# Researchers launch Smart Parking project at Rockridge BART

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Drivers on Highway 24 will soon see road signs flashing real-time data on the availability of parking spaces at Oakland's Rockridge BART station.

The signs are part of a new "Smart Parking" management field trial launched today (Tuesday, Dec. 7) by transportation researchers at the University of California, Berkeley, officials at the California Department of Transportation (Caltrans) and the Bay Area Rapid Transit District (BART).

As part of the system's deployment, two electronic road signs will be placed to the side of Highway 24's westbound lanes before and after the Caldecott Tunnel.

Drivers stuck in traffic will be alerted to available BART parking at the Rockridge station, where 50 spots have been set aside for the project. The system also allows people to reserve spaces ahead of time by phone or through the Internet.

"We'd like to know whether putting real-time information about the availability of BART parking along a congested freeway will help move people off the roads and into public transit," said Susan Shaheen, the project's principal investigator and program leader for policy and behavioral research at California Partners for Advanced Transit and Highways (PATH), a unit of the Institute of Transportation Studies and headquartered at UC Berkeley. "Many drivers do not drive to a BART station because they assume the parking lot is full. Our research question is whether individuals will now use transit if they know that they will

find an open spot at the station."

UC Berkeley researchers are working with Caltrans, which is funding the $500,000 project, and with BART.

"This project reflects the leadership role that Caltrans is playing in implementing Intelligent Transportation Systems in California," said Caltrans Director Will Kempton. "This program will help reduce congestion by making transit a more practical and convenient travel option and getting vehicles off the road. We are always on the lookout for successful innovative ideas and smart parking technology is certainly one of those."

Morning commuters heading west on 24 will see the first sign before the Fish Ranch Road exit, just prior to the Caldecott Tunnel. They'll see the second sign after they emerge from the tunnel, shortly before the College Avenue exit.

Users of the Smart Parking system will be limited to three reservations within a two-week period to allow more individuals to try the service. The program will initially be free, but there may be a charge for the smart parking spaces in the future.

"It's important to point out that this is simply a demonstration project, and it's not designed to solve the parking challenges at the Rockridge BART station," said Linton Johnson, BART's chief spokesman. "However, once it's been proven to work, we look forward to implementing it at other BART stations to make parking at BART much more convenient for everyone."

During the trial, UC Berkeley researchers will conduct BART rider surveys. There will be a full evaluation of the field trial at the end of one year. Depending upon the results of the trial, the Smart Parking program

may expand to other BART stations.

"We're trying to maximize the efficient use of parking spaces through this integrated system, consisting of parking sensors, Internet and phone reservations, and real-time parking information signage along Highway 24," said Linda Novick, California PATH research specialist and operations manager of the Smart Parking project.

UC Berkeley researchers, who developed the research plan for the Smart Parking field trial, have contracted with the Emeryville-based startup company ParkingCarma to modify its proprietary parking management system at transit stations and to help implement the project.

The parking spots are monitored by wireless sensors that communicate to solar-powered computerized relay units above the station platform. Once riders park in the spaces, they will need to call an automated system to indicate their arrival. They will be asked to leave their license plate numbers in the recording.

"That's to help us keep track of the use of the parking spaces," said Novick, who added that the ParkingCarma phone number is posted prominently on signs throughout the BART parking lot and near the BART payphones.

The number of cars entering and leaving the lot will be counted via the sensors. The relay units will send information on the number of open spots to a centralized computer in San Jose via dedicated DSL lines.

The centralized computer will process this real-time data from the sensors and incorporate it into the number of spaces reserved in advance. The information about the number of available parking spots -- with a buffer of five spaces factored in -- will be sent wirelessly to the freeway signs every few minutes. The signs will be operational for morning

commuters from 6:30-10 a.m. on weekdays.

The Chicago-based Quixote Corp. is providing technology equipment for this research project. Other companies, including Intel and Microsoft, also supported this project.

Source: University of California, Berkeley