-24 NO

C. With the MOB deliveries shown to be next to the parking entry this will be an additional traffic, noise and exhaust issue. This renders our few operable windows unusable. This problem will be magnified because the DEIR identifies that the loading space demand for 102-25 NO 102-26 TR

the MOB is 4 spaces and the available supply is only two spaces. The DEIR asserts, with no data to support the assertion that this situation will be mitigated by scheduling deliveries and by parking on street when necessary. The on street parking will only further amplify the traffic and exhaust impacts near our property. 102-26 TR

D. The amount of car and truck traffic next to our building, stopping and starting, trying to pull out on to Polk Street, will, overtime damage our exterior finishes [roof, walls and windows. 102-27 TR

E. As with all hospital campuses, there will be cars circling the neighborhood waiting to pick up, drop off, and/or looking for parking. A major part of the neighborhood circling will be down Cedar Street, at our building. The situation will be exacerbated by the significant and unavoidable impact at intersection of Polk and Geary near our office. Again, a major health and noise issue. 102-28 TR

F. We currently have two parking spaces in front of our building. It is proposed that one of these spaces be eliminated, for visibility reasons. This will be a negative impact on our business due to reduced client parking availability. 102-29 TR

G. The ten story building height of the MOB will greatly reduce the natural light to our building, thus negatively affecting our work and living environment. 102-30 WS

The existing buildings near our property and proposed for demolition to construct the MOB contains two- and three-story buildings that are up to 40 feet in height. The proposed MOB will place a nine-story building of approximately 169 feet in that location. This proposed MOB will drastically alter the sun and shadow patterns for businesses and residences on Cedar Street and Post Street. The shadow fan analysis reveals that the MOB will cast shadows on significant portions of Cedar Street between Polk and Van Ness during all seasons except the summer equinox. Additionally, the analysis predicts that Cedar Street will be entirely covered in shadows during the afternoon in all seasons except the summer equinox. This loss of sun exposure would significantly impact our property. 102-31 WS

The shadow fan analysis is troubling as our property would lose a significant amount of sun exposure. Our property contains numerous windows along Cedar Street due to its south-facing orientation. Sun exposure is critical not only for economic function, as it encourages pedestrian activity, but it also affects physical and mental health. Scientific studies have demonstrated the importance that natural sun exposure serves. We are very concerned that the proposed MOB would result in placing our residence and business in shadows for the majority of the year. The intent of San Francisco Planning Code Section 295 (the Sunshine Ordinance) is to protect sunlight in open spaces. Even though Cedar Street does not encompass open space within SFPRD's jurisdiction, the proposed project would nonetheless drastically impact the sidewalks of our neighborhood, which are the public areas within San Francisco that we and our clients utilize the most. 102-32 WS

The loss of sunlight along Cedar Street is even more troubling, given the fact that the wind analysis in the DEIR anticipates an increase of wind at Cedar and Van Ness beyond the pedestrian comfort level from 16% to 21%. The combination of loss of sun and increase of wind along Cedar will drastically change the character and comfort of Cedar Street. Even though the DEIR asserts that the impacts are less than significant for the study area, these impacts are significant for those properties within the immediate area of the MOB. 102-33 WS

H. Because we will be in a hospital zone parking for our clients will be very difficult and deter clients from coming. 102-34 PH

I. We are concerned about the continuing health issues surrounding hospitals and medical facilities. We are concerned that the emissions and discharges from the 102-35 HAZ

building will be a health hazard. We occupy the building 24 hours a day, 7 days a week. Small amounts of hazardous materials over a long period can be a major health issue.

102-35 HAZ

Health studies of the neighborhood surrounding UCSF has shown that there is a larger percentage of health related issues than outlining neighborhoods. Then there is the issue of hospital patience contracting infections and diseases while in the hospital. Some of this must carry outside the medical facility.

102-36 HC

III. Comments related to proposed community recreational facility.

With regards to recreational impacts, the DEIR provides that the General Plan's Recreation and Open Space Element states that, "To the extent it reasonably can, the City should increase the per capita supply of public open space within the City." In addition, the Recreation and Open Space Element provides that the focus of the updated element includes "improving access to open space and prioritizing open space acquisitions and improvements in high need areas."

102-37 RE

As noted on page 4.10-28, the proposed Cathedral Hill campus location is identified in a high need area where the City seeks to provide new open space. While the DEIR indicates that the proposed Cathedral Hill campus would intensify the activity and uses on campus and could generate more trips to local nearby parks than under current conditions, the only additional park facilities provided as part of the Cathedral Hill campus are a privately owned, but publicly accessible, outdoor courtyard located on the fifth floor podium level of the hospital. There are also some additional public spaces that are referenced in the DEIR and that include different activity zones, but those spaces are not further defined in the DEIR.

While the DEIR concludes that the near-term project would result in an incremental increase in demand on nearby facilities associated with the proposed Cathedral Hill hospital and medical facility, the incremental increase in demand would not result in a need to expand the existing recreational facilities or construct new facilities or cause physical deterioration of nearby parks and open spaces. Notwithstanding these findings, we understand that CPMC is considering providing additional privately managed park space near the CPMC facility for the benefit of its employees and the adjoining area. The proposed location of the additional recreational facility may be constrained because of the unwillingness of the owner to sell the property. To that end, we recommend that CPMC look for other nearby adjacent property on which such a privately managed open space could be constructed.

102-38 RE

Proposed Additional Mitigation Measures:

Option #1

It is our belief that after review of the draft EIR and design documents the new hospital and MOB construction and operation will create an intolerable living and working condition. For our health and well being we would like to permanently move from our location. We would like help from CPMC for this endeavor.

102-39 OTH

Option #2

If option #1 is unachievable we would like the following mitigation measures provided based on our having to live and work with less than desirable conditions both during construction and after MOB and hospital occupancy:

1. **Health and Safety**
   A. For the duration of the construction pay for relocation of our office and residence with similar accommodations [size space arrangement and amenities]. Cost to include all rents and relocation expenses:
      [1] New office set-up [phones, stationery, packing & moving expenses, utilities, etc.]
      [2] Living arrangements similar to our current arrangement [packing & moving, utilities, etc.]
   B. At the completion of construction pay for all expenses associated with returning to our existing location.
   C. At the end of construction [and before moving back]
      [1] Provide for new acoustical windows [1" thick] and doors throughout. Provide for clear replaceable film on exterior of all first floor windows and doors.
      [2] Provide [design; equipment necessary and installation] of total air conditioning system for both 1st & 2nd floors. System[s] to have a superior filtration component.
      [3] Repair and paint the total exterior of the building [same paint and colors as existing].
      [4] Replace existing roof with like system
2. **Protection and Care of Property** [during construction]
   A. Secure existing building [1033-37 Polk] from vandalism and miscellaneous damage.
   B. Remove all graffiti within 24 hours
   C. Repair any damaged areas within a few days time.
   D. Protect and care for the 4 palm trees and ground cover on the exterior of the building.
3. **Use of Property [after construction]**
   A. Install metering lights at MOB parking exit on Cedar Street so that we can halt exiting traffic briefly while we inter or exit our garage.
   B. Provide four [4] free parking space in the MOB for our clients to use [with validation] at no cost to us.
   C. Establish a committee or group who will meet quarterly to work out conflicts and issues that arise. [Also, establish a person we can call at anytime to resolve matters that won't wait until our quarterly meetings.]

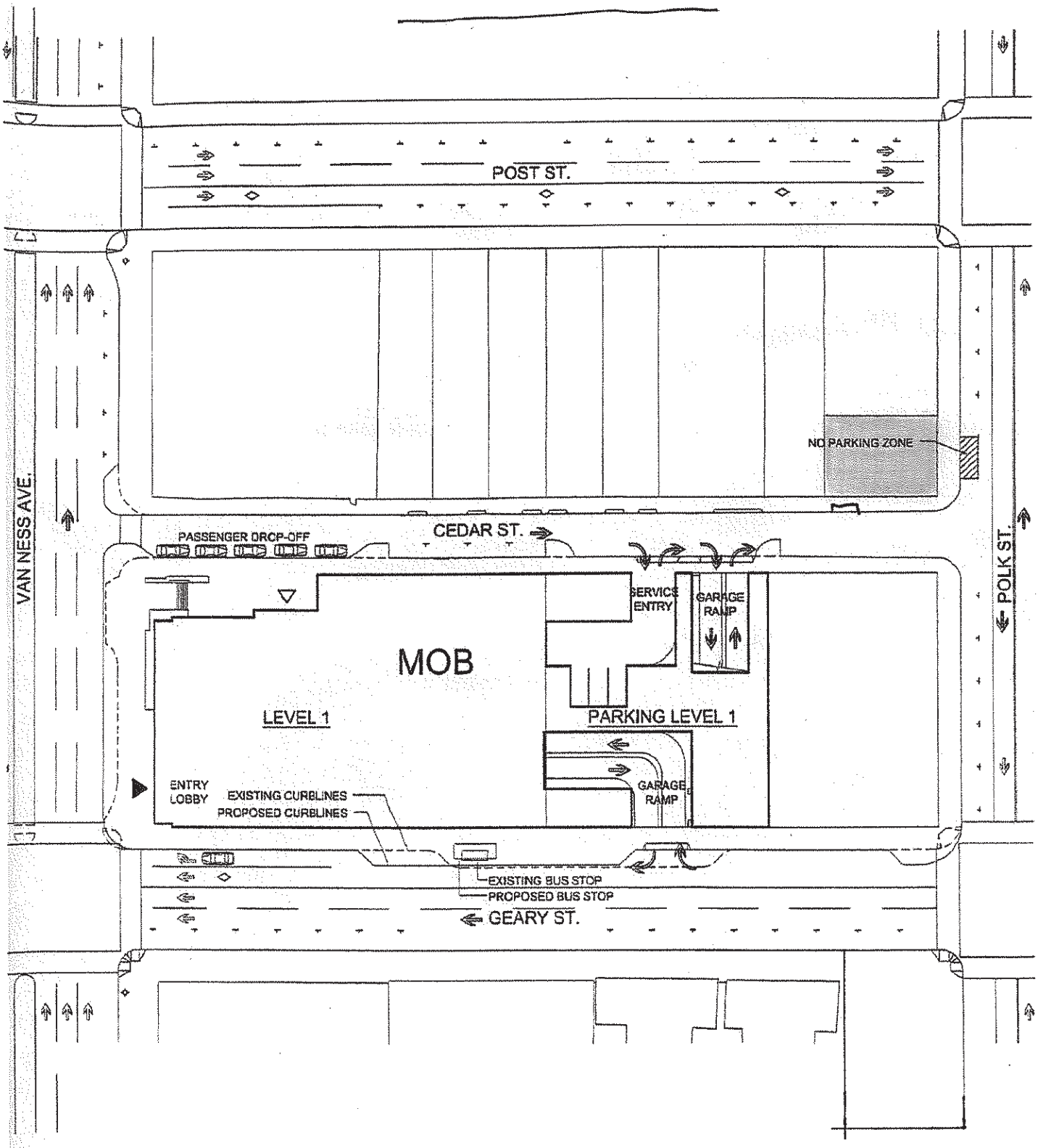
102-39 OTH

Sincerely,

Carolynn Abst

Ron Case

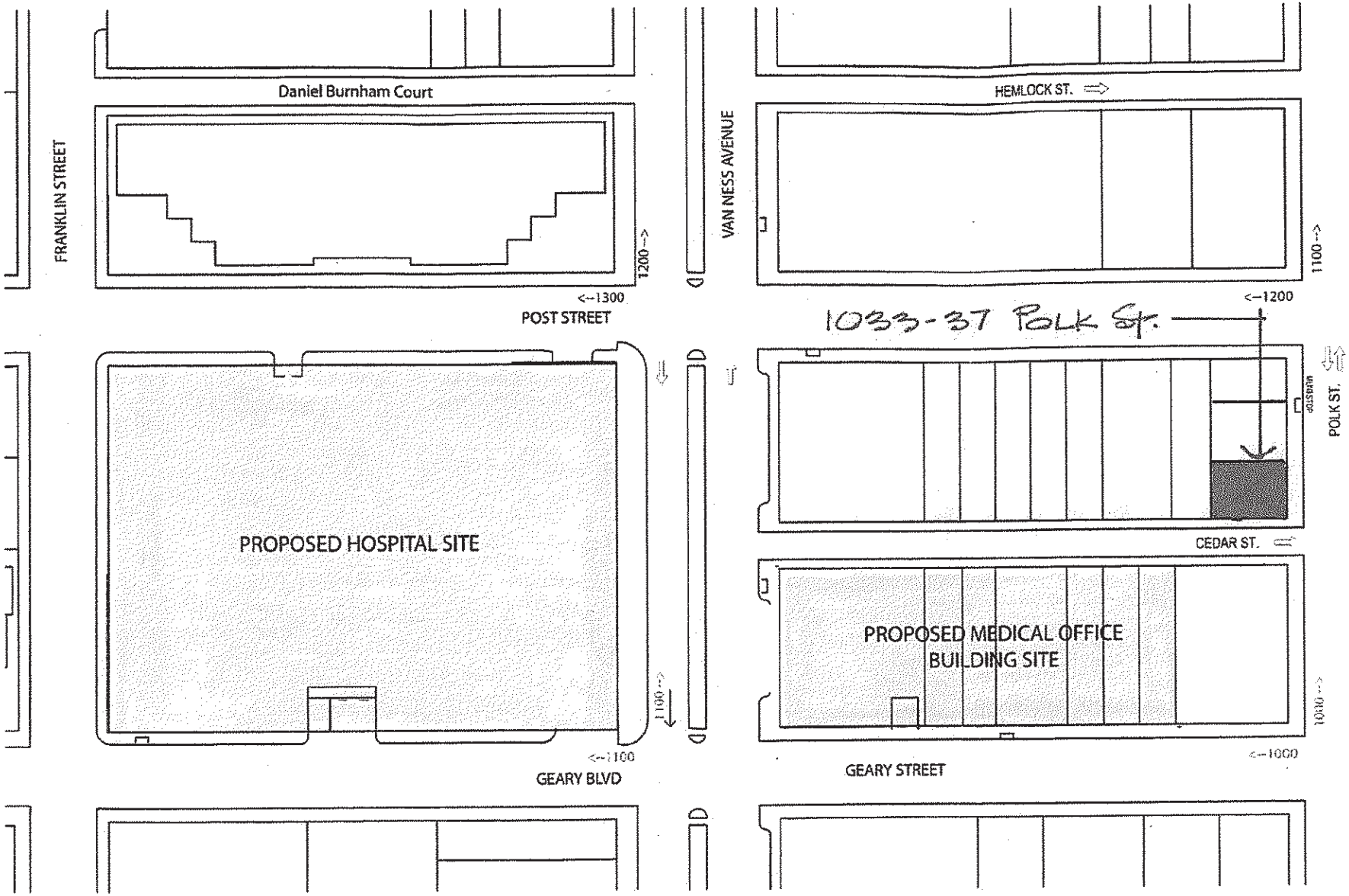
Attachment to Letter 102



NOTE : INFORMATION SHOWN ON THIS SITE PLAN REPRESENTS DESIGN INTENT ONLY. EXACT LAYOUT AND DIMENSIONAL INFORMATION WILL BE DETERMINED UPON DETAILED DESIGN & SURVEY VERIFICATION, APPROVALS AND FURTHER DEVELOPMENT OF SITE DETAILS.

Attachment to Letter 102

PROPOSED VAN NESS/GEARY CAMPUS SITE



Attachment to Letter 102

Lower Polk Neighborhood Traffic Noise Study
Study Report
July 6, 2010

Overview

During the 2009-2010 academic year, a UCSF School of Nursing student measured street noise levels in the Lower Polk neighborhood of San Francisco. The project was undertaken as part of an academic externship with Tom Rivard, Manager of the Health Hazard Assessment Group at the San Francisco Department of Public Health.

Methods

Sample: Twenty-four hour noise levels were measured at 5 locations (4 residential and 1 office) in the Lower Polk neighborhood. The sample was a convenience sample of residents who volunteered to host the recording equipment. Residents were recruited at the December 2009 meeting of the Lower Polk Neighbors, and through word of mouth.
Noise recording: Noise levels were measured using a calibrated noise dosimeter. The microphone of the dosimeter was suspended outside of a window opening of each residence, at the busiest availabe edge of the building. An audio recorder took a concurrent recording. The dosimeter measured the noise levels in 15-second average increments, while the audio recorder made a continuous recording that allowed the researchers to identify the sources of noise events.
Interviews: The five participants responded to structured interview questions regarding household demographics and experiences of traffic noise at their residences.
Research approval: Permission for the project was granted by the UCSF Committee on Human Research in February 2010. Consent was obtained from all participants.

Results

The dosimeter provided average 24-hour noise levels as well as average 15-second increment noise levels. The researcher used the audio tape to identify sources of noise for each 15-second increment that was 75 decibels or louder. (The researcher did not identify sources of noise 74.9 decibels or less.)

Location 1
Where: Outside of a 3rd story bedroom window on Polk Street between Bush & Pine.

When:	Saturday 3/6/10 to Sunday 3/7/10
Average 24-hr noise level (Leq):	**70.2 decibels**
Loudest 15-second increment:	97.2 dB at 1:51am, caused by an emergency vehicle (EV).
Total time > 75 decibels:	24 minutes
Source of noise > 75 decibels:	15 minutes by trucks, motorcycles, cars, other 9 minutes by EVs
Avg level of non-EV noise events:	77 decibels
Avg level of EV noise events:	86 decibels
Number of EV events:	18
Number of night EV events*:	7

Location 2

Where: Outside of a 2nd story living room window on Polk Street between Geary & Post.

When:	Saturday 4/16/10 to Sunday 4/17/10
Average 24-hr noise level (Leq):	**76.7 decibels**
Loudest 15-second increment:	106.0 dB at 4:09 am, caused by an EV.
Total time > 75 decibels:	128 minutes
Source of noise > 75 decibels:	103 minutes by trucks, motorcycles, cars, other. 25 minutes by EVs.
Avg level of non-EV noise events:	77.2 decibels
Avg level of EV noise events:	83.5 decibels
Number of EV events:	44 (included 5 EV events >100dB)
Number of night EV events*:	7

Location 3

Where: Outside of a 4th story window, recessed from Hyde Street, between California & Sacramento.

When:	Friday 4/30/10 to Saturday 5/1/10
Average 24-hr noise level (Leq):	**61.0 decibels**
Loudest 15-second increment:	84.0 dB at 8:01 pm, caused by an EV.
Total time > 75 decibels:	3 minutes
Source of noise > 75 decibels:	2.5 minutes by trucks, motorcycles, cars, other. 0.5 minutes by EVs.
Avg level of non-EV noise events:	78 decibels
Avg level of EV noise events:	79 decibels
Number of EV events:	4
Number of night EV events*:	0

Location 4

Where: Outside of a 3rd story bedroom window on Sutter Street between Polk & Larkin.

When:	Saturday 5/8/10 to Sunday 5/9/10
Average 24-hr noise level (Leq):	**70.0 decibels**
Loudest 15-second increment:	96.7 dB at 5:52 pm, caused by an EV.
Total time > 75 decibels:	40 minutes
Source of noise > 75 decibels:	34 minutes by trucks, motorcycles, cars, other. 6 minutes by EVs.
Avg level of non-EV noise events:	77.7 decibels
Avg level of EV noise events:	81.3 decibels
Number of EV events:	18
Number of night EV events*:	6

Location 5

Where: Outside of a 1st story office window on Post Street between Polk & Larkin.

When:	Tuesday 5/11/10 to Wednesday 5/12/10
Average 24-hr noise level (Leq):	**71.1 decibels**
Loudest 15-second increment:	96.0 dB at 5:21 pm, caused by an EV.
Total time > 75 decibels:	48 minutes
Source of noise > 75 decibels:	34 minutes by trucks, motorcycles, cars, other. 14 minutes by EVs.
Avg level of non-EV noise events:	77.8 decibels
Avg level of EV noise events:	84.0 decibels
Number of EV events:	34
Number of night EV events*:	13

* 11:00 pm to 7:00 am.

Interview Results

Below is a sample of responses from a structured interview with the resident of each noise monitoring location.

- Do you ever keep your windows closed on hot nights due to noise?
  Yes: 3 of 5 No: 2 of 5.
- How often (if ever) is your sleep disturbed by noise?
  Every night: 1 of 5
  2-3x/week: 2 of 5
  Weekly: 1 of 5
  N/A (business): 1 of 5.
- How does noise rank in comparison to other concerns you have about your neighborhood.
  Top concern: 1 of 5
  3rd or 4th: 4 of 5

- "I think that on a long term basis, (the road noise) isn't good. It makes you more agitated and more anxious."
- "I feel really defeated about the noise problem... It creates excruciatingly high levels of physical stress."

Discussion

While most community noise data is based on computerized noise models, this data provides empirically obtained data. This study provides exterior noise level data for four residential and one commercial locations in the Lower Polk neighborhood. The 24 hour noise levels varied widely, from 61.0 dB at the quietest location to 76.7 dB at the loudest location. Three of the locations (1, 4, and 5) had average levels between 70.0 and 71.1 decibels. This suggests that many residences with windows on main streets in the Lower Polk experience average levels around 70 dB of noise daily. Noise levels at the loudest location (76.7dB) were likely influenced by proximity to two major streets, the fire station, and a homeless shelter. Noise

levels at the quietest location (61.0dB), on the other hand, were likely influenced by the recession of the window from the street and the height of the window at the 4th story.

According to the World Health Organization, exposure to average environmental noise levels greater than 55 decibels causes annoyance, and long term exposure to levels greater than 65 decibels may have cardiovascular effects (WHO 1999). The WHO recommends levels of 45 decibels or less at night to ensure good sleep (WHO 2009). Four of the five locations measured exceeded these levels.

In all of the locations, the majority of loud moments were caused by trucks, motorcycles, and cars driving by. However, the peak noise moments were caused by emergency vehicles.

Limitations of the research

The audio tape enabled the researcher to identify general categories of noise sources, such as cars and trucks driving by; car alarms; people yelling; and emergency vehicle sirens. She did not break these categories into more specific sources, such as a truck engine versus a motorcyle engine, or an ambulance's siren versus a fire truck's siren. Additional research using video would be necessary to identify sources with more specificity.

The sample was a convenience sample, and was not random. There is likely selection bias present in the sample, as those that volunteered are those who were concerned about noise levels. However, these locations were likely representative of other housing units with windows facing major streets in this area.

Furthermore, the research does not account for the temporal factors that may influence noise levels, such as the weather, the day of the week, or the time of the month. For example, some residents anecdotally noted that they notice more noise at the beginning of the month, while others noted that foggy nights tend to be quieter.

The samples were measured at the exterior of windows. Well-insulated windows and walls can dramatically decrease interior noise levels. However, most of the housing stock is not well insulated, and in San Francisco's temperate climate, leaving windows open is sometimes necessary and desirable for climate control. Therefore, exterior noise levels are important indicators of interior levels.

About the researchers

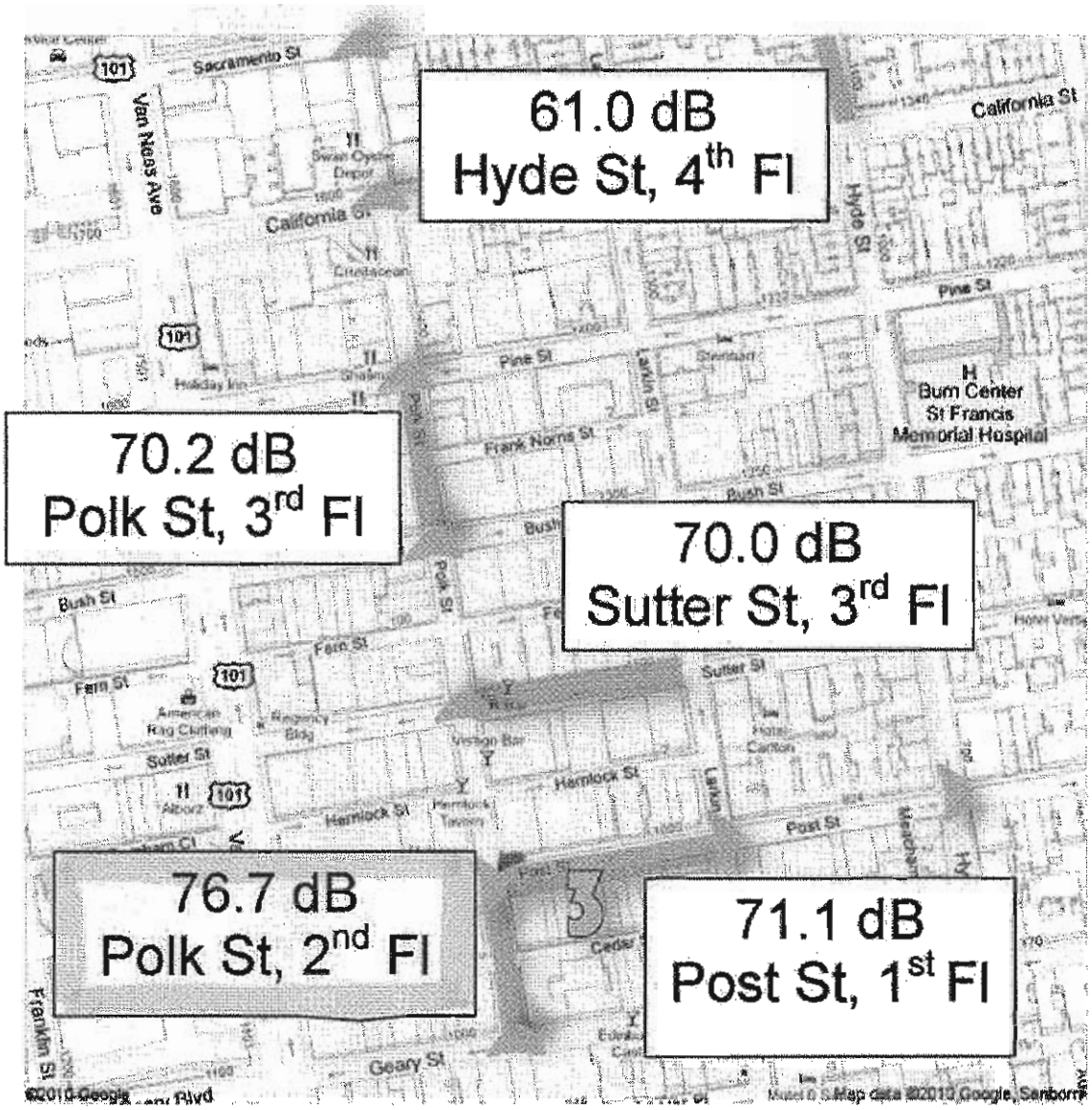
This study was undertaken to measure noise levels from residential locations and to identify sources of noise to the extent possible. The research was undertaken by Elisabeth Goldstein, RN, an MS student at the UCSF School of Nursing, Department of Occupational and Environmental Health. Her preceptor for this research was Tom Rivard, Manager of the Health Hazard Assessment Group at the San Francisco Department of Public Health, who also provided the noise dosimeter. The Principal Investigator was Dana Drew-Nord, faculty member at the UCSF School of Nursing.

References

World Health Organization. (1999). *Guidelines for Community Noise*. Berglund, B., Lindvall, T., & Schwela, D, (Eds). Retrieved from http://www.who.int/docstore/peh/noise/guidelines2.html

World Health Organization Regional Office for Europe. (2009). *Night Noise Guidelines for Europe*. Hurtley, C. (Ed.) Retrieved from www.euro.who.int/document/e92845.pdf.

Figure 1: Map of Monitored Locations and 24-hour Average Noise Levels



Attachment to Letter 102

What is a decibel, and how is it measured?

Browse the article What is a decibel, and how is it measured?

What is a decibel?

Up Next

- How Surround Sound Works
- How Speakers Work
- Discovery.com: Hearing

The **decibel** (abbreviated **dB**) is the unit used to measure the intensity of a sound. The decibel scale is a little odd because the human ear is incredibly sensitive. Your ears can hear everything from your fingertip brushing lightly over your skin to a loud jet engine. In terms of power, the sound of the jet engine is about 1,000,000,000,000 times more powerful than the smallest audible sound. That's a big difference!

On the **decibel scale**, the smallest audible sound (near total silence) is 0 dB. A sound 10 times more powerful is 10 dB. A sound 100 times more powerful than near total silence is 20 dB. A sound 1,000 times more powerful than near total silence is 30 dB. Here are some common sounds and their decibel ratings:

- Near total silence - 0 dB
- A whisper - 15 dB
- Normal conversation - 60 dB
- A lawnmower - 90 dB
- A car horn - 110 dB
- A rock concert or a jet engine - 120 dB
- A gunshot or firecracker - 140 dB

You know from your own experience that distance affects the intensity of sound – if you are far away, the power is greatly diminished. All of the ratings above are taken while standing near the sound.

Any sound above 85 dB can cause **hearing loss**, and the loss is related both to the power of the sound as well as the length of exposure. You know that you are listening to an 85-dB sound if you have to raise your voice to be heard by somebody else. Eight hours of 90-dB sound can cause damage to your ears; any exposure to 140-dB sound causes immediate damage (and causes actual pain). See this page for an exposure "ruler."

Attachment to Letter 102

HEALTH SPOTLIGHT

Mother nature's stealthiest brain boosters

THE YOU DOCS

Mehmet Oz, M.D., and Michael Roizen, M.D.

For a razor-sharp brain, less may be more. Yup, flexing your gray matter daily — with a class in conversational Esperanto or after-dinner Sudoku tournaments — may help you reach 81 with a brain like an 18-year-old's (but without so many of those thoughts). But to keep your memory young, your neurons also crave a few deceptively simple "growth factors" that need to be more common than ivory-billed woodpeckers.

One of these factors happens when you do something deceptively simple: unplug. Researchers speculate that being constantly connected to digital devices deprives your brain of the downtime it needs to process information and consolidate memories. In lab studies, rats need breaks to form strong memories of new places they explore. You may, too. It's another reason to turn off your iPhone at dinner, leave your BlackBerry behind when you take a walk and disconnect from the Internet frequently on nights and weekends (except when you're checking out our latest tips on RealAge.com and DoctorOz.com, of course!).

Here's how to get four more stealthy brain boosters off the endangered species list and back into your life:

Less noise, more silence. Noise ages even 19-year-old brains. Loud noises during the night (planes, trucks, trains, the party next door) can disturb deep, restorative sleep enough to make your reaction times "old" in the morning.

Try running a white noise machine to muffle disruptive noises at night. Exposure to high-decibel sounds causes blood pressure and stress hormones to surge, and both can be major brain agers. If you work in a noisy environment (factories, construction), wear a protective headset (hey, they even look cool). Cover your ears if a loud noise erupts near you (jackhammer, siren, low-flying jet, vuvuzelas).

And when you've got to focus, turn off the radio and shut the door. Your brain's less able to screen out distracting sounds with age, making sharp thinking and recall more of a challenge if you're trying to balance the checkbook while listening to the ballgame.

Less artificial light, more natural light. Sun salutations aren't just for yoga class. When your prehistoric ancestors peeked out of their caves each morning to check for saber-toothed tigers, that first burst of natural light woke up the sweet spot deep in their brains — and yours — that's responsible for daytime alertness.

Greeting the day gets your brain in gear, boosting your ability to concentrate and turn out stellar work. The light bulb over your bathroom mirror can't do this. It takes intense blue light, a wavelength so far found only in Mother Nature's home-made morning light.

Scientists are working on artificial versions; there's early evidence that exposure to extremely bright blue-white light may reverse dementia and depression. For most, a few minutes of natural morning light may be all you need to feel bright-eyed and bushy-tailed.

Less stuffy/smelly air, more fresh breaths. You spend 90 percent of your time indoors, where stale air causes mental fatigue and even some diseases. The cause? Anything from mold or mildew to substances released by fresh paint, new carpet, cleaning products and artificial smells — including, disturbingly, some air fresheners.

The fix? Choose scent-free products. Open your windows regularly, open vents on air conditioners, and ventilate well when using cleaning products, scented sprays (even fragrances), and of course when you're painting anything or replacing carpeting.

Less clutter, more wide-open spaces. Visual clutter slows down your brain. That's why clusters of road signs double the chances that you'll miss the one you're looking for, and why website and hospital designers aim for simplicity.

We instinctively look at something uncomplicated while wrestling with tricky problems (which is why you'd rather gaze at a blank wall than a Jackson Pollock painting when you're doing your taxes). Clearing up the clutter on your desk, bureau, files, shelves could do wonders for your bookkeeping, not to mention helping your brain stay closer to age 18.

The YOU Docs, Mehmet Oz and Mike Roizen, are authors of "YOU: On a Diet." Want more? See "The Dr. Oz Show" on TV. To submit questions, go to www.RealAge.com.

Letter 103

LOWER POLK NEIGHBORS

Comments regarding the proposed new CPMC hospital and Medical Office Building (MOB) that are to be located on Van Ness Avenue (together referred to as the Cathedral Hill Campus)

Planning Department Case # 2005.0555E
State Clearinghouse # 2006062157

Lower Polk Neighbors

The proposed Cathedral Hill Campus will be built and operated within the boundaries of Lower Polk Neighbors (LPN). LPN is a registered nonprofit community organization that was established in 2002. LPN's defined boundaries are both sides of California Street on the North, Van Ness Avenue on the West, Ellis Street on the South, and only the West side of Hyde Street on the East. (see enclosed map)

The following are comments and what we feel are acceptable mitigation measures that we, as a neighborhood organization of residents and merchants, desire to achieve in partnership with California Pacific Medical Center (CPMC), to mutually benefit our shared community. 103-1 OTH

All comments are directed at the environmental (and economic) impacts as mentioned in the draft Environmental Impact Report, published July 21, 2010. The comments listed below are related to the following draft E.I.R. impacts (most with "Significant and Unavoidable impact (SU)" listing and others, which we feel are mis-designated, as "Less than Significant Impact (LTS)" listing).

4.1 Land Use and Planning
- Impact LU-1 thru 3

4.2 Aesthetics
- Impact AE-1 thru 4

4.5 Transportation and Circulation
- Impact TR -1 thru 2
- Impact TR- 3 thru 7
- Impact TR-9 thru 17
- Impact TR-27 thru 31
- Impact TR-34 thru 35
- Impact TR-36 thru 45
- Impact TR-49 thru 51
- Impact TR-55 thru 57
- Impact TR-100 thru 103
- Impact TR-107 thru 109
- Impact TR-112 thru 118
- Impact TR-120 thru 124
- Impact TR-133 thru 147
- Impact TR-152

4.6 Noise
Impact NO-1 thru 5

4.7 Air Quality
Impact AQ-1 thru 14

4.9 Wind and Shadow
Impact WS-1 thru 2

103-1 OTH

4.12 Utilities and Service Systems
Impact UT-1 thru 4
Impact UT-6

4.15 Hydrology and Water Quality
Impact HY-3

4.16 Hazards and Hazardous Materials
Impact HZ-1

I. Comments directed at the <u>construction affects</u> to our Neighborhood and Community:

A. In the immediate area of the Cathedral Hill Campus (within a few surrounding blocks) we are concerned about the following –
   1. The loss of the use of operable windows due to construction dust. (health issue)
   2. The loss of the use of operable windows due to construction noise. (health and work issue)
   3. The loss of the use of operable windows due to the need to keep out vastly increased exhaust fumes from cars and trucks on Geary, Van Ness, Cedar, Polk, and Post Streets. (health and work issue)
   4. The loss of the use of operable windows to prevent heat gain and to provide adequate ventilation to the residents and businesses in general due to the need to close windows due to vastly increased noise and dust and exhaust fumes from cars and trucks on Geary, Van Ness, Cedar, Polk, and Post Streets. (health and work issue)
   5. The loss of natural light due to the amount of construction dust on windows. (health issue)
   6. The loss of natural light due to MOB height. (health issue)

103-2 AQ

103-3 AQ

B. The construction noise will penetrate living and work areas, making it hard to concentrate, talk, and sleep and to conduct business. In other words, difficult to perform normal daily functions. (health issue, see attached noise report and noise article)

103-4 NO

C. Our access to and from our living, work, and parking areas will be limited due to construction material, deliveries, trucks, etc. (work and living issue)

103-5 TR

D. For Geary, Cedar, Polk, and Post Street residents and businesses, with the daily construction activities and equipment having to pass our living units and businesses constantly we will be subject to greatly increased and new sources of loud noises, traffic congestion, vehicle emissions, debris and dirt. (work, living, and health issue)

103-6 AQ

E. With construction trucks and equipment moving throughout our area we will be subject to construction equipment noise and debris throughout our neighborhood. (health and work issue) 103-7 AQ

F. Even with shuttles being available for construction workers, they will need to drop off their equipment and tools at the site. This additional traffic noise, vehicle exhaust, and dirt will be a burden placed on our residences and businesses. (health and work issue) 103-8 AQ

G. LPN is concerned that as construction progresses the streets and alleys will become some what torn up causing wear and tear to our own vehicles. (work and living issue) 103-9 TR

H. LPN is concerned with day and night security, not only within the construction site but in the adjacent and radiating neighborhood. We need 24-hour security to prevent graffiti, vandalism, homeless encampments, and garbage dumping by citizens from outside the neighborhood. (work and living issue) 103-10 OTH

II. Comments directed at the <u>long term affects</u> to our Neighborhood and Community (Once Hospital and MOB are occupied):

A. For Post, Polk, and Cedar Street residents and businesses, with new two-way Cedar Street entry and exit lanes to access the MOB parking entry on Cedar Street, we will experience long waits and traffic congestion to get in and out of our own garages. Our garages are used throughout the day and evening. If the MOB parking is open in the evenings we will experience this problem continually. 103-11 TR

B. Again for Post, Polk, and Cedar Street residents and businesses, if the MOB parking is open in the early morning and evening we will be forced to endure noise throughout the entire day. If the evening use is allowed we will be forced to endure added noise of people coming and going to their cars, plus the car noises and emissions. 103-12 NO

C. With the MOB deliveries shown to be next to the parking entry this will be an additional traffic, noise and exhaust issue. 103-13 NO

D. Medical, hazardous, green, recycled, and normal garbage pickup from the MOB will be accessed from Cedar Street. This will involved garbage truck reverse-gear 'beeping' noise when ever garbage trucks back out from the MOB (there is no interior turn around space for garbage trucks). This is going to play havoc on residents and businesses having to listen to these hugely increased and irritating sounds, especially when residents are at home and are sleeping. No statistics are available as to how many garbage pick ups and reverse beeping will happen per hour, per daytime, per nighttime, per week. 103-14 NO

E. As with all hospital campuses, there will be cars circling the neighborhood waiting to pick up, drop off, and/or looking for parking. A major part of the neighborhood circling will be down our streets. Again, a major health and noise issue. 103-15 NO

E. The ten-story building height of the MOB will greatly reduce the natural light to some of our buildings, thus negatively affecting our work and living environments. 103-16 WS

F. Because we will be in a heavily-visited hospital zone, parking for our residents and businesses will be very difficult to come by which will deter potential customers from coming to our area, especially for 'pick up' items. (an economic and livelihood issue) 103-17 TR

G. We are concerned about the continuing health issues surrounding hospitals and medical facilities. We are concerned that the emissions and discharges from biohazards, ventilation of sterilization equipment and surgical by-products from laser use, and general ventilation of a hospital itself and medical building will create a health hazard. Small amounts of toxins and hazardous materials over a long period can cause major health issues. 103-18 AQ

Health studies of the neighborhood surrounding UCSF has shown that there is a larger percentage of health-related issues than outlying neighborhoods. Then there is the issue of hospital patients contracting infections and diseases while in the hospital. Some of this must carry outside the medical facility to the surrounding neighborhood. 103-19 AQ

End of comments

Acceptable Mitigation Measures:

1. **Health and Security**
   A. Sponsor a pilot project for behavioral and technical methods for reducing emergency vehicle (fire and ambulance) siren noise. (see enclosed noise report and health article) 103-20 NO
   In addition, help create a "siren free" zone. This "free" zone establishes a 4 block radius around the hospital where emergency vehicles can not use sirens.
   B. Provide 24 hour/7 days a week security around the entire blocks of the hospital and MOB. 103-21 PD
   C. Establish a fund to help replace residents' windows with acoustical windows, for units with windows on O'Farrell, Alice B. Toklas/Myrtle, Geary, Cedar, Post, Hemlock, Sutter, Fern, and Pine Streets (on blocks extending from Van Ness to Larkin Street) 103-22 NO
   D. Because of extensive senior housing in the neighborhood, convert the existing shelter (Next Door) into a senior health, fitness, and social center, with health and exercise classes, a senior fitness center, and on-going classes, etc. 103-23 OTH

2. **Neighborhood Vitality** (and Traffic Calming)
   A. Fund the Lower Polk Neighbors (LPN) attempt to pass a neighborhood CBD. (Include funds for an employee(s) to prepare, coordinate, and submit necessary documents.) 103-24 OTH
   B. Become an active and participating member of Lower Polk Neighbors (LPN)

C. Establish an on-going partnership with LPN with monthly meeting to monitor impacts and issues that arise (with reports going to the Board of Supervisors and appropriate city agencies) — 103-24 OTH
D. Sponsor four Neighborhood events with LPN, such as farmers markets, alley closings for neighborhood block parties, etc.
E. Establish a fund to help upgrade storefronts along Polk Street.
F. Along with Cedar Street, fund alley enhancements for Hemlock, Alice B. Toklas/Myrtle, and Fern Streets (from Van Ness to Larkin Street). Enhances to include stamped concrete paving (in lieu of current asphalt), bollards, trees (landscaping), play equipment where these can be located, better lighting, and murals. — 103-25 TR
G. Fund enhancement streetscape along Polk Street. Enhancements to include additional trees (in planters where under-sidewalk vaults prohibit in-ground planting) and decorative plants, seasonal decorations, banners, seating and lighting. (Funds to include maintenance and replacement when necessary.) — 103-26 OTH
H. Help fund an additional parking garage within the neighborhood (or within a few blocks from the LPN boundaries, but at least 4 blocks away from the hospital and MOB.) — 103-27 TR

3. Open Space/Environment

A. Establish an open-space park along Polk Street that would be privately owned by CPMC with 24 hour security and monitoring. Park to have ample landscaping (with seating) and attended toilet facilities. (Currently the best location seems to be on the Southwest corner of Polk and Geary Street. If this location is not feasible for purchase then another location of similar size.) — 103-28 REC
B. Fund the design and construction of two parklets (mini-parks) per block along Polk Street. Parklets are to be along the existing sidewalk and take up two existing street parking spaces. (See attached "Approach" as established by Rebar) — 103-29 RE
C. Reduce the east side bus zone on Polk Street between Post and Geary to be the same size as the west side. Use the captured space for a parklet.

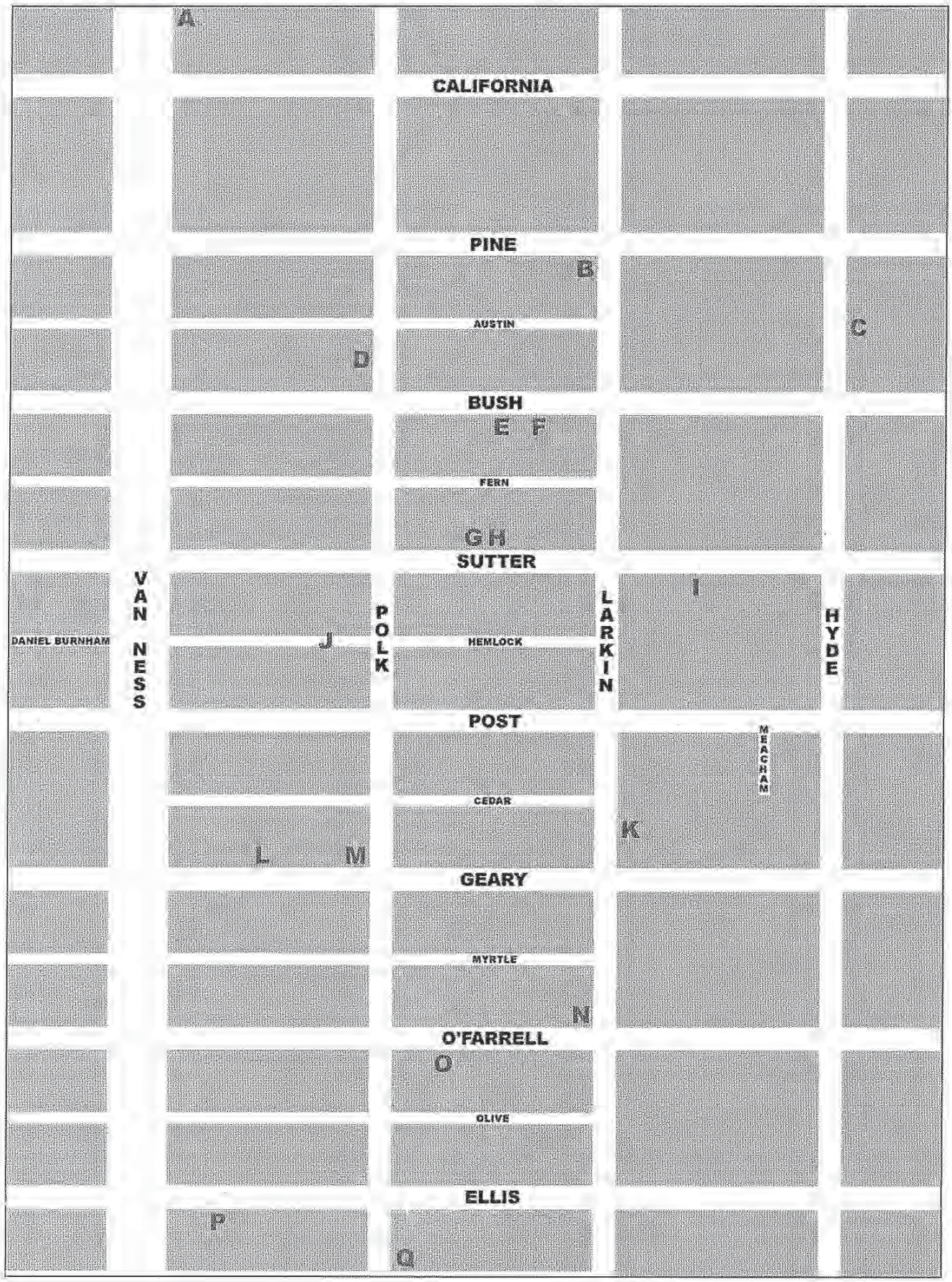
4. Housing

A. Help finance design and construction upgrades to existing neighborhood SRO (Single Room Occupancy) buildings. — 103-30 OTH
B. Help finance relocation of the existing shelter (Next Door) to a more suitable and humane building with more helpful amenities such as outdoor seating areas, open courts and less crowding (less warehousing) of clients. — 103-31 OTH
C. Help finance (design and construction) of senior housing. (Location potential: abandoned site of St. John's Church at Clay and Larkin Streets and similar sites. — 103-32 OTH

Attachment to Letter 103

LPN

LOWER POLK NEIGHBORS
NEIGHBORHOOD COMMUNITY INSTITUTIONS



Lower Polk Neighborhood Traffic Noise Study

Study Report
July 6, 2010

Overview

During the 2009-2010 academic year, a UCSF School of Nursing student measured street noise levels in the Lower Polk neighborhood of San Francisco. The project was undertaken as part of an academic externship with Tom Rivard, Manager of the Health Hazard Assessment Group at the San Francisco Department of Public Health.

Methods

Sample: Twenty-four hour noise levels were measured at 5 locations (4 residential and 1 office) in the Lower Polk neighborhood. The sample was a convenience sample of residents who volunteered to host the recording equipment. Residents were recruited at the December 2009 meeting of the Lower Polk Neighbors, and through word of mouth.
Noise recording: Noise levels were measured using a calibrated noise dosimeter. The microphone of the dosimeter was suspended outside of a window opening of each residence, at the busiest availabe edge of the building. An audio recorder took a concurrent recording. The dosimeter measured the noise levels in 15-second average increments, while the audio recorder made a continuous recording that allowed the researchers to identify the sources of noise events.
Interviews: The five participants responded to structured interview questions regarding household demographics and experiences of traffic noise at their residences.
Research approval: Permission for the project was granted by the UCSF Committee on Human Research in February 2010. Consent was obtained from all participants.

Results

The dosimeter provided average 24-hour noise levels as well as average 15-second increment noise levels. The researcher used the audio tape to identify sources of noise for each 15-second increment that was 75 decibels or louder. (The researcher did not identify sources of noise 74.9 decibels or less.)

Location 1

Where: Outside of a 3rd story bedroom window on Polk Street between Bush & Pine.

When:	Saturday 3/6/10 to Sunday 3/7/10
Average 24-hr noise level (Leq):	**70.2 decibels**
Loudest 15-second increment:	97.2 dB at 1:51am, caused by an emergency vehicle (EV).
Total time > 75 decibels:	24 minutes
Source of noise > 75 decibels:	15 minutes by trucks, motorcycles, cars, other 9 minutes by EVs
Avg level of non-EV noise events:	77 decibels
Avg level of EV noise events:	86 decibels
Number of EV events:	18
Number of night EV events*:	7

Location 2

Where: Outside of a 2nd story living room window on Polk Street between Geary & Post.

When:	Saturday 4/16/10 to Sunday 4/17/10
Average 24-hr noise level (Leq):	**76.7 decibels**
Loudest 15-second increment:	106.0 dB at 4:09 am, caused by an EV.
Total time > 75 decibels:	128 minutes
Source of noise > 75 decibels:	103 minutes by trucks, motorcycles, cars, other. 25 minutes by EVs.
Avg level of non-EV noise events:	77.2 decibels
Avg level of EV noise events:	83.5 decibels
Number of EV events:	44 (included 5 EV events >100dB)
Number of night EV events*:	7

Location 3

Where: Outside of a 4th story window, recessed from Hyde Street, between California & Sacramento.

When:	Friday 4/30/10 to Saturday 5/1/10
Average 24-hr noise level (Leq):	**61.0 decibels**
Loudest 15-second increment:	84.0 dB at 8:01 pm, caused by an EV.
Total time > 75 decibels:	3 minutes
Source of noise > 75 decibels:	2.5 minutes by trucks, motorcycles, cars, other. 0.5 minutes by EVs.
Avg level of non-EV noise events:	78 decibels
Avg level of EV noise events:	79 decibels
Number of EV events:	4
Number of night EV events*:	0

Location 4

Where: Outside of a 3rd story bedroom window on Sutter Street between Polk & Larkin.

When:	Saturday 5/8/10 to Sunday 5/9/10
Average 24-hr noise level (Leq):	**70.0 decibels**
Loudest 15-second increment:	96.7 dB at 5:52 pm, caused by an EV.
Total time > 75 decibels:	40 minutes
Source of noise > 75 decibels:	34 minutes by trucks, motorcycles, cars, other. 6 minutes by EVs.
Avg level of non-EV noise events:	77.7 decibels
Avg level of EV noise events:	81.3 decibels
Number of EV events:	18
Number of night EV events*:	6

Location 5

Where: Outside of a 1st story office window on Post Street between Polk & Larkin.

When:	Tuesday 5/11/10 to Wednesday 5/12/10
Average 24-hr noise level (Leq):	**71.1 decibels**
Loudest 15-second increment:	96.0 dB at 5:21 pm, caused by an EV.
Total time > 75 decibels:	48 minutes
Source of noise > 75 decibels:	34 minutes by trucks, motorcycles, cars, other. 14 minutes by EVs.
Avg level of non-EV noise events:	77.8 decibels
Avg level of EV noise events:	84.0 decibels
Number of EV events:	34
Number of night EV events*:	13

* 11:00 pm to 7:00 am.

Interview Results

Below is a sample of responses from a structured interview with the resident of each noise monitoring location.

- Do you ever keep your windows closed on hot nights due to noise?
  Yes: 3 of 5 No: 2 of 5.
- How often (if ever) is your sleep disturbed by noise?
  Every night: 1 of 5
  2-3x/week: 2 of 5
  Weekly: 1 of 5
  N/A (business): 1 of 5.
- How does noise rank in comparison to other concerns you have about your neighborhood.
  Top concern: 1 of 5
  3rd or 4th: 4 of 5

- "I think that on a long term basis, (the road noise) isn't good. It makes you more agitated and more anxious."
- "I feel really defeated about the noise problem... It creates excruciatingly high levels of physical stress."

Discussion

While most community noise data is based on computerized noise models, this data provides empirically obtained data. This study provides exterior noise level data for four residential and one commercial locations in the Lower Polk neighborhood. The 24 hour noise levels varied widely, from 61.0 dB at the quietest location to 76.7 dB at the loudest location. Three of the locations (1, 4, and 5) had average levels between 70.0 and 71.1 decibels. This suggests that many residences with windows on main streets in the Lower Polk experience average levels around 70 dB of noise daily. Noise levels at the loudest location (76.7dB) were likely influenced by proximity to two major streets, the fire station, and a homeless shelter. Noise

levels at the quietest location (61.0dB), on the other hand, were likely influenced by the recession of the window from the street and the height of the window at the 4th story.

According to the World Health Organization, exposure to average environmental noise levels greater than 55 decibels causes annoyance, and long term exposure to levels greater than 65 decibels may have cardiovascular effects (WHO 1999). The WHO recommends levels of 45 decibels or less at night to ensure good sleep (WHO 2009). Four of the five locations measured exceeded these levels.

In all of the locations, the majority of loud moments were caused by trucks, motorcycles, and cars driving by. However, the peak noise moments were caused by emergency vehicles.

Limitations of the research

The audio tape enabled the researcher to identify general categories of noise sources, such as cars and trucks driving by; car alarms; people yelling; and emergency vehicle sirens. She did not break these categories into more specific sources, such as a truck engine versus a motorcyle engine, or an ambulance's siren versus a fire truck's siren. Additional research using video would be necessary to identify sources with more specificity.

The sample was a convenience sample, and was not random. There is likely selection bias present in the sample, as those that volunteered are those who were concerned about noise levels. However, these locations were likely representative of other housing units with windows facing major streets in this area.

Furthermore, the research does not account for the temporal factors that may influence noise levels, such as the weather, the day of the week, or the time of the month. For example, some residents anecdotally noted that they notice more noise at the beginning of the month, while others noted that foggy nights tend to be quieter.

The samples were measured at the exterior of windows. Well-insulated windows and walls can dramatically decrease interior noise levels. However, most of the housing stock is not well insulated, and in San Francisco's temperate climate, leaving windows open is sometimes necessary and desirable for climate control. Therefore, exterior noise levels are important indicators of interior levels.

About the researchers

This study was undertaken to measure noise levels from residential locations and to identify sources of noise to the extent possible. The research was undertaken by Elisabeth Goldstein, RN, an MS student at the UCSF School of Nursing, Department of Occupational and Environmental Health. Her preceptor for this research was Tom Rivard, Manager of the Health Hazard Assessment Group at the San Francisco Department of Public Health, who also provided the noise dosimeter. The Principal Investigator was Dana Drew-Nord, faculty member at the UCSF School of Nursing.

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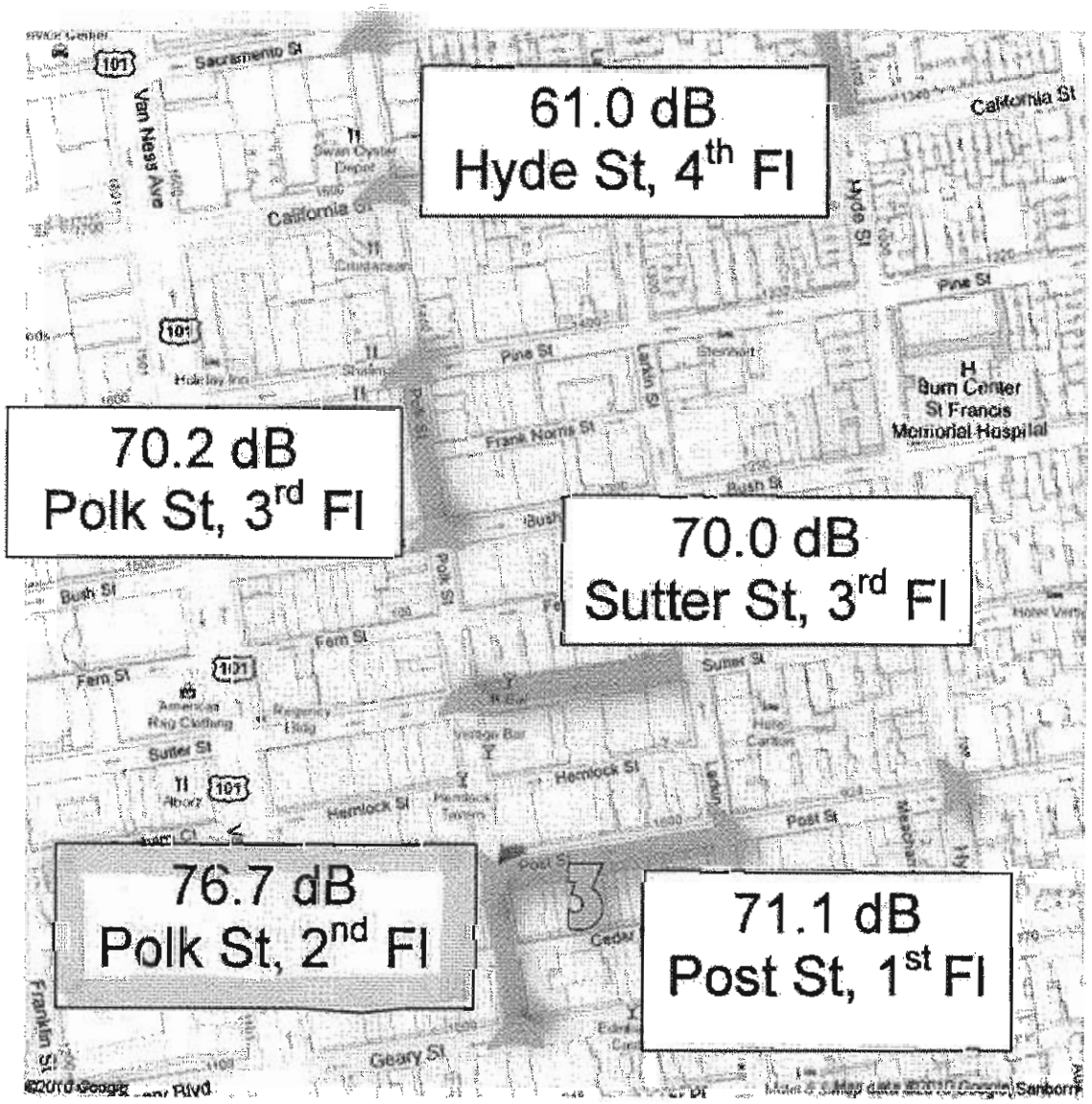
World Health Organization Regional Office for Europe. (2009). *Night Noise Guidelines for Europe.* Hurtley, C. (Ed.) Retrieved from www.euro.who.int/document/e92845.pdf.

Figure 1: Map of Monitored Locations and 24-hour Average Noise Levels



Attachment to Letter 103

What is a decibel, and how is it measured?

Browse the article What is a decibel, and how is it measured?

What is a decibel?

Up Next

- How Surround Sound Works
- How Speakers Work
- Discovery.com: Hearing

The **decibel** (abbreviated **dB**) is the unit used to measure the intensity of a sound. The decibel scale is a little odd because the human ear is incredibly sensitive. Your ears can hear everything from your fingertip brushing lightly over your skin to a loud jet engine. In terms of power, the sound of the jet engine is about 1,000,000,000,000 times more powerful than the smallest audible sound. That's a big difference!

On the **decibel scale**, the smallest audible sound (near total silence) is 0 dB. A sound 10 times more powerful is 10 dB. A sound 100 times more powerful than near total silence is 20 dB. A sound 1,000 times more powerful than near total silence is 30 dB. Here are some common sounds and their decibel ratings:

- Near total silence - 0 dB
- A whisper - 15 dB
- Normal conversation - 60 dB
- A lawnmower - 90 dB
- A car horn - 110 dB
- A rock concert or a jet engine - 120 dB
- A gunshot or firecracker - 140 dB

You know from your own experience that distance affects the intensity of sound -- if you are far away, the power is greatly diminished. All of the ratings above are taken while standing near the sound.

Any sound above 85 dB can cause **hearing loss**, and the loss is related both to the power of the sound as well as the length of exposure. You know that you are listening to an 85-dB sound if you have to raise your voice to be heard by somebody else. Eight hours of 90-dB sound can cause damage to your ears; any exposure to 140-dB sound causes immediate damage (and causes actual pain). See this page for an exposure "ruler."

Attachment to Letter 103

HEALTH SPOTLIGHT

Mother nature's stealthiest brain boosters

THE YOU DOCS

Mehmet Oz, M.D., and Michael Roizen, M.D.

For a razor-sharp brain, less may be more. Yup, flexing your gray matter daily — with a class in conversational Esperanto or after-dinner Sudoku tournaments — may help you reach 81 with a brain like an 18-year-old's (but without so many of those thoughts). But to keep your memory young, your neurons also crave a few deceptively simple "growth factors" that need to be more common than ivory-billed woodpeckers.

One of these factors happens when you do something deceptively simple: unplug. Researchers speculate that being constantly connected to digital devices deprives your brain of the downtime it needs to process information and consolidate memories. In lab studies, rats need breaks to form strong memories of new places they explore. You may, too. It's another reason to turn off your iPhone at dinner, leave your BlackBerry behind when you take a walk and disconnect from the Internet frequently on nights and weekends (except when you're checking out our latest tips on RealAge.com and DoctorOz.com, of course!).

Here's how to get four more stealthy brain boosters off the endangered species list and back into your life:

Less noise, more silence. Noise ages even 19-year-old brains. Loud noises during the night (planes, trucks, trains, the party next door) can disturb deep, restorative sleep enough to make your reaction times "old" in the morning.

Try running a white noise machine to muffle disruptive noises at night. Exposure to high-decibel sounds causes blood pressure and stress hormones to surge, and both can be major brain agers. If you work in a noisy environment (factories, construction), wear a protective headset (hey, they even look cool). Cover your ears if a loud noise erupts near you (jackhammer, siren, low-flying jet, vuvuzelas).

And when you've got to focus, turn off the radio and shut the door. Your brain's less able to screen out distracting sounds with age, making sharp thinking and recall more of a challenge if you're trying to balance the checkbook while listening to the ballgame.

Less artificial light, more natural light. Sun salutations aren't just for yoga class. When your prehistoric ancestors peeked out of their caves each morning to check for saber-toothed tigers, that first burst of natural light woke up the sweet spot deep in their brains — and yours — that's responsible for daytime alertness.

Greeting the day gets your brain in gear, boosting your ability to concentrate and turn out stellar work. The light bulb over your bathroom mirror can't do this. It takes intense blue light, a wavelength so far found only in Mother Nature's home-made morning light.

Scientists are working on artificial versions; there's early evidence that exposure to extremely bright blue-white light may reverse dementia and depression. For most, a few minutes of natural morning light may be all you need to feel bright-eyed and bushy-tailed.

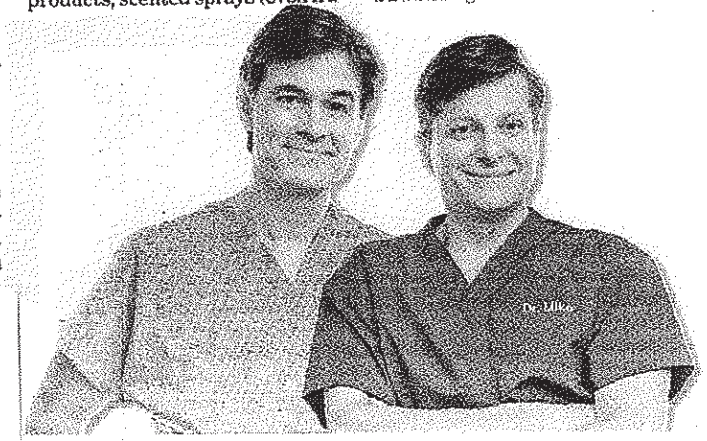
Less stuffy/smelly air, more fresh breaths. You spend 90 percent of your time indoors, where stale air causes mental fatigue and even some diseases. The cause? Anything from mold or mildew to substances released by fresh paint, new carpet, cleaning products and artificial smells — including, disturbingly, some air fresheners.

The fix? Choose scent-free products. Open your windows regularly, open vents on air conditioners, and ventilate well when using cleaning products, scented sprays (even fragrances), and of course when you're painting anything or replacing carpeting.

Less clutter, more wide-open spaces. Visual clutter slows down your brain. That's why clusters of road signs double the chances that you'll miss the one you're looking for, and why website and hospital designers aim for simplicity.

We instinctively look at something uncomplicated while wrestling with tricky problems (which is why you'd rather gaze at a blank wall than a Jackson Pollock painting when you're doing your taxes). Clearing up the clutter on your desk, bureau, files, shelves could do wonders for your bookkeeping, not to mention helping your brain stay closer to age 18.

The YOU Docs, Mehmet Oz and Mike Roizen, are authors of "YOU: On a Diet." Want more? See "The Dr. Oz Show" on TV. To submit questions, go to www.RealAge.com.



Letter 103

Rebar Comment on Cathedral Hill Campus Draft EIR on behalf of Lower Polk Street Neighborhood

Summary: Construction of the Cathedral Hill Campus ("CHC") of CPMC represents both a major transition for the Lower Polk Street Neighborhood, which lies immediately east, and a great opportunity for revitalizing and improving the public space network of the area. Given that the campus construction will cause a large disruption to neighborhood life over several years, and that several of the impacts identified in the Draft Environmental Impact Report cannot be mitigated, or will adversely affect pedestrians, cyclists and transit riders regardless of mitigation, the neighborhood requests that the following approach and measures be considered by CPMC as part of its construction plan. We recommend the following as an effective and innovative strategy for learning through interim, iterative design during the initial phase of construction, followed by long-term, permanent improvements to the neighborhood public space network, based on information gained during the interim phase.

1) Approach

a. Two-Phased Approach
We recommend a two-phased approach for implementing public space improvements in the Lower Polk Street area, consisting of "interim" and "long-term" improvements. These two phases should overlap in time, but generally begin immediately with interim improvements, which will be exploratory and temporary/reversible in nature and inform the design of long-term improvements, which will take place over several years during and following completion of the CHC project. Interim improvements should be made with the intent of evolving eventually into long-term, permanent improvements, if successful in the short-term.

b. Escrow account
An escrow account should be set up to fund the various streetscape projects which will take place over the short- and long-term. The escrow account would allow the improvements to stretch out over a longer period than is typically considered for capital projects, and possibly longer than the construction of the CHC itself.

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c. Interim improvements
"Interim improvements" can be implemented both during and immediately after the CHC construction project. They would be exploratory in nature, reversible, temporary and/or portable, and aim to physically test various approaches to streetscape improvements through a process of iterative design. Examples of interim improvements include San Francisco's *Pavement To Parks* program pilot projects, the *Market Street Trials* of bicycle, pedestrian and vehicle traffic control changes, and *Park(ing) Day*, which temporarily converts metered parking spaces to parks. Interim improvements would generally not permanently change infrastructure such as curbs, paving materials and utility lines, but rather use portable "add-on" designs that test the functionality of various streetscape designs without committing large amounts of funding.

d. Long-term improvements
"Long-term improvements" should be durable and permanent changes to the streetscape, potentially implicating changes to infrastructure such as curbs, utilities and paving surfaces. Their specific design and approach should be informed by explorations and the iterative design process in the interim improvement phase. They should also be consistent with the goals set out in applicable specific plans and, especially, the *Better Streets Plan*. Long-term

improvements would commit larger proportions of funding to new streetscape designs than interim improvements.

e. Scoping Committee
We recommend the formation of a committee to outline the scope of the streetscape improvement project, including the delineation of both the interim and long-term efforts. The group should include representatives of CPMC, the City of San Francisco, the neighborhood and design consultants.

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2) Neighborhood Impacts and Proposed Responses in the Lower Polk area.

a. Loss of significant vegetation
   i. Currently there are 81 trees on CHC site, 77 on hospital site, 4 on MOB site, including 53 street trees, 7 "significant trees" (4.13-2); all trees are proposed for removal at CHC campus (4.13-23). Although the CHC plan calls for the replacement of up to 99 trees, it will be many years before this vegetation attains the stature and benefits of the vegetation it replaces. Therefore, the neighborhood will be impacted by decades without the benefit of vegetation it once had.
   ii. Interim Phase
      1. Movable tree boxes
      2. "Green walls" on existing buildings
      3. Large portable planters for growing ornamental and/or edible plants.
   iii. Long-term Phase:
      1. Interim/reversible plantings will inform the location and design of long-term street trees and other plantings.
      2. Planting projects could include the redesign or removal of significant portions of paving and relate to stormwater projects.

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b. Increased noise
   i. The neighborhood will be impacted by increased noise both during the construction phase and, permanently, by the increased level of traffic and operations of the CHC. During construction, noise in the immediate vicinity would increase by 3 to 7 dB, up to 87 dB, and would exceed SF Noise Control Ordinance compliance levels at the 7 nearby sensitive sites (4.6-44). LRDP-related traffic noise would result in a noticeable (+3 dB or greater) increase in ambient traffic noise levels along Cedar Street (between Polk Street and Van Ness Avenue). This increase most likely would be perceivable to existing, nearby noise-sensitive receptors; noise may exceed 45dB in nearby residences if windows are open (4.6-58).
   ii. Interim Phase:
      1. Use of green walls to act as sound absorbers
      2. Use of portable, tree planters along Alleys to absorb ongoing construction noise
      3. Potential use of temporary water features to mask noise
   iii. Long-term Phase:
      1. Green walls and vertical gardens on hospital buildings and in park alley ways to absorb ongoing noises
      2. Use of permanent trees in Alleys and along Van Ness and Franklin to absorb ongoing hospital noise

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c. Increased vehicular traffic and congestion
   i. The proposed CHC project would add vehicles to the street network and riders to the Muni lines, adversely impacting bicyclists, pedestrians, and transit riders. The increased congestion and ridership would cause operational delays to Muni lines 49-Van Ness-Mission (a.m. and p.m. peak hours), 38/38L-Geary (a.m. and p.m. peak

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hours), and 19-Polk (p.m. peak hour), requiring additional vehicles to maintain proposed levels of service (4.5-117). Providing additional traffic lanes or otherwise increasing vehicular capacity at this intersection is not feasible because it would require narrowing of sidewalks to deficient widths, and/or demolition of adjacent buildings. Signal timing adjustments may improve intersection operations, but would likely be infeasible due to traffic, transit or pedestrian signal timing requirements (4.5-219). Pedestrians and bicyclists will experience a more crowded, dangerous and time-consuming transit experience in the Lower Polk area as the CHC project generates more vehicle trips which compete for space and time with other modes of transportation. Even with the proposed mitigation measures, transit riders will also experience "significant and unavoidable" impacts (4.5-124). Therefore we recommend that additional streetscape improvements addressing pedestrian, bicycle and transit rider comfort, convenience and safety are undertaken in the Lower Polk area to offset unavoidable degradations due to the CHC project.

ii. Interim Phase:
    1. Portable bike racks and bike corrals which can be transported around the neighborhood to test the most effective locations
    2. Widen sidewalks into the parking lane using portable sidewalk extensions similar to Pavement to Parks "parklet" trials
    3. Pedi-cab trials for local area
    4. Close alleys to vehicle traffic, create pedestrian zones (delivery traffic excepted, can be restricted to certain times of day)
    5. Test "Shared Street" conditions where sidewalks and street are combined; pedestrians are given priority in all areas of street but automobiles still have access
    6. Bollards to delineate increased pedestrian or transit rider zones.
    7. Raised pavement surface (flush curb) conditions
    8. Wider bike lanes
    9. Pedestrian lighting to create safer/comfortable conditions

iii. Long-term Phase:
    1. Replace street surfaces with special pavement that slows traffic
    2. Relocate curbs to increase sidewalk width, provide bulb-outs, midblock crossing, etc.
    3. Pursue other designs recommended in the Better Streets Plan

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d. Displacement of local retail businesses with medical-related businesses

i. The economic fabric of the Polk Street at Geary area is a mix of convenience stores, liquor stores, bars, porn shops, clubs, and restaurants. Interspersed are community centers such as the Bay Area Addiction Research and Treatment center and the San Francisco AIDS Foundation Needle Exchange program office. Geary Street near the CHC site is home to hotels, gyms, a theater, and restaurants, such as Mel's Diner. The introduction of the hospital has the potential to bring new businesses, particularly those which will serve a daytime professional population and the hospital industry. As new businesses arrive it is important that the local community benefit from the economic activity and continue to preserve small scale, local business.

ii. Interim Phase:
    1. Use of tented alley(s) to establish interim community centers:
        a. Medical clinic with temporary, planter box medicinal herb garden
        b. Soup kitchen
        c. Farmers Market
        d. Shelter gathering space or street game area

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e. Outdoor movie house
f. Mobile community garden
g. Afterschool programs
h. Pop-up retail pods in shipping containers or other portable architecture

iii. Long-term Phase:
1. Permanent medicinal herb garden
2. Community garden to grow produce for local community shelters
3. Permanent table and seating areas for outdoor eating; closure of alleys to serve as outdoor cafes lanes, similar to the ongoing practice in the Financial district

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e. No provision for open space in CHC plan
i. The majority of San Francisco's parkland is located within the western half of the city. San Francisco's eastern neighborhoods are considered parkland deficient compared to areas that are closer to the Pacific Ocean. The Eastern Neighborhoods Rezoning and Area Plans Environmental Impact Report indicates that it is possible to improve the parkland-to-population ratio in the eastern portions of San Francisco—or to maintain the current ratio despite projected population increases—by creating nontraditional open space, passing regulatory amendments to govern new development, issuing ecological standards for design of public and private open space, and creating an open space network (4.10-4). The National Park and Recreation Association (NPRA) formerly required 10 acres of open space per 1,000 city residents. However, the NPRA no longer recommends a single absolute "average" park acreage per population, in recognition of the fact it is more relevant for each area plan and its program facilities to be based on community need. More important than acreage is accessibility (location and walking distance) and whether the facility provides needed services to the population in question (4.10-2). The CHC project is a significant redevelopment of the Lower Polk Street area but does not provide new public recreation opportunities within its boundaries. Other uses of this site could have potentially offered such opportunities. Therefore we propose that non-traditional recreation spaces are provided in the surrounding neighborhood instead. The east-west alleyways and some areas of Polk Street are prime opportunities for such spaces.

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ii. Interim Phase:
1. Parklets – site-specific parklets and installations can be designed to introduce park and recreational features
a. Mobile playgrounds
b. Flexible seating options in the alleys and along Polk Street
c. Public bicycle repair station
2. Programming in public space:
a. Mural painting programs in the alleys, and along Polk Street
b. Local community garden programs
c. Rotating public art schedule
3. Redesign of alleys (see site-specific proposals)

iii. Long-Term Phase:
1. Redesign of alleys (see site-specific proposals)

3) Site-specific proposals

a. Polk Street

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i. Sidewalk extensions - The sidewalks along Polk are narrow for a Neighborhood Commercial street and do not provide adequate space for a comfortable throughway zone between the frontage zone and the edge zone. The Better Streets Plan sets a sidewalk width recommendation of fifteen feet for Neighborhood Commercial streets. In addition, use of the following sidewalk improvements from the Better Streets Plan would increase the quality of pedestrian life on Polk:
    1. Interim Phase:
        a. Parklet and Walklet installations to explore how an expanded throughway zone affects pedestrian traffic and life on Polk Street
    2. Long-term Phase:
        a. Curb corner extensions at Polk/Geary; Polk/Post; Polk/Sutter; Polk/Bush
        b. Transit bulb outs
        c. Extended and/or midblock bulb outs with landscape design and public seating

ii. Landscaping - Polk Street at Geary has a low tree density. What trees are there lack the height, foliage, and beauty that make great streets. Polk is located in the Bay climate zone and can therefore accommodate trees up to 50 feet tall.
    1. Interim Phase: installation of moveable planter boxes and Parklets with shrubbery, flowers, and small trees
    2. Long-term Phase:
        a. Propagation of large shade-giving trees
            i. Stormwater treatment landscaping

iii. Bicycle infrastructure
    1. Interim Phase:
        a. Portable bike racks and corrals
        b. Public Pump on Polk (PPonP) to serve bicycle commuters using bicycle Route 16
        c. Public bicycle repair station
    2. Long-term Phase:
        a. Permanent bike racks, corrals based on success of portable versions
        b. Trash receptacles – Polk Street is lacking in trash receptacles between Geary Street and Sutter, even though the Better Streets Plan calls for a receptacle every 200 feet in commercial zones
        c. Pedestrian-scale street lights

b. Geary Street
    i. Interim Phase:
        1. Parklets and pocket parks
        2. Planter boxes
    ii. Long-term Phase:
        1. Pedestrian-scale lighting
        2. Stormwater treatment landscaping

c. O'Farrell Street
    i. Interim Phase:
        1. Parklets and pocket parks
        2. Planter boxes
    ii. Long-term Phase:
        1. Pedestrian-scale lighting
        2. Stormwater treatment landscaping

d. Post Street

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i. Interim Phase:
    1. Parklets and pocket parks
    2. Planter boxes
ii. Long-term Phase:
    1. Pedestrian-scale lighting
    2. Stormwater treatment landscaping

e. Sutter Street
    i. Interim Phase:
        1. Parklets and pocket parks
        2. Planter boxes
    ii. Long-term Phase:
        1. Pedestrian-scale lighting
        2. Stormwater treatment landscaping

f. Bush Street
    i. Interim Phase:
        1. Parklets and pocket parks
        2. Planter boxes
    ii. Long-term Phase:
        1. Pedestrian-scale lighting
        2. Stormwater treatment landscaping

g. California Street
    i. Interim Phase:
        1. Parklets and pocket parks
        2. Planter boxes
    ii. Long-term Phase:
        1. Pedestrian-scale lighting
        2. Stormwater treatment landscaping

h. Alleyways – the Alleyways in general should receive treatment according to the Better Streets Plan recommendations for Alleys, which would convert them into shared public ways with low traffic speeds, and limited parking, if they are not converted to pedestrian-only walkways.
    1. Interim Phase:
        a. Tented multi-purpose community "center" and market area.
        b. Temporary/movable parking lane planters with ornamental and edible plant elements including flowers which attract birds, butterflies, and honeybees.
        c. Parklets.
        d. High density bicycle parking racks.
        e. Flexible seating.
        f. Bird, pollinator and bat nesting installations.
        g. Large mobile planters that can be moved with trucks, providing lawn or ornamental garden areas.
        h. Potentially portable food garden containers, given appropriate sunlight, protection and security.
        i. Pop-up retail providing amenities to attract users to alleys, including coffee, lunch food, etc.
    2. Long-term Phase:
        a. Trees and green sidewalks.
        b. Curb corner bulb outs at intersections with Geary and Polk Streets.
        c. More lighting and more pedestrian-scale lighting.
        d. Pollinating animal gardens, edible landscaping including fruit trees.

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