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Operations • Facilities Division

March 28, 2008

TO: FILE

FROM: Laura Chen

SUBJECT: STATUS OF TDM PLAN IMPLEMENTATION  
("TDM" stands for Transportation Demand Management)

The following memo documents the progress made in implementing the Berkeley Lab's Transportation Demand Management Plan (TDM) as referred in the 2006 Long Range Development Plan Environmental Impact Report (LRDP EIR). The TDM Plan was developed jointly by the Berkeley Lab - Facilities Planning Group and the City of Berkeley - Department of Transportation and last drafted on June 21, 2007 (Attachment 1).

Since UC Regents' adoption of the Berkeley Lab's LRDP in July of 2007, several tasks noted in the three TDM phases have been initiated. A new task that was not previously included in the 6/21/07 TDM document, has also been added – Mitigation Intersection Study: Hearst Avenue / Gayley Road / La Loma Avenue.

#### Phase 1: Initial TDM Planning

- Identify LBNL TDM Coordinator – completed  
The Berkeley Lab has appointed 2 part-time TDM Coordinators. One coordinator, the LBNL Site Access Manager will plan, monitor, and implement TDM measures in coordination with the departments overseeing parking and access. The other coordinator, the Sustainability Coordinator, will oversee studies evaluating the cost and benefits of further TDM measures.
- Form LBNL Transportation Task Force – completed  
An LBNL Transportation Task Force has been initiated and members currently consist of TDM Coordinators (Site Access Manager and Sustainability Coordinator), Chief Facilities Planner, Traffic Engineer, Bus Services Manager, and Site Construction Coordinator.
- Conduct Commuter Surveys and TDM Measure Cost Studies – in progress  
FY08 funding has been secured to conduct a commuter survey. The LBNL Transportation Task Force has developed a draft set of questions (Attachment 2). The results of the survey will baseline commute patterns of employees and identify transportation modes that can be improved. It will also document the current situation to establish a baseline for measuring improvement. Studies to compare the costs of implementation of additional TDM measures vs. the cost of building parking structure will be assessed in future years.
- Conduct Parking Management Study – completed

Fehr & Peers Transportation Consultants were commissioned by Susan Sakaki, acting TDM Coordinator (appointed by Laura Chen, LBNL Chief Facilities Planner in September 2007) to conduct an LBNL Parking Supply and Demand study (Attachment 3). As part of the study, Fehr & Peers verified the number and designation of available parking stalls and observed parking demand during mid-morning and afternoon periods.

- Initiate Commuter Outreach – in progress  
TDM Coordinator, Sam Houston (who is also the Lab's Site Access Manager) has contacted several programs to learn about how LBNL staff can benefit by using their programs. He is inquiring and/or marketing the following programs (initially at the LBNL Badge Office):
  - "Wage Works" – pre-tax benefit for commuters
  - Guaranteed Ride Home – members have access to free transportation (taxi or car rental) from work to home in event of emergency.
  - 511 Vanpooling – coordinated service to link interested commuters to a vanpool in the area
  - BART Discount Tickets – if enough staff members sign up, LBNL will qualify for discount tickets
  - AC Transit Discount Tickets – being researched.
- Develop Contractor Delivery Routes and Construction Traffic Management Plans – in progress  
TDM Coordinator (Blair Horst) and Site Construction Coordinator (Les Dutton) are in discussions with LBNL Project Managers to determine the status of this effort. Projects of immediate attention include Guest House, Computation Research & Theory (CRT), Helios, and User Support Building (USB).
- Expand Bicycle Infrastructure – to be determined  
All Lab buses currently have 2 bike racks in front and 5 or 6 bike racks in back. Potter St. Shuttle has 2 bike racks in front and 2 in back. Security Vehicles can also accommodate bikes and riders after normal business hours (after 7pm). The number of bike racks to be added will be determined in the commuter survey.
- Investigate Parking Fee at Leased Buildings – in progress  
Information about the Parking Cash-Out Program (AB2109) has been received and is being reviewed for applicability to the Lab's leased facilities. Since Bldg 937, a leased facility in Downtown Berkeley, will be terminating and staff will be relocated to the Lab's main site starting July 2008, we will only be reviewing the applicability of this program to the Oakland Scientific Facility, the leased facility in Downtown Oakland.
- Mitigation Intersection Study: Hearst Avenue / Gayley Road / La Loma Avenue –to be determined  
This action item will be taken up by LBNL in coordination with the City of Berkeley. The goal is to accomplish this task prior to the beginning of construction of Helios and CRT projects.

Although tasks in Phase 2 and Phase 3 of the TDM Plan were expected to be initiated after the completion of Phase 1 tasks, LBNL has made the following progress:

## Phase 2: Feasibility Analyses of Additional TDM Measures

- Parking Fee at the Lab - completed  
The objective of this measure was to generate funds through parking fees to augment the transportation program, such as improving bus service. In February 2008, Facilities Division Director (Jennifer Ridgeway) and Berkeley Site Office Director (Aundra Richards) discussed the possibility of having a Charge for Parking program on the LBNL site. However, due to the Management Contract between the Department of Energy (DOE) and the University of California (UC), the DOE Berkeley Site Office (BSO) clarified that if fees for parking are collected on the LBNL site, that the funds generated will be sent to the U.S. Treasury, and cannot be used to benefit the Lab operations. Since the results would not meet the objective, LBNL will not pursue the implementation of the parking fee.
- Shuttle Coordination Plan – in progress  
Several meetings have taken place with representatives from the Berkeley Lab, City of Berkeley, AC Transit, Bayer Corporation, and Alta Bates Hospital regarding the feasibility of developing coordinated shuttle scheduling to reduce transportation related impacts in the area.
- Enhanced Pretax Transportation Program – in progress  
TDM Coordinator, Sam Houston, is investigating the feasibility of enhancing pretax programs, such as Wage Works, discount tickets for BART and AC Transit (see task under Phase 1).
- Alternative Fuels Program – in progress  
LBNL intends to purchase four (4) additional electric plug-in vehicles to supplement the existing fleet of 16, assuming anticipated funds are available. The current fleet of 16 was purchased in September 2007. The Facilities Division Director, Jennifer Ridgeway, has also ordered three hybrid diesel buses to replace three existing diesel buses. The buses are expected to arrive in FY09.

## Phase 3: Feasibility of TDM Measures Requiring Significant Capital Expense

- Discount Group Pass Program – in progress  
TDM Coordinator, Sam Houston, is investigating the possibility of attaining discount tickets for LBNL staff on BART and AC Transit.

Attachments: 1 – LBNL Transportation Demand Management Plan, June 21, 2007  
2 – Draft Commuter Survey questions  
3 – LBNL Parking Supply and Demand Study conducted by Fehr & Peers, Sept. 24, 2007

C: LBNL Transportation Task Force Members:  
Steve Blair – LBNL Traffic Engineer  
Tammy Brown – LBNL Bus Services Manager  
Laura Chen – LBNL Chief Facilities Planner  
Les Dutton – LBNL Site Construction Coordinator  
Blair Horst – LBNL Sustainability Coordinator  
Sam Houston – LBNL Site Access Manager

# Lawrence Berkeley National Laboratory

## Transportation Demand Management Plan

June 21, 2007

### Background

The Lawrence Berkeley National Laboratory (LBNL) is projected to experience moderate growth over the next twenty years. The purpose of the LBNL Transportation Demand Management (TDM) Plan is to reduce total vehicle trips to the Lab, reducing emissions as well as traffic impacts and parking demands. The strategy is to implement TDM programs that increase awareness among staff and offer incentives to access the Laboratory by means other than the use of single-occupant vehicles (SOV), including public transit, carpools and vanpools, bicycling, and walking. Besides reduced traffic, emissions, and parking demands, other benefits include improved air and environmental quality, and improved relations between the Laboratory, the City of Berkeley, UC Berkeley, and the local community.

### Current Conditions

Berkeley Lab's TDM Program facilitates a range of commute options for its employees that have served to reduce commuter vehicle trips to the Lab. As of the most recent Berkeley Lab transportation study, it is estimated that approximately 52% of Laboratory staff and visitors use their personal vehicles to commute to the Laboratory (see table) – a rate of use of alternative transportation modes comparable to institutions in dense urban areas.

*Table 1: Current Mode split estimates based on FY2000 employee transportation survey:*

Mode	% of total	Number
Drive Alone	51.8%	2266
carpool >2x week	7.7%	336
motorcycle	2.7%	119
LBNL Shuttle	9.7%	426
LBNL Shuttle & bike	3.8%	168
Bicycle only	5.7%	248
Walk	4.3%	190
Current Transit	10.7%	469
Telecommute 2+x week	3.6%	156
<b>Total</b>	<b>100.0%</b>	<b>4376</b>

The Lab limits the supply of parking available to employees, currently providing spaces for approximately 50% of its Adjusted Daily Population (ADP), reflecting the high degree to which access is achieved by means other than single-occupant vehicles. There are currently 2,300 parking spaces at the Laboratory, distributed as shown in Table 2.

Table 2: Current Parking Mix

Parking Type	No. Spaces	No. Permits
Orange (employee)	32	26
Blue (employee)	309	792
General (employee)	1,552	2,523
Disabled	39	0
Emergency	3	0
Gov. Vehicle	271	0
Loading Zone	43	0
Motorcycle	23	101
Timed	11	0
Visitor	17	0
<b>Total</b>	<b>2,300</b>	<b>3,442</b>

Currently there are 1,932 general use parking spaces available (including spaces for the disabled) to serve an approximate ADP of 4,515. Parking at the Laboratory is free, but is allowed by permit only. Parking permits are provided to career employees and participating guests. The Laboratory has typically provided one employee parking space for each 1.7 to 2.0 staff person and user/guest that is authorized to park an automobile on the Laboratory's main hill-site during the work day. Parking spaces are provided in an array of moderate to small surface parking lots dispersed throughout the Laboratory, and along the sides of many roads. There are currently no parking structures on the main site.

Due to staff population growth and an increasing demand on user facilities, the Lab has experienced an increase in demand of 25 to 30 parking spaces a year for the last fifteen years, and this trend is expected to continue. The Lab has added approximately 650 spaces over the past 16 years. The 1987 LRDP allowed for a total of 2410 spaces, a number which has not yet been reached.

### **TDM Approach**

The 2006 LRDP includes the projection of 500 net new parking spaces being added to the Laboratory over the next 20 years, accompanying a net Adjusted Daily Population increase of 1,010, meaning that the ratio of parking to population will be reduced. The draft EIR analysis includes mitigation measures in the TDM program which will require an additional traffic survey when the number of parking spaces at the Laboratory is increased beyond 375. It is therefore the goal of this TDM Plan to implement measures over the course of the LRDP time frame, reducing the demand for parking and maintaining a cap of 375 on net new parking spaces.

The implementation of additional commute options and other programs to encourage the use of mass transit will require increased resources, either directly in the form of expenses or indirectly in the form of staffing. This TDM Plan outlines a phased approach that takes into account the resource limitations while working toward the goal of reducing total vehicle trips to the Lab. A key task in Phase 1 is to document the effectiveness and utilization of the existing TDM program elements, establishing benchmarks and laying the foundation for implementation of new or enhanced measures.

## **Current TDM Measures**

Berkeley Lab's current TDM program includes the following measures:

### ***Laboratory Shuttle Service***

The TDM component that has the greatest impact on Lab traffic is the Berkeley Lab Shuttle system. A system of small buses, the shuttle is offered free to Berkeley Lab employees and visitors. The shuttle has an on-site route that serves passengers within the Laboratory campus, and a number of external routes that connect the Laboratory to various locations within the City of Berkeley, including UC Berkeley, major AC Transit stops and BART stations. Stops are served generally every ten to fifteen minutes during normal working hours, Monday through Friday. The shuttle buses include racks for bicycles, so bicyclists can ride the shuttle up the hill and bicycle down. The shuttle reduces vehicle trips within the Laboratory, and provides access to the Laboratory for commuters using public transit such as BART and AC Transit.

### ***Guaranteed Ride Home***

The Lab provides a guaranteed ride home via Lab Security or taxi in case of family illness, family crisis, unscheduled overtime, or other emergencies. This encourages Lab employees to use alternative means of transportation getting to the Lab, as they can feel comfortable that in unusual or emergency situations they will be able to get home quickly. The Lab also participates in the Alameda County Guaranteed Ride Home program.

### ***Pretax Transportation Program Incentive***

Berkeley Lab offers employees participation in the "WageWorks" program, which enables Lab employees to deduct transportation costs of up to \$100 with pretax dollars. This incentive offers commuter participants a discount of up to 40% for public transportation expenses such as BART or AC Transit tickets.

### ***Carpooling/Vanpooling***

The Lab's website links employees to Rideshare, a free regional ridesharing agency. Lab employees who participate in Rideshare can also deduct voucher expenses with pre-tax dollars as part of the Pretax Transportation Program.

### ***Telecommuting and Flex Time***

The Laboratory supports telecommuting, reducing the number of daily trips to the Lab by employees. The Laboratory also allows for flexibility in work hours to reduce peak demand.

### ***Limited Parking***

Parking is limited and is regulated through the use of parking permits, thus discouraging personal vehicle use.

### ***Clean-fuel Vehicles***

The Laboratory has an ethanol fueling facility and uses bio-diesel in some fleet vehicles and buses.

## **Other related practices and benefits**

### ***Pedestrian Network***

Berkeley Laboratory has a well developed internal system of pedestrian routes, encouraging pedestrian activity in lieu of the use of vehicles. This pedestrian network is connected to the UC Berkeley campus, the City of Berkeley, and surrounding neighborhoods, through a series of secure pedestrian gates. The network is lighted for security and to encourage use.

### ***Government-owned Vehicles***

The Laboratory owns and maintains a number of vehicles for Berkeley Lab business use. Employees who come to work without a personal car have access to a vehicle for short trips.

### ***Bicycle infrastructure***

Bicycling is a popular form of non-auto commuting to the Laboratory. Berkeley Lab has a well-developed infrastructure to support those who bicycle to work; specifically;

- Major Laboratory circulation routes include bike lanes.
- The Berkeley Lab shuttle accommodates bike transport.
- Bike racks are provided throughout the Laboratory.
- Showers are provided at a number of locations around the Laboratory.
- The LBNL Bicycle Coalition, a volunteer group at the Laboratory, are an organized bicycling group that encourage bicycle commuting through education and helping to improve facilities.

### ***On-site amenities***

Berkeley Lab provides many support services and amenities on-site, which reduces the number of stops during commutes and trips of people leaving the Laboratory to perform errands, including:

- ATM
- Cafeteria
- Guest housing (under development)
- Dental
- Employee activities, including recreation programs and facilities

### ***Information and Marketing***

Berkeley Lab provides information to employees about TDM programs and services through the following venues:

- Laboratory Newspaper “the View,” and e-news “Today at Berkeley Lab”
- Comprehensive pedestrian and bicycling maps
- Bulletin board displays
- E-mail bulletins
- Transit and access information in new employee orientation and Laboratory visitor packets
- Transportation fair
- Promotional events
- Employee advisory committee
- Spare the Air Campaign notifications

## **Phased Implementation of Expanded TDM Measures**

Through a series of internal planning meetings as well as community meetings, a number of possible new TDM measures have been identified. Many require additional study to determine the cost and the TDM benefit before they can be implemented. This Transportation Demand Management Plan will be implemented in three phases as follows:

- **Phase 1:** Initial TDM Planning (commencing October 2007, FY08)
- **Phase 2:** Feasibility Analyses of Additional TDM measures (FY09)
- **Phase 3:** Feasibility of TDM Measures Requiring Significant Capital Expense (triggered by reaching 2,675 parking spaces – an increase of 375 parking spaces over the base 2006 inventory of 2300.)

### **Phase 1: Initial TDM Planning**

The Lab will proceed with an initial planning phase which will examine more closely some of the key aspects of managing transportation demand. In Phase 1, staffing will be established to handle the tasks and benchmarks will be set for meeting the goals of the TDM Plan. The Phase 1 tasks are as follows:

#### ***LBNL TDM Coordinator***

Identify resource for a “TDM Coordinator” or “TDM Manager” who will monitor, plan, and implement TDM measures in coordination with the departments overseeing parking and access. This resource will oversee studies evaluating the cost and benefits of further TDM measures.

#### ***LBNL Transportation Committee***

Form a committee to develop and implement TDM measures in conjunction with the TDM Coordinator position.

#### ***Commuter Surveys and TDM Measure Cost Studies***

Conduct commuter survey similar to the one conducted in 2000 to determine the commute patterns of employees and to identify transportation modes that can be improved and to establish a baseline for measuring improvement. Conduct studies that compare the costs of implementation of additional TDM measures vs. the cost of building parking structures.

#### ***Parking Management Study***

Conduct an annual inventory of on-site parking spaces and track the number of net new spaces. Review the inventory of parking permits to re-assess the guidelines regarding the issuance of parking permits.

#### ***Commuter Outreach***

Conduct information and outreach program to aggressively promote the use of alternatives to the single-occupant commuter vehicle, to encourage employees to take advantage of the commute options currently available to them (e.g. carpooling, guaranteed ride home, “WageWorks”). Make information on mass transit alternatives more readily available to employees and guests, using quarterly e-news and employee newspaper articles describing efficient alternatives and their outcomes of reduced traffic and preserved air quality benefits

### ***Contractor Delivery and Construction Traffic***

Develop standardized contract specification information required in procurement / purchasing contracts to discourage or prohibit deliveries during commute hours, when these contracts involve delivery of goods to the Lab's site. The Lab will work with the City of Berkeley Transportation and Public Works to review and approve truck routes and the Construction Traffic Management Plans.

### ***Bicycle Infrastructure***

Expand bicycle racks at buildings and on Berkeley Lab shuttle buses to meet the increased number of bicycle commuters.

### ***Parking Fee at Leased Buildings***

Investigate the applicability of the Parking Cash-Out program (AB2109), an employer funded program in the leased facilities.

## **Phase 2: Feasibility Analyses of Additional TDM measures**

Based on surveys and studies conducted in Phase 1, in Phase 2 the Lab will conduct more detailed feasibility analyses on the implementation of additional TDM measures, examining cost of implementation and associated benefits. It is likely that the studies will focus on these areas:

### ***Traffic Studies***

Perform periodic gate count and a commuter survey to more accurately profile the transportation modes used by Berkeley Lab commuters. Study service vehicle traffic to determine number of trips and vehicle modes of service and delivery vehicles. In conjunction with the City of Berkeley, monitor key intersections for traffic and pedestrian activity (Heast/Gayley and Gayley at Stadium Rimway) to assess impacts during Laboratory growth.

### ***Parking Fee at the Lab***

Currently there is no fee for parking at the Laboratory, although permits are controlled and limited. The Lab is a Department of Energy (DOE) facility, and there may be DOE directives regarding parking fees that must be more fully explored and discussed with DOE and UC. A study will be conducted on parking fees, legal constraints, and potential fee structures.

### ***Shuttle Coordination Plan***

In cooperation with UC Berkeley, Alta Bates Hospital, Bayer Corporation and the West Berkeley Shuttle (all of whom operate shuttles), assess the feasibility of developing coordinated shuttle scheduling, thus reducing transportation related impacts in the area.

### ***Car Share***

Investigate the use of Car Share service in addition to, or in lieu of, government-owned fleet vehicles, either outsourced or managed in-house, possibly using an on-line reservation system. This service would provide automobile rental by the hour; employees may be more inclined to use mass transit if they had the option of an available automobile for personal errands during the day.

### ***Enhanced Pretax Transportation Program***

Review similar programs at nearby institutions and assess the feasibility of improving or enhancing the "WageWorks" program already in place.

### ***Enhanced Carpool/Vanpool***

Assess the costs of providing additional incentives to further encourage carpools and vanpools. Create a more coordinated and visible program for carpooling and vanpooling and offer additional incentives. Dedicate preferential parking spaces to carpools and vanpools, encouraging their use.

### ***Alternative Fuels Program***

Implement the use of alternative fuels such as biodiesel in the shuttle fleet and in government-owned Laboratory vehicles. Encourage and reward the use of alternative fuel vehicles in carpools and vanpools. Mandate the use of alternative fuel vehicles in contractor and construction vehicles.

### ***Additional On-Site Amenities***

Identify and develop feasibility of additional support services and amenities, to further reduce the number of stops during commutes and trips of people leaving the Laboratory to perform errands, such as:

- Child care
- Dry cleaning pick-up
- Gym

## **Phase 3: Feasibility of TDM Measures Requiring Significant Capital Expense**

It is anticipated that the implementation of TDM measures in Phases 1 and 2 will sufficiently control the transportation and traffic impacts. If it is necessary to add more than 375 spaces to the Berkeley Lab main site within the time frame of the 2006 LRDP, the Lab will consider additional options to ease traffic impacts. The following measures will be considered:

### ***BART Bicycle Storage***

Work with BART to provide additional bicycle storage lockers at BART stations impacted by Berkeley Lab commuters.

### ***Remote Parking***

Create or lease remote parking locations that could be serviced by the Berkeley Lab Shuttle in order to reduce on-site traffic and parking as well as traffic impacts in surrounding communities.

### ***Discount Group Pass Program***

Investigate the costs of a mass transit group pass program, a mass-transit deep discount group pass that would allow unlimited usage of regional mass transit systems, including both AC Transit and BART; modeled on the UC Berkeley BearPass (offered to UCB staff and faculty), the UC Berkeley ClassPass (offered to UCB students) or the City of Berkeley's EcoPass program (offered free to all City employees).

### ***Critical Intersection Shared Funding***

Investigate shared funding and prepare a plan for improving critical off-site intersections with funding shared among the Lab, other major institutions, and local jurisdictions (e.g. City of Berkeley, UC Berkeley, and LBNL).

### ***Funicular Railway***

Explore the feasibility of a funicular railway on site similar to the Angel's Flight system in Los Angeles as suggested by the Sierra Club in the Draft LRDP EIR review as another transportation option that would encourage employees to use mass transit to commute to work.

### ***Preparation of Updated Traffic Analysis***

In addition to the TDM measures identified above, Berkeley Lab intends to prepare an updated traffic analysis pursuant to a "reopener" negotiated with the City of Berkeley to evaluate traffic impacts related to future development at the Lab. The updated traffic analysis will be prepared on the earliest to occur of ten years from the date that Berkeley Lab's Long Range Development Plan EIR is certified or the date upon which development at the Lab pursuant to the Long Range Development Plan reaches 375 net new parking spaces. When the earliest of these thresholds is reached, Berkeley Lab will conduct the new traffic study, circulate that traffic study for review subject to the California Environmental Quality Act, and consider whether further mitigation measures or modifications to the Long Range Development Plan should be adopted based upon that traffic study. The new traffic study may be conducted as part of a further project review or independently as a supplement to the Long Range Development Plan EIR. Consistent with this TDM Plan, it is anticipated that the new traffic study will assist in reducing total vehicle trips to and within Berkeley Lab, reducing air emissions, traffic impacts, and parking demands.

Demand Transportation Questionnaire  
Draft  
3/12/2008  
S.Blair

1. From which city (zip code) does your commute originate?
2. Thru which LBNL gate do you enter?
  - A) Blackberry Gate (front gate)
  - B) Strawberry Gate (lower back gate)
  - C) Grizzly Gate (upper back gate)
  - D) Trail/path gate
3. How do you commute to work?
  - A) Walk
  - B) Bike
  - C) Motorcycle
  - D) Bart/bus
  - E) Carpool
  - F) Private automobile
  - G) Other (segway, rail, etc)

**Bart Riders Only**

4. If you ride Bart, at which arriving station do you board an LBNL bus?
  - A) Berkeley
  - B) North Berkeley
  - C) Rockridge

**Motorcycles/Carpools/ private automobiles Only**

5. If you enter thru **Blackberry Gate**, which of the following best describes your route to LBNL?
  - A) 80 south to University to Hearst
  - B) 80 South to Gillman to Cedar to Hearst
  - C) 80 South to Buchanan to Marin to Arlington to Hearst
  - D) 80 South to Solano to Arlington to Hearst
  - E) 80 North to University to Hearst
  - F) 580 West to 24 North to Telegraph to Galey to Hearst
  - G) 580 West to 24 North to College to Galey to Hearst
  - H) 13 to Tunnel Road to Galey to Hearst
  - I) 24 to Tunnel Road to Galey to Hearst
  - J) Local streets only (no freeways)
  - K) Other \_\_\_\_\_

6. If you enter thru **Grizzly Gate**, which of the following best describes your route to LBNL?

- A) 24 West to Fish Ranch to Grizzly Peak to Centennial
- B) San Pablo Dam Road to Wildcat Canyon to Golf Course Dr. to Centennial
- C) Grizzly Peak South to Centennial
- D) Other \_\_\_\_\_

7. If you enter thru **Strawberry Gate**, which of the following best describes your route to LBNL?

- A) 24 West to Fish Ranch to Grizzly Peak to Centennial
- B) San Pablo Dam Road to Wildcat Canyon to Golf Course Dr. to Centennial
- C) Grizzly Peak South to Centennial
- D) Stadium Rim Way to Centennial
- E) Other \_\_\_\_\_

8. During what time period do you **arrive** at LBNL?

- 1) 4:00am to 7:00 am
- 2) 7:01am to 9:00am
- 3) 9:01 am to 12:00pm
- 4) 12:01pm to 5:00pm
- 5) After 5:00pm

9. During what time period do you **leave** LBNL?

- 1) Before 3:00pm
- 2) 3:00pm to 4:30pm
- 3) 4:36pm to 6:00pm
- 4) After 6:00pm

10. Are you interested in **car pooling** with other LBNL employees?

11. If you drive a motorcycle or automobile, in what general area of LBNL do you **park**?

- 1) Bldg 90/55
- 2) Blackberry Canyon
- 3) Bldg 64/Bay View Lot B
- 4) Bldg 51
- 5) West of and below Bldg 50/70A complex
- 6) Bldg 88
- 7) Upper Bldg 50/70 area
- 8) Cafeteria Lot
- 9) Parking Lot J (also called "Y" lot)
- 10) Parking Lot Z (also called Big C lot)
- 11) Bldg 2/58 parking lot
- 12) Bldg 2/80 parking lot
- 13) Bldg 46/47 area
- 14) Bldg 71 Area

- 15) Bldg 6/7/17/53/4/25/26 area (old town area)
- 16) Bldg 45/48 area
- 17) Bldg 76/78 area
- 18) Bldg 69 Area
- 19) Bldg 77/77a Area
- 20) Bldg 31 Area
- 21) Bldg 72 area
- 22) Bldg 62/66/67 areas
- 23) Centennial Overpass area
- 24) Bldg 74/ 83/84/85 area
- 25) Other

## MEMORANDUM

Date: September 24, 2007

To: Laura Chen, LBNL  
Susan Sakaki, EnviroSystems Group

From: Sam Tabibnia and Jamie Henson

**Subject: LBNL Parking Supply and Demand**

WC07-2488

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This memorandum summarizes the results of a parking supply and demand study at the Lawrence Berkeley National Laboratory (LBNL) campus conducted by Fehr & Peers in September 2007. As part of the study, Fehr & Peers verified the number and designation of available parking stalls and observed parking demand during mid-morning and afternoon periods. Parking supply and demand are discussed in further detail below.

### ***Parking Supply***

An electronic file showing the location and designation of all parking stalls at LBNL was provided by LBNL staff. Based on a site visit on September 12, 2007, we verified and noted the changes in the location and designation of parking stalls. Most parking stalls are provided in small lots adjacent to individual buildings. There is also a number of larger lots and parking along on-site roadways. Figure 1 shows the location of parking facilities and approximate number of stalls at each facility. Table 1 shows the number of stalls by designation at each parking facility.

A variety of parking designations exist for employees and regular visitors at the LBNL site. They are:

- Orange Circle – Reserved for Directors (31 stalls)
- Blue Triangle – Reserved for Senior Scientists (333 stalls)
- Government Vehicles (262 stalls)
- General Use (1,468 stalls)
- Disabled (41 stalls)
- Time Limited (17 stalls)
- Visitor (12 stalls)

There are also areas reserved for motorcycle parking and other areas are designated as loading zones. Additionally, some stalls are reserved for specific individuals.

Due to construction, parking facilities were not available in:

- Lot Z – Above the Building 71 Complex

Parking capacity was reduced due to construction in:

- Lot N3 – Along McMillan Road
- Lot T2 – Adjacent to Building 62
- Lot U4 – Near Building 85

About 130 parking stalls were not available due to construction.

Currently, LBNL provides 2,164 parking stalls. This includes orange circle, blue triangle, government vehicle, general, disabled, visitor and timed parking stalls. It does not include motorcycle parking, loading zones, or parking stalls not available due to construction. If parking stalls unavailable due to construction would be available in their current configuration, a total of 2,294 parking stalls would be available, consistent with the working estimate of 2,300 stalls used by LBNL.

### ***Parking Demand***

The occupancy of each parking stall was recorded both in the morning peak period and in the afternoon peak period on Wednesday, September 12, 2007. The morning occupancy survey was started at 10:45 AM and ended at approximately noon. The afternoon occupancy survey started at 2:00 PM and ended at approximately 3:15 PM.

Overall, about 80 percent, or 1,722 stalls were occupied in the morning peak period. In the afternoon peak, 1,757 stalls or 81 percent were occupied. In general, parking lots were more full in the central area of the site and less full in the more remote locations of the site. Figures 2 and 3 show the morning and afternoon parking occupancy by facility, respectively. Tables 2 and 3 show the morning and afternoon parking demand by facility and designation, respectively.

Please contact us with questions or comments.

#### Attachments:

Table 1 – Parking Supply By Facility and Designation

Table 2 – Mid-Morning Parking Demand and Occupancy

Table 3 - Afternoon Parking Demand and Occupancy

Figure 1 - LBNL Parking Inventory

Figure 2 – Morning (11:30 AM) Parking Occupancy

Figure 3 – Afternoon (2:30 PM) Parking Occupancy

**Table 1  
Parking Supply By Facility and Designation**

Parking Facility	Unavailable Due To Construction	Designation							Total <sup>1</sup>
		Orange Circle	Blue Triangle	Government Vehicle	General	Disabled	Timed	Visitor	
A		1		4		1		9	15
AL1				14	54	1	2		71
B			14		35				49
C		5	81	23		5	2		116
CH1					16				16
CH2				1	78	1			80
D					181				181
E			10	7	68				85
F					29				29
G1			16	4		6			26
G2			9	9					18
G3			25	4					29
GL1					28				28
H1		13	15			1	1		30
H2		2	29	13		3			47
I				2	81	1			84
K1			78	2	67	2	2		151
K2		3	8	6	41	2			60
L				9	27	4			40
LR1					20				20
LR2					18				18
M1			8		11				19
M2				7	40				47
MM1				8	6				14
N1				1	29		1		31
N3	16	1	7	10	108	2			128
N4				19	49	1			69
P				48	18	2		2	70
Q			10	33	61	2	1	1	108
R			1	8	44	1	6		60
S				1	7	2			10
T1		1	5	4		2	1		13
T2	31			5	42				47
U1		1	2	2	46	1			52
U2		2		1		1			4
U3			5	1	21				27
U4	17	1		1	9				11
U5					40				40
V					17				17
W				6	42				48
X			6	6	40				52
Y		1	4	3	95		1		104
Z	66								0
<b>Total</b>	<b>130</b>	<b>31</b>	<b>333</b>	<b>262</b>	<b>1,468</b>	<b>41</b>	<b>17</b>	<b>12</b>	<b>2,164</b>

Notes:

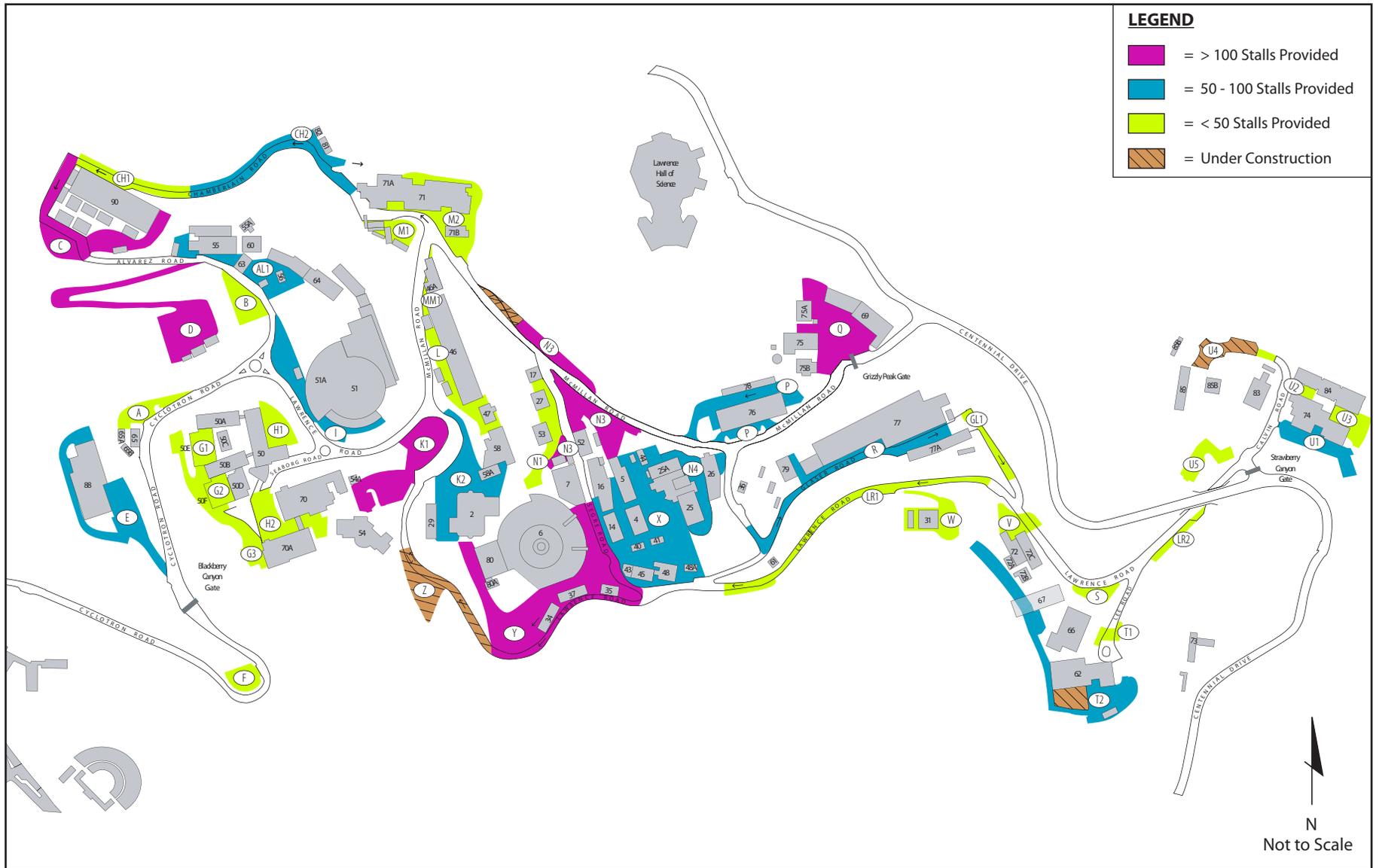
1. Totals do not include stalls unavailable due to construction

**Table 2  
Mid-Morning Parking Demand and Occupancy**

Parking Facility	Designation							Total	Occupancy
	Orange Circle	Blue Triangle	Government Vehicle	General	Disabled	Timed	Visitor		
A	1		2		1		5	9	60%
AL1			13	47	1	2		63	89%
B		14		35				49	100%
C	4	73	12		3	2		94	81%
CH1				12				12	75%
CH2				65				65	81%
D				98				98	54%
E		8	5	41				54	64%
F				28				28	97%
G1		14	4		6			24	92%
G2		9	7					16	89%
G3		22	4					26	90%
GL1				9				9	32%
H1	7	13						20	67%
H2	1	27	8		2			38	81%
I			2	74	1			77	92%
K1		78	2	67	1	2		150	99%
K2	3	5	6	40	2			56	93%
L			5	25	4			34	85%
LR1				7				7	35%
LR2				18				18	100%
M1		7		11				18	95%
M2			5	29				34	72%
MM1			6	5				11	79%
N1			1	29		1		31	100%
N3	1	7	9	102	2			121	95%
N4			12	38	1			51	74%
P			30	11	2		2	45	64%
Q		8	28	60	2	1	1	100	93%
R			4	34	1	2		41	68%
S			1	3	1			5	50%
T1	1	5	3		2			11	85%
T2			5	37				42	89%
U1	1	2	2	40				45	87%
U2			1					1	25%
U3		4	1	21				26	96%
U4	1		1	9				11	100%
U5				26				26	65%
V				17				17	100%
W			3	14				17	35%
X		6	4	36				46	88%
Y	1	3	2	69		1		76	73%
Z								0	
<b>Total</b>	<b>21</b>	<b>305</b>	<b>188</b>	<b>1,157</b>	<b>32</b>	<b>11</b>	<b>8</b>	<b>1,722</b>	<b>80%</b>
<b>Occupancy</b>	<b>68%</b>	<b>92%</b>	<b>72%</b>	<b>79%</b>	<b>78%</b>	<b>65%</b>	<b>67%</b>	<b>80%</b>	

**Table 3  
Afternoon Parking Demand and Occupancy**

Parking Facility	Designation							Total	Occupancy
	Orange Circle	Blue Triangle	Government Vehicle	General	Disabled	Timed	Visitor		
A	1		3		1		5	10	67%
AL1			12	45	1	2		60	85%
B		14		33				47	96%
C	3	74	16		3	2		98	84%
CH1				16				16	100%
CH2				66	1			67	84%
D				109				109	60%
E		9	6	44				59	69%
F				29				29	100%
G1		15	3		6			24	92%
G2		9	7					16	89%
G3		20	4					24	83%
GL1				5				5	18%
H1	9	12			1	1		23	77%
H2	2	26	11		3			42	89%
I			2	75	1			78	93%
K1		77	2	62	2	2		145	96%
K2	3	6	6	40	1			56	93%
L			6	25	4			35	88%
LR1				8				8	40%
LR2				18				18	100%
M1		8		11				19	100%
M2			6	29				35	74%
MM1			5	4				9	64%
N1			1	23		1		25	81%
N3	1	7	8	103	2			121	95%
N4			10	46				56	81%
P			24	10	2		2	38	54%
Q		6	26	55	2	1	1	91	84%
R			6	34	1	4		45	75%
S			1	3	1			5	50%
T1	1	4	4		2	1		12	92%
T2			5	33				38	81%
U1		2	2	46	1			51	98%
U2	1		1					2	50%
U3		5	1	21				27	100%
U4	1		1	8				10	91%
U5				32				32	80%
V				15				15	88%
W			4	25				29	60%
X		6	6	39				51	98%
Y	1	4	2	69		1		77	74%
Z								0	
<b>Total</b>	<b>23</b>	<b>304</b>	<b>191</b>	<b>1,181</b>	<b>35</b>	<b>15</b>	<b>8</b>	<b>1,757</b>	<b>81%</b>
<b>Occupancy</b>	<b>74%</b>	<b>91%</b>	<b>73%</b>	<b>80%</b>	<b>85%</b>	<b>88%</b>	<b>67%</b>	<b>81%</b>	



N  
Not to Scale

LBNL Parking

