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Final Report for Task Order 4144

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CALIFORNIA PARTNERS FOR ADVANCED TRANSIT AND HIGHWAYS

Davis Smart Mobility Model Project:

Initial Scoping & Planning Study

Final Report Task Order 4144

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I. INTRODUCTION

The goal of the Davis Smart Mobility Model project is to optimize individual mobility options through improved connectivity among modes, enhanced techniques to link land-use planning and transportation system design, advanced information technologies, and clean-fuel vehicles. The California PATH/Caltrans partnership with the University of California, Davis (UC Davis) started when campus planners expressed interest in learning how innovative mobility services and technologies (such as carsharing and smart parking management) might help to alleviate the transportation impacts of a campus expansion, expected to result in the arrival of more than 9,000 additional students, staff, and faculty in the coming decade. The campus is in the midst of a multi-year process to approve a Long Range Development Plan (LRDP) that will guide all aspects of this expansion.

The work completed under MOU 4144, the Davis Smart Mobility Model Project, is part of a broader research analysis and modeling effort with multiple sponsors. Additional sources of funding include: Caltrans planning funds ($148,000), UC Davis Office of Resource Management and Planning ($63,000), UC Davis Student Housing ($11,000 for campus survey), and UC Davis Transportation and Parking Services ($11,000 for campus survey). Thirty-three thousand dollars of combined funds from UC Davis (noted above) were designated to hire an outside consulting firm to perform the on-line transportation survey of staff, students, and faculty (included in MOU 4302 final report). The UC Davis Institute for Transportation Studies was also a project partner.

This report under MOU 4144 reflects initial scoping and planning for the Davis Smart Mobility project—as included in the statement of work. The full range of work—beyond the initial project scoping—will be reported under MOU 4302 (an expansion study, which will also include the survey results). The full project, including MOU 4144, MOU 4302, and the campus survey, includes the following parts:

- Orientation to Campus Planning Environment
- Develop and Summarize Mobility Opportunities Analysis
- Feasibility Analysis of Innovative Mobility Opportunities
- UC Davis Student, Staff, and Davis Resident Focus Groups
- Development of Visual Representations of Innovative Mobility Options
- UC Davis Student, Staff, and Faculty Transportation Survey
- Narrow Innovative Mobility Options to Preferred Scenarios
- Propose Possible Demonstration Projects
- Prepare Final Report

Funding under MOU 4144 was designated for the first two parts, listed above: Orientation to Campus Planning Environment and Develop and Summarize Mobility Opportunities Analysis. Of the $41,000 designated under MOU 4144, $25,000 was for the Davis Smart Mobility Model project and $16,000 included the purchase of video conferencing equipment for UC Davis Institute of Transportation Studies.

II. PART ONE: ORIENTATION TO CAMPUS PLANNING ENVIRONMENT

The purpose of Part I was to gain a stronger understanding of the campus planning environment and to define roles, timelines, working relationships and lines of communication for the remainder of the Davis Smart Mobility Model project. The following five tables summarize findings.

Table 1: Smart Mobility Advisory Team documents the roles and responsibilities of the project steering committee. This group met monthly From November 2001 through November 2002. (Please see Appendix A for meeting agendas and summaries.)

Table 1: Smart Mobility Advisory Team

Smart Mobility Project Advisory Team		
Name	**Affiliation**	**Role within Davis Smart Mobility Project**
Cliff Contreras	Director, UC Davis Transportation and Parking Services	Advisory Team participant. Link to broader campus transportation and planning committees.
Ann Davies-Nesbitt	Alternative Transportation Coordinator, UC Davis Transportation and Parking Services Board member Yolo Transportation Management Association	Advisory Team participant. Active in identifying transportation areas on campus that might be amenable to innovative solutions. Liaison with Yolo Transportation Management Association (TMA).
Matt Dulcich	Associate Planner, Office of Resource Management and Planning	Advisory Team participant. Smart Mobility Project liaison to the Office of Resource Management and Planning. Campus representative for campus survey planning and execution.
Karl Mohr	Associate Director, Public and Private Partnerships, Office of Resource Management and Planning	Advisory Team participant. Smart Mobility project liaison to the Long Range Development Plan process and environmental planning.
Pat Kearny	Director, Student Housing (now retired)	Advisory Team participant. Retired mid-way through the project.
Ramona Clark	Manager, Privatized Housing, Student Housing	Advisory Team participant. Smart Mobility liaison to campus Student Housing.
Anthony Palmere	Assistant General Manager, Unitrans	Advisory Team participant. Taught a class on transit options for the LRDP and the Neighborhood Master Plan.

Nancy Chinlund	Caltrans Headquarters	Advisory Team participant. Represented Caltrans' interests. Left Advisory Team due to changing responsibilities within Caltrans.
Lea Rees	Caltrans Headquarters student intern	Advisory Team Participant. Frequently attended meetings with Nancy Chinlund.
Bruce De Terra	Caltrans, District III	Briefly on Advisory Team.
Katie Eastham	Caltrans, District III	Briefly on Advisory Team.
Gabiel Corely	Caltrans, District III	Last District III Advisory Team participant.
Susan Shaheen	Partners for Advanced Transit and Highways. Program Manager, Innovative Mobility Research	Principal Investigator
Caroline Rodier	UC-Davis Institute for Transportation Studies	Principal Investigator. Responsible for all modeling and survey planning and implementation.
Rachel Finson	Research Specialist, Partners for Advanced Transit and Highways	Project Manager

Table 2, below, lists other UC Davis Campus affiliations with the project.

Table 2: UC Davis Affiliations

Other Campus Players		
Name/Position	**Affiliation**	**Relation to Project**
Bob Segar	Assistant Vice Chancellor, Office of Resource Management and Planning	Project sponsor
Ed English	Environmental Planner, LRDP	Project associate
Jack Harris	Manager, Fleet Services	Consulted on feasibility of proposed projects.
Marge Dickenson	Assistant Vice Chancellor, Government and Community Relations	Project associate and offered to assist with relations between the project and the city of Davis.
Dan Sperling	Director, Institute of Transportation Studies	Project associate
Joe Krovoza	Development Director, Institute of Transportation Studies	Project associate

Table 3, below, provides project affiliates in the Davis area.

Table 3: Davis Area Affiliations

Davis Area Affiliations		
Name	**Affiliation**	**Relation to Project**
Bill Fairbairn	Executive Director, Yolo Transportation Management Association	Project associate
Willa Pettagrove	City of Davis Alternative Fuel Committee Chair	Project associate
Jamie Knapp	City of Davis Alternative Fuel Committee participant. Active Davis Citizen.	Project associate
Yolo Carsharing	Grassroots attempt to start carsharing in Davis.	Project associate

Table 4, below, lists Sacramento area affiliations. Although the focus of this project was primarily on the UC Davis campus, some of the potential demonstration projects explored—such as carsharing—would benefit from a strong linkage with the Sacramento area. While some projects may have benefited from the campus atmosphere and small town feel of the city of Davis, others required greater scale to attract business partners.

Table 4: Sacramento Area Affiliations

Sacramento Area Affiliations		
Name/Position	**Affiliation**	**Relation to Project**
Dwight McCurdy	SMUD	Project associate. Host of monthly carsharing lunch discussions.
Bill Warf	SMUD	Project associate. Host of monthly carsharing lunch discussions.
David Shabazian	Associate Planner SACOG	Project associate
Martin Tuttle	Executive Director, SACOG	Meeting to discuss possible synergies between Smart Mobility project and SACOG land-use community project.
Jody Lonegan	Caltrans District 3	Meeting to discuss possible synergies between Smart Mobility project and District 3 goals.
Jeff Weir	CARB	Project associate

Rebecca Garrison	Executive Director, Corridor 50 TMA	Project associate. Participated in TMA tour and discussion of possible joint projects.
Rhonda Abell	Executive Director, North Natomas TMA	Project associate. Participated in TMA tour and discussion of possible joint projects.
Debbie Maus	Executive Director, South Natomas TMA	Project associate. Participated in TMA tour and discussion of possible joint projects.
Marilyn Bryant	Executive Director, Downtown Sacramento TMA	Project associate. Discussion of downtown carsharing program.
Sarah Fodge	Executive Director Power Inn TMA	Project associate. Participated in TMA tour and discussion of possible joint projects.
Marie Collins	UC Medical Center Fleets Manager	Project associate. Provide tour of UC Medical Center in GEM neighborhood electric vehicle.

Finally, Table 5, below, lists the private sector innovators with whom PATH researchers explored interest in possible Davis area pilot demonstration projects.

Table 5: Private Sector Innovators and Ideas

Possible Technology Partners ***(Technologies are described in project Part Two discussion below)***		
Name	**Affiliation**	**Relation to Project**
Lawrence Avidan	Mobious Traffic Technologies	Wanted to implement OmniTaxi "sign-post" mobility system to enhance taxi service and reduce single occupancy vehicle travel.
Matt Dailida	Segway, LLC	Potential to test the Segway Human Transporter in mobility service context (shared-use vehicle system) along with GEM neighborhood electric vehicles.
Dan Sturges	Representative of Global Electric Motorcars, LLC	Possible donation of 75 GEM neighborhood electric vehicles to project for proposed shared-use vehicle system pilot project.
Gower Smith Philippe Violette	Zoom systems	High-end vending machines. Interested in placing one to two Zoom vending machines in campus setting to test market and travel impacts.
Rick Warner	Acme Innovation	Intelligent parking management system to inform drivers of space availability and better utilize parking resources.
Hans-Henning Judek and Marc Hagan	The Grando Corporation	North American representatives of an automated parking structure with a spiral lift to maximize parking space utility.
Dan Kirshner	Environmental Defense, Dynamic Ridesharing	Use of the internet and cell phones for real-time ride matching.
Daniel Luke and CashCar system tested in Germany	Private Entrepreneur, Personal Vehicle Sharing	A twist on carsharing, where the carsharing organization acts as a broker between private car owners and car users.

Steve Raney	Carpool Assistant	Use of internet and personal digital assistants to assist carpoolers in planning and maintaining schedules.
German contacts	Car-Free Neighborhoods/One-Car Households	Limited car ownership/parking plan, which could be pursued in conjunction with the LRDP Neighborhood Master Plan.

Campus Long Range Development Plan

The purpose of the UC Davis Long Range Development Plan (LRDP) is to create a plan for how the campus will accommodate an additional 6,600 students and 2,500 faculty and staff by the 2015-16 academic year, compared to the 1999-2000 academic year. The additional growth is mandated as part of an overall expansion of 60,000 students that the University of California is expecting beyond 1999-2000 enrollment levels. The LRDP creates a physical framework to accommodate the projected growth.

The first year of the UC Davis LRDP process began in October 2000. During this first year, campus planners focused on defining growth needs and establishing parameters for how to address identified needs. The second year of the process, beginning in fall 2001, was devoted to developing and refining options to address the identified growth needs. Numerous public workshops were held during this time, and the LRDP underwent multiple revisions. In the final year, beginning fall 2002, campus planners will refine the LRDP, complete the environmental impact report, and other technical analysis. The campus anticipates presenting a recommended LRDP to the UC Regents for approval in November 2003.

A unique feature of the LRDP, and of primary interest to the Smart Mobility research team, is the Neighborhood Master Plan (NMP). The current campus policy is to house 25 percent of students on campus. The remaining students and virtually all faculty and staff live in Davis or the surrounding area. Currently approximately 90 percent of the students, 70 percent of faculty, and 40 percent of staff live within the immediate Davis community, including those on campus. One of the goals of the LRDP is to maintain a strong campus community. Unless significant additional housing is built in the city of Davis, or on campus, many more students, staff, and faculty will be forced to move out of the immediate Davis region, thus breaking down the community-feel. To prevent this from happening, the LRDP includes the development of a Neighborhood Master Plan (NMP). The NMP is unique in that the campus has proposed to develop a community immediately adjacent to campus (on property already owned by the campus) to house students, staff, and faculty in affordable apartments and houses. The NMP calls for a denser, pedestrian and transit-friendly design.

The transportation proposal for the NMP includes a transit green through the middle of the development. The transit green would provide pedestrian and bicycle facilities in addition to a dedicated bus rapid transit lane. All housing would be within 1/4 mile of the transit green, and private cars would not be allowed on the transit green. To discourage

residents of the NMP from driving to campus, they would generally be unable to purchase on-campus parking permits.

The proposed NMP with transit-oriented development and denser housing offers significant opportunities for innovative mobility solutions and garnered significant interest of the project researchers. Although the timeline for the NMP (breaking ground in 2005) is beyond the timeframe of the initial Smart Mobility project, many of the innovations that were evaluated could be ideal for this setting. These include carsharing, smart parking management, car free or one-car housing, advanced vending, shared-use neighborhood electric vehicles and shared-use Segway Human Transporters. Each of these options is discussed in more detail below under Part II.

For further information on the LRDP see: http://www.ucdavislrdp.org/.

III. PART TWO: DEVELOP AND SUMMARIZE MOBILITY OPPORTUNITIES ANALYSIS

During 2002, project researchers evaluated a range of innovative transportation ideas and technologies for applicability to the UC Davis Campus with special consideration to the Long-Range Development Plan and the Neighborhood Master Plan. The overarching goal was to improve transportation on the campus and between campus and the community. Four categories of options to enhance innovative mobility were evaluated. These options were: 1) Innovative Mobility; 2) Access; 3) Information; and 4) Parking Management.

Innovative Mobility: The premise behind innovative mobility is that a transportation system should facilitate mobility by providing a variety of modes for individuals to choose from when planning a trip. This might include an automobile for some trips, public transit, bicycles, electric bikes, small electric cars, e-commerce, smart shuttles, or similar low-impact (i.e., to the environment) mode for other trips. An innovative mobility service would enable users to evaluate cost, convenience, and impacts before making a modal choice. Results could include reduced negative environmental impacts, improved social connectivity, better resource utilization, and a high degree of user (consumer) satisfaction.

Access: The effect of access on transportation is to reduce the need for mobility, while still providing the same amenities (goods, social interaction, services) to individuals. Mixed-use neighborhoods, where residential dwellings and commercial buildings are in close proximity to each other, is a classic example of improved access. Internet shopping is another means to increase access to goods and services without requiring additional mobility.

Information: Instant access to information and the ability to be in contact at almost any time from almost any location is a recent phenomenon. Cell phones and wireless technology can alter how we think about transportation and mobility. In the context of innovative mobility, real-time information is critical to making alternative modes competitive with the single occupancy vehicle. Real-time information can provide time

sensitive information about routes, transit schedules, and even other people's schedules. Communication allows a degree of flexibility not traditionally associated with alternative modes. Together instant access to information and communication can be used to bundle modes together to facilitate "door-to-door" mobility services.

Parking Management: The goal of smart parking management is to apply advanced technologies to help direct drivers efficiently to available parking spaces, reducing driver frustration and congestion on highways and arterial streets. Advanced payment allows for seamless parking transactions and enhanced efficiency. Smart parking approaches range from dynamic displays on roadway signs informing drivers of location and parking lot capacity, to the use of the internet, and cell phones—providing space availability, location, pricing information, and reservations. Smart parking can make better use of existing parking infrastructure by creating market-based systems to improve utilization rates and manage vehicle throughput.

Researchers considered synergies among the options, compatibility with current campus infrastructure, costs, barriers, and beneficial impacts. Following is a brief description of each of the options (as listed in Table 5 above). Options that were recommended for further analysis and possible pilot demonstration will be discussed in more detail in the final report for the second year of the Smart Mobility Project (MOU 4302).

Omni Taxi (Innovative Mobility):
Omni Taxi is an innovative idea, developed by Mobious Traffic Technologies based in Sausalito, California, to facilitate taxi-sharing on an ad hoc basis. A typical fleet of taxis would be deployed with sophisticated metering capability to track the fares for multiple riders with different origins and destinations. The purpose is to provide the same door-to-door service that taxis currently provide with more passengers and at a lower cost per passenger. Omni Taxi believes this would provide a substitute for private automobiles, which is cost and time competitive, and this will encourage more people to use shared taxis more frequently.

The mechanism for identifying shared-use taxis would be a series of sign-posts installed throughout a city, each numbered in a consecutive fashion. Taxi drivers would inform dispatch of their location using sign-post numbers or they might be tracked via GPS. If a person wanted a taxi, they would call dispatch and provide the number of the nearest sign-post (trip origin) and the desired location (trip destination). Omni taxi dispatch would locate the trip destination and the nearest sign-post number. Dispatch would than call the taxi whose current origin and destination most closely match that of the new customer. This taxi would pick up the new passenger, start a separate meter and deliver both passengers to their destinations. Taxis would not be allowed to deviate from their original route by more than a small amount to pick up or drop off a new customer.

Innovative Mobility Research evaluated this concept within the context of UC Davis Campus and the City of Davis. The barriers to pilot demonstration or full implementation appear challenging and the potential benefits limited.

Benefits include:

1) Potential to replace some single occupancy vehicle trips with shared-use taxi vehicles.
2) While the project would require the taxi drivers and dispatch staff to learn how to operate a new service, the passengers would not necessarily have to use advanced technologies (for many this could lower barriers to use, for instance, internet access would not be necessary).
3) Little risk or commitment for the user (passenger) beyond immediate ride.
4) Customers utilizing this system may also begin to use other alternative modes, as well, such as biking, walking, and carpooling (i.e., variable cost service has the potential to help breakdown fixed costs of traditional vehicle ownership and incentives to drive frequently).

Barriers include:

1) Working with the campus, city, and citizens to install sign-posts throughout the entire city and campus. Potential resistance of citizens, since sign-posts may be perceived as unwanted street pollution and even present a safety hazard.
2) The taxi industry has a very strong lobby, and they may resist Omni Taxi (at least initially).
1) The city of Davis does not appear to have the density to initially support a shared-use taxi service.
4) Potential resistance from passengers to being taken even a small distance away from the quickest route (in sharing a ride with another).
5) Possible resistance from some taxi riders to sharing their taxi space with strangers.
6) Pilot demonstration (i.e., limited deployment and controlled user group) would not likely lead to viable business since the concept relies on broad geographic scale, high population density, and a high number of users.

<u>Segway Human Transporter (Innovative Mobility)</u>:

The Segway Human Transporter (HT) is an electric mobility device for individual travel over short distances. The operator stands upright on the Segway HT and "steers" it, utilizing hand controls and weight distribution. The Segway HT is easy to operate, recharges from a standard 110 outlet and requires minimal storage space.

The Innovative Mobility Research group of California PATH has developed a joint project with the California Department of Transportation (Caltrans), Segway LLC, and the Bay Area Rapid Transit (BART) District. The goal of this project is to evaluate safety issues pertaining to the use of the Segway HT on sidewalks and to test the utility of the Segway HT as a shared-use mobility device to enhance access to transit stations and for employees of businesses surrounding a suburban BART station to use during the day for errands.

Research staff investigated the use of the Segway HT within the context of the UC Davis campus and the Long Range Development Plan. In the campus setting, the goal of a

Segway HT shared-use pilot demonstration project would be to capture trips that may otherwise have been taken in automobiles. A challenge in bringing the Segway HT to the UC Davis campus would be designing a program that did not shift bicycle riders and pedestrians onto the Segway HT and conflict with bikes and pedestrians on campus roads and paths. Focus groups, conducted under MOU 4302, indicated concern about the Segway HT conflicting with bikes and pedestrians on existing paths. The Segway HT could be ideal for short trips around campus and between campus and the city of Davis. Preferably, the Segway HT would be deployed in a context that would reduce single occupancy vehicles arriving on campus and encourage greater use of buses and the Amtrak train. For example, the Segway HT could be an ideal mobility solution for covering the distance between the Amtrak station and campus (e.g., for those individuals who do not have access to a bicycle and are concerned about perspiring).

Research staff recommended testing the Segway HT as part of a shared-use vehicle GEM neighborhood electric vehicle pilot demonstration (see below). However, significant questions about safety and interactions between the Segway HT and surrounding pedestrians and other sidewalk users must be evaluated before deployment. (Innovative Mobility Research program staff is currently evaluating safety and institutional issues pertaining to the Segway HT under a separate agreement with Caltrans, Segway LLC, and the BART District.)

Benefits include:

1) Potential to replace some single occupancy vehicle trips with Segway HT trips.
2) Leading edge technology that is exciting and imaginative.
3) An alternative mode for short distance trips, which dominate campus travel, particularly for those not able or interested in biking (e.g., dress or disability).
4) An ideal technology to enhance connectivity in the city and on campus.

Barriers include:

1) Regulating students and other users so they understand the Segway HT is not a toy.
2) Possible conflicts with bicycles and pedestrians on campus roads and paths.
3) Securing approval from the city of Davis to allow the Segway HT on city sidewalks.
4) Rain and other inclement weather as barriers to use.
5) Safety and training issues pertaining to the Segway are not well understood.

<u>GEM Neighborhood Electric Vehicles (Innovative Mobility & Information)</u>:

Neighborhood Electric Vehicles (NEVs) are small electric vehicles that are approved to drive on roads of 35 miles per hour or less. GEM, a subsidiary of DaimlerChrysler, expressed an interest in working with the Innovative Mobility Research group of California PATH and the Davis Smart Mobility project to deploy a large number of GEM NEVs. GEM had two levels of market interest in Davis. First, they wanted to sell 25 of GEMs to Davis city residents at very low cost and to form a GEM user group to gain feedback from the users about their experience with the vehicles. Second, GEM offered

to donate 50 of the vehicles to the UC Davis campus for the Davis Smart Mobility project to be deployed in a shared-use setting.

Both the campus and project research staff were excited about this prospect. Research staff investigated different options for placing the vehicles into a carsharing system to test consumer education and choice pertaining to low speed electric vehicles. Transportation and Parking Services at UC Davis agreed to designate premium parking for the shared-use GEMs. Since the campus was not able to operate this carsharing system, initial discussions were held to bring in an outside operator. Although project staff explored the idea of having GEM donate the vehicles to an outside operator, GEM was not comfortable making a donation to a commercial carsharing vendor, such as City CarShare, Flexcar, or Zipcar.

Research staff also worked with a graduate student class at UC Davis (taught by Pat Conroy) to investigate use and marketing of GEMs in the city of Davis. The class assessed the ability of GEMs to use public roadways in Davis and found that almost all roads were less than 35 miles per hour, the legal upper limit for NEVs. Thus, there were few roadway barriers to driving the vehicles around the Davis community. The class also scouted for parking and recharging spaces for the GEMs that would not reduce conventional vehicle parking. These spaces were called "NEV nooks," a term coined by the city of Davis Alternative Fuels Committee. This parking analysis revealed that there were a number of locations in downtown Davis where NEV nooks could be created that would not obstruct existing flow of traffic or safety. Finally the class evaluated the use of the Amtrak station to act as the transit anchor for a "CarLink style" carsharing system (i.e., a carsharing system directly linked to transit) using the GEMs. The "last mile" link between the campus and the train station has been difficult for the campus in encouraging more staff and faculty to use the train for their commute to work and the use of GEMs (and later Segway HTs) could have provided such a solution.

Although all the indications were positive for this project, and it appeared to meet both the research requirements for the Davis Smart Mobility project and UC Davis identified mobility needs, the project was not able to proceed because the issue of a recipient/operator for the GEM donation to a carsharing fleet was not resolved. Furthermore, cost-effective insurance for students under the age of 21 was also a potential barrier, but was not pursued further as a donation was not made to the campus.

Zoom Systems (Access):

Zoom Systems are advanced technology, smart vending machines that have the ability to serve customers in a personal manner with a wide range of products. Unlike traditional vending, which is typically associated with low value cash purchases—primarily snacks and beverages—Zoom Systems focuses on developing a channel for general merchandize of both high- and low-value products. Zoom e-Stores include a touch screen merchandizing and selection system to help consumers easily select and obtain products, even those that typically require sales assistance in a traditional retail store. A variety of electronic payment options ensure secure and convenient transactions. Smart sensors and

remote monitoring of inventory and technical alerts ensure operational and supply chain efficiencies. The Zoom e-Store System includes remote management and data collection capabilities. This back-end solution gathers real-time data from the e-Stores, records sales, and system status. Inventory in each e-Store is tracked remotely and re-stock alerts and other status report can be generated when necessary. (See www.zoomsystems.com for more information,)

Zoom has not yet entered the college market and was eager to work with UC Davis and project research staff to test the Zoom System machines in this niche. Smart Mobility research staff proposed a joint research project between the UC Davis Campus and Zoom Systems to test the viability of automated e-stores as a means to reduce tripmaking, congestion, and parking circulation. The strategic placement of Zoom Systems e-Stores on the UC Davis Campus would provide a 24/7 service to students, staff, and faculty at zero cost to campus. For one year, California PATH researchers proposed to conduct surveys and research to gain a stronger understanding of the impact of e-Stores on travel throughout the campus, the city of Davis, and the broader region. In addition, Zoom Systems had the ability to collect information automatically as well as to query users about product and even transportation mode choice and distance traveled to arrive at the Zoom e-store. Zoom Systems agreed to place and service the machines, assuming all financial risk during the one-year pilot research phase of the project. The campus would be responsible for finding a secure location for the vending machines with high visibility and access to a power supply and phone line to operate the machines. At the close of the demonstrated pilot phase, Zoom Systems and the UC Davis campus could (at their discretion) then negotiate a longer-term agreement that could include revenue sharing.

Benefits include:

1) Potential to replace some single occupancy vehicle trips with Zoom System access.
2) Leading edge technology that is exciting and imaginative.
3) Minimal risk to campus.
4) Ability of campus to provide freshmen dormitory students, who would not be allowed to bring cars on campus beginning September 2002, with another venue for purchasing necessary goods.
5) 24/7 access to school supplies and other necessities.
6) Ease of implementation and low cost from a research perspective.

Barriers include:

1) Campus was concerned that providing power and phone service might require infrastructure modification.
2) Concerns regarding competition with the campus bookstore.
3) Possible contract conflict with the current campus vending machine operator.
4) Protecting the machines from vandalism.

Although the project had significant support from the Smart Mobility Advisory team, especially the Director of Transportation and Parking Services, two barriers: 1) conflict

with existing contract between campus and existing vending machine operator and 2) competition with the bookstore, were significant enough that the project was unable to move forward.

Acme Innovations (Parking Management and Information):

ACME Innovations is an entrepreneurial business that uses advanced technology to optimize parking services at locations that are at capacity, such as transit stations. The company was formed in 2002 to address the impact of inefficient parking resources by providing tools to increase efficiency and reduce congestion. Their primary service, ParkingCarma ™, uses wireless services, mobile phones, the web and in-vehicle communication devices to provide smart, flexible, and efficient solutions for managing parking resources. ParkingCarma™ continuously analyzes usage data and can make market-pricing adjustments in real time.

Benefits include:

1) More efficient parking and reduced vehicles circulating in search of parking.
2) If linked to transit (the intent for ACME Innovations) the potential for a mode shift towards transit.
3) Reduces driver frustration trying to find an available space.

Barriers include:

1) For UC Davis the transit parking lot link was not evident.
2) Students are unlikely to pay for parking service.
3) Innovative Mobility Research is currently testing ACME Innovations in the San Francisco Bay Area and would not be able to test this system in Davis until this pilot demonstration is complete.

Grando Parking Complex (Parking Infrastructure):

The Grando Corporation, based in Larkspur, California, is a licensee for an automated parking garage structure that could fit many more vehicles into the same space than a conventional stacked parking garage. The Grando system uses a spiral track to lift the vehicles and position them in open parking slots. The driver leaves the vehicle at a designated area on the first floor of the structure. The car is lifted to a space and stored until the driver returns. The structure is completely automated with fail-safe, back-up systems.

Benefits include:

1) Grando Corporation is willing to absorb a lot of the costs because they are interested in demonstrating a prototype system to show other prospective customers.
2) Cost per space to build is comparable with conventional stacked parking (e.g., $12,000 per space).

3) Reduces driver frustration trying to find an available space.
4) Improves driver safety by removing drivers from cars that are being parked, exhaust fumes, and the risks of walking through an empty parking garage (i.e., safety).
5) Reduces the land footprint dedicated to parking.

Barriers include:

1) No successful Grando parking structures worldwide.
2) High risk to campus, since there are no operating prototypes.
3) Planning, approval, and EIR for new type of stacked garage are likely needed.

Dynamic Ridesharing (Information and Mobility):

Dynamic ridesharing attempts to improve upon traditional ride-matching programs, by using the internet to provide flexible, real-time assistance in identifying ride matches. In a campus setting, students often share rides with friends and use bulletin boards to find riders and drivers. The benefit to campus students of a dynamic ridesharing system would be the ability to find and offer rides on a "real-time" basis.

Los Angeles Smart Traveler and Bellevue Smart Traveler are examples of dynamic ridesharing projects that relied on telephone and pagers to assist registered members in offering and finding rides. The Seattle Smart Traveler tested a dynamic ride matching system using the internet and electronic mail at the University of Washington in Seattle between 1995 and 1997. None of these systems is currently operating.

More recently, in the Bay Area, the Alameda County Congestion Management Agency, Environmental Defense, Bay Area Rapid Transit District, and Metropolitan Transportation Commission have proposed a project that includes dynamic ridesharing.

Benefits include:

1) Low cost to implement and operate.
2) Ability of campus to assist students (especially freshmen) in finding rides.
3) Higher vehicle occupancy for participants.

Barriers include:

1) Campus would need to operate the system.
2) In focus groups, conducted under MOU 4302, students showed concern about riding with strangers.
3) Concerns about operator liability should there be an accident or criminal activity associated with drivers or riders who are "matched" via the system.

Personal Vehicle Sharing (Mobility):

Shared-use vehicle services or carsharing allows customers to use a car only when they need to, without incurring the fixed costs of ownership. Individuals pay just for the time they use the car and the miles they drive. Shared-use vehicles remove the incentive to drive and make the real costs of each car trip more visible (promoting transit use, walking, and bicycling). In a personal vehicle sharing service, a carsharing organization could use private vehicles to supplement their shared-use fleets brokering a relationship between private vehicle owners and potential users who might need a car for a short errand. The private vehicle owners would gain a revenue stream from sharing their car when it is not being used.

Benefits include:

1) There is a potential revenue stream to attract individuals to share their personal vehicles.
2) Better utilization of resources (cars that would otherwise be unused).

Barriers include:

1) High levels of attachment to personal vehicles may make individuals reluctant to place their vehicle into a carsharing system to be used by strangers.
2) Gaining insurance for such a system.
3) Not a likely option for a University due to liability.

Carpool Assistant (Mobility):

Carpool assist provides another level of communication between carpoolers, allowing more people to carpool in the same vehicle and reducing the stress and worry of whether fellow carpoolers are on time. Using personal digital assistants, the internet, and telephones, carpool assist reminds riders and drivers of their schedule and allows carpoolers to communicate last minute adjustments in their schedule (for example, someone is five minutes late).

Benefits include:

1) This device can help to improve quality of carpooling/ridematching experience of users, particularly staff and faculty.
2) Could be synergistic with dynamic ridesharing service.

Barriers include:

1) Campus would need to operate the system.
2) Cost considerations to campus and users.

Car-Free Neighborhoods (Smart Mobility and Growth):

While car-free or one-car housing policies are not innovations that can be tested by the Smart Mobility research team, researchers have suggested that the campus consider testing this approach in conjunction with the Neighborhood Master Plan. Policies could range from strict enforcement of a no-car policy, to one-car households, to simply pricing and selling parking spaces separately from housing. Under this last scenario, homebuyers and renters would need to consider if they wanted to pay extra to park one or more cars. Such policies will be more effective if there are a multitude of mobility options for residents, including transit, bicycles, and carsharing. Issues of concern include the impact of these policies on the price and resale of houses and apartment complexes in the NMP, as well as upon nearby neighborhoods where the vehicles of car-free housing residents may be parked (as was found to result from several car-free experiments in Germany). Potential benefits include increased use of transit and other low impact modes by car-free housing residents. In addition, less land would need to be dedicated to parking and roads. This land could be available for green spaces, bike and pedestrian paths, and even additional housing units.

IV. PART THREE: PURCHASE VIDEO CONFERENCING EQUIPMENT FOR UC DAVIS, INSTITUTE OF TRANSPORTATION STUDIES

The purchase of video conferencing equipment was not part of the Smart Mobility project. However, this task was included in the overall project. Thus, researchers report on it here.

Equipment purchased for the ITS-Davis video conferencing facility included a polycom view station (Polycom Viewstation FX H.323), necessary audio/visual peripherals (Polycom Viewstation PRI T1/J1 UPG, ALTEC ATP3 Flat PNL 3 Speaker KI), a data projector (Infocus LP290 PROJ 1100 Lumens XGA), and a projection screen (Bretford 7'X7' Electronic Projection Screen).

The facility where the video conferencing equipment is located is in the Academic Surge building at the Institute of Transportation Studies at Davis. It will be open to faculty, research staff, and students who are involved in diverse transportation research. The video conferencing facility will greatly enhance the communication and collaboration among researchers at various campuses and centers. For example:

1) Through the video conferencing facility, the transportation systems group at UCD, led by Professor Michael Zhang, can easily communicate with collaborators at California PATH/UC Berkeley and UC Irvine. It also allows UC Davis researchers to provide demonstrations (e.g., computer simulations of traffic) to Caltrans engineers, consultants, and other interested groups.

3) The Air Quality research group at UCD will benefit from improved communication capabilities among UC campus researchers and Caltrans through the video conferencing facility.

The video conferencing facility will significantly enhance multi-campus collaboration on a diverse transportation research problems and assist in communication among university researchers and Caltrans engineers. (Jeff Spencer: I'd like to not include this section in the report, as it does not really belong to this project, would that be okay with you?)

APPENDIX A

DAVIS SMART MOBILITY PROJECT
ADVISORY TEAM MEETINGS

November 2001 - November 2002

Agenda

Davis Smart Mobility Model Project

November 29, 2001
12:30-1:30 pm

Attendees:
Joan Borucki, Caltrans
Susan Harrington, Caltrans
Nancy Chinlund, Caltrans
Susan Shaheen, California PATH
Caroline Rodier, UC Davis, Institute of Transportation Studies
Rachel Finson, California PATH
Bruce De Terra, Caltrans District 3

Working Agenda:

I) Introduction/Purpose of Meeting

II) Project Overview
- 25k PATH proposal
- SP&R PATH proposal
- TAPS survey proposal

III) Review of Project Tasks and Timelines

IV) Discussion/assignment of tasks and responsibilities

V) Next steps

Agenda

Davis Smart Mobility Model Project
Advisory Team Meeting

December 17, 2001
2:30-3:30 pm

Location: UCD, Transportation and Parking Services

Attendees (in no particular order):
Joan Borucki, Caltrans
Susan Harrington, Caltrans
Nancy Chinlund, Caltrans
Bruce De Terra, Caltrans
Bob Segar, UCD (absent)
Sid England, UCD
Pat Kearney, UCD
Cliff Contreras, UCD
Anthony Palmere, UCD
Susan Shaheen, California PATH
Caroline Rodier, UC Davis, Institute of Transportation Studies
Rachel Finson, California PATH

Working Agenda:

I) Introductions/Purpose of Meeting

II) Updates on the LRDP and the Mobility Project

III) Modeling presentation/discussion (Caroline Rodier)

IV) Discussion of broader community that we should be contacting about this project

V) Wrap-up
Date for next meeting
Next steps

Agenda

Davis Smart Mobility Model Project
Advisory Team Meeting

January 22, 2002
2:00-3:00 pm

Location: UCD, Transportation and Parking Services

Attendees (in no particular order):
Susan Harrington, Caltrans
Nancy Chinlund, Caltrans
Bruce De Terra, Caltrans
Bob Segar, UCD
Sid England, UCD
Pat Kearney, UCD
Cliff Contreras, UCD
Anthony Palmere, UCD
Susan Shaheen, California PATH
Caroline Rodier, UC Davis, Institute of Transportation Studies
Rachel Finson, California PATH

Working Agenda:

I) Updates on the LRDP and the Mobility Project

II) Discussion of broader community that we should be contacting about this project.

III) News from TRB

IV) Overview of Technology

V) Wrap-up

Next meeting is February 26
2:00-3:00 at TAPS

Agenda

Davis Smart Mobility Model Project
Advisory Team Meeting

February 26, 2002
2:00-3:00 pm

Location: UCD, Transportation and Parking Services

Attendees (in no particular order):
Susan Harrington, Caltrans
Nancy Chinlund, Caltrans
Bruce De Terra, Caltrans
Matt Dulcich, UCD
Cliff Contreras, UCD
Anthony Palmere, UCD
Susan Shaheen, California PATH
Caroline Rodier, UC Davis, Institute of Transportation Studies
Rachel Finson, California PATH

Working Agenda:

I) Introduce Matt Dulcich

II) Updates on the LRDP and the Mobility Project
---Looking ahead to years two and three of the project

III) Update on survey and discussion

IV) Wrap-up

Next meeting is March 26
2:00-3:00 at TAPS

Davis Smart Mobility Model Project
Advisory Team Meeting

March 26, 2002
2:00-3:00 pm

Meeting cancelled

Agenda

Smart Mobility and Growth Model Project
Advisory Team Meeting

April 23, 2002
2:00-3:00 pm

Location: UCD, Transportation and Parking Services
(See front reception for parking permit)

Attendees (in no particular order):
Nancy Chinlund, Caltrans
Katie Eastham, Caltrans
Cliff Contreras, UCD
Matt Dulcich, UCD
Karl Mohr, UCD
Ramona Clark, UCD
Anthony Palmere, UCD
Susan Shaheen, California PATH
Caroline Rodier, UC Davis, Institute of Transportation Studies
Rachel Finson, California PATH

Working Agenda:

I) Welcome Katie Eastham (Introductions)

III) Updates on the LRDP and the Mobility Project

II) Update on survey and discussion

III) Focus groups

IV) Wrap-up

Next meeting is May 28
2:00-3:00 at TAPS

cc: Susan Harrington, Caltrans
Jeff Pulverman, Caltrans

Agenda

Smart Mobility and Growth Model Project
Advisory Team Meeting

May 28, 2002
2:00-3:00 pm

Location: UCD, Transportation and Parking Services
(See front reception for parking permit)

Attendees (in no particular order):
Nancy Chinlund, Caltrans
Katie Eastham, Caltrans
Rebacca Covington, Caltrans
Cliff Contreras, UCD
Ann Davies-Nesbitt, UCD
Matt Dulcich, UCD
Karl Mohr, UCD
Ramona Clark, UCD
Anthony Palmere, UCD
Susan Shaheen, California PATH
Caroline Rodier, UC Davis, Institute of Transportation Studies
Rachel Finson, California PATH
Knute Ayhnes-Johnson, California PATH

Working Agenda:

I) Introduce Knute Ayhnes-Johnson

II) Updates on the LRDP and the Smart Mobility Project

III) Update on survey and discussion

IV) Project timelines for the rest of '02

V) Wrap-up

Next meeting is June 25
2:00-3:00 at TAPS

cc: Susan Harrington, Caltrans
Jeff Pulverman, Caltrans

Smart Mobility Advisory Team Meeting Summary
May 28, 2002

1) New Faces:
Knute Ayhens-Johnson, has joined PATH/CCIT and is assisting us with the Smart Mobility Project. We're looking forward to having some help with logistics and research. He is beginning to look into recent smart growth studies, with a focus on the link to transportation and quantitative data. If you have any ideas about reports or studies that he should investigate, please send suggestions to me, and I'll forward them on to him.

Ron Hall: Caltrans District 3 ITS specialist

2) Matt Dulcich gave us an update on the campus LRDP. Due to comments from the public, campus has added another alternative, the Olive Tree Lane Alternative. This alternative will receive full analysis along with the other alternatives. For more information, see: www.ucdavislrdp.org.

3) Survey returns are slow. (See following e-mail for most recent survey update.)

4) We are planning to launch focus groups in August (staff and faculty), continuing into the fall (students). We are working with a graphic artist for web design and to help us with visuals (posters, etc.) to help the focus group participants understand the concept of "smart mobility."

5) The group decided to take a "summer break" from meetings. Therefore, the June 25th Advisory Team meeting has been cancelled. The next meeting is scheduled for July 23, 2:00-3:00 at the TAPS conference room.

Since we won't be meeting as often during the summer, I will do my best to keep the group updated via e-mail. If you have specific questions or comments please feel free to contact me.

Thanks for all your support for the Smart Mobility project,
Rachel Finson
rfinson@path.berkeley.edu
510-381-2569

Agenda

Smart Mobility and Growth Model Project
Advisory Team Meeting

July 18, 2002
2:00-3:00 pm

Location: UCD, Transportation and Parking Services
(See front reception for parking permit)

Attendees (in no particular order):
Nancy Chinlund, Caltrans
Katie Eastham, Caltrans
Rebacca Covington, Caltrans
Cliff Contreras, UCD
Ann Davies-Nesbitt, UCD
Matt Dulcich, UCD
Karl Mohr, UCD
Ramona Clark, UCD
Anthony Palmere, UCD
Susan Shaheen, California PATH
Rachel Finson, California PATH
Knute Ayhnes-Johnson, California PATH

Working Agenda:

I) Updates on the LRDP and the Smart Mobility Project

III) Survey and focus group overview

IV) Outreach beyond Campus

V) Wrap-up

cc: Jeff Pulverman, Caltrans

Smart Mobility Advisory Team Meeting Summary
July 23, 2002

Updates on LDRP and Smart Mobility Project

Karl Mohr of UC Davis' Office of Resource Management and Planning reported that two alternatives for the Neighborhood Master Plan are being evaluated. They are: 1) the Full neighborhood Program Alternative, and 2) the Olive Tree Drive Alternative. Fiscal and infrastructure evaluations are being conducted on both of these alternatives, and campus hopes to have the choice narrowed to one alternative by the middle of October. The preferred alternative will be included in the full Environmental Impact Report. Campus planners are still on target for final approval November 2003.

Survey Overview

Rachel Finson, California PATH (Partners for Advanced Transit and Highways) and Matt Dulcich, Office of Resource management and Planning, reported that the UC Davis on-line travel survey did not obtain the expected response rate due to technical difficulties experienced by Nustats. Nustats has taken full responsibility for the problem and will correct the technical problems and administer the survey this October at no additional charge.

Although the delay in the survey is unfortunate, the research team will now be able to compare spring and fall semester travel data. The fall survey will also capture data on the freshman dormitory students that will not be allowed to bring cars on campus for the first time.

Focus Groups

The focus groups are on target to begin this fall and should be completed by the end of the year. There will be eight focus groups composed of different community populations, including staff, students and faculty. Ramona Clark, with Student Housing suggested that the research team include family housing units on Campus as a target group. Ann Davies-Nesbitt of TAPS reminded the group that not all staff has access to e-mail, and these people will be eliminated from the focus groups if the research team relies on e-mail invitations to participants.

Susan Shaheen, the primary investigator on the project outlined innovative mobility ideas for discussion at the focus groups, including: smart parking, carsharing, shared-use Segway Human Transporters and NEVs, dynamic ridesharing, and smart vending machines.

Miscellaneous Items

Ann Davies-Nesbitt suggested that the Smart Mobility project have a booth/table at the Transportation Fair at the Silo Union Courtyard in early October.

Ramona Clark of Student Housing reported that so far only 33 incoming first year students have completed the exemption form requesting that they be allowed to bring their cars onto campus.

Cliff Contreras, Director of TAPS would like to update campus and the Vice Chancellors about the Smart Mobility project. The group agreed that November 2002 would be a good month for this presentation, since the survey will be completed and many of the focus groups will be done.

Next Meeting

The next Smart Mobility Advisory Team meeting will be September 24 from 2:00-3:00 at the TAPS conference room.

Agenda

Smart Mobility and Growth Model Project
Advisory Team Meeting

September 24, 2002
2:00-3:00 pm

Location: UCD, Transportation and Parking Services (TAPS)
(See front reception for parking permit)

Attendees (in no particular order):
Cliff Contreras, UCD
Matt Dulcich, UCD
Lea Rees, Caltrans
Katie Eastham, Caltrans
Gabriel Corley, Caltrans
Ann Davies-Nesbitt, UCD
Karl Mohr, UCD
Ramona Clark, UCD (absent)
Anthony Palmere, UCD
Susan Shaheen, California PATH
Rachel Finson, California PATH
Knute Ayhens-Johnson, California PATH

Working Agenda:

I) Update on the LRDP

II) Focus Group Update
- Thank you to Matt Dulcich for reserving focus group rooms.
- Thank you to Ann Davies-Nesbitt for attending the first focus group.
- Show posters
- Review and approve focus group protocol and questionnaire

III) Survey Update
- May survey data
- October survey

IV) GEM Neighborhood Electric Vehicle (NEV) Donation

V) Wrap-up

Next Meeting is October 22nd, 2-3pm

cc: Jeff Pulverman, Caltrans and Nancy Chinlund, Caltrans

Smart Mobility Advisory Team
September 24, 2002 Meeting Summary

Meeting Attendees:
Cliff Contreras, UCD
Matt Dulcich, UCD
Ann Davies-Nesbitt, UCD
Lea Rees, Caltrans Headquarters
Gabriel Corley, Caltrans District III
Karl Mohr, UCD
Anthony Palmere, UCD
Rachel Finson, PATH
Guest: Bill Fairbairn, Yolo TMA

Updates on LDRP and Smart Mobility Project

Karl Mohr of UC Davis' Office of Resource Management and Planning reported that a new alternative for the LRDP will be evaluated. This alternative further reduces the Olive Tree Drive alternative and includes increased density for students. The Environmental analysis will be flexible and accommodate both plans. There will be a formal presentation to the City Council on October 16. The draft EIR will be released October 24. The next public workshop will be on November 4. The Office of Resource Management and Planning hopes to narrow the options to one plan by the end of November for further fiscal, infrastructure, and other analyses.

Survey Update

Matt Dulcich will send out results of the May survey once the data are available. The October survey will take place the week of October 28.

Focus Group Update

The first two focus groups (staff living in Davis and staff living outside of Davis) were conducted September 10. Ann Davis-Nesbitt observed these focus groups. The focus groups will continue through December 2002. Members of the Smart Mobility Advisory Team are invited to observe. The group reviewed and approved the focus group protocol and the questionnaire that is given to participants before the focus group starts.

The initial drafts of the posters that project staff is developing to assist in explaining innovative mobility at the focus groups were viewed.

GEM Neighborhood Electric Vehicle (NEV) Donation

GEM has offered a substantial donation to ITS-Davis and Partners for Advanced Transit and Highways for testing in the Smart Mobility project. It is planned that 25 GEMs will be sold at very low cost to residents in the Davis community, who would also participate in a GEM user group. Additional vehicles (up to 50) could also be donated to the project and could be placed in a carsharing program to operate in the city of Davis and on campus. A third-party carsharing organization will be identified to partner with the project so the University will not assume liability and maintenance responsibility.

Miscellaneous Items

Cliff Contreras introduced the Zoom System vending machine test project to bookstore representatives and others on campus. These machines were viewed as direct competition for customers and in conflict with exclusive agreements campus has developed for foodservice. This project will not be pursued on campus.

Ann Davies-Nesbitt is working on a transportation/Air Quality Fair, which will involve test drives of clean-fuel vehicles. The Fair will be on October 23 and Ann has invited the Smart Mobility project to participate.

Next Meeting

The next Smart Mobility Advisory Team meeting will be October 22 from 2:00-3:00 pm at the TAPS conference room.

Agenda

Smart Mobility and Growth Model Project
Advisory Team Meeting

November 21, 2002
2:00-3:00 pm

Location: UCD, Transportation and Parking Services (TAPS)
(See front reception for parking permit)

Attendees (in no particular order):
Cliff Contreras, UCD
Matt Dulcich, UCD
Scott Williams, Caltrans
Lea Rees, Caltrans
Gabriel Corley, Caltrans
Ann Davies-Nesbitt, UCD
Karl Mohr, UCD
Ramona Clark, UCD
Anthony Palmere, UCD
Susan Shaheen, California PATH
Rachel Finson, California PATH

Working Agenda:

I) Update on the LRDP

III) Focus Group Update

III) Survey Update

IV) GEM Neighborhood Electric Vehicle (NEV) Donation Update

V) Next Steps
This will be the final meeting for 2002

cc: Jeff Pulverman, Caltrans
Nancy Chinlund, Caltrans

Smart Mobility Advisory Team
November 21, 2002 Meeting Summary

Meeting Attendees:
Cliff Contreras, UCD
Matt Dulcich, UCD
Ann Davies-Nesbitt, UCD
Lea Rees, Caltrans Headquarters
Gabriel Corley, Caltrans District III
Karl Mohr, UCD
Anthony Palmere, UCD
Ramona Clark, UCD
Rachel Finson, PATH

Updates on LDRP and Smart Mobility Project

Karl Mohr reported that comments to the draft initial study were due November 22. This included the Neighborhood Master Plan, the Research Master Plan, and the Habitat Conservation Plan. Campus has conducted many meetings including local school districts and the Davis City Council.

Survey Update

The survey was launched in late October. Matt Dulcich reported that, although there have been some glitches in the survey related to Nustats, the survey has been successful. The return rate is approximately 25-30 percent overall. Faculty and staff have a slightly higher response rate, while students appear to have a lower response rate. There is a high completion rate once participants log on to the survey. On average the survey took 20-24 minutes to complete. Nustats will provide data in approximately one month and then Smart Mobility project staff will begin to analyze the data.

Focus Group Update

Six focus groups with different campus cohorts have been completed. The groups were: staff living in Davis, staff commuting from outside of Davis, off-campus students living in Davis, off-campus students commuting from outside of Davis, first-year students living in the dorms, and students living in graduate and family housing on campus). Smart Mobility project staff has had a difficult time recruiting faculty for the focus groups. Per Matt Dulcich's suggestion, we will contact the Academic Senate for ideas on outreach/recruitment of faculty.

GEM Neighborhood Electric Vehicle (NEV) Donation

GEM's commitment to the donation to campus remains strong. However, the process is moving slower than anticipated due to GEM internal reorganization and difficulty retrofitting the four-seater GEMs with rigid door.

Miscellaneous

This Thursday, December 5, Sacramento Municipal Utility District (SMUD) is hosting a lunch meeting including Sacramento area Transportation Management Associations, and other regional players for a monthly carsharing discussion. The featured speaker this month is a representative from Caltrans to talk about the $2.9 million for statewide carsharing.

The lunch meeting will be held at SMUD, Forestview Room 2 & 3 from 11:30-1:30. If you plan on attending please advise Marie Henry (mhenry@smud.org) by noon on Wednesday so she can order enough pizza and salad. You are on your own for drinks. Also, please advise Dwight MacCurdy (dmaccur@smud.org) so he will know that you are attending and that you are part of the Smart Mobility Advisory Team.

I (Rachel) won't be able to attend this month so if any of you make it, I'd like to get a quick update.

Future Meetings

November 21 was the last meeting of the Smart Mobility Project Advisory Group in 2002.

Thanks everyone for participating in the Smart Mobility project and for all your useful input, comments, and help during the past year.