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Zipcar: Refining the Business Model

It was October 14, 2000, and Robin Chase was leaving yet another meeting with potential providers of capital for her fledgling venture, Zipcar. Chase was CEO and cofounder of the company, which she and Antje Danielson had started some 10 months before. The idea behind Zipcar—a sophisticated form of car sharing—was simple, yet potentially revolutionary. Chase and Danielson had conducted some initial research during late 1999, and by the end of that year, the two had developed a business plan. They had incorporated in January 2000 and raised their first $50,000 from one angel investor.

By June of 2000, the two entrepreneurs had leased 12 cars and were ready to open for business in Boston. By October, the fledgling company had 19 vehicles, nearly 250 members, and the founders had raised—and spent—an additional $325,000 to fund the early stages of operations. Yet, even with this demonstration of viability, Chase and Danielson had not succeeded in raising the equity capital they needed to really grow Zipcar.

Beginning in early 2000, Chase had made a series of presentations to potential investors in which she sought $1 million in capital to prove the business model in Boston and, eventually, to set the stage for expanding the business to other U.S. cities. Potential investors seemed intrigued and enthusiastic about the Zipcar idea. While Chase hoped to close on this first round of financing in the fall of 2000, she continued to look for funding alternatives because the money was not yet in the bank. At the end of October 2000, she and Danielson would have the opportunity to make their pitch at Springboard 2000 New England, a venture forum for women-led enterprises. Chase commented: "I am anxious to raise this funding and focus my energies on really trying to grow Zipcar. I want to put our best foot forward with the VCs who will be at Springboard. I need to review our presentation and make sure we're making the strongest argument we can on why this business deserves funding."

Background

In September 1999, Chase's friend, Danielson, returned from a trip to Germany with an idea for a new start-up. While in Berlin, Danielson had been impressed with a car-sharing concept that seemed to be catching on across Europe. Under this new concept, car-sharing companies provided short-

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Professor of Management Practice Myra Hart, Senior Lecturer Michael J. Roberts, and Research Associate Julia D. Stevens prepared this case. This case draws upon portions of an earlier case, "Zipcar," HBS No. 802-085 (Boston: Harvard Business School Publishing, 2002), written by Professor Myra Hart and Research Associate Wendy Carter. HBS cases are developed solely as the basis for class discussion. Cases are not intended to serve as endorsements, sources of primary data, or illustrations of effective or ineffective management.

term, on-demand use of private cars conveniently located and easily accessible to service subscribers. She believed that such a business could be equally successful in urban areas in the United States.

Danielson, a Ph.D. geochemist who supervised undergraduate energy policy research at Harvard, saw both the environmental and convenience implications of the service. She turned to Chase, who had an MBA from MIT and substantial business experience, to partner with her in the start-up.

Chase agreed that car sharing provided an exciting opportunity, and she was confident that they could build the technology infrastructure to make it work. She committed to the project and began developing the business plan. When she met with Glenn Urban, the former dean and a mentor from MIT's Sloan School of Management, in December 1999, he not only encouraged her to go ahead but also urged her to move quickly. He noted, "This idea is much bigger than you are imagining. You have to do this at twice the speed and think twice as big."

The Founders

Chase majored in English, French, and philosophy at Wellesley College. While a student, she also held several positions at the college newspaper and was president of the philosophy club. After graduating cum laude in 1980, she joined the Boston-based health care consulting firm John Snow Inc.

In 1986, she received her MBA in applied economics and finance from MIT's Sloan School of Management. She then joined a private school as director of finance and operations. Over the next 13 years, Chase continued her professional career, taking some time off after the birth of each of her three children and structuring her work schedule to accommodate her desire to raise a family. Chase returned to work for John Snow during some of this time, ultimately serving as interim director of the international division. In 1995, Chase left to become managing editor of the 110-year old scientific journal *Public Health Reports*. Throughout that time, she often thought about the possibility of starting her own business.

In 1998, Chase and her husband came to the conclusion that the pressure of maintaining two high-powered careers and caring for three children under age 10 was increasingly difficult to manage. She retired from her position at *Public Health Reports* to spend more time with the children. During the next 12 months, Chase devoted herself to organizing her household and becoming more involved with her children's school activities. As a result, she made many new friends—most of them the parents of her children's playmates. Danielson was among these.

Danielson worked for the University Committee on the Environment at Harvard University, directing interdisciplinary research on energy consumption and greenhouse gases. Prior to receiving her Ph.D. from the Freie Universitat Berlin, she had held several jobs, including two years in car sales and three years as a research assistant at the Hahn-Meitner Institute working with semiconductors. When she completed her Ph.D., she went to Rand Afrikaans University in Johannesburg, then on to Harvard in 1991 on a NATO research fellowship. Danielson's husband was finishing his Ph.D. at MIT, and their five-year-old son was enrolled in the same kindergarten that Chase's daughter attended.

Chase did not hesitate when Danielson proposed the venture. She had wanted to become an entrepreneur for years. The opportunity was exciting, and she and her husband believed that the time was right to take on such a venture, given that they had made enormous strides in getting their family life working well over the past year and all three of their children were now school age. In the

fall of 1999, she committed to the venture full time. Danielson, on the other hand, continued working at Harvard, spending evenings and weekends on the new venture.

The two founders divided the tasks along the lines of their respective areas of expertise. During the fall of 1999, Chase refined the concept, researched the market, wrote the business plan, and built the assumptions necessary to create a budget. She created the list of critical business and financing contacts. As she began to build the organization in the spring of 2000, she designed and wrote the Web site and, with the help of contract engineers, started work on the online reservation system.

Danielson's car experience and her connections with Ford, one of the major funders of her research group at Harvard, made her the natural choice to focus on building car industry relationships. She also took responsibility for specifying the necessary in-car technology and negotiating the first car purchases. In addition, Danielson worked on any environmental issues related to the business and served as editor for the documents that Chase created.

Pursuing the Idea

The business of organized car sharing originated in Switzerland in 1987 when two separate cooperatives (subsequently merged in 1997) were founded. Within a year, similar operations came into existence independently in Germany, Austria, and the Netherlands. The cooperatives were created to provide both convenience and cost savings to the users.

Organized car sharing was the coordinated use of vehicles by various subscribers in succession and independently of one another. The concept was not unlike condominium time sharing, except that the "real estate" had wheels and the prescribed usage time was not fixed. Additionally, any member could reserve any vehicle in the network. Typically, members of the service paid a large up-front deposit, an annual fee, and a per usage fee that was determined by time and mileage.

Members could reserve car time regularly or *ad hoc*. Though most subscribers used a car for a few hours, it was possible to reserve longer blocks of time. Members made reservations for the closest available car. Because cars were not housed at a central location but were parked in designated spaces in neighborhoods convenient to the users, the subscriber rarely had more than a five-minute walk to a parking location.

Car sharing was best suited to urban locations where there was a dense base of potential users, parking was expensive, and the need to drive was limited. Research indicated that, among urban dwellers, college-educated individuals were the most receptive to the proposition.

Chase believed that there was a strong demand for this "niche" product in the United States. It could provide a new, low-cost, convenient alternative to owning an automobile for drivers who logged less than 6,000 miles per year (see **Exhibit 1** for car ownership economics). She observed, "For those who don't own a car, taxis can fill the need for short trips. Rental cars are available for daily or weekly usage, but the hassle factor keeps people from using them as often as they might like. So there is a big hole in the market: short-term, on-demand private car access."

Sizing the Market

Chase's early market research indicated that penetration in Western Europe was relatively small (0.01% of all drivers) but growing rapidly. In 1999, approximately 200 car-sharing organizations operated in 450 cities in Switzerland, Germany, Austria, the Netherlands, Denmark, Sweden,

Norway, the United Kingdom, France, and Italy.[1] Although car-sharing organizations had invested very little in marketing, usage was growing at 30% annually. In 1999, there were more than 130,000 members[2] in what was estimated to be a $200 million industry.[3]

Volkswagen, one supplier of the shared vehicles, projected that 2.45 million shared vehicles would be in use throughout Europe by the year 2007 and that they would serve approximately 0.04% of the general population.[4]

Chase's research indicated that the U.S. market was large and virtually untouched. In 1999, 66 million Americans lived in the top 20 metropolitan areas, and 20 million Americans used public transportation to get to work.[5] (See **Exhibit 2** for data.)

Competition

In 1999, the two largest car-sharing organizations in Europe were Swiss Mobility CarSharing, with 1,400 cars, and Drive Stadtauto (formerly StattAuto Berlin), with approximately 300 cars. Swiss Mobility CarSharing, the product of a 1997 merger of two independent cooperatives, operated in 700 locations and had more than 30,000 members. It had concentrated its expansion efforts on building its network in Switzerland. Drive Stadtauto was launched in 1988 and operated in 110 locations with approximately 7,500 members.[6]

Chase's research turned up three potential competitors already operating in North America. There was a start-up operation in Canada, CommunAuto, which was launched in Quebec City in 1994 and in Montreal in 1995. Like Chase, the founder had developed the business after studying 15 different car-sharing organizations operating in Europe. U.S. competition consisted of two West Coast companies: Portland-based Car-Sharing Inc., founded in 1998, and Seattle-based Flexcar, launched in January 2000. Though both were for-profit companies, they focused on the environmental impact of car sharing rather than on its convenience and cost effectiveness.

Chase also anticipated that traditional car rental agencies, such as Hertz or Avis, might enter the market if they saw it as a substantial new business opportunity. Chase believed that they generated an average of $10,000 to $12,000 per vehicle per year in revenue. Car manufacturers were also potential competitors. Volkswagen had already conducted its own studies of the market potential. It could participate as a supplier or could consider entering the market directly.

Developing the Business Plan

By late 1999, Chase's research had convinced her that the car-sharing idea was viable, especially in the relatively uncontested North American marketplace. Chase completed the first draft of a

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[1] Daniel Sperling, Susan Shaheen, Conrad Wagner, "CarSharing and Mobility Services, An Updated Overview," *CalStart*, February 2000.

[2] Ibid.

[3] Rachel Geise, "Wheel's When You Want 'Em," *The Toronto Globe and Mail*, February 2001.

[4] "At The Wheel, Volkswagen Pioneers Car Sharing Programs," *Fastlane*, October 1997.

[5] 1990 U.S. Census data.

[6] Sperling, et al.

business plan for a U.S.-based car-sharing venture in December 1999. The service she envisioned would deliver convenience, ease of use, freedom to travel, and hassle-free "ownership" for urbanites. The cars would provide a solution for people who did not need a car to get to work but wanted the convenience of a private vehicle to run occasional errands, go to appointments, visit friends, or get out of the city for a few days.

Though the primary emphasis was on convenience and cost savings, the concept could also be marketed as environmentally friendly. According to European studies Chase uncovered, every car shared would eliminate the need for approximately 7.5 individually owned cars in the marketplace.

Chase's plan anticipated that most paid subscribers would log on to the company Web site to reserve specific cars in specific locations, but she understood the need to provide telephone support as well. Reservations would be taken up to two months in advance but could also be made without notice—subject to availability. One of the challenges that Chase faced was developing technology that would admit only the confirmed driver to the car and that would also capture usage data (to serve as the basis for billing) when the car was returned.

Pricing was a critical component of business development. To develop a price structure, Chase looked at variables and variations found in existing models elsewhere in the world. She described her conclusions:

> It was clear that there are several components to an overall price structure: security deposit, initiation fee, annual fee, monthly fee, per mile fee, and hourly or daily rates. When I looked at how most car-sharing organizations in Europe managed their pricing, they had significant up-front initiation fees—$300, $400, even $500. I later learned that this was because many of these organizations are cooperatives, and they needed that money to go out and buy cars.
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> My thinking on pricing was that I needed to cover my COGS [cost of goods sold] and then cover overhead at some target volume and utilization level. And, I had talked to enough people to know that many of our target users—people who don't own cars—compare our prices to the price of renting a car—say $45 per day. So, I needed to stay under that umbrella.

Chase spent almost two months modeling different pricing structures and cost assumptions. Her first business plan made the following assumptions: potential users would be required to become members and pay a $25 nonrefundable application fee, a $300 fully refundable security deposit, and a $300 annual subscription fee. Additionally, members would be charged for driving time at $1.50 per hour and $0.40 per mile. (See **Exhibit 3** for a summary of financials from this original plan.) Members had to be at least 21 years old, have a valid driver's license, and have no major traffic violations (see **Exhibit 4** for Zipcar driver requirements).

The users were expected to handle simple maintenance themselves. For example, drivers were asked to refuel and submit receipts for reimbursement whenever the gas level reached one-quarter full. They were also required to keep the car clean and to take responsibility for any traffic or parking tickets incurred. The car had to be returned to its original location before the reservation time expired. There was a $20 fine for late return. Chase assumed a renewal rate for members of 95%, which translated into a 5% attrition rate each year.

Chase's research had indicated that mature European companies had found that 50% utilization of each vehicle (i.e., 360 hours per month) was the most that could be achieved if customer satisfaction was to be maintained. Because of uncertainty regarding actual usage patterns, Chase had planned to initially target a maximum of 40% utilization. Chase assumed the average member would take four trips per month at an average of four hours and 22 miles per trip. (See **Exhibit 3** for this initial financial model.)

Chase planned to launch the business in a single market. Once the basic operations were running smoothly and the business model was proven, she believed that there were at least 14 cities in the United States that would be excellent long-term growth targets. Boston was a logical choice for launching the concept because it met all the key criteria for developing a robust user base. Like most European cities, Boston had insufficient and expensive off-street parking but a good public transportation system. Chase believed that Boston lent itself well to a network of cars positioned close to transit stations. Furthermore, Boston had a large population of college-educated and Web-connected individuals.

Chase believed that a well-designed wireless technology platform would be crucial to Zipcar's ability to deliver good service to its members. She and Danielson planned to use a large portion of their capital to fund the development of this technology platform.

Financing the Venture

When Chase completed the plan in late 1999, she tested its viability with a group of trusted advisors, then began the fund-raising process. Chase had been advised to seek the "smartest" money first and use family and friends only as a last resort. Her list of prospects included professionals, classmates, friends, and family members. In December 1999, Chase contacted Dan Holland, a venture partner at One Liberty Ventures whom she had met socially several years earlier. He took her call and, when she explained the concept to him over the phone, he agreed to meet with her. Holland was intrigued by the idea, and he asked several hard questions that Chase had not yet addressed. She did not walk away from the meeting with any money, but she felt his coaching had been invaluable: "He asked me a lot of questions about the business model: what utilization rate was required to cover COGS? How many cars would require an increase in staff?"

Zipcar was incorporated in January 2000. Chase and Danielson split the equity ownership of the business equally, understanding that their respective 50% ownership stakes would be diluted by subsequent financings.

Chase was devoting her full attention to funding the business. Besides forgoing salary, she and Danielson funded initial expenses out of their own resources. Chase succeeded in obtaining a $50,000 "convertible loan" from a former Sloan classmate who had founded and sold her own company. It was agreed that the loan would convert to equity when a valuation had been established by a Series A funding round. The principal amount would accrete at 1% per month and would convert into equity at the price per share established in the contemplated Series A financing.

Building the Technology Platform

With this money, Chase and Danielson were able to begin building the technology platform.

Chase envisioned a system that enabled the user to make a reservation online, arrive at the parked car, access it easily, and drive off. Because members were charged a usage fee based on the hours used and the mileage driven, she also wanted the system to capture information about when the car was returned and the number of miles the member had driven and send this information back to a central location for billing. The solution to these requirements was wireless transmission of data between the car and the server in order to authorize users and to log in odometer readings, mileage, and time stamps. Finding the right engineer for the job was not easy. After several false starts, Danielson found a promising young MIT engineer, Paul Covell, who wrote the software for a

proximity card reader. A card reader was installed inside the windshield of each Zipcar. Members would be issued unique proximity cards known as Zipcards.

Chase explained how the technology would work, once implemented:

> Members make their reservations online. The server wirelessly sends the reservation to the black box in the car, telling the car when and for whom to unlock the door. When the member presents the right card at the right car at the right time, the car unlocks, enables the starter, and starts a billing record noting time and odometer reading. The member always uses the card to lock and unlock the doors. The billing data is sent wirelessly back to the server, and it is billed in real time. We have a patent filed on this technology.

Continuing the Search for Funding

As the technology platform was being developed, Chase and Danielson continued to seek more funding for actually starting the business based on the projections they had made in their December 1999 business plan.

Chase's first formal presentation came in late February 2000, when she was invited to present the plan to an angel investor group called the Investor's Circle. She worked tirelessly to put together Zipcar's first presentation pack. She was the final presenter of the four teams selected that day, and when she finished, she thought there would be a deal. She recalled, "We were the pick of the bunch. However, no money was forthcoming. Throughout the period from January through August, I kept thinking that money was just around the corner, constantly, just around the corner."

While the $50,000 loan had provided much-needed capital, Chase recalled that she "was often behind and occasionally quite desperate." The founders continued to invest and stretched payables as long as possible. They also found ways to enlist other people who worked or advised without charge, including Chase's husband, who spent many hours working on the technology side.

While she was raising money, Chase was also building the infrastructure necessary to launch the operation. She negotiated and signed contracts for Zipcar parking with large institutions and began to bring on the management team.

Naming the Business

Chase and Danielson were convinced that it was important to choose the right name for their business. They wanted something that would communicate the concept and its value clearly and simply. They were also interested in developing a simple tag line that was catchy and informative. It was very important to them that whatever name they selected have the associated domain name available. They wanted the name to convey friendliness, convenience, ease of use, affordability, and social value. They particularly wanted to appeal to users who considered themselves smart, forward thinking, and environmentally responsible.

Starting Zipcar

By late May, Chase had decided to change Zipcar's pricing model. Discussions had revealed that some potential customers found the $300 annual fee too high a hurdle, so Chase decided to lower the membership fee to $75 per year and implement a tiered pricing structure, raising the hourly charge

from $1.50 per hour to between $4.50 and $7.00 per hour, depending on the parking costs associated with the area. Chase had also decided to establish a $44 per day "maximum daily rate" as a means of appealing to daily renters, while staying within the price umbrella established by traditional rental car companies. Taking these different pricing plans into account, Chase assumed the company would earn an average of $5.50 per hour per customer. Other changes to the financial model (see **Exhibit 5** for this new financial model) that had transpired as Chase got closer to actually starting the business included:

- Parking: It had not been as easy to secure free parking as had been originally hoped; Chase now assumed it would cost an average of $600 per car per year for parking.
- Attrition: Based on more analysis of trends in the turnover of Boston residents, Chase increased the assumed attrition rate to 15% per year.
- Lease cost: increased to $4,400 per vehicle per year.
- Access equipment: increased to $500 per vehicle per year.

In early June, with $68 left of the original $50,000 loan, Chase needed to order the first 12 cars. She told a new prospective investor of this need, and he agreed to a loan of $25,000 that, like the original loan, would eventually convert to equity. Chase was able to lease the cars and meet Zipcar's launch schedule. On June 22, 2000, Zipcar put its first three cars on the street, with the remainder to be deployed over the coming months. Now, the challenge was to attract members.

Marketing

Zipcar's marketing plan relied on several low-budget tactics. Chase and Danielson expected that approximately 30% to 40% of their marketing impact would be driven by word of mouth, another 25% by free media coverage generated through public relations, and the rest through their own grass-roots guerilla marketing efforts.

Chase chose what she called an "urban hip" look for Zipcar. She consulted a designer to create the logo, specifying that it should convey simplicity, cleanliness, a professional (but not corporate) look with a hint of "green." The logo they selected incorporated a "Z" tracked through a green field (see **Exhibit 6** for Zipcar logo). The logo was used on the Web site, stationery, promotional materials, and the cars themselves. Chase deliberately omitted the logo from the driver's side door so members would not think of themselves as mobile advertisements every time they used the car. However, she did place the logo on the passenger door and the trunk of each car. Bumper stickers featuring the Zipcar logo were designed for placement on other cars; one, for example, read "My Other Car is a Zipcar."

Chase was consistent in her efforts to present the same image in all her marketing materials. She rejected traditional 8 ½-inch x 11-inch trifold collateral pieces, instead choosing to develop simple but humorous postcard advertisements for seven cents each. Zipcar distributed these postcards, which Chase believed would stand out from the crowd. Though other members of the team pressured Chase to print a brochure that would describe the service in detail, she recalled: "I kept pushing back. I said that the goal was to direct potential customers to the Zipcar Web site. If they couldn't handle the Web, they wouldn't be our type of members." This strategy also kept costs down; while the postcards remained the same, new features and new pictures could be incorporated into the Web site.

Plexiglas mailboxes filled with the postcards were installed at each Zipcar parking location. Both Chase and Danielson began speaking to community groups, where they also distributed the cards. They handed them out at subway stops and placed advertisements in local papers.

The first Zipcar was a green Volkswagen Beetle, chosen to convey the "urban hip" green image the company desired. Chase felt it was clearly distinguished from traditional rental cars and would serve as a moving billboard. The first fleet of 12 cars consisted of six of the green Beetles, as well as six white vehicles: four Volkswagen Golfs and two Volkswagen Passat station wagons. Chase planned to add Volkswagen Jettas in December 2000 and Honda Civics in April 2001.

Chase believed that the Web site would be the primary interface for information and the point of purchase for the majority of subscribers. She was willing to invest the time and money necessary to get the Web site right. She wrote the text, organized it into categories, and developed a logical flow.

In June 2000, Zipcar got its first major press coverage. Chase commented, "It all happened very fast and furiously. An *AP* reporter had seen one of our cars (it was the first beta car) and wanted to do a story on the company. The story went national exactly at the time of the formal launch of the company. Zipcar attracted extensive press coverage both nationally and internationally." (See **Exhibit 7** for *Associated Press* article.)

Continuing the Search for Financing and Building the Management Team

Between January and September 2000, Chase had used the same convertible loan terms with several different investors, raising an incremental $300,000 and bringing the total raised to $375,000. Neither Chase nor Danielson had taken any salary. The major expenditures had been related to the development of the technology platform for member services and car access. For most of those early months, the personnel expenses were limited to a few consultants at $15 and $20 per hour and software developers at $90 to $150 per hour. "Everything else was 'nickeled and dimed,'" Chase recalled.

While Chase raised money, she listened to what people were saying about the team. Chase had never run a successful start-up before but quickly learned that "a solid team is a number one requirement if you want to get capital." Investors seemed to be anxious about Chase and Danielson's qualifications, particularly their lack of car expertise and their perceived inexperience at running complex operations.

On the advice of a former professor, Chase began to look for someone who could bring that expertise and credibility to the team. Following up on a strong referral from a prospective board member, Chase and her advisors interviewed a man whose experience and age they hoped would bring more industry credibility. He was named president, Chase became CEO, and Danielson was named vice president of environmental affairs and strategy.

The new president would draw no salary until the financing came through, then he would receive a bonus roughly equivalent to back pay. The honeymoon period was brief. Chase recalled the many problems:

> Our mistake: hiring a big-company guy for a start-up. He spent a lot of money in lunches and parking, created huge lists and detailed tasks and procedures that were 25% out of date by the time they hit my desk and 50% out of date by the following day. He was used to working at a much later-stage company where the goal was to put procedures in place and follow them strictly.

Chase decided to act swiftly. She called on all of her advisors and legal counsel then took the necessary steps to sever the relationship in July 2000. She noted, "Letting him go was absolutely one of the hardest things I have ever had to do in my life. But he was truly the wrong guy for the job, and we had to cut our losses as quickly as possible."

The relationship between Chase and Danielson was also continuing to evolve. Chase was now CEO and Danielson remained vice president of environmental affairs and strategy. Chase was full time, while Danielson had not yet committed to the business full time. Indeed, she worked part time at Zipcar while continuing to hold her full-time job at Harvard and take care of her son after school. Danielson was due to give birth to her second child in late November, and Chase wondered how likely it was that Danielson would be able to commit full time to Zipcar soon.

Progress

By mid-October of 2000, Zipcar had spent the approximately $375,000 that Chase had raised from angel investors, family, and friends. Chase had further developed Zipcar's technology platform, filed a patent on the technology, deployed vehicles at parking locations throughout the city, and enlisted nearly 250 members. Demand for the service had led Chase to increase the number of vehicles, from the planned dozen to 19 by month's end (see **Exhibit 8a** for Zipcar membership acquisition data). This was several more cars than Chase believed she truly needed to service the existing level of membership, but she believed it was important to get cars widely distributed to the target locations.

When Zipcar was launched in June, the complete technology platform had not been ready, but Chase and Danielson had decided to launch anyway, deploying a more primitive solution. Chase said, "We didn't have the wireless access ready, and we decided to deploy a system that allowed any Zipcard to open any Zipcar, and the keys were then left in the glove compartment." Records were kept on paper driving logs by the members, and Chase and her colleagues visited each vehicle once a month to retrieve and record this data for billing purposes.

Chase recalled the difficulty of deciding exactly when to open the doors for business:

> We never felt we were quite ready to open. The technology wasn't perfect; we didn't have all the parking deals negotiated. And, we certainly did not have the funding we wanted. People said, "So, put it off a month, no one will care." I just kept thinking about all the people I had talked to and told we were going to open in May, and I knew that investors would perceive us differently once we were in business and had revenue. So, I just kept pushing to get off the ground as soon as we had the bare minimum in place.

Growth Prospects and the Continued Search for Funding

While the $375,000 had allowed Chase to start the business, she believed that it would take an additional $1.3 million or so to really prove the Boston market's viability. This funding would be used to finish development of the technology, prove the business model, and better understand demand.

Moreover, she believed that Boston not only provided an ideal location to prove the business model but also offered an attractive opportunity for growth. As she further analyzed the Boston market, she determined that there were approximately 15,000 people who fit the Zipcar user profile. She believed it might be possible to reach at least 10,000 of them by year five. Finally, Chase believed that Zipcar's success in Boston could be replicated in at least 14 other cities nationwide.

Assuming Zipcar would be able to raise $1.3 million quickly, Chase believed she would be back on the street in six to nine months raising expansion funds. She knew she could create strong network effects by increasing usage within a single market, but Chase was anxious to begin claiming other major markets on the East Coast and possibly in the Midwest.

In the few days following the end of September, Chase worked hard to collect the month's operating and financial data. She was eager to better understand the operating and financial parameters of the business as well as customers' actual usage patterns. (See **Exhibit 8b** for details of September usage and revenue.)

Chase was also beginning to get a handle on operating and overhead costs. She explained:

> At the variable cost level, lease costs were actually coming in a bit higher than anticipated—$4,800 per vehicle per year. As we got bigger, the car companies thought we were a bigger risk. They look at one person leasing one car, and they can manage that risk pretty well. But, when we started leasing 10 or a dozen cars, all of a sudden we are a big credit risk, and they needed to price the lease at a premium. Parking was coming in more expensive also—about $750 per car per year. And, our fuel bills are running about 10% higher than expected. The other expenses are coming in about where expected, on a per-car basis.
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> Overhead is more difficult to think about. We invested about $200,000 in what I would call pure start up-costs—the technology, legally incorporating, naming the business. And, I would estimate that our overhead is now running about $44,000 per month. As I analyze that figure, I am allocating $30,000 per month of that figure to corporate overhead, meaning activities that we would be funding whether we were in one or many cities: legal, Web site design, overall design, and development of technology and marketing materials. And, $14,000 per month is the Boston-specific overhead.
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> On the marketing side, we have succeeded in keeping pretty close to budget, spending between $1,000 and $1,500 per month, or about $7,300 so far. People have been amazed that we have kept marketing this low. The key has been incredible, free publicity; advertising generated by the cars; brochures, which we put wherever we park a car; and just great word of mouth. Basically, we had no money, so this forced us to be incredibly disciplined. I knew we had to prove the business model, and showing we could acquire customers at a reasonable cost was a very important part of that.

Meanwhile, the Springboard 2000 New England venture forum was approaching quickly. By the end of October, Chase needed to have developed as effective a presentation to the Springboard conference as possible.

Exhibit 1 Economics of Individual Car Ownership

Monthly Expenditures	Monthly Costs
Vehicle depreciation/Lease	$270
Insurance	99
Parking	125
Gas	45
Maintenance	36
Total	$575

Source: Casewriter analysis based upon company data.

Exhibit 2 Population of Top 20 U.S. Markets

	City	Population (millions)	Households (millions)	Density per sq. mile
1	Los Angeles–Long Beach	8.9	3.42	2,183
2	New York	8.5	3.27	7,447
3	Chicago	6.0	2.31	3,221
4	Philadelphia	4.9	1.88	1,380
5	Detroit	4.4	1.69	981
6	Washington, D.C.	3.9	1.50	989
7	Miami–Ft. Lauderdale	3.2	1.23	1,012
8	Boston	2.9	1.12	1,631
9	Minneapolis–St. Paul	2.5	0.96	487
10	St. Louis	2.5	0.96	458
11	Baltimore	2.4	0.92	913
12	Anaheim–Santa Ana	2.4	0.92	3,052
13	Pittsburgh	2.0	0.77	604
14	Seattle	2.0	0.77	468
15	Cleveland	1.8	0.69	1,211
16	Newark	1.8	0.69	1,495
17	San Francisco	1.6	0.62	1,579
18	San Jose	1.5	0.58	1,159
19	Milwaukee	1.4	0.54	996
20	Bergen–Passaic Counties, N.J.	1.3	0.50	3,049
	TOTAL	65.9	25.35	

Source: U.S. Census, <http://census.gov/population/censusdata/90den_ma.txt>, accessed December 9, 2002.

Exhibit 3 Original Financial Plan for Boston, December 1999

	Assumption (per unit)	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
Revenues						
Trips/member/month	4					
miles/trip	22					
hours/trip	4					
Beginning Members		0	440	856	908	1180
Attrition	0.05	0	22	42.8	45.4	59
Ending Members		440	856	908	1180	1196
New Members		440	438	94.8	317.4	75
Avg # of Members		220	648	882	1,044	1,188
Application fee (per new member)	25	11,000	10,950	2,370	7,935	1,875
Annual fees (per avg member)	300	66,000	194,400	264,600	313,200	356,400
Per mile charge	0.4	92,928	273,715	372,557	440,986	501,811
Per hour charge	1.5	63,360	186,624	254,016	300,672	342,144
Security Deposits (avg. balance)	300	66,000	194,400	264,600	313,200	356,400
Interest income (on avg. sec. dep. balance)	4%	2,640	7,776	10,584	12,528	14,256
Total Revenue		235,928	673,465	904,127	1,075,321	1,216,486
Costs						
Variable Costs / Car						
Beginning Cars		0	24	48	50	66
Ending Cars		24	48	50	66	66
Avg # of Cars		12	36	49	58	66
Lease Cost (car/year)	4,000	48,000	144,000	196,000	232,000	264,000
Access equip. (car/year)	400	4,800	14,400	19,600	23,200	26,400
Fuel (car/year)	1,080	12,960	38,880	52,920	62,640	71,280
Insurance (car/year)	1,700	20,400	61,200	83,300	98,600	112,200
Maintenance (car/year)	400	4,800	14,400	19,600	23,200	26,400
Parking (car/year)	0	0	0	0	0	0
Total Variable Costs		90,960	272,880	371,420	439,640	500,280
Fixed costs - Corp. level						
Corporate insurance		800	800	800	800	800
Reservation system		2,895	3,160	12,000	6,000	7,000
Administration - Corp.		100,000	100,000	100,000	100,000	100,000
Benefits	20%	20,000	20,000	20,000	20,000	20,000
Office Space		0	0	5,000	5,000	5,000
Office equip. & supplies		1,000	1,000	1,000	1,000	1,000
Phone		1,200	1,800	1,800	1,800	2,500
Total Corp. Overhead		125,895	126,760	140,600	134,600	136,300
Fixed costs - Boston Office						
Billing (member/year)	24	5,280	15,552	21,168	25,056	28,512
Administration - local		24,000	24,000	24,000	24,000	24,000
Benefits	20%	4,800	24,780	24,780	24,780	24,780
Office space		0	0	5,000	5,000	5,000
Office equip. & supply		1000	1000	1000	1000	1000
Telephone and Datalines		1,200	1,800	1,800	1,800	2,500
Marketing		10,000	12,000	12,000	12,000	12,000
Background checks (per new member)	20	8,800	8,760	1,896	6,348	1,500
Total Boston Overhead		55,080	87,892	91,644	99,984	99,292
Total Overhead Costs		180,975	214,652	232,244	234,584	235,592
Net Income Before Tax		-36,007	185,933	300,463	401,097	480,614

Source: Company.

Exhibit 4 Zipcar Driver Requirements

1. No more than two incidents (moving violations plus accidents) in the past three years and no more than one in the past 18 months.
2. No major moving violations:
    - Excessive speed (20+ MPH over speed limit)
    - Operating to endanger, reckless driving, etc.
    - Driving under the influence of alcohol or drugs
    - Leaving the scene of an accident involving property damage
    - Operating a motor vehicle with a suspended or revoked license
    - School bus stopping-flag violations (or similar) in the past three years

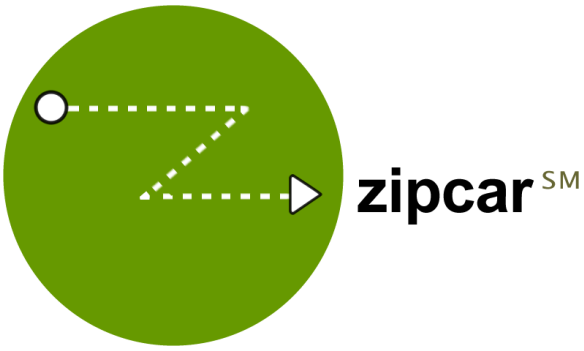
Source: Company.

Exhibit 5 Revised Financial Plan for Boston, May 2000

	Assumption (per unit)	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
Revenues						
Trips/member/month	4					
miles/trip	22					
hours/trip	4					
Beginning Members		0	440	856	908	1180
Attrition	0.15	0	66	128.4	136.2	177
Ending Members		440	856	908	1180	1196
New Members		440	482	180.4	408.2	193
Avg # of Members		220	648	882	1,044	1,188
Application fee (per new member)	25	11,000	12,050	4,510	10,205	4,825
Annual fees (per avg member)	75	16,500	48,600	66,150	78,300	89,100
Per mile charge	0.4	92,928	273,715	372,557	440,986	501,811
Per hour charge	5.5	232,320	684,288	931,392	1,102,464	1,254,528
Security Deposits (avg. balance)	300	66,000	194,400	264,600	313,200	356,400
Interest income (on avg. sec. dep. balance)	4%	2,640	7,776	10,584	12,528	14,256
Total Revenue		355,388	1,026,429	1,385,193	1,644,483	1,864,520
Costs						
Variable Costs / Car						
Beginning Cars		0	24	48	50	66
Ending Cars		24	48	50	66	66
Avg # of Cars		12	36	49	58	66
Lease Cost (car/year)	4,400	52,800	158,400	215,600	255,200	290,400
Access equip. (car/year)	500	6,000	18,000	24,500	29,000	33,000
Fuel (car/year)	1,080	12,960	38,880	52,920	62,640	71,280
Insurance (car/year)	1,700	20,400	61,200	83,300	98,600	112,200
Maintenance (car/year)	400	4,800	14,400	19,600	23,200	26,400
Parking (car/year)	600	7,200	21,600	29,400	34,800	39,600
Total Variable Costs		104,160	312,480	425,320	503,440	572,880
Fixed costs - Corp. level						
Corporate insurance		800	800	800	800	800
Reservation system		2,895	3,160	12,000	6,000	7,000
Administration - Corp.		100,000	100,000	100,000	100,000	100,000
Benefits	20%	20,000	20,000	20,000	20,000	20,000
Office Space		0	0	5,000	5,000	5,000
Office equip. & supplies		1,000	1,000	1,000	1,000	1,000
Phone		1,200	1,800	1,800	1,800	2,500
Total Corp. Overhead		125,895	126,760	140,600	134,600	136,300
Fixed costs - Boston Office						
Billing (member/year)	24	5,280	15,552	21,168	25,056	28,512
Administration - local		24,000	24,000	24,000	24,000	24,000
Benefits	20%	4,800	24,780	24,780	24,780	24,780
Office space		0	0	5,000	5,000	5,000
Office equip. & supply		1000	1000	1000	1000	1000
Telephone and Datalines		1,200	1,800	1,800	1,800	2,500
Marketing		10,000	12,000	12,000	12,000	12,000
Background checks (per new member)	20	8,800	9,640	3,608	8,164	3,860
Total Boston Overhead		55,080	88,772	93,356	101,800	101,652
Total Overhead Costs		180,975	215,532	233,956	236,400	237,952
Net Income Before Tax		70,253	498,417	725,917	904,643	1,053,688

Source: Company.

Exhibit 6 Zipcar Logo



Source: Company.

Exhibit 7 *Associated Press* Article

Car Sharing on Rise

By Heidi B. Perlman—*The Associated Press*

Sunday, June 25, 2000

BOSTON — It took only a month for the traffic jams, insurance costs and parking woes of Cambridge to convince Katherine Watkins to sell her car when she moved from Kentucky.

But after two years riding the bus and taking cabs, she finally broke down and got a car again. Sort of.

Watkins is a new member of Zipcar, a service that allows her to share a car with more than a dozen other people for $4.50 an hour.

"My cat was sick and I had to bring her to the vet, and it was just too much to do in a cab," she said. "I finally decided I really do need a car, just not all the time."

Zipcar, based in the Boston suburb of Cambridge, caters to drivers such as Watkins, who like the convenience of having a car but don't like what it costs to maintain one in the city.

"Some people don't need a car about 85 percent of the time," said co-founder Robin Chase. "But they have to buy a whole car just to fill that tiny need. Those are the people we want to come to us."

Zipcar, which opened this spring, is the first car-sharing service in Massachusetts. Here's how it works:

The company owns and insures all the cars. Members get cards or keys to get into the cars, which are parked at a designated spot. Reservations can be made online or over the phone, and the only rule is to get the car back on time. If the car is already booked, members either have to take an alternate car, or wait until the car they usually drive is available. Members can fill the gas tank with a company credit card.

Zipcar charges a $20 late fee, and drivers who are consistently late lose their membership.

The annual membership is $75 a year, plus a $300 deposit. Each use costs $4.50 an hour and 40 cents a mile. Fees at other companies range from less than $2 an hour to up to $9.

That can get pricey for people who drive long distances, or take the car for an overnight trip, Chase said. But for people who just need to go to the grocery store, a doctor's appointment or visit a friend out of town, car sharing may be cheaper than renting a car.

At Budget Rent-A-Car, which pledges "low daily and weekly rates," a rental car in Boston costs about $45 a day. Other companies charge between $40 and $50 a day, plus additional charges for mileage and insurance.

The idea of car sharing was spawned in Switzerland in 1987, when Mobility CarSharing put its first car on the road in the traffic-congested city of Lucerne. The company now has 1,300 cars at 800

locations around Switzerland, and serves more than 33,000 customers, according to the company's Web site.

The Swiss company's success was duplicated in big cities in Austria, France, Sweden and Germany, and the idea spread overseas to Canada in 1995.

The first American car-sharing company opened in Portland, Ore., in 1998. Others are in Seattle, San Francisco and Washington, D.C.

"People come to us who don't need to drive to work every day," said Maren Souders, spokeswoman for Carsharing Portland Inc. "They all work from home or ride their bikes, but every now and then need a car to get somewhere fast."

Right now the company has just one lime green Volkswagen Beetle, which is parked in a garage in Cambridge. A second Bug will soon be available in Boston's posh Beacon Hill neighborhood.

"You might get in each time and find the preset radio stations have been changed," he said. "But otherwise, people will find it's just like having your own car."

Chase said she is optimistic her company will see the same kind of success in Boston and Cambridge as other car-sharing companies have around the country.

In Seattle, for example, Flexcar opened in January with just four cars. It now has 12 cars and 350 members, said spokesman Ref Lindmark.

"I hear people talking all the time about how they couldn't get somewhere by subway, or how long they spent on the bus, or that parking was awful in the city," she said. "I think this fills a need that hasn't been met in Boston yet."

Watkins agreed.

"It's a relief not to have a car anymore," she said. "But it's also a relief to know if we need one, it's there."

Exhibit 8a Zipcar Membership Data, 2000

	New Members	Attrition	Ending Members
Beta	14	0	14
June	20	0	34
July	49	3	80
August	64	3	141
September	101	3	239

Source: Company.

Exhibit 8b September Operating Data

Note: Zipcar offered a daily rate of $44 for 24 hours, which included 125 free miles. In the table below, these uses, as well as the hours and miles associated with them, are broken out and described as "daily" uses. The other uses - and their miles, hours and revenues - are described as "hourly" uses.

Overhead Expenses	
Boston	14,000.00
Corporate	30,000.00
Applications & Membership	
Beginning members	141.00
Applications	112.00
Applications Approved	105.00
New members	101.00
Attrition	3.00
Ending Members	239.00
Total "member days"[a]	5,088.00
Application Fees	2,800.00
Annual Member Fees received	7,575.00
Annual Member Fees "booked"[b]	1,512.00
Deposits	
Deposits received in September	42,300.00
Total deposit balance month end	71,700.00
Average deposit balance	42,090.00
Interest earned on total deposits	155.00
Usage	
Available "car days"[a]	439.00
Total trips taken (uses)	335.00
hourly uses	218.00
daily uses	117.00
Total miles driven	16,339.00
miles driven - hourly uses	5,341.00
miles driven - daily uses	10,998.00
Total hours used	3,223.00
hours used - hourly uses	1,351.00
hours used - daily uses	1,872.00
Trips - night & wekend %[c]	60.00%
Hours of use - night and weekend %[c]	53.00%
Revenues	
Total miles billed	5,765.00
miles billed - hourly uses	5,341.00
miles billed - daily uses	424.00
Total hours billed	2,287.00
hours billed - hourly uses	1,351.00
hours billed - daily uses	936.00
Total mileage revenue	2,276.00
mileage revenue - hourly uses	2,106.40
mileage revenue - daily uses	169.60
Total hourly revenue	12,368.50
hourly revenue - hourly uses	7,220.50
hourly revenue - daily uses	5,148.00
Total usage revenue	14,644.50
revenue from daily uses	5,317.60
revenue from hourly uses	9,326.90

Source: Company.

[a]Member days = the total number of members on any given day for each of the 30 days of the month, e.g., a member for a full month generates 30 member days. Similarly, a car day is one day of one car being in service.

[b]While Zipcar members paid a $75 annual membership fee upon joining, only 1/12 of that fee was "booked" to revenue each month.

[c]Night and weekend = 6 p.m. to 8 a.m. and all day Saturday and Sunday.