NELSON
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MEMORANDUM

To: Geoffrey Nelson

From: Jessica ter Schure and Francesca Napolitan

Date: April 1, 2013

Subject: CPMC TDM Plan - Final

INTRODUCTION

California Pacific Medical Center (CPMC) is a not-for-profit medical provider based in San Francisco. Of the nine hospitals in San Francisco, CPMC currently operates four: California Campus in Presidio Heights, Pacific Campus in Pacific Heights, Davies Campus in the Duboce Triangle, and the St. Luke's Campus in the Mission District. These are four of the oldest medical facilities in San Francisco, all established between 1854 and 1875. CPMC medical facilities play a major role in San Francisco's health care system, accounting for roughly one-third of all hospitalizations, over half of annual San Francisco births, and receiving over 81,000 patients annually at four citywide emergency departments.[1]

Senate Bill 1953, as amended by subsequent legislation, requires all California hospitals to evaluate and rate their existing buildings for seismic performance and upgrade their facilities to meet certain seismic standards by specified deadlines. Section 304.5 of the San Francisco Planning Code requires CPMC to prepare an Institutional Master Plan (IMP) every 10 years to inform the public of its development plans. CPMC released its latest revision to its IMP in 2008, which was accepted by the Planning Commission in November of 2009 and was subsequently updated via memoranda to the Planning Department in 2011 and 2013. The IMP informs CPMC's Long Range Development Plan (LRDP), which will ultimately guide the implementation of the projects and development proposals detailed in the IMP. In brief, the CPMC IMP and LRDP include the following major development proposals:

- **Cathedral Hill:** Construction of a new campus at Van Ness Avenue and Geary Boulevard, including a modified hospital plan for a 12-story, 274-304-bed hospital, a new medical office building (MOB), and a renovated MOB on Sutter Street.
- **Pacific Campus:** Interior renovation and conversion of an existing hospital into a new ambulatory care center (ACC), a new ACC building addition, additional underground parking, renovation of other existing buildings, and demolition of four existing buildings.
- **Davies Campus:** Construction of a new Neuroscience Institute building, a new MOB, and related parking improvements.
- **St. Luke's Campus:** Demolition of the existing St. Luke's Hospital tower, Redwood Administration Building, and MRI Trailer. Construction of a new modified hospital plan for a 120-

[1] CPMC 2011 Annual Report on website: http://mysutter/shwbr/CPMC/About/Pages/default.aspx

bed, acute-care St. Luke's Replacement Hospital. Construction of a proposed MOB and associated underground parking.

- **California Campus:** Unchanged until 2019 and then all operations relocated to Pacific and Cathedral Hill campuses by 2024.

CPMC's LRDP is subject to the requirements of California Environmental Quality Act (CEQA). It was determined that the CPMC LRDP could have potential significant effects and a full environmental impact report (EIR) was required. The Draft EIR (DEIR) was released to the public on July 21, 2010. The Final EIR (FEIR) was certified April 26, 2012 and upheld by the Board of Supervisors on March 12, 2013.

An enhanced Transportation Demand Management (TDM) Plan is part of the proposed LRDP. In addition, the FEIR for this project presumes that a City of San Francisco condition of approval will require an enhanced TDM Plan. Nelson\Nygaard Consulting Associates was retained by CPMC to update and improve its TDM Plan to reduce drive-alone rates and therefore projected parking shortfalls and identified environmental impacts related to traffic, air quality, and greenhouse gas emissions resulting from the proposed construction of a new Cathedral Hill facility as well as expansion and renovation of the Pacific, Davies, and St. Luke's campuses. The recommendations contained in this TDM Plan are based on interviews and correspondence with CPMC staff and AECOM as well as a review of CPMC Draft Transportation Impact Studies (TISs) by campus, CPMC LRDP FEIR, CPMC LRDP Travel Demand Estimates for each of the San Francisco Campuses, and the CPMC 2008 IMP as updated.

GOALS

The TDM Plan sets the following goals:

- Reduce Single Occupancy Vehicle (SOV) trips by 15% from the current baseline (existing) mode split by 2024
- Reduce construction-period vehicle trips and parking impacts
- Reduce the parking demand generated by the construction of the Cathedral Hill campus and redevelopment at the St. Luke's, Davies, and Pacific Campuses

The proposed TDM Plan is designed to reduce to extent feasible, single occupant vehicle/drive alone trip generation, and related parking demand, and associated air quality and greenhouse gas emissions, as well as promote the City of San Francisco's Transit First policies.

EXISTING CONDITIONS

Baseline Mode Split

Mode of travel is an important metric because it establishes how individuals are accessing a certain destination, whether by car, transit, bicycle, walking, or other mode. Mode of travel is also a critical factor in estimating existing and future travel demand, and how a project will ultimately impact the transportation network. Finally, mode of travel is an essential component in any evaluation of a TDM program, as it enables an objective analysis of how TDM programs are helping an institution meet its goals for vehicle trip reductions and mode shifts.

For the CPMC campuses, two basic representations of mode of travel by campus are available. One is a breakdown of travel mode by population group (physician, staff, patient, and visitor) by campus. The second measure of mode of travel is an overall breakdown by campus facility (i.e. hospital, MOB, research facility, etc.). In each case, the mode splits are based on travel surveys conducted in 2001 and 2003 at the

Pacific, California, and Davies campuses and a travel survey conducted in 2009 at the St. Luke's Campus.[2] Figure 1 presents a summary of the mode splits by campus and population group.

Figure 1 Existing Travel Mode by Campus, Population Group, and Facility[3]

	Drive Alone	Carpool	Transit	Walk	Other
California					
From LRDP Travel Demand Estimates					
Physicians*	100%	0%	0%	0%	0%
Staff	68%	7%	19%	1%	5%
Patients	44%	28%	17%	4%	7%
Visitors	29%	56%	11%	0%	3%
From 2008 IMP					
Overall	68%	6%	19%	3%	4%
Davies					
From LRDP Travel Demand Estimates					
Physicians*	100%	0%	0%	0%	0%
Staff	44%	6%	40%	1%	9%
Patients	44%	19%	18%	9%	9%
Visitors	28%	36%	25%	4%	8%
From Campus-specific TIS					
Hospital	40%	18%	31%	3%	9%
MOB	43%	14%	31%	4%	9%
St. Luke's					
From LRDP Travel Demand Estimates					
Physicians*	100%	0%	0%	0%	0%
Staff	59%	15%	17%	7%	2%
Patients	49%	11%	30%	7%	3%
Visitors	57%	2%	26%	9%	6%
From Campus-specific TIS					
Hospital	54%	10%	25%	6%	3%
MOB	62%	17%	14%	5%	2%

[2] According to historic data of participation rates in CPMC's transit subsidy programs as well as other commuter programs, there are no signs of an increase in drive-alone rate between 2001 and 2010. It was therefore determined as part of the EIR process that the surveys from 2001 and 2003 are still valid.

[3] Data for Figure 1 is from Table 23, CPMC LRDP EIR, Travel Demand Estimation for the SF Campuses. Adavant Consulting. January 29, 2010.

	Drive Alone	Carpool	Transit	Walk	Other
Pacific					
From LRDP Travel Demand Estimates					
Physicians*	100%	0%	0%	0%	0%
Staff	45%	12%	29%	6%	8%
Patients	41%	23%	19%	9%	9%
Visitors	25%	39%	20%	12%	4%
From Campus-specific TIS					
Hospital	n/a	n/a	n/a	n/a	n/a
MOB	40%	25%	19%	9%	7%
Research/Office	47%	12%	18%	5%	7%
ACC	42%	18%	25%	7%	8%
Cathedral Hill (existing uses)					
From LRDP Travel Demand Estimates					
Work trips	19%	18%	50%	9%	4%
Visitor trips	44%	15%	29%	10%	2%

* An assumption was made that all physicians at all campuses drive alone to work.

Existing CPMC TDM Program

CPMC currently offers the following TDM program at all of its four campuses, unless otherwise noted:

- Employee Parking Pricing – employees may request to purchase monthly parking passes for on-campus CPMC garages and lots for between$120 and $225 depending on the garage. CPMC also subsidizes a number of off-site parking lots, most notably at Japantown at up to $75 per month.
- Visitor/Patient Parking Pricing – the hourly rate is $5 for the first hour and $2 every half-hour thereafter. There is a daily maximum of $30 per day. However, patients and family members of patients are eligible for a voucher that limits the daily maximum to $12.
- Commuter Checks – Employees may elect to participate in the Commuter Checks program, which enables employees to purchase up to $245 worth of transit fares pre-tax per month.
- Carpool Program – CPMC offers free parking for registered carpools and vanpools (3 or more participants). St. Luke's is the only campus which has reserved parking spaces for carpools. Currently there are five reserved parking spaces for carpools, but only two are assigned.
- Bicycle Parking – CPMC provides bicycle racks at each of the campuses that can accommodate between 7 and 18 bicycles depending on the campus. Bicycle parking is typically located near the entrances to the public parking facilities.
- Emergency Ride Home Program – CPMC participates in the City of San Francisco's Emergency Ride Home program which provides a free or low cost ride home in cases of emergency for San Francisco employees who use alternative transportation, such as carpooling, vanpooling, public transit, bicycling, and walking.

- Courtesy Ride Home – CPMC security staff provides CPMC employees with a ride home or to transit or parking during the evening/night-time hours within a four block radius of each campus.
- Carsharing – Carshare vehicles are located at or near all four campuses.
- Transit Subsidy - The Davies campus provides a $20 per month transit subsidy to participating employees. The subsidy is added to each employee's Clipper Card. In addition, many employees at the St. Luke's campus receive a $10 per month transit subsidy, which is discounted from their Commuter Check paycheck deduction.

Shuttle Service

CPMC's primary TDM program is its free shuttle service, which typically operates from 5 am to 9 pm, depending on the route. Shuttle services are available to physicians and staff, and are occasionally used by patients, and visitors as well. There are currently six "all day" shuttle routes and four peak-hour shuttle services that provide additional service to either a remote parking lot or a BART station. All campuses are served by at least one of the routes. Figure 2 provides a brief summary of each shuttle route in the CPMC system.

Figure 2 Existing CPMC Shuttle Services[4]

Route	Description	Hours of Operation	Frequency	Daily Ridership	Daily Capacity Utilization
C	California/Pacific	6.30 am - 6.15 pm	30	414	62%
D	Pacific/Davies	6.15 am - 6.15 pm	30	423	63%
CH	Cathedral Hill/Pacific	6.30 am - 6.20 pm	20	172	17%
JC Express	Pacific/Japantown Center Lot	5.05 am - 10.55 am 2.40 pm - 8.50 pm	10	381	38%
BV	Pacific/Cathedral Hill/Civic Center BART/ Van Ness Muni Metro	5.45 am - 6.15 pm	15	503	56%
SL	St. Luke's/Davies	6.15 am - 6.15 pm	30	30	17%
F	Pacific/633 Folsom	7.15 am - 5.30 pm	30	n/a	n/a
D/JC	D line to Japantown Center Lot	6.25 am - 8.55 am	30	n/a	n/a
GMG	California/Geary Mall Garage	6.15 am - 9.30 am 3.15 pm - 6.15 pm	15	82	24%
St. Luke's	St. Luke's to 24th Street BART	6.25 am - 8.55 am 3.05 pm - 6.05 pm	30	n/a	n/a

[4] Source: Table 4.5-8 of DEIR and CPMC website. Between the certification of the EIR and the finalization of this TDM plan, CPMC has discontinued the D line and removed the Cathedral Hill and Van Ness MUNI stops on the BV line.

Existing Parking Facilities

Figure 3 provides a summary of the existing parking conditions for each campus and its corresponding study area.[5] Information for both on- and off-street parking is provided. Off-street spaces may include both garages/lots owned by CPMC as well as other private parking operators. On-street spaces include all available parking spaces on the streets within the campus study area. Occupancy counts were taken at different times for each campus from 2006 to 2009.

The Pacific Campus has the most off-street spaces of all the campuses at 1,505, which includes the lease of 400-space remote lot at the Japantown Center. In addition, the Pacific Campus has the highest peak occupancy in its off-street lots at 94%. By contrast, St. Luke's has the fewest off-street spaces of all the campuses at 329, as well as the lowest peak occupancy at 73%. Aside from St. Luke's, the off-street peak occupancies give an initial indication that there is limited off-street capacity to meet any additional or future peak demand at these campuses.

The Davies Campus has the most on-street spaces within its study area at 2,297 while the California campus has the fewest on-street spaces at 1,907. All four existing campuses experience on-street peak occupancies of more than 86% for the overall study area. In the streets immediately adjacent to each campus, however, peak occupancies are even higher and often reach full capacity. This is an indication that during peak periods there is likely some illegal parking and loading behavior occurring on streets directly adjacent to the hospital. Finally, all campuses are located within parts of the city that have at least one residential parking permit (RPP) area, thereby restricting the amount of time (usually limited to 2-3 hours at a time) that non-residents can park in on-street spaces.

Figure 3 Existing Parking Conditions by Campus[6]

	California	Davies	St. Luke's	Pacific	Cathedral Hill
Off-street					
Spaces	698 (includes Geary St. Mall)	496	329	1,505 (includes Japantown)	1,800
Peak occupancy	90%	87%	73%	94%	85%
Additional remote spaces	70 (Geary St. Mall)	50 (55 Laguna St., temporary)	None	400 (includes Japantown)	None
Employees per off-street space	2.35	1.86	1.81	1.75	n/a
On-street					
Spaces	1,907	2,297	1,825	2,016	2,519
Peak Occupancy (Area)	86%	88%	89%	93%	77%
Peak Occupancy (Immediately Adjacent)	88%	99+%	100%	100%	n/a
RPP Areas	F	S	I & Z	G	C, G, & R

[5] Generally a 15- to 20-square block area around each campus
[6] Data obtained from DEIR and TISs.

FUTURE TDM PLAN COMPONENTS

The following section describes the components of CPMC's TDM Plan in the near, mid, and long term for all five campuses.

TDM Components in the Near Term (0 to 2 years)

- *TDM Outreach, Marketing, and Information*
  - Reinstate Transportation Services Newsletter - Reintroduce the Parking Services Newsletter and rebrand it as a transportation newsletter that markets the various TDM programs available.
  - Provide TDM communication boards in each campus cafeteria – Information on TDM programs, transit schedules and maps, bicycle routes, as well as upcoming events shall be posted on boards and periodically updated in each cafeteria.
  - Enhance the TDM site on intranet – CPMC shall update its employee intranet to emphasize TDM programs as well as provide enrollment forms for commuter checks, shuttle schedules and maps, links to WageWorks, Clipper, BART, MUNI, 511.org, and parking and carsharing information.
  - Enhance the TDM information on public website - CPMC shall review its existing public website and modify it to better publicize alternative transportation options to visitors and patients. The visitor and patient portion of the website shall be updated to provide information on biking to the campus as well as taking BART and MUNI.
  - Reinstate and expand the annual Transportation Fair - The Fair shall include representatives from local and regional transportation agencies, the Bicycle Coalition, 511.org, and carshare companies, and provide information about transit, ridesharing and bicycling.
  - Promote the existing Courtesy Ride Home program.
  - Increase marketing of the City of San Francisco's Emergency Ride Home program.
  - Design an outreach program – An outreach program shall be designed emphasizing the time savings, reduction in greenhouse gas emissions, health benefits, and other positive outcomes of adopting alternative transportation modes.
  - Develop a TDM operations and maintenance budget – CPMC shall establish a fully funded budget for the TDM program and report the results on an annual basis.
- *Parking Pricing* - CPMC shall evaluate and then increase employee parking prices as needed to achieve the trip and parking reduction goals.
- *TDM Coordinator* – CPMC shall retain a full-time experienced TDM coordinator to coordinate, monitor and publicize TDM activities for the campus including the following:
  - Develop an information package of transportation services and benefits offered by CPMC, and participate in employee orientation training.
  - Promote attendance at the Transportation Fair by providing incentives for employees to attend the Fair, such as free transit fast passes.
  - Maintain and update the TDM communication boards.
  - Monitor and update, as appropriate, the TDM Plan.
  - Track participation rates in TDM programs (monthly & annually).
  - Conduct employee travel surveys on an annual basis.
  - Coordinate parking management and the shuttle program.

  - Create a central database of shuttle utilization data.
  - Oversee the rebranded transportation newsletter.
- *Carpool and Vanpool Parking* - The number and location of reserved carpool and vanpool parking shall be monitored annually and increased as necessary to ensure there are a sufficient number of parking spaces for carpools and vanpools.
- *Bicycle Parking* – The number and location of bicycle racks shall be monitored annually and increased as necessary to provide a sufficient number of parking spaces for cyclists. Both secure long-term parking as well as short-term parking shall be provided.
- *Vanpool Program* – CPMC shall reinstate their vanpool program which included a $2,500 subsidy per year. CPMC shall aggressively market the vanpool program to employees via the monthly newsletter, website, and other appropriate channels.
- *Rideshare Program* – CPMC will encourage employees to rideshare by promoting the 511.org rideshare service.
- *Courtesy Ride Home Program* – CPMC shall increase the boundaries of the program to cover major transit stops within a reasonable distance of each campus and also promote and market the Courtesy Ride Home program.
- *Transportation Surveys* – CPMC shall conduct an employee transportation survey at all campuses, which will be used to establish a more current baseline commute mode split. CPMC shall achieve a minimum of 30% response rate at each campus. Furthermore, a patient/visitor transportation survey shall be collected from at least 200 patients and visitors at each campus to establish a baseline visitor mode split. The commuter survey shall be conducted annually, and the visitor survey shall be conducted every three years.
- *Wayfinding and Signage* – CPMC shall provide on-site signage for patients and visitors identifying the locations of bicycle parking, vehicular parking, and shuttle stops as well as full shuttle schedules with maps in the lobby of each hospital.

TDM Components in the Mid Term (2 to 5 years)

- *Shower Facilities* – Showers and changing facilities shall be included in all new buildings and facilities for employees who bike or walk to work.
- *Marketing and Outreach* – CPMC shall continue the TDM and Outreach program detailed above and shall investigate and implement methods for improving marketing materials and outreach methods.
- *Real Time Transit Information* – CPMC shall install real-time transit information signs in the lobbies of its existing facilities and shall provide links to real time transit information on the intranet as well as the public website.
- *Bicycle Parking* – The number and location of bicycle racks shall be monitored annually and increased as necessary to provide a sufficient number of parking spaces for cyclists. CPMC shall install bicycle lockers in both new and existing parking garages.
- *Carsharing* – CPMC shall allot additional parking spaces to carsharing services in both new and existing buildings based on demand.
- *Rideshare Program* – CPMC shall create an internal rideshare program (e.g. RideSpring or a 511.org interface). CPMC shall also explore the feasibility of coordinating a rideshare program with other large institutions in order to increase the pool of carpoolers and vanpoolers.
- *Carpool and Vanpool Parking* – CPMC shall continue to provide reserved carpool and vanpool parking at all new parking facilities based on demand.

- *Transit Subsidy* – CPMC shall expand the transit subsidy program to include all campuses and increase the value of the monthly subsidy to be up to the equivalent of the cost of a MUNI Fast Pass, with the employee covering up to 50% of the subsidy.
- *Transportation Surveys* - CPMC shall continue to conduct an annual employee transportation survey which will be used to track mode split as compared to the baseline mode split and to receive feedback on TDM programs. CPMC shall achieve at a minimum a thirty percent response rate. Each three years, an employee/patient/visitor survey shall also be conducted to track visitor mode split.

Shuttle Restructuring

With the construction of the Cathedral Hill Campus, the relocation of existing services from several campuses to Cathedral Hill, and the eventual closure of the California Campus, CPMC has proposed significant restructuring of its shuttle service. First, the Civic Center BART station will be served by two routes instead of one. These two lines will have frequencies at six and three minutes, respectively. The other routes will all have 30 minutes frequencies. Second, the 24th Street BART station (primarily serving St. Luke's campus) will have all-day service as opposed to its current peak-hour service in the morning and afternoon. Third, the new line to the 4th and King Caltrain station will also provide service south to the Folsom Street offices. Fourth, the Van Ness Muni Metro will no longer be served as is currently done by the BV Line.

Figure 4 provides a summary of the proposed shuttle system.

Figure 4 Proposed Shuttle System[7]

Line	Description	Hours of Operation	Frequency (Minutes)	Existing Daily Demand
Pacific – BART	Serve the Pacific Campus, the Japantown Center Garage, the proposed Cathedral Hill Campus, and the Civic Center BART Station.	5.30 am - 7.00 pm	6	172
CH – BART	Serve the Cathedral Hill Campus and the Civic Center BART Station.	5.00 am - 11.00 am 2.30 pm - 9.00 pm	3	n/a
Folsom – Caltrain	Serve the Cathedral Hill Campus, the 4th Street Caltrain Station, and CPMC offices located at 633 Folsom Street.	6.00 am - 9.00 am 3.00 pm - 6.00 pm	30	n/a
CH – Davies	Serve the Cathedral Hill Campus and the Davies Campus.	6.00 am - 6.00 pm	30	n/a
CH - St. Luke's	Serve the Cathedral Hill Campus and the St. Luke's Campus.	6.00 am - 6.00 pm	30	n/a
Pacific – Davies	Serve the Pacific Campus and the Davies Campus.	6.00 am - 6.00 pm	30	423
St. Luke's - Davies - 24th St. BART	Serve the Davies and St. Luke's Campuses and the 24th Street BART station.	6.00 am - 6.00 pm	30	30

[7] The proposed shuttle system is described on in DEIR, pg. 4.5-84-86

Line	Description	Hours of Operation	Frequency (Minutes)	Existing Daily Demand
Non-CPMC Private Shuttles	Provided by a private garage operator as demand for off-campus parking increases. Operating details of this shuttle service, including service hours and vehicle capacities, would be based on observed demand.	n/a	n/a	n/a
Total				2,005

In addition to these service changes, CPMC shall also:

- Post shuttle information at shuttle stops.
- Develop a 10-year fleet replacement plan with ADA/Green Vehicles.

TDM Components in the Long-Term (5+ years)

- *Real Time Transit Information* – CPMC shall continue to install real-time transit information signs in the lobbies of all new facilities and shall provide links to real time transit information on the intranet as well as the public website.
- *Carsharing* – CPMC shall create a corporate carshare account that will enable employees to use carsharing services at reduced rates.
- *Parking Pricing* – CPMC shall continue to monitor parking demand and adjust the monthly employee permit fee and patient/visitor hourly parking fees to balance supply and demand.
- *Marketing and Outreach* – CPMC shall continue the TDM and Outreach program detailed above and shall investigate and implement methods for improving marketing materials and outreach methods.
- *Transportation Surveys* - CPMC shall continue to conduct an annual employee transportation survey which will be used to track mode split as compared to the baseline mode split and to receive feedback on TDM programs. CPMC shall achieve at a minimum a thirty percent response rate. Each three years, a patient/visitor survey shall also be conducted to track visitor mode split.

TDM Implementation Timeline

The following table lists all the TDM measures described above and locates them on a timeline. The symbol "→" represents that the specific TDM measure shall be maintained into the future.

Program Components	In Existing Program	Near-Term (0-2 years)	Mid-Term (2-5 years)	Long-Term (5+ years)
Shuttles	Yes		Expand with completion of Cathedral Hill	→
Parking Pricing	Yes	Increase as needed	→	→
Commuter Checks	Yes	→	→	→
Carpool Program	Yes	→	→	→
Carsharing	Yes	→	Increase spaces as needed	→
Transit Subsidy (currently only for Davies Campus)	Yes	→	Increase monthly amount, expand to all campuses	→
Bicycle Parking (Racks)	Yes	Increase as needed	→	→
Emergency Ride Home Program	Yes	Increase coverage area	→	→
Courtesy Ride Home Program	Yes	Increase marketing	→	→
Expanded TDM Outreach & Marketing Program:		Yes	→	→
Transportation Newsletter		Yes	→	→
TDM Communication Boards		Yes	→	→
Improved Employee Intranet		Yes	→	→
Improved Public Transportation Website		Yes	→	→
Marketing Campaign		Yes	→	→
Expanded Transportation Fair		Yes	→	→
TDM Coordinator		Yes	→	→
Vanpool Program		Yes	→	→
Bicycle Parking (Lockers)			Yes	→
Shower Facilities in New Buildings			Yes	→

Program Components	In Existing Program	Near-Term (0-2 years)	Mid-Term (2-5 years)	Long-Term (5+ years)
Corporate Carshare Account				Yes
Shuttle				
Post Shuttle Information in Hospital Lobbies		Yes	→	→
Post Shuttle Information at Shuttle Stops			Yes	→
Fleet Replacement Plan			Yes	→
Real Time Transit Information (Existing & New Buildings)			Yes	→
Promote 511.org Rideshare Program		Yes	→	→
Create Internal Rideshare Program			Yes	→
Create a central database of shuttle utilization data		Yes	→	→
Monitor participation rates in TDM programs (monthly & annually)		Yes	→	→
Employee and Visitors Baseline Survey		Yes	→	→
Annual Employee and Visitor Travel Survey			Yes	→

TRIP REDUCTION AND PARKING DEMAND IMPACTS

Trip Reduction & Parking Demand Analysis

The proposed additions to the CPMC TDM Plan are expected to result in both reduced vehicle trips and parking demand as compared to the projected trip and parking generation as stated in the LRDP Final EIR. Given that vehicle trip and parking generation are so closely linked, it has been assumed in this analysis that the reduction impacts of both are equivalent. Figure 5 shows the estimated percentage reduction in peak hour vehicle trips and parking demand that are expected to be achieved in the long-term for employees and visitors as a result of the proposed TDM Plan as compared to existing conditions. As shown in Figure 5 the greatest percentage trip reductions are expected to be seen at the Davies and Cathedral Hill campuses. It should be noted, however, that in absolute terms the campus with the greatest reduction in the number of peak hour vehicle trips is expected to be the Pacific campus.

Figure 5 Reduction in Peak Hour Vehicle Trips & Parking Demand

Trip Type	Campus				
	California	Pacific	Davies	St. Luke's	Cathedral Hill
Employee Trips	16% - 18%	16% - 18%	21% - 23%	16% - 18%	21% - 23%
Visitor Trips	14% -15%	14% -15%	20% -21%	14% - 15%	20% - 21%

Analytical Methodology Employed

Evaluative research of vehicle trip and parking reduction strategies often attempts to isolate the stand-alone effects of implementing TDM policies and programs in order to understand the actual relationship of the independent and dependent variables. However, it is difficult to isolate the individual effects because in reality, the implementation of TDM programs often occur concurrently and are supportive of one another. For example, CPMC may implement a subsidized transit pass at the same time that it implements priced parking, and it is difficult to say with absolute certainty to which degree each of these measures resulted in decreased vehicle trips and parking demand. Because trip and parking reduction strategies often support one another in creating high-quality alternatives to auto commuting, multiple strategies implemented jointly can leverage greater impacts when compared to stand-alone implementation.

Even so, TDM strategies realistically have a maximum limit on total vehicular trip reduction that can be achieved. For these reasons, it is not reasonable to expect that the stand-alone impacts of reduction strategies observed in the literature and case studies can simply be “added up” to estimate the total impacts of various strategies together. Because the transportation policies and programs under consideration would be implemented concurrently as a package, we have estimated the total impact using a non-additive methodology. For example, as it is likely that many of those motorists who stop driving due to parking pricing may be the same persons who would stop driving due to transit pass subsidies, this analysis assumes that the transit pass subsidy program has no net additional effect.

The most influential TDM measures in reducing trip and parking generation by campus are expected to be increased parking pricing and transit pass subsidies. That is not to say that the other strategies listed in the TDM Plan are not effective or useful; they should be viewed as key complementary strategies to ensure success of the full TDM Plan. As such, each individual strategy’s impact on vehicle trips and parking demand are significantly lower than those of parking pricing and transit subsidies. In order to determine

the effects of parking pricing on trip generation, data from the Victoria Transport Policy Institute was utilized.[8] This resource allows the user to gauge parking price impacts based on the type of location ranging from a suburban area to a central business district, thereby allowing this analysis to account for each campus' unique location characteristics. Those campuses located in more dense and transit-rich areas achieve greater trip and parking reduction impacts from parking pricing.[9] Thus, Davies and Cathedral Hill campuses see greater reductions from pricing compared to those at California, Pacific, and St. Luke's.

All campuses currently charge between a $120 and $225 monthly parking fee (roughly $5.71 to $10.71 daily rate based on a 21-day work month). For illustrative purposes, this analysis assumes a future daily price increase of $1.51 per day ($31.71 per month). This is likely a conservative estimate given that fair-market prices of parking spaces typically range from $200 to $250 per month. If price increases are greater than $1.51 per day, the subsequent trip and parking demand reductions will be larger. For example, an additional $1.51 daily price (above the already anticipated $1.51 increase) would yield an additional potential 14% decrease in vehicle trips and parking demand. See Figure 6 for details.[10]

Figure 6 Vehicle Trips and Parking Demand Reduced by Daily Parking Fees

Worksite Setting	$1.51	$3.02	$4.53	$6.04
Low Density Suburb	6.5%	15.1%	25.3%	36.1%
Activity Center	12.3%	25.1%	37.0%	46.8%
Regional CBD/Corridor	17.5%	31.8%	42.6%	50.0%

For transit pass subsidies, data from the Victoria Transport Policy Institute was also used.[11] However, since the EIR demand analysis serves as the basis for these new calculations, and that same EIR analysis assumed that a certain level of transit mode share was already being achieved, this analysis assumes the lowest possible impact from increased transit pass subsidies. In addition, as noted above, this analysis assumes that motorists who stop driving due to parking pricing are the same persons who would stop driving due to transit pass subsidies, and therefore this analysis assumes that the transit pass subsidy program has no net additional effect. Again, this is a very conservative approach, particularly given the anticipated Bus Rapid Transit (BRT) lines that are expected to operate in the Geary and Van Ness corridors. See Figure 7 for the impacts of transit pass subsidies as a stand-alone measure.

Figure 7 Vehicle Trip and Parking Demand Reduction by Workplace Setting and Daily Transit Subsidy

	Daily Transit Subsidy			
Worksite Setting	**$0.75**	**$1.51**	**$3.02**	**$6.04**
Low density suburb, rideshare oriented	0.1%	0.2%	0.6%	1.9%
Low density suburb, mode neutral	1.5%	3.3%	7.9%	21.7%
Low density suburb, transit oriented	2.0%	4.2%	9.9%	23.2%
Activity center, rideshare oriented	1.1%	2.4%	5.8%	16.5%

[8] Land Use Impacts on Transport, http://www.vtpi.org/landtravel.pdf. 2008
[9] The availability of both existing and future transit service for each campus was examined. Future transit service at Cathedral Hill assumes the implementation of the 38 Geary BRT route.
[10] Due to the particular characteristics of the different campuses, this analysis assumes that the Cathedral Hill and Davies campuses are "Regional CBD/Corridor" worksites while the California, Pacific, and St. Luke's campuses are "Activity Center" worksites.
[11] Transportation Elasticities, http://www.vtpi.org/elasticities.pdf. 2008

	Daily Transit Subsidy			
Worksite Setting	**$0.75**	**$1.51**	**$3.02**	**$6.04**
Activity center, mode neutral	3.4%	7.3%	16.4%	38.7%
Activity center, transit oriented	5.2%	10.9%	23.5%	49.7%
Regional CBD/Corridor, rideshare oriented	2.2%	4.7%	10.9%	28.3%
Regional CBD/Corridor, mode neutral	6.2%	12.9%	26.9%	54.3%
Regional CBD/Corridor, transit oriented	9.1%	18.1%	35.5%	64.0%

This analysis has also taken into account all the other TDM measures that will be implemented or expanded from their current state, such as marketing and ridesharing. However, research shows that the effects of these measures on trip reduction are much smaller, with their likely impacts ranging from 0.5% to 1.0% and vary much less by campus, thus they are not discussed in detail in this plan.

Parking Supply and Demand

Figure 8 illustrates the proposed future parking supply by campus. It is anticipated that the Pacific and Cathedral Hill campuses will have sufficient parking supply to meet parking demand, while the Davies and St. Luke's campuses are anticipated to experience parking shortages.

Consistent with TDM goals, campus parking is designed to provide more parking for visitors and patients and less for staff. To help achieve this goal, one measure that CPMC has utilized in the past is through the use of off-site satellite employee parking lots, with lower parking fees than parking on-site. In order to address where on-site parking shortfalls exist, CPMC will offer lower-cost parking in satellite lots (Kisling, Japantown, or others if necessary) such as is currently in place for the Pacific Campus. By creating a financial incentive for employees and other staff to park farther from campus, CPMC has been able to shift some demand away from on-site parking lots to remote lots. The use and provision of incentives for use of satellite parking should be tracked along with overall TDM performance to ensure that overall SOV reduction goals are being met while still minimizing spillover parking in neighborhoods adjacent to CPMC.

It is important to reiterate, that the results of this analysis can change significantly if new assumptions are used as part of the TDM analysis, particularly in terms of future parking pricing levels. If CPMC sets parking prices to achieve target occupancies of 90% and 95%, the resulting effect on parking demand may increase so that all campuses achieve parking surpluses. In addition, the parking supply at each campus does not include spaces which are located in satellite parking lots that are accessed by shuttle. Therefore, increasing the number of off-site parking spaces made available to CPMC affiliates is an additional strategy that could be employed to address the projected parking shortages at Davies and St. Luke's.

Figure 8 Future Parking Supply by Campus

Campus	Future Off-Street Supply
California	Campus will be phased out
Davies	588
St. Luke's	418
Pacific	1,477
Cathedral Hill	990

SUMMARY

Combined, the existing and expanded transportation demand management measures that will be implemented with the CPMC LRDP have been shown to be highly effective in the past at CPMC and at similar institutions in reducing drive alone trips and increasing the use of alternative modes of transportation. By 2024 the TDM Plan as described is estimated to enable CPMC to achieve an SOV trip reduction in the aggregate of 15% system-wide from the baseline (existing) mode split presented in the FEIR. In addition, the implementation of this TDM Plan will reduce congestion, air quality and greenhouse gas emissions, promote the City of San Francisco's Transit First policies, and will reduce parking demand at and around all CPMC campuses.

CPMC's future TDM Plan will be comprised of measures selected to address the unique needs and characteristics of this institution, as well as to be cost-effective in relation to success of the program. There are a wide number of potential TDM measures from which to select; however, the specific package of measures provided in this plan is designed to enable CPMC to reduce SOV trips by 15% in the aggregate system-wide from the baseline (existing) mode split while also ensuring flexibility into the future. Once implemented, CPMC will have one of the most robust health care institution TDM plans in the Bay Area. At a minimum, the proposed CPMC TDM Plan will be equal to or above par with what other Bay Area health care institutions offer (refer to Appendix A). As such, this robust, yet flexible living document is an example of best practices for other large health care institutions. At this time, implementation of additional or more costly TDM measures, such as additional shuttle routes or an increased transit subsidy amount, would result in substantially diminishing marginal returns and, thus, are not currently considered cost-effective.

APPENDIX A

PEER REVIEW CASE STUDIES

INTRODUCTION

Nelson\Nygaard interviewed staff at three Bay Area hospitals—Kaiser Permanente Oakland Medical Center, Alta Bates Summit Medical Center (ABSMC) in Oakland, and San Francisco General Hospital/UCSF—to gather information on the shuttle services that are provided by these institutions and to understand whom within the organizational structure is responsible for overseeing transportation demand management programs (TDM).

More specifically we were looking to answer the following questions:

- Organization and coordination of TDM Programs:
  - Does the hospital have a TDM coordinator?
  - Where in the organization is this person? Who does he/she report to? Is there more than one person responsible for overseeing the TDM programs? What programs are they responsible for?
  - Is the TDM coordinator position located within the correct department in the organization or are there suggestions on what would be a better location in the organization? E.g. if the TDM coordinator is in the parking and transportation department, would it make more sense to be in the planning department?
  - How many FTEs does the hospital have assigned to TDM, parking and shuttles? In what departments? Who do they report to?
- Shuttle program:
  - Number of routes, frequency, and ridership (by type of rider if possible)?
  - Types and number of vehicles?
  - Are the shuttle vehicles ADA accessible?
  - Is the shuttle program operated by an outside vendor or does the hospital own and operate the system?
  - How is the shuttle program marketed to patients and visitors (On the external or internal website, posters, etc.)?

This memo provides a summary of the information that was given by staff at these three hospital facilities regarding the questions stated above in order to provide CPMC with some ideas of how their shuttle system could potentially be restructured and where the future TDM Coordinator position could be located within CPMC's organizational structure.

SHUTTLE SYSTEMS

Kaiser Permanente Oakland Medical Center

The Kaiser Permanente Oakland Medical Center shuttle program is currently being revamped with plans to reduce the number of shuttle routes from six to four while improving service by reassigning vehicles to different routes and increasing the off-peak, on-demand service. The most highly utilized route, which connects the medical center to the MacArthur BART Station, will be restructured to reduce the length of the route. This route provides 37,200 trips per month while the other five routes carry a combined total of almost 5,000 trips per month. For the 37,200 monthly trips on the route connecting the medical center to the MacArthur BART Station, 26,500

are trips made by employees while 10,700 are trips made by the general public, including patients and visitors.

The shuttle program utilizes 16 ADA-accessible passenger vehicles during the peak hours of service, each of which can seat between 25 and 33 passengers. Several additional vans are used intermittently. The on-demand service utilizes full-size vehicles and minivans. Shuttle operations and program management are contracted out to Parking Company of America.

Information regarding shuttle routes and schedules is made available to the general public via Kaiser's website as well as a transportation information kiosk which is located in the outpatient building and posters in the parking garage that advertise alternative transit mode options and lists transit schedules. Kaiser members also receive a quarterly member newsletter that provides transportation information. The internal website www.eco-thrive.com is accessible to employees and provides shuttle information as well as all the other alternative transportation programs provided by Kaiser.

San Francisco General

UCSF's shuttle program consists of 14 different routes of which three serve San Francisco General. Shuttle routes operate with headways of 15 to 20 minutes. The shuttle service carries more than 183,000 passengers per month, all of whom are associated with UCSF, as the shuttle service is not open to the general public. The majority of riders are staff who depend on the shuttle system for internal transportation between the 15 properties of the decentralized campus for meetings etc. throughout the day. This is imperative because of the difficulty associated with parking.

The shuttle fleet is comprised primarily of 22-passenger cut-aways, 30 passenger Chevrolet buses and 33-passenger International buses for a total of 49 vehicles, all of which are ADA accessible with wheelchair ramps. The shuttle program is operated by UCSF and they own their shuttle vehicles. Marketing is done through the use of a website and occasionally via email, and information is posted at the shuttle stops and on the buses.

Alta Bates Summit Medical Center (ABSMC)

ABSMC operates five free shuttle routes from the Summit Campus in Oakland to either the Alta Bates and Herrick Campuses in Berkeley or the MacArthur BART station. The shuttles operate on 15 to 30 minute headways and transport between 30,000 and 40,000 passengers per month. The shuttle is available to non-Sutter Health affiliated persons.

The shuttle fleet is comprised of 13 shuttle vans, which have a capacity of between nine and 31 passengers. All of the vans except for two are ADA accessible. ABSMC owns their shuttle vehicles; however, operations and management of the program is contracted out to Parking Company of America, which also oversees shuttle operations for the Kaiser Oakland Medical Center.

Information regarding shuttle routes and schedules is available on ABSMC's public website and all employees receive an electronic newsletter monthly that provides information on a variety of topics, including transportation services and options.

TDM COORDINATORS

Kaiser Permanente Oakland Medical Center

Kaiser has contracted out the Transportation Demand Coordinator position to ALTRANS for their Oakland Medical Center location. The TDM Coordinator reports to Kaiser's Director of Parking, Transportation and Security and is responsible for implementing, managing and monitoring employee alternative transportation programs, including providing personalized trip planning, carpool and vanpool organizing, transit subsidies, reserved parking for carpools, carsharing, Guaranteed Ride Home program, and conducts the City of Oakland's mandatory Employee Transportation Survey.

In addition, the TDM Coordinator distributes information to Kaiser employees via email and e-newsletter as well as holds transportation fairs and contests, participates in events sponsored by the Health Education Department to promote commuter services information, and coordinates with the East Bay Bicycle Coalition on Bike to Work Day. ALTRANS manages and provides content and forms for the internal alternative transportation website, www.eco-thrive.com, which contains program information and an internal ride-matching system. The TDM Coordinator is responsible for keeping this website up to date. The TDM Coordinator is not responsible for overseeing the shuttle program; however, they work with the Shuttle Manager, which is a contracted position through Parking Company of America, to ensure the effectiveness of the shuttle and designs of the shuttle schedules.

When asked about the placement of their position within the Parking, Transportation and Security Department, the TDM Coordinator stated that this was appropriate and beneficial for their position as their responsibilities are closely linked with parking services. Presently, the TDM Coordinator is the only employee responsible for managing the existing TDM programs and it was not possible to get data on how many employees there are in total in the Parking, Transportation and Security Department.

San Francisco General

San Francisco General/UCSF does not have a distinct TDM Coordinator position, rather duties that would typically fall under the purview of a TDM coordinator are overseen by the Transportation Operations Manager and Fleet Manager who are located within the Transportation Services division which is overseen by the Transportation Services Director. The Transportation Services division has 165 full time employees who work on parking, shuttles and other alternative transportation programs. The division of labor for these 165 employees is evenly split between parking staff and other transportation services.

The Transportation Operations Manager is responsible for overseeing the shuttle program and the Fleet Manager along with one other staff person oversees the alternative transportation programs including vanpooling, carpooling, and carsharing. Vanpooling is the primary responsibility of the Fleet Manager as the remaining modes are minorities.

When asked if the placement of the Transportation Operations Manager position within the Transportation Services Division was the most effective location for this position, the Transportation Operations Manager stated that it was an appropriate placement for this position.

Alta Bates Summit Medical Center (ABSMC)

Currently at ABSMC the Director of Operations, who reports to the Chief Financial Operator, is responsible for overseeing the ABSMC shuttle program and parking as well as the TDM programs for all campuses. In 2011, ABSMC will begin expanding their TDM program and increasing the marketing of the TDM program. In order to increase their TDM efforts additional staff is needed, therefore ABSMC will be hiring a full-time Employee Transportation Coordinator to manage TDM programs. The Transportation Coordinator will report directly to the Director of Operations and will work with Human Resources and the Marketing Department to increase awareness of what TDM programs and services are offered by ABSMC. This position will be a contract position through Parking Company of America.