

AN ALTERNATIVE ROUTE

Sustainable Transportation

AT THE UNIVERSITY OF CALIFORNIA

The University of California is continuing to drive ahead in developing and implementing innovative sustainable transportation policy and programs for staff, students, faculty and administration. Sustainable transportation is an increasingly important goal that the University is committed to achieve through a series of policies, programs, campus initiatives and research. UC has put forth a major effort in finding ways to reduce dependency on fossil fuel and creating unique ways for Californians to get to and from work, school, home and play.

SUSTAINABLE TRANSPORTATION POLICY AT UC—A LONG-RANGE COMMITMENT

For more than 20 years, UC has worked hard to develop alternative means of commuting to campuses through transportation management programs to mitigate campus growth. Developing alternative transportation is a part of the University's leadership role as environmental stewards in California.

UC's Green Building and Clean Energy policy was adopted by the Regents in July 2003 to reduce the University's environmental impacts. This policy established UC as a leader in promoting environmental stewardship among institutions of higher education. Sustainable transportation was added to the policy in January 2006. Other components and some modifications were made in March 2007. The Sustainable transportation policy calls for UC to incorporate alternative means of transportation to, from and within the campus to improve the quality of life on campus and in the surrounding communities, and to build more housing on campus to reduce the need for commuting. www.ucop.edu/sustainability/transportation/welcome.html

Systemwide Sustainable Transportation Practices

UC's sustainable transportation guidelines identify a number of ways to improve the sustainability of campus transportation. The Sustainable Transportation Working Group is in the process of evaluating these guidelines in light of their relative ability to achieve greenhouse gas emission reductions and other environmental benefits.

- Implement efficient and effective economic and environmental strategies for campus fleets.
- Collect data on Average Vehicle Ridership (AVR) of campus commuters.
- Using 2004-05 time period as a base line, campuses will strive to increase the percentage of low or zero-emission vehicles by 50 percent by the year 2009-10, or

whichever is more feasible and to convert campus vehicles to 50 percent non-carbon based fuel by 2009-10.

- Working with regulatory agencies and other entities to speed the development, approval and implementation of programs and technologies that support sustainable transportation.
- By January 2009, each UC campus will have in place either a pre-tax or universal access transit pass program.
- Car-share programs at all campuses for eligible employees.

Campus Action

UC campuses have been innovative in the area of sustainable transportation even before the systemwide policy and guidelines were adopted. UC offer incentives to use public transportation, carpool programs, and bicycle programs. Nine of the 10 UC campuses are designated by the EPA as "Best Workplaces for Commuters," indicating they have a number of commute alternatives available to reduce the reliance on single-occupancy-vehicle commutes.

UC Berkeley

UC Berkeley faculty and staff are avid users of alternative transportation. About half of them commute to campus by public transportation, by bicycle, foot carpool or vanpool.

http://pt.berkeley.edu/transportation_alternatives/new_directions_programs.

Through the UC Berkeley Parking and Transportation Department, faculty and staff can get discounted AC Transit rides, discounted parking for carpools and discount parking, transit subsidies, and pre-tax transit purchases.

For students, UC Berkeley offers a public transportation pass that allows students to ride free of charge on AC Transit and campus shuttles all semester long. The campus Parking



and Transportation office also has discounted BART tickets and discounted parking for carpool users.

In 2006, UC Berkeley unveiled a comprehensive campus bicycle plan pt.berkeley.edu/transportation_alternatives/bicycle_information/bike_plan.html

UC Davis

UC Davis is famous as a bike campus, and the City of Davis as a bicycling town. Davis is the only UC community that has a traffic signal with a bicycle phase, to accommodate the thousands of bicycle commuters come to campus daily.

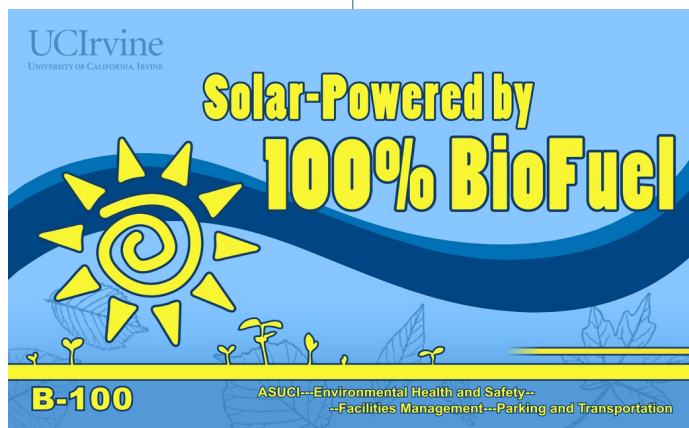
The Associated Students of the University of California, Davis and the City of Davis, have partnered to provide Unitrans, a public transportation system that services all of Davis, with more than 40 buses on 15 routes carrying more than 3 million passengers a year. Each weekday, 20,000-plus Davis residents ride buses to get to destinations on campus and throughout the city. <http://sustainability.ucdavis.edu>.

Among other programs, researchers at UC Davis are using a \$25 million, five-year grant from Chevron Corp. to examine ways to develop affordable, renewable transportation fuels from farm and forest residues, urban wastes and crops grown specifically for energy. The grant, awarded in 2006, will help researchers identify energy alternatives that will become increasingly important in reducing U.S. dependence on foreign oil supplies and to reduce emissions of air pollutants and greenhouse gases linked to global climate change. www.news.ucdavis.edu/search/printable_news.lasso?id=7873&table=news

UC Irvine

UC Irvine won 2007 Sustainable Transportation Awards in both the University Owned and Operated Transportation and the Transportation Demand Management categories at the Sustainable Campus conference in Santa Barbara. UC Irvine researched and tested an emission control device for their shuttle buses, enabling the conversion of ten shuttle buses to B100 fuel, which is 100 percent biodiesel. The second award was for the campus Strategic Mobility Plan which was successful in increasing the number of people who commute to campus in non-auto modes.

UC Irvine Sustainable Transportation Services help in the clean air effort in a number of ways including offering incentives to employees who walk and ride their bicycles to campus. UC Irvine also offers carpool and vanpool incentive programs for employees and students. www.parking.uci.edu



UCLA

For decades, UCLA has embraced and implemented a variety of sustainable transportation-related initiatives for travel both to and on campus, and is currently formalizing these efforts into a comprehensive Sustainable Transportation Plan.

Under the campus' vanpool program faculty and students and staff receive monthly subsidies toward the cost of their daily commute to campus aboard one of the 150 UCLA-owned commuter vanpools. UCLA has partnerships with both Santa Monica Municipal Bus Lines and Culver CityBus for the BruinGo transit pass program and student, faculty and staff can use the UCLA subsidized Go Metro pass.

UCLA has also addressed the energy use and emissions from on-campus vehicles with its 11 campus shuttle busses running on 100 percent Compressed National Gas (CNG), and two on-campus CNG fueling stations.

UCLA recently produced its first campus Bicycle Master Plan and has increased its supply of on-campus housing substantially from about 4,000 residents in 1990, to more than 9,000 in 2007. Overall, UCLA's sustainable transportation programs eliminate an estimated 1.7 million automobile trips per year. www.sustain.ucla.edu/about.

UC Merced UC Merced has a comprehensive transportation plan for its campus that reduces environmental impacts from automobiles, including emissions reduction and required infrastructure development. The campus actively encourages the use of carpools and bicycle commuting among other alternative transportation options.

UC Merced has contracted with a private company, VIA, to provide free bus and shuttle service, known as "Cat Tracks" for all UC Merced students and employees that runs from the campus to various places within the city, including a local light rail. administration.ucmerced.edu/2.asp?uc=1&lvl2=39&lvl3=39&lvl4=84&contentid=105

UC Riverside: A variety of alternative transportation programs are available to UC Riverside staff, students and faculty. A growing vanpool program, comprehensive public transit services, two shuttle services (campus and Metrolink). www.parking.ucr.edu/index.php?content=services/alternative_transportation.html

To assist faculty and staff carpool and vanpool participants in the event of personal or family emergency situations, UC Riverside also has a Guaranteed Ride Home program. www.parking.ucr.edu/index.php?content=services/guarantee.html

As of 2006, UC Riverside had the largest percentage of alternative fuel fleet vehicles in the UC system.

UC San Diego

UC San Diego tripled its Free Bus Zone in 2007 through a partnership with the Metropolitan Transit System and North County Transit District; introduced the Flexcar program to provide car-sharing service for faculty and staff who do not purchase parking permits; and increased shuttle coverage to the Coaster and Express trains. Recent survey results indicate that transit ridership has more than doubled between 2006 and 2007.

UC San Diego was the 2006 Sustainable Transportation award winner in the University Owned and Operated category for the use of 225 electric or “zero emission” vehicles and 32 hybrid vehicles for its fleet. UC San Diego recycles the electric vehicles batteries, and has plans to install solar panels for recharging the vehicles. UC San Diego also converted to a blend of ultra-low sulfur bio-diesel (B20) for the diesel fleet, which eliminated more than 70 metric tons of CO₂ emissions and reduced sulfur emissions by 97 percent.

In fall 2006, UCSD reduced the number of single occupancy vehicles on campus by 800 cars, which reduced annual CO₂ emissions by 12,000 pounds per vehicle, for a total reduction of 9.6 million pounds of CO₂. <http://blink.ucsd.edu/Blink/External/Topics/Policy/0,1162,15352,00.html>



UC San Francisco

UCSF encourages the use of alternative transportation like walking, biking, shuttle service and train. Increased use of alternative transportation is one of UCSF's top priorities and an important component in the effort to reduce the noise and air pollution caused by automobiles. UCSF also helps reduce congestion with a free shuttle service to transport UCSF faculty, staff, students and visitors between campus sites and some secondary campus locations. <http://campusliveservices.ucsf.edu/transportation/rideshare/>

UC San Francisco has a thriving CarShare program used by UCSF staff for work-related purposes. UCSF staff and students can qualify for personal membership in CarShare at a discounted rate. <http://campusliveservices.ucsf.edu/transportation/rideshare/carshare/>

UC Santa Barbara

UC Santa Barbara's Transportation Alternatives Program offers a variety of transportation options to reduce campus parking, conserve energy and ease traffic congestion. Campus employees have an opportunity to take advantage of a number of transportation benefits, including discounted bus passes, enrollment in the Emergency Ride Home Program, and pre-tax payroll deduction for vanpool and transit subscriptions and carpool permits. <http://tap.tps.ucsb.edu/whatIsTap.aspx>

Students who live farther than two miles from campus who commute to campus by bike, bus, vanpool or carpool are entitled to six complimentary days of parking free per quarter.

Santa Barbara's bicycle friendly climate, topography, network of bicycle routes, and proximity of student housing in Isla Vista make commuting by bicycle a popular commute mode choice year-round. Showers and lockers are available on campus for students, faculty and staff who commute by bike.

UC Santa Cruz

UC Santa Cruz provides a variety of sustainable transportation programs, which have been successful in decreasing parking demand on campus and reducing traffic impacts in the community. Almost 60 percent of all trips to campus are made in modes other than a single-occupant vehicle. More than 10,000 trips are made to campus via its extensive transit program each day. Approximately 220 campus affiliates travel to and from campus in the 20 vanpools coming from San Jose, Monterey, Aptos and other locations.

Many students, staff, and faculty have formed both formal and informal carpools, while many more walk or ride their bikes to campus. These efforts have enabled the campus to reduce its vehicle trips through the campus entrances by more than 10 percent, matching 1999-2000 levels, even though student enrollment has increased by 37 percent in that same time period. In addition, starting later this month, the campus is launching a new carshare program with Zipcar, focused on providing the services to students 18 years of age and older, as well as to staff and faculty. www.2.ucsc.edu/taps

RESEARCH IN SUSTAINABLE TRANSPORTATION

The University of California is a world leader in sustainable transportation research. One of the largest multi-campus research units is the Institute for Transportation Studies (ITS) with robust programs at the Berkeley, Davis, Irvine and Los Angeles campuses. These research units provide the venue for faculty and graduate students to do a wide variety of research on transportation issues, partnering with industry, government, and non-governmental organizations.

www.its.berkeley.edu

www.its.ucdavis.edu

www.its.uci.edu

www.spa.ucla.edu/its

UC also hosts the University of California Transportation Center, with research and graduate programs at Berkeley, Irvine, UCLA, Riverside and Santa Barbara. The Center focuses on transportation research on policy and systems analysis.

<http://www.uctc.net/>

UC Riverside's College of Engineering Center for Environmental Research and Technology (CE-CERT) is doing a wide variety of research on alternative fuels and emissions. www.cert.ucr.edu

RECENT RESEARCH EFFORTS

Plug-in Hybrid and Fuel Cell Vehicle Research

In late 2006 the California Energy Commission established the state's Plug-In Hybrid Electric Vehicle Research Center at UC Davis, with an initial grant of \$3 million. In July 2007, the California Air Resources Board added \$1.5 million to the new Davis center and gave \$1.5 million to the transportation research groups at Berkeley and Irvine. PHEV support focuses on vehicle designs that will maximize environmental benefits and consumer acceptance towards the vehicles. Since 2003, UC Davis and UC Irvine have run multi-million-dollar programs to studying consumer acceptance and use of fuel cell vehicles using Toyota's most advanced vehicles in this field. Davis also hosts California's first hydrogen station on its hydrogen highway.

http://today.uci.edu/news/release_detail.asp?key=1644

Low Carbon Fuel Standards

In August 2007, UC researchers from Davis and Berkeley released a blueprint for fighting global warming by reducing the amount of carbon emitted when transportation fuels are used in California. The low carbon fuel standard, designed to stimulate improvements in transportation-fuel technologies was commissioned by Governor Arnold Schwarzenegger. The governor asked the UC's top transportation-energy experts to design a standard that would reduce carbon emissions from fuels by 10 percent by 2020. www.berkeley.edu/news/media/releases/2007/08/02_vehiclefuel.shtml

Energy Biosciences Institute

In February 2007, the UC Berkeley, Lawrence Berkeley National Laboratory and the University of Illinois at Urbana-Champaign were selected by global energy firm BP to lead an unprecedented

\$500 million research effort to research effort to develop new sources of energy and reduce the impact of energy consumption on the environment. The Energy Biosciences Institute is dedicated to long-term research into the production of alternative fuels, converting fossil fuels.

University researchers and BP scientists will work together at UC Berkeley and the University of Illinois, while BP and its partners will share governance of the institute and guidance of its research programs. www.ebiweb.org

Joint BioEnergy Institute:

In June 2007, the University of California cemented its position as the nation's center of alternative-energy research when UC Berkeley, UC Davis, Lawrence Berkeley National Laboratory (LBNL) and three other partners were awarded a \$125 million, five-year grant from the U.S. Department of Energy to develop better biofuels.

The grant is part of a \$375 million project to establish three Bio Research Centers in Oak Ridge TN; Madison, WI, and near Berkeley. The California center, the Joint BioEnergy Institute, includes LBNL, Sandia National Laboratories, the Lawrence Livermore National Laboratory the UC campuses of Berkeley and Davis, and Stanford University. Research will center on improvements to current technology for producing ethanol, in particular cellulosic technology for producing ethanol from biomass, and new technologies for producing other biofuels. <http://jbei.lbl.gov>

Sustainable Transportation Center at UC Davis

Established in 2005, the UC Davis Sustainable Transportation Center examines the different ways transportation can meet the needs of all segments of society while minimizing environmental, societal, and economic costs. The center is located within the Davis Institute of Transportation Studies and receives its funding through the California Department of Transportation and the University Transportation Center program of the U.S. Department of Transportation. U.S. DOT and Caltrans funding will continue through summer of 2009. <http://stc.ucdavis.edu>

Transportation Sustainability Research Center at UC Berkeley

UC Berkeley's center was formed in 2006 to combine the research forces of six campus groups; the UC Transportation Center; University of California Energy Institute, the Energy and Resources Group, the Center for Global Metropolitan Studies; and the Berkeley Institute of the Environment. These groups are on the cutting-edge of sustainable transportation research and bring their collective efforts into examining a variety of efforts including biofuel, alternatives, low carbon fuel standards, and innovative ways to solve complex environmental problems. www.its.berkeley.edu/sustainabilitycenter.

For more on UC energy and transportation efforts:

<http://universityofcalifornia.edu/environment/energy.html>