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ASSESSMENT OF ZIPCAR AND CAR SHARING SERVICES ON UNIVERSITY CAMPUSES

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EXECUTIVE SUMMARY

Car sharing programs offer short-term vehicle access in which members typically have access to a fleet of shared vehicles that can be reserved and picked up at accessible parking locations. Car sharing is not a new phenomenon, but recent advances in technology and shifts in travel behavior have supported a growing market for innovative, technology-enabled car sharing programs. In particular, car sharing may benefit students at universities, particularly those living on campus. This innovative transportation service is found on an increasing number of college and university campuses in the United States.

This report briefly introduces the concept of car sharing, discusses service models currently available in university settings, and reviews a number of campus car sharing programs throughout the country. Researchers gathered and analyzed information on the use of Zipcar and other car sharing services on universities and campus settings through academic literature, industry reports, and university transportation agency staff.

Researchers identified and evaluated car sharing programs on seven United States university campuses in different geographic settings. Information was gathered from technical, academic and industry reports, program and university websites, and personal communication with program staff. Case studies describe car sharing programs on each university campus. Each case study introduces the campus setting and context, discuss features of the car sharing program and its outreach efforts, and highlight unique or successful features of the program.

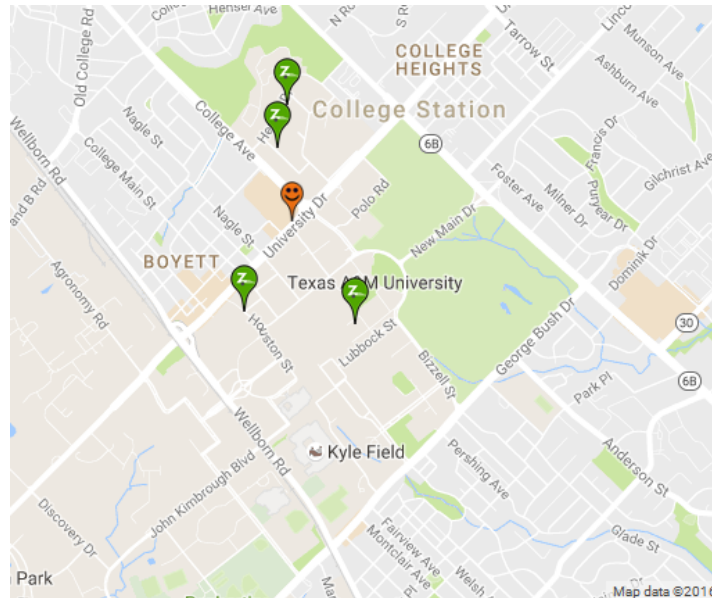
These case studies revealed that car sharing can operate in different geographic settings with multiple operational models. Campus car sharing programs often partner with a private car sharing company that provides and maintains the vehicle fleet and typically is responsible for membership management and operations. Some schools have successfully partnered with non-profits and contribute to citywide car sharing programs. Outreach efforts for car sharing programs were similar across most programs, in part because a number of private car sharing providers serve many U.S. universities.

Researchers suggest that a university car sharing program may consider: reducing barriers to membership, connecting with transit and other travel options, co-marketing with multiple university departments, reflecting the needs of the campus population, engaging faculty and staff. Innovative features such as one-way trips and advanced vehicle technology can generate interest in the program and build connections to existing university research and activities. Additional studies of campus transportation needs and travel behavior can be used to further refine the marketing and outreach design and strategies discussed in this report.

INTRODUCTION

Car sharing programs offer short-term vehicle access in which members typically have access to a fleet of shared vehicles that can be reserved and picked up at accessible parking locations. Members pay a usage rate on a per-minute, per-hour, or daily basis and sometimes monthly or annual membership fees. Gas, insurance, and vehicle maintenance are usually included in the membership (1, 2, 3). Car sharing membership in North America has more than tripled since 2010. As of October 2014, there were more than 1.6 million North American members (4). Car sharing is not a new phenomenon, but recent advances in technology and shifts in travel behavior have supported a growing market for innovative, technology-enabled car sharing programs. Car sharing programs can provide individuals with access to a car for occasional trip-making, serve as a first or last mile connection to transit, replace a household's second car, or support congestion mitigation efforts and parking management.

Car sharing is found on an increasing number of on college and university campuses in the United States. Zipcar alone has a presence on over 500 university and college campuses in the United States. Figure 1 highlights the location of Zipcar on the Texas A&M University (TAMU) Campus. A car sharing program may benefit students at universities, particularly those living on campus.



Source: (5).

Figure 1. Locations of Shared Vehicles on TAMU Campus.

This report briefly introduces the concept of car sharing, discusses service models currently available in university settings, and reviews a number of campus car sharing programs throughout the country. Researchers gathered and analyzed information on the use of Zipcar and other car sharing services on universities and campus settings through academic literature, industry reports, and university transportation agency staff.

OVERVIEW OF CAR SHARING

Car sharing programs offer short-term vehicle rentals that allow members to reserve and pick up a vehicle from an accessible public location and pay only for the time they use the vehicle. Members typically pay a usage fee on a per-minute, per-hour, or daily basis. Gas, insurance, and maintenance are included in the rental cost.

Car sharing programs provide users access to a vehicle, on short notice or with a reservation, when they need to use it. One car sharing vehicle can serve multiple users, reducing the time the vehicle spends sitting idle, and allows users to pay only for the time they use the vehicle (6). Car sharing programs have been successful in areas with (7, 8):

- High residential and/or employment density.
- The ability to live without a car.
- A mix of uses.
- Low vehicle ownership rates.
- Parking pressure or high parking costs.
- Transit service.

Car sharing applications are limited by the local context. In places where most trips can be made without a car, car sharing can fill an important gap for weekly grocery trips or an occasional day trip. But car sharing costs can be expensive if used daily or several times a week. Car sharing can decrease individual transportation costs, vehicle ownership, vehicle-miles traveled, and greenhouse gas emissions (3, 9), but typically in higher-density areas and for individuals whose vehicle use was already below the American average.

The most common model for car sharing is round-trip, business-to-consumer programs like Zipcar. Vehicles are parked in accessible locations, often public on-street parking spaces, and must be returned to that designated spot at the end of the rental. Nearly three-quarters of North American car share memberships are for round-trip car sharing (4).

Two other car sharing models operate in Texas and across the United States:

- One-way or point-to-point car sharing, as offered by Car2go, operates within an designated zone in which a vehicle can be parked in any legal parking space once a trip is completed. Car2go charges by the minute, and cars can be accessed immediately with a membership card or a smartphone application.
- Peer-to-peer car sharing allows individuals to rent their personal vehicles to other members through a digital marketplace facilitated by the service provider. Peer to peer car sharing providers include Getaround and Turo (formerly RelayRides). Peer to peer car sharing is not included in this report.

Funding for car sharing programs in the United States includes private-sector investment, local government support, and federal grant funding. Local governments, transit agencies, or other stakeholders may also provide indirect support through parking provision, marketing, or subsidized memberships for employees or partner organizations.

PROFILE OF CAR SHARING USERS

Car sharing programs have evolved to serve the needs of different markets in different geographies, employing variations on the ownership and operational models discussed in the previous sections. The most common markets for car sharing found in North America are neighborhood residential, business, and college/university markets (10). There has been an observed shift in motivation in which ecological and social values have given way to financial and pragmatic motivations. These motives can help identify the important features or aspects of car share for different market segments. Convenience, lifestyle, and affordability have been identified as the most important motivations for participating in car sharing (7, 11, 12).

Attributes of car sharing members include (4, 7, 13):

- Members of smaller households (two persons or less).
- Low-mileage drivers.
- Highly educated.
- Middle to upper income, but still cost-sensitive.
- An average age of 35 years, although with large variation by location and service attributes.
- Value-seeking/desire to save money.
- Concerned about environmental and social issues.
- More concerned with what a vehicle can be used for, less concerned with style or brands.
- Considered to be innovators.
- Twice as likely to own smartphones as the average population.

Many of these attributes—youth, education, cost-sensitivity, concern with environmental issues—correlate with common traits found among college students, presenting a feasible opportunity for car sharing success. Universities and colleges are regarded as a niche market for car sharing for good reasons. A much higher percentage of university employees than general employees uses various travel demand management (TDM) programs, and they do not drive to work as much as others.

In general, young adults appear willing to experiment with alternative travel modes. Technology companies, car rental agencies, and auto manufacturers are exploring new forms of mobility to serve this population (14). A recent study of what makes communities desirable found that 31 percent of Millennial workers wanted a combination of trains, light rail, buses, carpooling, car sharing, ridesharing, bicycling, bike sharing, and walking as their primary means of getting around. Between 23–39 percent of respondents, depending on where they lived, said they wanted their primary method of transportation in the future to be something other a personal car (15). Small college towns are fertile ground for new mobility options as well. For small towns in rural areas, car sharing may contribute to efforts to attract and retain a young, educated workforce.

CAR SHARING AT UNIVERSITIES

Car sharing is available on hundreds of U.S. university campuses and has proven to be a growing market segment for the industry. A 2010 survey of car-share experts reported that the college and university market is the most prevalent and profitable market in the United States (16). Hundreds of universities are home to one or more car-share programs on campus. According to Zipcar, the

program provides a solution for campus congestion, offers students a way to “express their concern for environmental initiatives,” and helps the school address transportation and parking issues cost-effectively (17). Car-share program goals often intersect with university sustainability and demand management programs, and the centralized nature of university management can ease the implementation process.

Although there are costs associated with car sharing programs, car sharing can make financial sense for a university, as well as its students and staff. A 2010 University of California at Los Angeles study found that the university’s cost per car sharing vehicle was \$1,500 per year in user subsidies and lost parking revenue, but this could be offset by costs for building new parking structures, which were estimated at \$37,030 per space, adjusted for inflation (18). Studies suggest that one car sharing vehicle can replace as many as 15 personal vehicles (19). For universities, this translates directly into parking costs. Stanford University has increased its population while reducing car use and estimate they avoided the construction of over 3,800 parking spaces.

Car sharing programs are not designed to serve daily commuting needs, but can replace a household’s need for multiple vehicles, enable users to forego a vehicle purchase, and provide vehicle-access to workers or students for business needs or errands during the day. A campus often provides a setting in which all one’s daily activities and needs are within close proximity.

UNIVERSITY CAR SHARING PROVIDERS

Private corporations and non-profit organizations operate campus car sharing programs in the United States. Two private companies account for the majority of car sharing programs on U.S. university campuses: Enterprise CarShare and Zipcar. This section briefly introduces each company and their university car share program.

Enterprise CarShare

Enterprise CarShare service is available at over 130 universities campuses, 40 dedicated governmental programs, and 500 business accounts in 35 states, Canada, and the United Kingdom (20). The program began in 2005 under Enterprise Rent-A-Car’s hourly rentals and rebranded as Enterprise CarShare in 2013. Enterprise focuses on car sharing for universities, governments, corporations, and municipalities and offers customizable plans for businesses and government agencies (20). Enterprise CarShare has expanded and acquired other car sharing programs to a membership of over 120,000 members in 2014 (21). Enterprise’s car sharing fleet includes pickup trucks, fuel-efficient sedans, and hybrid/electric vehicles. Enterprise CarShare offers Brand Ambassador Internships to university students gain real world marketing experience while marketing the car share program on their campus (22). The Brand Ambassadors are responsible for weekly on-campus marketing, networking with other students and on-campus groups, and participating in special events to promote car sharing.

The Enterprise CarShare program markets itself through brand recognition, social media outlets, and strategic partnerships. Enterprise has the Twitter handle @carshare and is also active on Facebook. Enterprise has been a long-time sponsor of the NCAA, and leveraged that partnership in 2013 when they launched a national ad campaign highlighting Enterprise’s entire brand and

promoting Enterprise CarShare as a piece of their transportation services. This ad campaign was first launched during the 2013 football game between TAMU and the University of Alabama (23). This game was the highest-rated regular season college football game in seven years, with over 13.5 million viewers (24, 25).

UhaulCarShare

Uhaul launched a car sharing program for university campuses in 2008. UhaulCarShare focuses on car sharing solutions for universities and colleges to help “ease congestion and emissions, while providing easy and worry-free transportation for students.” They currently serve at least 29 universities in the United States. In a job description for a student internship position at Southern Maine Community College, UHaul describes marketing activities that include hosting promotional tabling events, sharing flyers with students, and coordinating with administration and social organizations (26). UHaulCarShare encourages potential city or university partners to work with them to initiate car-share with no costs or guarantees except to “provide a parking space and co-marketing support” (27).

Zipcar

Zipcar is the largest provider of car sharing services at U.S. universities, with operations on more than 500 college and university campuses in North America as of October 2015 (28). Zipcar has developed a service model specifically for university campuses. Zipcar partners with Ford Motor Company and offers more than 50 vehicle makes and models. Zipcar and Ford sponsor the “Students With Drive” grant program, which has donated more than \$625,000 in cash and driving credit to university student groups since 2011 (29).

Launched in 2000, Zipcar, Inc. is now a subsidiary of Avis Budget Group, Inc. and has car sharing programs in over 170 cities in 44 U.S. states, Canada, and Europe. Zipcar frequently blogs about city living and traveling on their blog platform, Ziptopia, and is very active on the Facebook social media platform (30). The company also provides a service called FastFleet by Zipcar that can replace or supplement existing fleets or rental cars (31).

CASE STUDIES OF CAMPUS CAR SHARING PROGRAMS

The following case studies describe car sharing programs on seven university campuses around the United States. The case studies introduce the campus setting and context, discuss features of the car sharing program and its outreach efforts, and highlight unique or successful features of the program. Information was gathered from technical, academic, and industry reports; program and university websites; and personal communication with program staff.

CORNELL UNIVERSITY AND ITHACA COLLEGE – ITHACA, NEW YORK (ITHACA CARSHARE)

Ithaca CarShare is a non-profit car sharing service that provides round trip car sharing. This program is not exclusively for university students but has partnerships with two colleges in the town—Cornell University and Ithaca College. Special rates and packages on annual memberships are offered to students, faculty, and staff. There are four vehicles on the Cornell campus and four additional locations adjacent to campus. Both schools contributed to the startup effort, when Ithaca CarShare began in 2008 with six cars and two employees. Cornell University supports the program with an annual contribution of approximately \$30,000 (32). As of November 2015, the program has 5000 members and 25 vehicles (33). More than half of their members are students.

In the 2012–2013 academic year, 584 Cornell students and 237 employees signed up for Ithaca CarShare memberships. From 2008 to 2013, Cornell’s Ithaca CarShare memberships increased by 313 members or over 60 percent (34).

Importantly, Cornell actively supports transit options and maintains a robust TDM program. They also support the local bus system financially, and about 70 percent of bus ridership is Cornell students and staff. Cornell University has a Transportation Focus Team as part of its Sustainable Campus Committee. Cornell reports that 87 percent of its students and 47 percent of staff participate in sustainable commuting options. New students receive free bus passes and all students can access transit free after 6 p.m. on weekdays and all day on weekends. The campus implemented very restricted on-campus parking policies and a number of transportation initiatives to reduce automobile use (35). One transportation initiative is to “Encourage the use of existing private platforms for car sharing, carpooling, and ridesharing by the Cornell community” (36).

The two campuses in Ithaca offer a contrast in the operational strategies that can apply to university settings. Ithaca College is relatively suburban, with ample parking and approximately 6,000 students. A shared vehicle was placed on the campus for four years, but had to be moved because it did not get enough use. Cornell University is less than 2 miles from downtown Ithaca and adjacent to an additional dense, commercial activity center. It has about 20,000 students and 10,000 staff.

Generally, outreach for Ithaca CarShare tries to reach residents that may benefit from using car sharing, including students, international residents, and low-income households. The two campuses also differed in terms of how the university supported outreach efforts for car sharing. Ithaca CarShare collaborated with the Sustainability Department at Ithaca, but was unable to

partner with the parking department. Cornell actively promotes Ithaca CarShare as one of many transportation options to its campus community. Cornell also pursued efforts to redevelop centrally located parking facilities as research and academic buildings to reduce spending. The TDM program helps to offset this with viable options for travel on campus.

Ithaca CarShare offers two usage plans: one just in case plan for those who need infrequent car access, and a “it’s my car” plan that has a higher annual cost and lower hourly rates for those who travel several times a month or more (37). Cars can be ordered online or by phone and are available 24 hours a day, seven days a week.

Ithaca CarShare noted that land use is an important factor in the success of car sharing programs. Ithaca is a metropolitan area with about 100,000 residents located in a hilly valley that constrains development. For its size, Ithaca is relatively dense, but still neighborhood densities are not high enough in many areas of the city to support a shared vehicle. Car sharing is not a replacement for a vehicle used for every day commuting or frequent travel, but it does help support a multimodal environment where most trips can be taken by transit, walking, or biking. Density helps ensure that there are a large number of people close enough to access the vehicle and higher likelihood that there are enough individuals who will use it.¹

UNIVERSITY OF CALIFORNIA SANTA BARBARA (ZIPCAR)

The University of California Santa Barbara (UCSB) campus car sharing program initially launched in 2005 with an in-house program that transitioned to Flex Car (now defunct), and then ultimately to Zipcar. UCSB has over 23,000 students and over 1,100 staff. About 6 percent of students are international and 4 percent from other states (38). The 1000+ acre campus is in a suburban setting about 100 miles from Los Angeles. UCSB is connected to the local county transit system and all students receive unlimited transit access paid for by tuition fees. As of 2016, Zipcar manages the program and has a system-wide agreement with University of California schools to offer discounted student memberships.

UCSB currently has three Zipcar vehicles parked on campus and four additional Zipcar vehicles adjacent to campus. The cars are parked in prominent campus locations near residential buildings. These locations were selected by UCSB with input from Zipcar. In one case, Zipcar requested that one vehicle be moved from a high density location without residential buildings to one near a student dorm. The combination of daytime activity and evening residents can provide a good mix of users. The stops provide high visibility and may further reveal the benefits to car sharing when other drivers see that the car sharing vehicles come with priority parking locations.²

Zipcar at UCSB is available to staff, faculty, and students at discounted rates relative to unaffiliated local residents. Faculty and staff are eligible to sign up for a free Zipcar membership with no annual fee. This low barrier to entry is a major selling point for faculty and staff outreach.² Students account for the majority of Zipcar use at UCSB and are eligible for a \$25 sign-up fee and receive \$35 in driving credit. A Zipcar partnership with Ford is currently

¹ Personal communication with Ithaca CarShare, August 18, 2016

² Personal communication with UCSB staff, August 12, 2016

sponsoring a \$10 discount for student Zipcar memberships at UCSB and other college campuses across the United States (39).

Car sharing is offered at UCSB as one of several commuter options administered by its Transportation Alternatives Program, or TAP (40). TAP is a membership-based program for university students, staff, and faculty who travel to the campus using alternative commute modes and agree not to hold a standard parking permit. TAP members then receive a host of benefits including free occasional parking access, a guaranteed ride home service, and free sign-up and membership to Zipcar. The program goals are to reduce parking demand, increase alternative mode use, and to promote sustainability.

UCSB is responsible for outreach with the campus community on alternative commute options including car sharing. Various methods are used to inform students about the car sharing program; the TAP program manager reported that email correspondence allows them to most easily and effectively reach the large student body. TAP staff also attend events such as Student Orientation Day, welcome days, and Discovery Day. Staffing a table at events was noted as resulting in a low return in terms of students reached for a high hourly labor input. Email communication is believed to be more effective. Zipcar routinely provides program information for students that are emailed to the student body by university staff who adjust the material for the UCSB context. Emails are also sent to faculty and staff that focus on reminding them that signing up for Zipcar is completely free for them.²

The most important aspect of car sharing for UCSB staff when marketing the service on campus is the low upfront cost to join. Car sharing memberships are discounted for all students and membership and annual fees are completely waived for faculty and staff. Staff also noted that many people on campus still are not accustomed with car sharing and how the service functions. However, far more are familiar with the Zipcar brand and that reportedly helps with the visibility and recognition of the program.²

STANFORD UNIVERSITY (ZIPCAR AND ENTERPRISE)

Stanford University has approximately 7,000 undergraduate students, 9,000 graduates, and 2,000 faculty. Ninety-seven percent of undergraduates live on the 8,000 acre campus adjacent to Palo Alto, California (41). More than 8 percent of the 2015 undergraduate population are international. The university “prioritizes sustainability in the stewardship of its lands and operation of its facilities” and highlights its transportation programs along with energy efficiency, recycling, and waste reduction programs in marketing material.

In 2015, 50 percent of Stanford employees commuted using alternative transportation options. The campus offers a comprehensive commuter services program for students and staff that includes two car-sharing programs. The campus has more than 21,700 parking spaces (42).

Zipcar provides more than 60 vehicles at 20 Stanford locations, the largest U.S. university Zipcar program (43). Stanford’s Parking and Transportation and Services website provides a step by step guide to joining and using Zipcar but links to Zipcar’s website for information on international license holders, fees, locations, and frequently asked questions. Memberships for resident assistants, student government members, tour guides, orientation leaders are offered

with no application fee, no annual fee, and no monthly fee. Zipcar memberships are also free for registered department staff, with no fee to join and no limit on departmental memberships.

The campus also houses an Enterprise rental branch that provides both traditional car rentals and hourly car sharing. As highlighted in Figure 2, Stanford campus residents 18 and older can register for the Residential Rental Program that grants access to \$10 weeknight rentals (5 p.m. to 8:30 a.m.) and hourly weekend rentals for \$7 an hour with no membership costs (44).



STANFORD RESIDENTS RENTAL PROGRAM

Stanford Location. Parking Structure 5. Tel 650.833.8060

EXCLUSIVE MEMBERS-ONLY PROGRAMS

\$10 WEEKNIGHTS

- Pick up vehicle between 4:00 pm and 5:00 pm
- Return vehicle before 8:30 am
- Valid Monday-Thursday
- \$10/rental*

HOURLY WEEKEND RENTALS

- Hourly rentals available during business hours
- Valid Friday-Sunday
- \$7.00/hour*

Source: (44).

Figure 2. Stanford Residents Rental Program 2016–2017.

Stanford has a comprehensive TDM program, designed to make it easy and convenient for Stanford affiliates to commute by bicycle, bus, carpool, train, vanpool, and/or walk. In addition to car sharing, Stanford offers shuttle service, charter buses, discounted regional transit passes, daily parking permits, carpool, vanpool, and pre-tax payroll deductions for commuting costs (45). Stanford provides a two-page brochure titled “Thriving at Stanford [without a car]” that provides transportation resources, contacts, and suggestions for travel options for a number of common trips such as the airport, shopping, beaches, and other nearby activity centers (46). Stanford first year students are not allowed to bring a vehicle to campus. Older students can purchase a resident permit for the academic year (10-months) for \$300.

In addition to campus-wide TDM, more than 9,000 Stanford students and staff participate in the Stanford Commute Club. The Commute Club is open to campus commuters who do not drive to campus or live in on-campus student housing. Car sharing promotions are available, including: \$8.50 per month in bonus driving credit for Zipcar rentals and up to 12 free hourly rental car vouchers for Enterprise car rentals (47). Another prominent feature of the program is a \$25 per month payment of Clean Air Cash for members who ride a bike, take transit, or vanpool to campus. This direct cash payment is paid by direct deposit or as a credit on staff payroll checks (48). The Commute Club offers free and discounted transit passes, bike rentals and subsidies, and a free emergency ride home program. The program also operates a Permit Non-Renewal Promotion, which offers a \$100 reward for eligible commuters who give up their parking permit. Commute planning assistance will create a custom transit or bike plan from a person’s home.

The TDM and commuting programs at Stanford have generated public and private benefits. Parking and Transportation Services estimated that the construction of over 3,800 parking spaces was avoided due to the drop in demand from decreased drive alone rates (49). The programs

contributed to a decline in the proportion of commuters driving alone to campus from 72 percent in 2002 to 50 percent in 2015 and transit ridership increases from 8 percent to 26 percent (42).

UNIVERSITY OF TEXAS AT AUSTIN (ZIPCAR)

The University of Texas at Austin (UT-Austin) has over 51,000 students and 3,000 faculty on a 350-acre campus. In 2011, UT-Austin launched car sharing on its Austin, Texas, campus in partnership with Zipcar. The program currently operates 10 vehicles at two campus locations. The vehicles are equipped with campus parking permits in addition to their dedicated home parking space. Discounted student rates and free memberships for departmental members are offered.

UT-Austin's Parking and Transportation Services office worked with Zipcar to roll out and market the program. Marketing included tabling events across campus, email blasts, and informational flyers and posters at dorms, activity centers, and off site locations. The program initially included three locations with two vehicles each. Shared vehicles were placed in locations that have high pedestrian activity and high visibility as well as near transit stops and other travel options. UT-Austin's car sharing fleet also provides a number of vehicle types that can serve different needs, ranging from high-efficiency vehicles to large trucks for road-trips or moving big items (50). This variety in the fleet attracts students to the program.³ In the first year, partnerships with various offices and campus representatives including the Office of Sustainability, Student Government, Freshman Admissions, the International Office, and Resident Assistants proved valuable for getting the word out and increase membership (50). Outreach includes tabling, information fairs, flyers, posters, and shuttle placards. Marketing materials are provided by Zipcar and offer eye-catching material that helps draw attention to the program. Tabling on campus was noted for its success at increasing student memberships. According to the UT Parking office, most UT-Austin students are aware of the program and how it functions.³

As part of the university's *Green on the Go* alternative transportation initiative (51), the car sharing program was established to reduce vehicle congestion, promote sustainability, and reduce the campuses carbon footprint. It was also intended to engage the campus community with alternative transportation options and complement existing transit and other transportation options. The car sharing program is one of many programs that support the university's Campus Master Plan that seeks to create a sustainable and pedestrian-friendly environment that supports and harmonizes all modes of travel within the campus (52). The university has one of the largest shuttle systems at a university in the United States, with 15 routes that connect the campus to the surrounding city. Students receive fare-free access to the entire city bus system.

UNIVERSITY OF VERMONT AND CHAMPLAIN COLLEGE – BURLINGTON, VT (CARSHARE VERMONT)

CarShare Vermont is a non-profit car share program designed to provide affordable and convenient alternatives to privately owned vehicles in Burlington, Vermont. CarShare Vermont is a founding member of the International CarSharing Association, made up of agencies around

³ Personal communication with UT staff, August 16, 2016

the globe working to maximize the environmental and social impacts of car sharing. According to the program website, CarShare Vermont members report walking, bicycling, and using public transit more frequently (55).

The students of University of Vermont (UVM) and Champlain College comprise a large proportion of Burlington's population. UVM has 12,000 undergraduate and graduate students, of which 4.2 percent are international students, and a 460-acre campus. UVM also has 1,500 faculty and staff. Burlington, Vermont, has a population of 40,000 in the city and 150,000 in the metropolitan area. Undergraduates are required to live on campus their first two years spread across 39 residence halls. First year students are prohibited from registering a vehicle for campus parking unless they meet the criteria for an eligible exception. Champlain College has 2,200 students from 47 states and 18 countries. Champlain College is located in a residential neighborhood in Burlington with extremely limited parking. In an effort to make the most efficient use of the limited parking spaces, Champlain has a strict campus parking policy that applies to students, faculty, staff, and visitors; students living on campus may not have cars or park in campus lots except in special circumstances (53).

CarShare Vermont offers special rates to the UVM and Champlain College. A limited number of full time students and employees of UVM and Champlain are offered a free annual membership, and \$6 per hour plus \$0.35 per mile. The memberships are distributed on a first-come, first-served basis and members must meet CarShare Vermont's membership requirements (54). Members also receive various benefits through Car Share Vermont's partnerships with local businesses and restaurants (55). The car share program markets to both students and staff. Figure 3 and Figure 4 show examples of marketing materials developed for UVM and Champlain College.



YOUR KEY TO ALL THE
EXTRACARICULAR
ACTIVITIES

**CarShare Vermont can get you
to all the good stuff off campus.**

We've got cars parked on campus and all over town for members to use whenever they need to drive. Just reserve one online or by phone 24/7, get in using your own key, and go!

Full-time students at UVM and Champlain College get a **FREE** annual membership – that's a \$150 value!

carshare vermont

Apply now at (802) 861-2340 or carsharevt.org

Figure 3. Example of CarShare Vermont Campus Marketing Collateral.



**CarShare Vermont for
Faculty & Staff**

**Freebies and perks
aren't just for students!**

If you're a full-time staff or faculty member at UVM or Champlain College, you're eligible for a **FREE** annual CarShare Vermont membership – that's a **\$150** value.

Just pay an application fee and low driving rates (even gas and insurance are on us).

Figure 4. Example of CarShare Vermont Faculty Marketing Collateral.

DUKE UNIVERSITY – DURHAM, NORTH CAROLINA (ENTERPRISE)

Duke University, in Durham, North Carolina, has 15,000 students in undergraduate and graduate programs plus 6,000 faculty and staff at the university and medical center. Ten percent of undergraduate and 15 percent of graduate and medical students are international. Students at Duke are served by 13 on-campus transit routes as well as city and regional buses that are free to

students. Freshmen are strongly encouraged to not bring a vehicle, although they are permitted to do so. Students are required to live on campus their first year and parking assigned to this housing is remote and inconvenient.

Duke partnered with Enterprise in 2014 to provide car sharing on campus. There are 16 cars in the fall and spring semesters and 6 cars over the summer to match demand.⁴ The vehicles are placed strategically around campus with some locations more convenient to on-campus housing, targeted at underclassmen, and others are located at the main student center to target the entire student body and staff. The car share program is open to all qualified students, faculty, and staff over 18, although applications by students between ages 18 and 20 must submit an online Parental Acknowledgment Form (56).

The local Enterprise branch administers the car share program at Duke and will often set up an information table on campus to answer questions and verify student's licenses instantly, which can take up to 3–5 business day otherwise. Enterprise has fully customizable marketing materials including a brochure and map of car share locations. These items are distributed during enrollment periods, at the international student resource fair, at new employee and new student orientations, and at hospital orientation. The Duke Transportation services department and Enterprise maintain a close relationship with the international student department on campus because many international students use car sharing.⁴ In the past, Enterprise hired a student brand ambassador, but has found that method of outreach to be unsuccessful due to the educational commitment at Duke.⁴ The transportation services department will also market the car share program in the student newspaper and run banner ads on the mobile site to reach more students and faculty. These advertisements are paid for using the transportation services budget that allocates approximately \$5,000/year to advertising and marketing.⁴

Additionally, Enterprise offers promotions for Duke students and faculty on their website. The current promotion is sponsored by Nissan to offer \$5/hourly rates through December (hourly rates are typically \$9.00) (56). There is a one-time application fee that is typically \$20, but is currently advertised at \$1. The annual membership fee has been reduced from \$50 to \$35, and the first year is waived.

Duke is working with Enterprise to determine supplemental membership and marketing opportunities to expand their car share program, including departmental car share memberships, one-way rentals, and researching the impact that transportation network companies have on their car share program.

UNIVERSITY OF MICHIGAN – ANN ARBOR, MI (ZIPCAR)

The University of Michigan, located on a 3,200-acre campus in Ann Arbor, enrolls over 28,000 undergraduate and 15,000 graduate students each year, of which 11 percent are international. It also employs 6,800 faculty and staff. Sixty-six percent of students live off campus. Campus parking for students is limited, and the University recommends that students leave their cars at home. Freshmen and sophomores are not eligible to apply for any University parking permits. Juniors and seniors are eligible to apply for permits, but the demand exceeds the supply (57). In

⁴ Personal communication with Duke staff, August 15, 2016

addition, most permits do not allow for storage parking (defined as leaving your vehicle continuously parked in a lot or structure for periods greater than 24 hours).

The University of Michigan partnered with Zipcar to provide a car sharing program for students. Information about the Zipcar program is listed on several departmental web pages, including Rackham Graduate School, Parking and Transportation Services, and the International Center. There are two car sharing plans available: occasional driving and monthly driving. The occasional plan has no monthly commitment, \$25 application fee, and \$70 annual fee. The monthly plan is \$7 per month with a \$25 application fee and no annual fee. To use this service, members need to be 18 or older, have a valid driver's license, and have been licensed for at least one year.

The parking and transportation services department at the University of Michigan offers several alternatives to having a car on campus, including university transit, public transit in Ann Arbor, ride share, airport shuttles, and car share (58). The University offers free bus service for students, and students can ride the Ann Arbor buses for free with a student ID. Car share is part of the campus wide commitment to decrease the carbon intensity of passenger trips on university transportation modes (59).

CASE STUDY FINDINGS

The case studies revealed that car sharing can operate in different geographic settings with multiple operational models. Campus car sharing programs often partner with a private car sharing company that provides and maintains the vehicle fleet and typically is responsible for membership management and operations. Some schools have successfully partnered with non-profits and contribute to citywide car sharing programs.

Outreach efforts for car sharing programs were similar across most programs, in part because a number of private car sharing providers serve many U.S. universities. All the university programs use a range of marketing efforts to inform and education students and staff about car sharing: tabling at events, brochures, flyers, and posters. Some university partners were more involved in car sharing outreach efforts and schools reported different degrees of success with different strategies and tools. Large car sharing companies such as Zipcar and Enterprise have customizable marketing materials that can be tailored to the needs of each university, incorporating a logo, specific events, or portions of the school colors. Most universities that partner with Zipcar or Enterprise provide links to the program on their departmental web pages, but do not administer the program, operate the fleet, or create marketing collateral. In some cases, car sharing providers hire students to be on-campus ambassadors to serve as representatives of the overall marketing for the program. This position is not always successful, as was the case at Duke University. Depending on the level of awareness of alternative transportation options in a particular setting, outreach may focus heavily on educating the population on the car sharing service and how it functions.

Many lessons for university staff considering outreach and marketing campaigns for a campus car sharing program were identified based on the literature review and case studies in this report, such as reducing barriers to membership, connecting with transit and other travel options, co-marketing with multiple university departments, reflecting the needs of the student population, engaging faculty and staff, considering one-way car share trips, and incorporating innovative transportation and technologies. These findings are summarized in the following sections.

REDUCE BARRIERS TO MEMBERSHIP

Low barriers to join the program were identified as an important strategy to successfully recruit student members. Affordability is a significant driver of consumer decisions and the upfront costs of car sharing programs was a noted barrier for students. Most car sharing programs include discounted memberships and annual fees for students. Zipcar's partnership with Ford provides discounts to students at participating university programs, including TAMU, in exchange for publicity for Ford. UCSB offers free memberships for students, faculty, and staff who participate in the alternative transportation program. Enterprise staff at Duke University hold educational campaigns on campus where they will verify student driver's licenses instantly, reducing sign up times by 3–5 days. Membership discounts for low-income students, like the city-wide program offered by Ithaca CarShare, could ensure that students who may not be able to afford a personal vehicle have access to car sharing.

CONNECT WITH TRANSIT AND OTHER TRAVEL OPTIONS

Transit and other alternative travel options work better in combination. Car sharing programs are not affordable if an individual is trying to replace a daily commute or needs to travel on most days of the week. Instead, car sharing vehicles serve a supporting role for travelers who otherwise walk, bicycle, or ride transit for most of their trips. Academic research supports the finding that a combination of TDM policies is more effective at encouraging university populations to use alternative transportation (60). Mode choice decisions among university students, like non-students, are based on the relative convenience, time, cost, and comfort level of different travel options. In a study of university students in Washington, convenience and time were ranked the most important factors, especially among students who typically drive to campus (61).

The universities with car sharing programs all have well-developed TDM programs and promote and fund a number of other travel options. Car sharing can be a highly visible and low-capital feature of a school sustainability, mobility, or alternative transportation program. Stanford University has a very robust commuter services program bolstered by the largest university car sharing program in the nation.

Incentives, such as free hours of car sharing, can be bundled with other commuter benefits to effectively attract participants to a car sharing program. In a UCLA study, 34 percent of the car share users indicate that commuter benefits attracted them to Zipcar (18). Universities can market car sharing as one of a number of transportation alternatives available to their students, faculty, and staff as part of a long-term strategy to educate students and build awareness of multimodal options.

The TAMU bus system serves many parts of Bryan-College Station, including possible student destinations such as the mall and large grocers. Car sharing can be assessed for its potential to serve geographic and temporal gaps in this existing system.

CO-MARKET WITH MULTIPLE UNIVERSITY DEPARTMENTS

The university car sharing program case studies emphasized collaboration with and outreach to various departments and offices across the university. Car sharing programs benefits from a diverse membership base who will need to use the vehicles at different times, days, and seasons. Universities are comprised of numerous agencies and offices that understand and serve the needs of a subset of the student population. This may be especially valuable on a campus with a large population and diverse activities.

Relationships with the student affairs office, student government organizations, student activity leaders, and international student offices can provide access to targeted populations that may be interested in car sharing. At Stanford University, resident assistants, student government members, tour guides, and orientation leaders are eligible for memberships with no application fee, no annual fee, and no monthly fee. Many Zipcar programs offer free memberships to staff members in a department that has a registered Zipcar program.

REFLECT THE NEEDS OF THE STUDENT POPULATION

Car sharing does not work for everyone. Outreach can be tailored and marketed to different subsets of the campus population. Staff at UT-Austin noted that access to various car types is a selling point for some students. Even students who own a car may be interested in a short term rental of a large truck or van. Families with one car may be able to forego a second car if they have access to a car sharing program.

International students or others who travel from far away are less likely to bring a car to campus. Ithaca CarShare ensures that marketing materials reflect the large population of students from Asian countries. The international student office can be helpful to inform and education foreign students about the program as part of introductory services.

The case studies further revealed that different strategies may not work equally well on all campuses. One school reported that information tables at events did not reach as many students as email blasts, while another school reported this was a successful strategy. Retaining a student ambassador is a strategy employed at several universities; however, it was reportedly unsuccessful at Duke.

ENGAGE FACULTY AND STAFF

Staff and faculty are long-term patrons of university campuses who typically commute to campus locations and are less likely than students to live on campus. Many universities incorporate car sharing programs into commute programs or TDM programs that have special offers for faculty and staff. In a study of car sharing at UCLA, researchers found a reasonably high car sharing rate among university employees, particularly employees who commute by alternative modes, who are female, and whose income is lower than the median income of all employees. However, the researcher also found that university employee car sharing was overall lower than student use (62).

At UCSB, faculty and staff receive free memberships to the campus car sharing program. In other examples, individual departments at a university have a departmental car sharing account that allow staff of the department to receive a free membership. This allows staff who commute without a car to be able to run errands or access business meetings during the work day on campus.

Car sharing can be designed to serve as campus or departmental fleets; some car sharing providers offer turn-key programs to facilitate this service. This may deliver cost-savings for a department and can benefit the car sharing program by providing guaranteed revenue. Business fleets that are only needed during the day can be made available to the public during evening hours. Enterprise's Residential Rental Program at Stanford offers students overnight rentals for \$10 and require the vehicle is returned by 8:30 a.m. the next morning (63). Duke is exploring departmental-designated car share vehicles that would be available for faculty, staff, and student workers for business needs on and off campus. Several departments have staff and students who make trips to the hospital and other university buildings, so some departments want their students to have a vehicle designated to the department rather than take a chance that a vehicle will be available when the errand is needed.

CONSIDER ONE-WAY CAR SHARING TRIPS

One-way car sharing is another model that operates in a number of U.S. and international cities. One-way car sharing allows users to pick up and drop off cars in any legal parking space within a designated coverage area. A fleet of shared vehicles float within this designated area that may include a number of designated parking spots as well. Currently, this model does not have any direct partnerships with U.S. universities but it is available to students in some cities where one-way car sharing is offered citywide (64, 65). Duke is considering how to offer one-way car share to their marine sciences laboratory in North Carolina.

Zipcar piloted its ONE>WAY car sharing service in Boston in 2014. The program lets members take a shared vehicle from one reserved parking spot to another at a different drop-off location. In 2016, Zipcar expanded the service to Los Angeles, Denver, Seattle, Washington, D.C., and Baltimore (66).

Early indications suggest that—unlike other shared modes—one-way car sharing may work equally well in car-oriented areas and in cities with robust transit. The basic model revolves around a home area or bounded geographic zone where users can pick up or drop off a one-way vehicle. In the markets where it is in operation, one-way car sharing has often quickly outpaced traditional car sharing (67).

INCORPORATE INNOVATIVE TRANSPORTATION AND TECHNOLOGIES

University campus programs incorporate a range of vehicles such as vans and trucks for special activities or needs. Many car sharing programs also offer energy-efficient vehicles, plug-in hybrids and, in some cases, electric vehicles. A car sharing program can similarly be an opportunity to explore other transportation technologies such as autonomous vehicles, connected vehicles, or electric vehicles. Innovative vehicles and high-technology can be selling points for the program and an opportunity to introduce students to new engineering and technological innovations.

At the Google corporate campus in Mountain View, California, the company hosts the “largest electric corporate car sharing program in the U.S.” Google states two purposes for the program (68):

- To provide a low-carbon option for employees who do not drive their own car to work.
- To invest in emerging technologies.

The campus also offers bike-sharing, shuttle service, and incentives to use transit and other travel options.

OPPORTUNITIES AT TAMU

TEXAS A&M UNIVERSITY – COLLEGE STATION, TEXAS (ZIPCAR)

The 5,200-acre flagship campus of TAMU is located in College Station, Texas. In the 2016 spring semester, TAMU had over 55,000 students enrolled at the College Station campus, of which 9 percent are international students (69). Nearly half of students enrolled are under the age of 21, over 80 percent are under the age of 25. The majority of TAMU students are from Texas (85 percent) (69).

TAMU Transportation Services manages parking, transit, and alternative transportation modes on campus. TAMU has approximately 37,000 parking spaces in 138 parking lots and five garages and issues over 40,000 parking permits each year. There are no vehicle restrictions for students and parking permits range from \$292 to \$743 per year. The Aggie Bus system transports about 250,000 passengers per week during the fall and spring semesters on 10 on-campus and 10 off-campus routes. The campus also has night and weekend shuttles, football game day shuttles, and auxiliary charter services.

CAR SHARING OUTREACH AND MARKETING OPPORTUNITIES

In 2015, TAMU launched a car sharing program in partnership with Zipcar at the 7th Annual Campus Sustainability Day Fair (70). There are currently five car share locations on or near campus offering a choice of sedan and truck models. All students 18 and over, including drivers with international licenses, are eligible. Previously, Hertz offered car rentals on campus.

TAMU has several opportunities to promote and expand the use of car sharing among students, faculty, and staff in College Station. At this time, there are no vehicle restrictions or on-campus living requirements for students. TAMU can consider incentives for first-year students living on campus to forego bringing a vehicle or parking a vehicle on campus. Parking spaces adjacent to large dorms and high trafficked campus buildings can be converted to designated car share spaces. If a shared vehicle was easily accessible, students living on campus without vehicles may be more likely to use car sharing for off-campus business.

Car sharing can complement or support existing environmental programs and initiatives on campus. TAMU students lead and participate in sustainability and environmental awareness projects, competitions, and student groups, such as the Aggie Green Fund, Emerging Green Builders organization, One Love, Sustainable Agriculture Student Association, and Texas A&M Replant. Annual TAMU Campus Sustainability Days feature student groups, community partners, and TAMU departments that have implemented sustainable initiatives (71). TAMU developed a Sustainability Master Plan in 2010 (72).

Large departments with several buildings on campus can consider a department-specific car share vehicle for their staff, faculty, and student workers to use for business purposes. Or large buildings with multiple departments can have a building-specific car share vehicle. These car share vehicles may be able to replace or supplement TAMU fleet vehicles. The TAMU system recently invested \$150 million to begin redevelopment of the 2,000-acre Riverside Campus, now referred to as the RELLIS Campus (73). The RELLIS Campus will expand engineering and

educational resources and include infrastructure for the development and testing of connected and automated transportation technologies. The RELLIS campus is approximately 11 miles from the main TAMU campus. It is expected that many students will be employed or conduct research at RELLIS, but creating a new bus route to service this campus adequately is costly and difficult. Dedicated car share vehicles could not only provide a travel option for students and staff to travel between the campuses, car sharing may offer an opportunity to promote TAMU transportation and technology research.

There are over 1,000 active student organizations on campus. Zipcar and TAMU Parking and Transportation Services can create and maintain relationships with these organizations and ask each to promote car sharing within their membership. The university could also consider hiring brand ambassadors or a street team to promote car sharing at events around campus on a daily or weekly basis. With the majority of the student body from Texas, and specifically from the Houston area, one-way car sharing could also be a great option for students, faculty, and staff that need to leave campus and have a final destination in a city with Zipcar. Car sharing would also be useful for students and staff that need to visit a TAMU campus or building outside of College Station.

CONCLUSIONS

Car sharing programs are found on an increasing number of college and university campuses in the United States. The program design, marketing strategies, and target audiences vary between schools. Indeed, one of the lessons identified in several case studies is that understanding different audiences within the campus community can help to shape and target outreach programs for car sharing.

Universities make practical partners for car sharing programs for several reasons: campuses are a shared destination with daytime and evening traffic, university parking is often limited, program implementation may be easier with a self-contained organization, there is an existing communications network, and academic populations are more likely to be environmentally aware. Universities centrally manage traffic and parking, often face high parking demand and space limitations, and may have a well-staffed transportation department. Car sharing programs can be effective elements of parking management plans, TDM programs, or campus sustainability efforts.

TAMU has an opportunity to expand the use of car sharing on its College Station campus. This research suggests that educational campaigns, targeted membership promotions to large departments or buildings with several departments, leveraging student activities and sporting events, and coordinating with other transportation services on campus may be applicable. Innovative features such as one-way trips and innovative vehicle technology can generate interest in the program and build connections to existing university research and activities. Additional studies of campus transportation needs and travel behavior can be used to further refine the marketing and outreach design and strategies discussed in this report.

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