



# Arlington Carshare Program

2006 REPORT



**Arlington County Commuter Services (ACCS)**

**Division of Transportation**

**Department of Environmental Services**

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## INTRODUCTION

This report is a follow-up to the [Arlington Pilot Carshare Program, First-Year Report](#) released in April 2005. The first part of this report describes the details of the Arlington Carshare Program since April 2005. The subsequent part provides a second-year evaluation of the Carshare Program based on member data collected in March 2005 and March 2006 by Arlington County.



Map showing carsharing locations in Arlington.





**In a first for the region, Flexcar and Zipcar added vehicles to the Shirlington and Columbia Pike neighborhoods which are not within walking distance of Metrorail, but have excellent bus service.**



## Update of the Arlington Carshare Program

**B**uilding upon the success of the pilot program as described in the First-Year Report, Arlington has made the Arlington Carshare Program a permanent part of the transportation landscape. Over the past year, several substantial milestones have been reached, each of these are described below:

### MAY 2005 / Added Fifteen Carshare Vehicles

Arlington County Commuter Services (ACCS) partnered with Flexcar and Zipcar to add 15 additional carsharing vehicles in May 2005. The new vehicles brought the number of carsharing vehicles in Arlington to 43. The transit-accessible vehicles were added in the Rosslyn-Ballston Corridor, Crystal City, Pentagon City, Shirlington and Columbia Pike. In a first for the region, Flexcar and Zipcar added vehicles to neighborhoods (Shirlington and Columbia Pike) which are not within walking distance of Metrorail, but have excellent bus service.

### MAY 2005 / Risk-sharing Subsidies Discontinued

The risk-sharing subsidies provided by Arlington were discontinued with the expanded service in May 2005 since all parties in the partnership agreed that there was proven demand for the service, and carsharing membership was strong and growing. The risk-sharing subsidies were employed a year earlier and described in the First-Year Report. The risk-sharing took the form of a guaranteed sliding scale subsidy minus actual revenue earned over the course of the first six months of each car's operation. The total amount allocated for subsidies was never used since revenue grew so rapidly. The risk-sharing strategy proved to be a helpful strategy at the onset of the Pilot Program.

### MAY 5, 2005 / Launch Event for Expanded Program

A launch event for the expanded program was held in Shirlington on May 5, 2005 by Flexcar, Zipcar and ACCS in order to roll out 15 new carshare vehicles. Speakers at the launch event included Chris Zimmerman, Arlington County Vice Chairman; Dennis Leach, Director of Arlington's Division of Transportation; Neil Peterson, Founder of Flexcar and Gabe Klein, Regional Vice President of Zipcar.

Dennis Leach recognized the following Arlington staff for their innovative Arlington Carshare Program: Chris Hamilton, Bobbi Greenberg, Jeff Price, Jose Thommana and Jay Freschi. Also, Tim Vogel of Flexcar was also recognized for his contribution to the success of the Program.



LEFT TO RIGHT: Dennis Leach, Director of Transportation; Chris Zimmerman, Arlington County Vice Chairman.



LEFT TO RIGHT: Gabe Klein (Zipcar); Bobbi Greenberg (Arlington); Tim Vogel (Flexcar); Chris Hamilton (Arlington); Jeff Price (Arlington) and Jay Freschi (Arlington).



Providing carsharing with on-street visibility was a major element of success.



### JULY 2005 / Discounted Membership Promotion Ended

ACCS, Flexcar and Zipcar teamed up to provide discounted membership to Arlington residents. As part of the pilot program, discounts were also extended to persons who work in Arlington starting in March of 2004. The annual membership/application fees were waived and driving credits were provided to individuals who live or work in Arlington. The discounted membership promotion ended July 18, 2005.

### SEPTEMBER 2005 / Arlington Shares Carshare Experience at ACT Conference

Arlington presented the results of its First-Year Report at the Association for Commuter Transportation (ACT) conference in Anaheim, CA on September 20, 2005. Arlington presented the following lessons learned during that presentation:

1. Providing carsharing with on-street visibility was a major element of success.
2. The Arlington Carshare Program is a successful public-private partnership that would not be feasible as a solely private or public program.
3. Carsharing provides auto-mobility without vehicle ownership.
4. Carsharing is an important TDM strategy that complements other Arlington policies.
5. Carsharing can be championed by a wide range of interested parties because of the significant economic and ecological advantages.

### DECEMBER 2005 / TRB Releases “Car-Sharing: Where and How It Succeeds”

In December 2005, the Transportation Research Board (TRB) released the [Transit Cooperative Research Program \(TCRP\) Report 108, Car-Sharing: Where and How It Succeeds](#) which examines development and implementation of carsharing services. This report was a highly anticipated source of up-to-date research on carsharing. Arlington participated in research interviews with the report’s authors.

Other members of the Project Panel who also either directly or indirectly impacted the Arlington Carshare Program include: Lora Byala, Franz Gimmler, Tim Vogel and Christopher Forinash.

### MARCH 2006 / Online Survey of Greater Washington, D.C. Area Zipcar and Flexcar Members

The March 2006 Online Survey of Greater Washington, D.C. Area Zipcar and Flexcar Members was a follow-up effort conducted a year after the March 2005 Pilot Carshare Program Survey. The 2005 Survey gathered information about the success of the pilot program and gauged the effects carsharing had on parking and transit use in Arlington.

Arlington staff expanded the scope of the 2006 Survey by surveying all greater Washington, D.C. Area Zipcar and Flexcar members. The Washington Metropolitan Area Transit Authority (WMATA) and the District of Columbia Department of Transportation (DDOT) are two other agencies working with Flexcar and Zipcar in the Greater Washington, D.C. area. Arlington worked with Flexcar, Zipcar, WMATA and DDOT to finalize the survey questionnaire and build the online survey. Flexcar and Zipcar informed members about the survey and provided incentives for members to participate.

Overall, about 2,700 carshare members participated in the Survey. This represents approximately 11% of the estimated 24,000 carshare members (both Flexcar and Zipcar) in the Greater Washington, D.C. area.

Almost 400 carshare members who live in Arlington participated in the survey. This represents approximately 11% of the 3,489 carshare members living in Arlington.

### APRIL 2006 / Zipcar Vehicles Added

Zipcar added 10 carsharing vehicles in Arlington, bringing the total number of on-street spaces to 53. All spaces were located convenient to transit and marked with bright orange signposts. The vehicles were added in the Rosslyn-Ballston Corridor, Crystal City and Pentagon City.





**Five percent  
of Arlington  
residents living  
in the Metrorail  
corridors are  
Carshare Program  
members.**



## Evaluation of the Arlington Carshare Program

This second-year evaluation of the Carshare Program incorporates findings from three main sources: Arlington member data summarized from the March 2006 Online Survey of the Greater Washington, D.C. Area carshare members (2006 Survey), information from the First-Year Report released in April 2005 (2005 Survey), and the national perspective on carsharing from the TCRP Report 108, *Car-sharing: Where and How It Succeeds*. The 2006 Survey findings are as follows:

### PROGRAM INCREASED AVAILABILITY, MEMBERSHIP AND USE

The Arlington Carshare Program increased the number of available carsharing vehicles from 27 to 43 by March 2006. In March 2005, there were 1,407 Flexcar and 1,139 Zipcar members for a total of 2,546 carshare members in Arlington. One year later, membership has increased over 37% to 1,623 Flexcar and 1,866 Zipcar members for a total of 3,489 carshare members living in Arlington. Carshare members represent 2% of Arlington's roughly 200,000-person population.

The 2006 Survey results indicate that 83% of carshare members living in Arlington are concentrated in Arlington's Metrorail corridors.<sup>1</sup> The 2005 population of both the Jefferson-Davis and Rosslyn-Ballston Metrorail corridors is 53,100.<sup>2</sup> Five percent (5%) of Arlington residents living in the Metrorail corridors are Carshare Program members.

The 2006 Survey results indicate that 50% of carshare members working in Arlington also live in Arlington. Ten percent (10%) of carshare members working in Arlington do not have carshare service available near their homes.

**TABLE I: IMPACT OF ARLINGTON CARSHARE PROGRAM**

	PRIOR TO MARCH 2004	MARCH 2005	MARCH 2006	% DIFFERENCE FROM '05 TO '06
Carshare Vehicles	12	27	43	+ 60%
Carshare Memberships	1,180	2,546	3,489	+ 37%
Carshare Trips	n/a	n/a	n/a	+ 27%

The Program has increased carshare use. Between Spring 2005 and Spring 2006, the total monthly use of carshare vehicles increased by 27%. The results are summarized in Table I.

<sup>1</sup> 73% of Arlington Carshare members live in the following zipcodes: 22201, 22202, 22203, 22209.

<sup>2</sup> Source: 2005 population – Round 7 forecasts provided by Justin Clark, Planning Research and Analysis Team Leader, DCPHD, Arlington County, VA.



## TRIP FREQUENCY AND PURPOSE CONSISTENT WITH NATIONAL FINDINGS

The Carshare Program members were asked how many carshare trips they take per month. The 2006 Survey results from 369 respondents reported 1,307 trips per month were made, with an average of 3.5 trips per respondent per month. These results show a slight decline from the 2005 Survey results where 403 respondents reported 1,877 trips per month, with an average of 4.7 trips per respondent per month. In two earlier studies, Millard-Ball et al. found trip making yielded an average of 3.3 trips per month, while the Cervero and Tsai study data suggested 3.4 trips per month.<sup>3,4</sup>

Both the Millard-Ball et al. and Cervero and Tsai findings concluded that the top two trip purposes for carshare users were for shopping and personal business. Arlington's surveys asked about the type of trips of members take, the most common was grocery shopping (26%), followed by other shopping (23%). The full breakdown of carshare trip purposes compiled from both the 2005 and 2006 surveys are found in Table II below.



**TABLE II: MOST COMMON TRIP PURPOSES FOR ARLINGTON CARSHARE MEMBERS**

	2006 SURVEY	2005 SURVEY
Grocery shopping	26%	25%
Other shopping	23%	22%
Recreation / social trips	19%	19%
Personal business	20%	18%
Work-related trips	12%	9%
Journey to / or from work	1%	6%

<sup>3</sup> Adam Millard-Ball et al., *Car-Sharing: Where and How It Succeeds*, TCRP Report 108 (Washington, D.C.: Transportation Research Board, 2005), 3-14.

<sup>4</sup> Robert Cervero and Yu-Hsin Tsai. *San Francisco City CarShare: Travel-Demand Trends and Second-Year Impacts*, Working Paper 2003-05 (Berkeley: Institute of Urban and Regional Development, University of California, Berkeley), 11. Data based on typical member leasing for 222 hours per year, with an average of 5.5 hours in length.

## MEMBERS RATE SERVICE EXCELLENT

The Arlington Carshare Program members were asked to rate the carsharing service elements that they use as: excellent, very good, good, fair or poor. Arlington members rated each service element from vehicle quality, choice, location, reservation system and customer service. Table III summarizes the 2006 Survey findings for both Flexcar and Zipcar members. Overall, members rated both the Flexcar and Zipcar service as very good or excellent, with little change in rating from the 2005 Survey.

**TABLE III: HOW ARLINGTON CARSHARE MEMBERS RATE SERVICE ELEMENTS**

CARSHARE SERVICE ELEMENTS	% OF MEMBERS WHO RATE THE FOLLOWING ELEMENTS 'EXCELLENT' OR 'VERY GOOD'	
	FLEXCAR	ZIPCAR
Vehicle quality	78%	84%
Vehicle choice	56%	70%
Locations	78%	77%
Reservation system	75%	88%
Customer Service	71%	78%
Overall	75%	87%
<i>Overall (2005 Survey)</i>	73%	85%



## MEMBERS REDUCE VEHICLE-MILES TRAVELED (VMT)

Studies suggest that carsharing leads to reduced vehicle-miles traveled.<sup>5</sup> Millard-Ball et al.'s research indicates "the key variable is often the relative proportion of members who gave up a vehicle—who will usually drive less as a result—and members who gain access to a car, who will account for most of the induced travel."<sup>6</sup> When Arlington Carshare members were asked about before-and-after vehicle use, the results from the 2006 Survey fell into the following three categories:

- 39% reduced their annual VMT after joining a carsharing service, suggesting that they drove less as carshare members,
- 34% increased their annual VMT after joining a carsharing service, suggesting that gaining vehicle access increased their driving and
- 27% reported no change in annual VMT after joining a carsharing service.

When members were asked how much they drove before and after joining a car-sharing service, the following results were determined. The 2006 Survey shows an overall reduction in VMT of 2,327 vehicle-miles per year per member, a reduction of almost 43%. This result differed from the findings of the 2005 Survey which yielded a reduction in VMT of 3,250 vehicle-miles per year, a reduction of almost 40% per member which was closer to the range found by Millard-Ball et al.'s results of a reduction in VMT of 3,850 vehicle-miles per year on average for carshare users, a reduction of almost 40%.<sup>7</sup> Self-reported surveys may not be the ideal measure of actual VMT reduction, but the surveys consistently report that carshare programs reduce member VMT overall.



Zipcar staff demonstrates how to unlock the car by holding his "Zipcard" to the windshield.

<sup>5</sup> Adam Millard-Ball et al., *Car-Sharing: Where and How It Succeeds, TCRP Report 108* (Washington, D.C.: Transportation Research Board, 2005), 4-21.

<sup>6</sup> Ibid., 4-19.

<sup>7</sup> Ibid., 4-22.

## PROGRAM ENCOURAGES TRANSIT-ORIENTED LIVING

The Carshare Program encourages walking, transit use and makes economic sense to members. Carsharing creates the possibility of living in a community without owning a private auto (or having a second), and with significant savings to users as detailed in the First-Year Report. When members were asked whether they strongly agree, agree, neither agree nor disagree, disagree or strongly disagree with each of the following statements, the results were as follows as shown in Table VI for both the 2005 and 2006 Surveys. Table VI also compares 2005 and 2006 Survey results with findings from the Millard-Ball et al. report.

**TABLE VI: EFFECT OF CARSHARING MEMBERSHIP ON TRAVEL BEHAVIOR**

STATEMENTS		RESULTS		
		2006 SURVEY	2005 SURVEY	MILLARD-BALL ET AL. <sup>8</sup>
Use transit more often	strongly agree or agree	47%	54%	40%
	disagree or strongly disagree	30%	16%	32%
Save money on transportation	strongly agree or agree	65%	70%	62%
	disagree or strongly disagree	19%	12%	21%
Walk more often	strongly agree or agree	47%	54%	37%
	disagree or strongly disagree	30%	16%	32%

<sup>8</sup> Ibid., 4-27.



## MEMBERS REDUCE VEHICLE OWNERSHIP

The Millard-Ball et al. report reviewed several European and North American studies and found that on average 20% of members had given up a vehicle after joining a carsharing program and on average 41% of members had been able to postpone buying a vehicle.<sup>9</sup>

The Carshare Program survey results suggest that carshare members are less likely to sell an existing vehicle, but more likely to put off purchasing a new vehicle because they were involved in carsharing, the results are summarized in Table VII.

When members were asked if they felt more confident giving up their personal vehicles now that there were more carsharing opportunities near where they live, 77% agreed (2006 Survey). A year earlier 74% agreed (2005 Survey).

If carsharing services were not available, more members would rely on personal vehicle use, 38% of Arlington members surveyed in 2006 said they would buy a vehicle, compared to 41% in 2005. From a national perspective, 30% of the Millard-Ball et al. respondents said they would buy a vehicle.

**Survey results suggest that members are more likely to put off purchasing a new vehicle because they are involved in carsharing.**



**TABLE VII: EFFECT OF CARSHARING MEMBERSHIP ON VEHICLE OWNERSHIP**

STATEMENTS		2006 SURVEY	2005 SURVEY
Have postponed buying another vehicle	strongly agree or agree	71%	68%
	disagree or strongly disagree	15%	9%
Was able to sell a vehicle	strongly agree or agree	29%	25%
	disagree or strongly disagree	36%	26%

## MEMBERS FEEL SAFER WITH ON-STREET VEHICLES

Arlington residents who are carshare members prefer a safe, visible transportation option. The placement of carsharing vehicles in key on-street locations provided a perceived safety, recognition and legitimacy for carsharing in Arlington. Eighty-seven percent (87%) of Arlington members surveyed in 2006 agreed that they felt safer

<sup>9</sup> Ibid., 4-9.

**Providing carsharing  
with on-street  
visibility  
continues to be a  
major element in  
the success  
of the Program.**



using carsharing now that vehicles are parked on-street or in open parking lots rather than in parking garages. This is about a 10% increase from the 2005 Survey.

### **COUNTY PARTNERSHIP INCREASES MEMBER CONFIDENCE**

Arlington Carshare Program members are more confident knowing Arlington County partners with Flexcar and Zipcar. When asked if they felt more confident joining a carsharing company knowing that they are partnered with Arlington County, the vast majority of members, 84% with Flexcar and 86% with Zipcar, agreed. Millard-Ball et al.'s research concludes that strong public-private partnerships, often including considerable public support such as free parking, are an important factor for success of carshare programs.<sup>10</sup>

### **PROGRAM MAKES EFFICIENT USE OF PARKING**

Arlington Carshare members reduce vehicle ownership rates which translate to less demand for residential parking. In turn, this leads to an improved availability of residential parking, reduced need to construct new public parking and a potential for reduced parking ratios for new residential development.

As most private vehicles remain parked for a large portion of the day, carsharing represents a more efficient use of collective resources as many fewer vehicles are needed to provide mobility. In March 2006, there were 3,489 carshare memberships using 43 vehicles, or approximately 81 members per vehicle versus the County average of 1.3 individuals per privately owned vehicle.<sup>11</sup>

Providing carsharing with on-street visibility continues to be a major element in the success of the Program. The on-street carshare spaces act similarly to taxi stands or curbside bus stops and provide a service benefit to many more people than a regular on-street parking space. The County has over 53,000 on-street parking spaces County-wide with the 43 spaces dedicated to carsharing representing 0.08% of the on-street supply.

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<sup>10</sup> Ibid., 5-55.

<sup>11</sup> Personal communication with Cecilia Watkins, Personal Property Tax Division, Arlington County, June 13, 2006.

## Conclusion

The Arlington Carshare Program continues to increase carshare vehicle availability, membership and use. The evaluation results support the popular belief that carsharing fills a missing link in the transportation network that many urban dwellers, suburban commuters and visitors use as an alternative to privately-owned automobiles. The Program provides an important component of an integrated mobility management system and complements the walk/bike/transit-friendly lifestyle available in Arlington's urban villages.

The Program continues to demonstrate a successful public-private partnership. The 2005 and 2006 Surveys have shown a major element in the success of the Program continues to be providing on-street parking, thereby creating highly visible carsharing locations for the public. The Surveys also indicate that other elements of success include the highly rated services of Flexcar and Zipcar and knowing that Arlington is partnering with them.

The Program Survey results were corroborated by North American and European studies which showed that carsharing has allowed members to reduce their vehicle ownership rates and overall vehicle-miles traveled while increasing transit use and walking. The Arlington Carshare Program is continually expanding to meet the mobility needs of Arlington residents and workers in a cost-effective and environmentally friendly manner.

**The Program complements the walk/bike/transit-friendly lifestyle available in Arlington's urban villages.**



Up-to-date information available on [www.CommuterPage.com/carshare](http://www.CommuterPage.com/carshare).



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