

**The Carlink II Pilot Program:  
Examining the Viability of  
Transit-Based Carsharing**

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## ABSTRACT

The automobile is the dominant travel mode throughout the U.S. (1), while transit accounts for less than four-percent of market share (2). Between these principal modes, niche markets exist for other transportation services, such as transit feeder shuttles and carsharing. Commuter-based carsharing, in which individuals share a fleet of vehicles linked to transit, could potentially fill and expand one such niche; complement existing services; and develop into an economically viable transportation alternative. While most transit shuttles rely heavily upon governmental support, carsharing has the potential to become commercially sustainable.

In 1999, the first U.S. *smart* commuter-based carsharing program—CarLink—was launched in the East San Francisco Bay area. Positive program response led to the development of CarLink II—a larger, more in-depth exploration of the commuter model. Program differences include: an increase from 12 to 27 vehicles; a shift from one employer to many; a move from the Dublin/Pleasanton region to the South San Francisco Bay area; integration of seamless carsharing technologies; and an emphasis on economic viability.

This paper includes a description of the CarLink field test results, from which CarLink II builds; an overview of the CarLink II pilot program; a discussion of the CarLink II research goals and study methodology; and an examination of CarLink's niche potential, as a complement to transit and feeder shuttles, in the South Bay.

**Key Words:** Carsharing, advanced technologies, niche market, and economic viability

## INTRODUCTION

Over the last century in the U.S., the automobile grew in popularity and dominance, while transit lost market share. Despite the distinct benefits associated with the auto and traditional transit, service gaps remain between these modes. A shift in local transit policy, fostered by federal ISTEA and TEA-21 legislation, suggests an opportunity may exist for more sustainable market niche services to emerge (3), such as transit feeder shuttles and commuter-based carsharing. Indeed, both carsharing and shuttles are gaining popularity (3, 4; 5). See Shaheen *et al.* (4, 5) for a discussion of the past, present, and future of carsharing internationally.

In the last 15 years, transit feeder services—supported by employers and developers—have emerged that help attract and retain employees and promote travel demand management. In the 1980s, business parks in the East San Francisco Bay region deployed the first rail-based shuttle services (3). These shuttles transported Walnut Creek Bay Area Rapid Transit (BART) District commuters to and from the Bishop Ranch and Hacienda Business Parks. Due to rising costs, however, both programs were repealed in the early 1990s (3). Interestingly, this same region was the home of the CarLink I field test in 1999, based out of the BART Dublin/Pleasanton station, and linked to the Lawrence Livermore National Laboratory (LLNL) (6).

Today, most commuter subscription services have been taken over by local authorities, employers, or both, and are supported by subsidies. In the San Francisco Bay area, several innovative partnerships between employers and rail transit operators have formed recently to provide feeder services, such as the BART Station Car Program and CarLink (3, 6, 7). Furthermore, in May 2000, BART and Hertz jointly launched a commercial, “station car” rental program at the Fremont station. It is interesting to note that CarLink has its roots in both



European carsharing and the U.S. “station car” concept. Bernard (8) defines carsharing and station cars as two separate concepts, though somewhat overlapping. Carsharing, according to Bernard, is a European development that usually begins as a local cooperative with one or two vehicles parked in several residential neighborhoods, which are seldom used for commute trips. The “station car” concept includes several to many cars parked at central locations, such as transit stations and businesses, for subscribers to make local trips. Station cars are typically small electric vehicles for environmental reasons, although other types of vehicles can be used. Under this definition, CarLink is a station car program. As with any developing concept, definitions are evolving. The authors of this paper regard CarLink as a blend of both the station car and carsharing concepts, which are not mutually exclusive (6).

Carsharing can be thought of as organized, short-term car rental (4). A commuter-based carsharing model, such as CarLink, could provide connectivity to traditional transit, bridging the gap on the origin- or destination-end of a transit trip (9). CarLink can offer individuals a shared fleet of vehicles for accessing transit on the home- and work-end of a trip (i.e., Homebased Users and Workbased Commuters). Furthermore, vehicles are shared by employees at an employment center for multiple uses throughout the day (i.e., Workbased Day Use). On evenings and weekends, vehicles are also shared by participants (i.e., Homebased Users), who drive them home from transit stations at the end of the workday. Carsharing vehicles can provide a shared community resource at transit stations, neighborhoods, and employment centers. Shared-use cars can offer instant and convenient access to destinations that are not conveniently accessible by transit alone (10).

This paper provides an overview of the CarLink I field test and study findings. Next, it provides a description of the CarLink II pilot program and the study methodology. Finally, it argues that carsharing can provide a complementary niche service (*not* a replacement) to traditional transit and feeder shuttles with commercial potential.

## **CARLINK I FIELD TEST OVERVIEW AND FINDINGS**

The CarLink I field test was launched on January 20, 1999, and ended on November 15, 1999. Fifty-four individuals enrolled in the program and shared 12 natural gas powered Honda Civics. The participants were from San Francisco, Oakland, and East Bay communities. The cars were based from premium parking spaces at the Dublin/Pleasanton BART station. The model incorporated traditional and reverse commute travel patterns and a day-use fleet application, tested at an employment center (i.e., LLNL).

The CarLink field test combined short-term rental vehicles with communication and reservation technologies (i.e., smart technologies) to facilitate shared-vehicle access. The ten-month demonstration was implemented and researched by two separate teams at the Institute of Transportation Studies at the University of California, Davis. Project partners included American Honda Motor Company, the BART District, California Department of Transportation (Caltrans), Partners for Advanced Transit and Highways (PATH), and LLNL. INVERS (a Germany-based smart carsharing technology company) and Teletrac provided the advanced carsharing and vehicle tracking technologies.

The CarLink model includes three separate user structures: a “Homebased User” lease, transit links for “Workbased Commuters,” and shared vehicle access at employment sites through “Day Use.” During the field test, each group paid a distinct fee according to the duration of car use. A brief description of each user group follows.



- **Homebased Users** drove a CarLink vehicle between their homes and the Dublin/Pleasanton BART station daily, keeping the car overnight and through the weekends for personal use. There was a fee of \$200 per month for this package.
- **Workbased Commuters** took BART to the Dublin/Pleasanton station and drove CarLink vehicles to and from work at LLNL. There was a fee of \$60/month per car, which was shared with a co-worker by carpooling.
- **Workbased Day Users** employed CarLink vehicles for business trips or personal errands during the day. The fee was \$1.50 per hour and \$0.10 per mile for personal trips. Participants did not pay for work trips because LLNL donated the compressed natural gas (CNG) fuel for this program.

All user fees included fuel, insurance, and maintenance costs. Roadside assistance and an emergency taxi service were also provided. In addition to vehicle support services, CarLink implementation staff supported the program by cleaning and occasionally refueling the vehicles, as well as maintaining e-mail and phone contact with users.

Using questionnaires, household interviews, and focus groups, researchers explored CarLink attitudes and use over time. Although the CarLink participant sample was not statistically significant (i.e., 54 enrolled), valuable lessons may still be drawn from the results. CarLink findings include operational understanding, participant profiles, behavioral findings, preliminary economic analysis, and directions for future research (6). Key study findings are:

- Even though many CarLink users' commutes took longer (on average, approximately ten minutes longer), they found them less stressful.
- CarLink drivers used personal vehicles less than before they joined the study. Those in the Workbased Commuter group also increased their use of BART for recreational travel, perhaps because they became more familiar with the transit system and had easier access to it.
- The combination of CarLink, BART, and carpooling resulted in a net commute reduction of approximately 20 vehicle miles (or 32.2 kilometers) per commuter per day (on average) due to a transit mode shift. This reduction was primarily due to Workbased Commuters, since most Homebased Users already used transit prior to CarLink. Furthermore, CarLink resulted in at least 20 new BART trips each day.
- Several Homebased Users said that if CarLink became a permanent service, they would sell one of their personal cars, which would greatly reduce their transportation costs. Workbased Commuters said they were more hesitant about selling a private vehicle until transit services improved and CarLink supplied more lot locations and vehicle variety (e.g., minivans and pickup trucks).
- Most Workbased Commuters interviewed said that they would return to solo driving after CarLink ended but would try to carpool more frequently than they had previously (6).

The CarLink II pilot program builds upon these findings. In the next sections, the authors describe the CarLink II program, research goals, and study methodology.

## **CARLINK II PILOT PROGRAM**

CarLink II continues the investigation of commuter-based carsharing as developed in the CarLink I field test. However, there are five primary differences between the field test and





CarLink II. First, CarLink II is a pilot program that includes a continuation strategy to transition service provision to an ongoing carsharing organization. During field test interviews and focus groups, researchers found that many CarLink participants would have continued in the program, sold a household vehicle or forgone a purchase, and increased transit and/or alternative mode use (e.g., carpooling and vanpooling) (6). Thus, a more permanent approach was considered critical by CarLink II project partners (i.e., Caltrans, American Honda, PATH, UC Davis, and Caltrain).

Second, the size of the CarLink fleet increased from 12 to 27 vehicles, consisting entirely of 2001 Ultra Low Emission Vehicle (ULEV) Honda Civics. CarLink II's larger size enables researchers to gain a more sophisticated understanding of carsharing's niche potential with greater statistical significance. A third difference is the program's focus on providing commuter feeder and day use services to *many* companies in the region rather than a single employer. Fourth, multiple employer and employee participation required the development of integrated carsharing technologies that coordinate vehicle tracking, data collection, and reservations. Furthermore, "smart cards" now enable instant vehicle access and eliminate the need for multiple "key boxes" at transit stations and work locations. The potential of these technologies to enhance service capabilities and reduce program costs is central to the CarLink II program and evaluation—focused on understanding the economic potential of this carsharing model. Finally, CarLink II is located in the Palo Alto region, south of San Francisco, and its chief transit partner is Caltrain (i.e., a commuter rail system that runs for approximately 75 miles between Gilroy and San Francisco). The notable congestion and growth of the South Bay also renders it a prime location for exploring commercial viability.

As in the CarLink I field test, three distinct categories of users share the CarLink II vehicles:

- **Homebased Users**, who have access to the vehicles on evenings and weekends, has been designed for users to pay \$300 per month (introductory rate).
- **Workbased Commuters** are employees of Stanford Research Park area businesses, who commute to and from the Caltrain California Avenue station and their employment location. Carpooling among Workbased Commuters is highly encouraged. In CarLink II, employers pay \$350/month for a subscription package, which includes the Workbased Commuter and Day Use components (see below).
- **Workbased Day Users** are employed by business subscribers of the Stanford Research Park for personal and business trips throughout the day. Day Use is included in the subscription package.

Homebased Users and Workbased Commuters exchange the vehicles at Caltrain's California Avenue station located in Palo Alto. Again, all user fees include fuel, insurance, and maintenance costs. Roadside assistance and an emergency taxi service are also provided. In addition to vehicle support services, CarLink implementation staff supports the program by cleaning and occasionally refueling the vehicles, as well as maintaining e-mail and phone contact with users.

Since the CarLink II program is focused on understanding the commercial potential of commuter-based carsharing, the identification of enthusiastic employers is critical. Attributes that can promote commuter-based carsharing include:

- Traffic congestion and parking constraints;
- Close proximity to transit and transit incentives (e.g., reduced fares);
- Innovative corporate philosophies and/or mandates (e.g., business parks requiring participation in transportation demand management programs and tax benefits for



employers and/or individuals using alternative modes to commute, such as transit and carpooling);

- Potential to integrate carsharing with current transportation alternatives (e.g., shuttles and vanpooling); and
- Transit feeder service gaps (e.g., shuttles are not available).

During site selection, the CarLink II team chose to work primarily with the Stanford Research Park (containing over 700 acres, 10 million square feet of developed buildings and facilities, 162 buildings, 150 companies, and 23,000 employees) in recruiting employer participants. This proved to be a productive strategy because the Stanford Management Company assisted in identifying and initially contacting potential employers. As its name suggests, the Stanford Research Park primarily houses research companies, whose type and size varies widely. There are large high-tech law firms, software companies, pharmaceutical research companies, and several “dot coms.”

The companies most interested and suited to CarLink II participation include those with regular schedules (in contrast to “dot coms”) and ranged in size between 100 to 600 employees. In addition, enthusiastic human resource and facility managers assisted in the program launch. CarLink II includes approximately ten employers, located in the Stanford Research Park primarily, whose employees use the vehicles to commute to and from the Caltrain station (i.e., Workbased Commuters) and for Workbased Day Use (i.e., business and personal trips throughout the day). The program’s 25 Homeside Users live in the Palo Alto and Menlo Park areas. At least one of the Homebased User participants commutes via Caltrain to the Silicon Valley or San Francisco area. As in the CarLink I field test, Homebased Users have access to the vehicles on evening and weekends. The next section of this paper describes the CarLink II study goals and research methodology.

## **STUDY GOALS AND RESEARCH METHODOLOGY**

The CarLink II evaluation builds upon the research of the CarLink longitudinal market survey and field test (6, 10). As in the CarLink I field test, the current research investigates the perceptions and attitudes of carsharing participants through focus groups, questionnaires, and household interviews, as well as examining changes in travel patterns by comparing travel diaries and data collected automatically. The present study expands upon the previous survey by examining the CarLink II model and by increasing attention to cost issues (e.g., users’ willingness-to-pay and perceived value of various CarLink features); CarLink commercial potential; and evaluation and refinement of the smart technology. This research will provide valuable information to aid in the design of future carsharing systems, as well as helping to improve and transition the on-going CarLink II pilot project to a permanent enterprise. The primary study instruments and methodology are outlined below.

Focus groups were the first research instrument employed. Two were conducted in October 2000, to investigate carsharing perceptions and gather feedback on final design details (e.g., willingness-to-pay). The focus groups were used to collect rich qualitative data from participant and moderator interactions. During a focus group, individuals may feel less intimidated than in a personal interview and are encouraged to be spontaneous, often raising ideas that would remain below the surface in a written questionnaire (11). The focus group environment also allows researchers to monitor the level of emotion or enthusiasm for a subject; these sessions have proven to be invaluable to the CarLink system design.



Two focus groups, both focusing on Homebased Users, preceded the CarLink II launch. Researchers recruited the participants primarily through random phone dialing in the Palo Alto region and by placing flyers on vehicles parked at Caltrain lots. Potential participants were told little about carsharing before the focus groups to avoid over-enrollment of individuals, who might wish to join CarLink, and understate their true willingness-to-pay to affect CarLink rates. Researchers also plan to conduct additional focus groups with all three user types (i.e., Homebased Users, Workbased Commuters, and Day Users) mid-way and at the end of the evaluation period.

During the pre-program focus groups, reaction to the CarLink concept was generally favorable. Both groups consisted of several Caltrain users, whose main transit concern is that transfers between Caltrain and feeder services are poorly timed. Most participants said that they would be willing to pay \$300 to \$350 per month for the Homebased User service, although they would like an introductory trial or discount rate so they could test the program. These participants also provided useful opinions and suggestions about refueling, advertising, recruitment, cleaning, and payment packages, many of which the CarLink II implementation team incorporated into the program design.

The second research instrument is a set of questionnaires, beginning once participants join CarLink II, another mid-way during their first year, and one at the end of the data collection period or when members leave the program. To complement the technologically advanced nature of CarLink II, questionnaires are conducted on-line. While Internet surveys are becoming more commonplace in marketing fields, few transportation projects have used computers (e.g., the REACT! project at UC Irvine and the Computerized Household Activity Scheduling Elicitor (CHASE) software program at the University of Toronto) (12). By answering questions on-line, data entry and analysis are streamlined. Ideally, an on-line questionnaire would combine the best features of mailback surveys, which often entail low return rates but are completed accurately, and telephone interviews that reflect better completion rates but suffer from a respondent's desire to terminate the interview quickly (11, 13, 14). As with a mailback survey, respondents are able to complete computerized questionnaires when their schedule permits, but they avoid mailing hassles.

Along with a several socio-demographic questions about household characteristics, initial survey instruments address each household's current (pre-CarLink) travel patterns. Researchers will compare initial responses to CarLink travel diaries to assess before and after travel behavior characteristics (see below). Furthermore, respondents are also asked a series of psychographic questions related to their opinions and attitudes about transportation and other items (e.g., environment, advanced technologies, and willingness to try new things).

The third research instrument includes three-day travel diaries (i.e., two consecutive weekdays and a weekend day) to estimate change in respondent travel patterns. To evaluate CarLink's effectiveness in decreasing congestion, reducing air pollution, lowering parking space needs, and increasing transit ridership, researchers need to know how members traveled before and during the program. Before joining CarLink II, all participants are required to complete an on-line travel diary, which supplements trip-making details provided in the initial questionnaire. Prior to entering their travel diary data, participants complete a small "memory jogger," which they carry with them over a three-day period and reference before submitting their on-line diary. Subsequently, researchers compare the pre-CarLink travel data to CarLink vehicle usage data (collected automatically), as well as travel diaries completed during the final evaluation.



As mentioned above, the CarLink in-vehicle technology provides the fourth study instrument—vehicle usage data (collected automatically). These data can be viewed real-time (i.e., the fleet manager can monitor vehicles at any time) and are archived to provide usage histories. They include:

- User ID
- Start and end times
- Start and end locations
- Fuel level (to an eighth of a tank).

CarLink researchers use these data to calculate total vehicle miles traveled, trip number, fuel used, time of use, and other statistics.

At the end of the evaluation period, researchers will prepare an overall program and economic assessment, based on cost and revenue records (i.e., both monetary and in-kind). These data will be used to predict CarLink II's economic forecast, using different time and spatial scale scenarios, and user behavior and satisfaction. The final report will also consist of the CarLink implementation team's lessons learned from the program design phase, recruitment, and implementation. As CarLink II develops from an experimental pilot project into a stand-alone operation, this analysis will aid in deciding future directions and economic promise. The final section of this paper explores the potential of commuter-based carsharing to provide a complementary, niche service to traditional transit and feeder shuttles.

## **CARSHARING AND FEEDER SERVICES: COMPLEMENTARY SERVICES**

Today, transit feeder shuttle services continue to gain popularity in Northern California, with over 100 shuttles in the Bay Area (3). In the San Francisco region, transit feeder shuttles cost approximately \$75,000 to \$80,000 per year to operate. Typically, they include peak-period services (or headways that are timed with transit schedules) to reduce wait times at transit stations. Although feeder shuttles are quite successful in this area, service limitations do exist. These service gaps provide a complementary niche for commuter-based carsharing programs.

The CarLink II pilot program, located in Palo Alto, is currently served by a number of shuttles. They consist of the Stanford University Marguerite and Palo Alto Crosstown shuttles and the Palo Alto Embarcadero/Baylands and Deer Creek employer shuttles. The most pertinent to the CarLink II pilot study region are the *Palo Alto Embarcadero/Baylands* and *Deer Creek* employer shuttles, which were designed to transport employees from a transit station to their work site. These shuttles provide timed transfers with Caltrain and run only at peak times, i.e., between 6:00 and 9:30am and 3:00 and 6:30pm.

The first of these shuttles, the Embarcadero/Baylands shuttle, operates from the Caltrain station down Embarcadero, a major Palo Alto street, to the Baylands work site. Initially, there was only one shuttle in operation. In late 1999, however, the city of Palo Alto supported the expansion of this service. With the city's support, hourly operational costs decreased and a second shuttle was added. Currently, the city deploys the shuttles between 9:30am and 3pm on a second route, known as the Palo Alto Crosstown Shuttle service. The second employer shuttle, Deer Creek, operates between the California Avenue Caltrain station and Deer Creek employment sites. Hewlett-Packard and Agilent Technologies, served by the Deer Creek shuttle, are among the corporations in this location.

Funding for the Embarcadero/Baylands and Deer Creek shuttles started with employers providing 25 percent of the total cost. Typically, a coalition of companies, led by one employer,





funds the shuttle. The Joint Powers Board (JPB) and the Bay Area Air Quality Management District (BAAQMD) cover the remaining costs (i.e., 75 percent). JPB is a three-county agency consisting of SamTrans, the Valley Transportation Authority (VTA), and the San Francisco Municipal Railway (Muni). SamTrans is the San Mateo County transit authority, providing service throughout the county with connecting services to San Francisco and Palo Alto. VTA represents the transit authority of Santa Clara County. Finally, Muni provides train, bus, and cable car services in San Francisco. Combined, the three departments form the JPB, and they operate Caltrain in addition to the Palo Alto shuttles.

JPB gets a portion of their funding from the Transportation Fund for Clean Air (i.e., Assembly Bill (AB) 434 funds). AB 434 funds are generated from California vehicle registration fees to support air quality management programs, such as feeder shuttles. It is important to note, however, that these funds are limited. Annual applications are submitted by transit organizations. Due to an increasing number of applications in recent years, requirements have become more stringent. The two Palo Alto employer shuttles described above receive enough money from the BAAQMD to alleviate approximately 25 percent of total costs. The remaining 50 percent are covered by JPB.

There are six main reasons CarLink could provide a complementary service to traditional transit and feeder shuttles. First, many San Francisco Bay area shuttles include one 22-passenger van, circulating from a transit station to one or more employment sites during peak commute periods. Since shuttle capacity is somewhat limited, there is a potential for unmet demand. CarLink could supplement such services and perhaps attract customers who are unwilling to take a shuttle service for a variety of reasons (e.g., flex hours, unpredictable schedules, or preference for personal vehicles).

Second, most vans are fully subsidized for employees, so funding is limited and highly competitive. Thus, the number of subsidized shuttle services deployed in a region each year is limited. Indeed, it is not uncommon that employers are unable to secure a shuttle service in a highly congested region, such as Silicon Valley. Furthermore, many smaller employers (the predominant model in Silicon Valley) are unable to support a shuttle service. CarLink could serve employers of almost any size (by scaling the number of vehicles contracted) without the level of local subsidy required by a traditional feeder shuttle service. It is important to note that CarLink vehicles could carry up to five passengers (carpooling is highly encouraged and facilitated by advanced technologies).

Third, timed shuttles can only provide connectivity to individuals whose schedules are within service hours. Individuals who work late or variable hours are typically unable to use a shuttle service. CarLink can provide a more demand-responsive alternative to individuals who may need to travel at times different than those covered by the shuttle service.

Fourth, shuttles normally operate only during peak periods; thus, individuals who vanpool, carpool, or take transit are typically restricted to the work site during the day. In addition to providing a more demand-responsive alternative, CarLink could also provide a supplementary mobility option to individuals who carpool or take transit by offering an on-site vehicle fleet for business and personal trip making during the day. During the CarLink I field test, researchers found that the shared-use fleet actually increased the mobility options of participants who carpooled, vanpooled, biked, or took transit to work, allowing them to drive alone to work less (6).

Fifth, feeder shuttles serve only one side of a transit commute (i.e., either residential- or employer-sponsored). In the case of employer-based shuttles, services are typically limited to a



few employees during peak periods. With CarLink, the same vehicle fleet can serve all “Homebased Users” and “Workbased Commuters.”

Finally, CarLink offers a parking management solution to transit providers since shared-use vehicles can serve multiple transit customers per day with a single parking space. Hence, CarLink can give transit providers a means of attracting new customers while making more efficient use of their parking spaces. Based on these arguments, the authors support that a potential niche market exists for commuter-based carsharing, which is complementary to existing services.

## CONCLUSION

Today, carsharing and transit shuttles are gaining popularity as modal alternatives that provide connectivity and increase transit use. This paper explores the potential of commuter-based carsharing to fill key transportation service gaps, the CarLink I field test results, and CarLink II’s role in further exploring this transportation alternative. While the CarLink I field test focused on user response and system performance, CarLink II focuses on market and economic potential, as well as the role of advanced technologies in facilitating system use and management and reducing program costs.

Carsharing, in particular, has the potential to become an economically viable, demand-responsive service that complements existing transit and shuttle services. Carsharing’s commercial potential is appealing since shuttle vans rely heavily on Bay Area subsidies (i.e., approximately 75 percent of total costs). CarLink II will test the economics of commuter-based carsharing in the South Bay. Furthermore, researchers will gain a better understanding of carsharing’s niche potential by examining the economic, social, and political forces affecting the CarLink II deployment.

In this paper, the authors outlined six reasons that commuter-based carsharing might provide a complementary niche service to existing transit and feeder shuttles. First, shuttle capacity is somewhat limited (e.g., most are 22-passenger vans). Second, shuttle funding is competitive; so service availability is also limited. Third, shuttle services are typically provided only during peak commute periods; thus, individuals who work variable or late hours are often unable to use them. Fourth, the mobility of individuals who take transit, carpool, or vanpool to work is often restricted to an employment center during the day. CarLink can provide a supplementary transportation option for business and personal trip making throughout the workday. Fifth, shuttles only serve one side of a transit commute (i.e., primarily the employment side). In contrast, CarLink can serve transit connections on both the home- and work-end. Finally, CarLink can provide a parking management solution to transit providers and employers by serving multiple users with a single parking space throughout the day.

In conclusion, CarLink II will help to test commuter-based carsharing’s market niche potential in two main ways. First, it will evaluate user demand and satisfaction, building upon the findings of the CarLink I field test. Second, researchers will assess CarLink II’s economic potential based on this deployment. For such carsharing services to expand, they must be able to thrive with minimal outside support. CarLink II provides the next test bed for answering key questions.



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