



# Arlington County Capital Bikeshare

## Progress Report and FY2016 - FY2021 TDP Update

May 2015

## INTRODUCTION

In 2012, Arlington County completed the *Capital Bikeshare Transit Development Plan (TDP)*, a six-year strategic plan outlining the growth and development of the Capital Bikeshare system. The TDP represented the first plan of its kind in North America, and was created based on extensive data analysis and community participation. In 2013, the Virginia Chapter of the American Planning Association awarded the plan *Intermodal Transportation Plan of the Year*.

Since completing the plan, Arlington has released an annual TDP update that assesses progress on implementing the plan and examines the capital and operating funding outlook for the service. This letter represents the third year of TDP updates and covers the period FY2015 to FY2021.

### Highlights

Over the last twelve months Capital Bikeshare has encountered new opportunities as well as new challenges. The system has continued to see rapid expansion. Major findings from this TDP update include:

- The County added 16 additional stations to the service for a total of 70 stations. Arlington has accomplished a large part of the expansion into South Arlington that was planned in the 2012 TDP, creating a network of bikeshare stations along Columbia Pike and in Shirlington.
- The service has acquired new funding through the local Transportation Capital Fund (TCF) and Federal Land Access Service (FLAP). These funds will help improve the long-term financial outlook of the service and ensure Capital Bikeshare meets (and exceeds) the TDP goal of 86 bikeshare stations in Arlington County.
- Ridership grew by 24 percent between FY2013 and FY2014 and has mirrored the overall growth in system size.
- The service's operating cost recovery ratio improved by four percentage points between FY2013 and FY2014 to 63 percent.
- The system is projected to reduce its dependency on Arlington County Commuter Services (ACCS) commissions to fund operating starting in FY2015, providing the service with a higher level of budgetary stability.
- The service faced unexpected procurement challenges in FY2014 and FY2015. The bankruptcy and restructuring of Capital Bikeshare's station equipment vendor, Public Bike System Company, has prevented Arlington from purchasing new equipment during these two fiscal years. The County has a growing number of stations fully funded, however installations of these stations are delayed into FY2015 and FY2016 because of these supplier limitations outside the County's control. Arlington is working to address these supplier issues and ensure the future sustainability of equipment supplies.
- Arlington's bikeshare service still faces unfunded state-of-good-repair needs over the next 10 years. As equipment ages, bicycles and the stations themselves will require replacement. Existing bicycles and stations have proven durable and the bicycles which have a 5-year expected lifetime are expected to outperform this. Even under revised useful life assumptions, the capital budget projections show small capital deficits starting in FY2016 due to the need to replace bicycles.

These deficits will grow substantially after FY2021 unless new sources of capital revenue are identified.

- The service has seen improvements in a number of performance measures. Arlington users burned a record number of calories on bikeshare in FY2014. The availability of bikeshare continues to support the local economy; an estimated 35 percent of service members in Arlington use bikeshare at least once a month for shopping and entertainment trips they otherwise would have not taken if bikeshare was not available. The service saved Arlington members a combined estimated \$2 million dollars in transportation spending<sup>1</sup>.
- The service continues to not meet its objectives to improve the diversity of the user base. The service is currently implementing a series of new initiatives to increase participation among underrepresented population groups, including removing the \$101 hold for casual customers and accepting cash payment from Arlington residents at Commuter Store locations – making Arlington the first in the nation to do so.

This TDP Update provides a more detailed look at the following topics:

- Ridership trends over FY2014
- Progress at meeting service goals and objectives based on performance measures
- System improvements in FY2014
- Planned system improvements between FY2015 and FY2021
- Financial performance in FY2014
- Financial projections for service
- Arlington's initiatives to increase user base diversity
- Service technological innovations

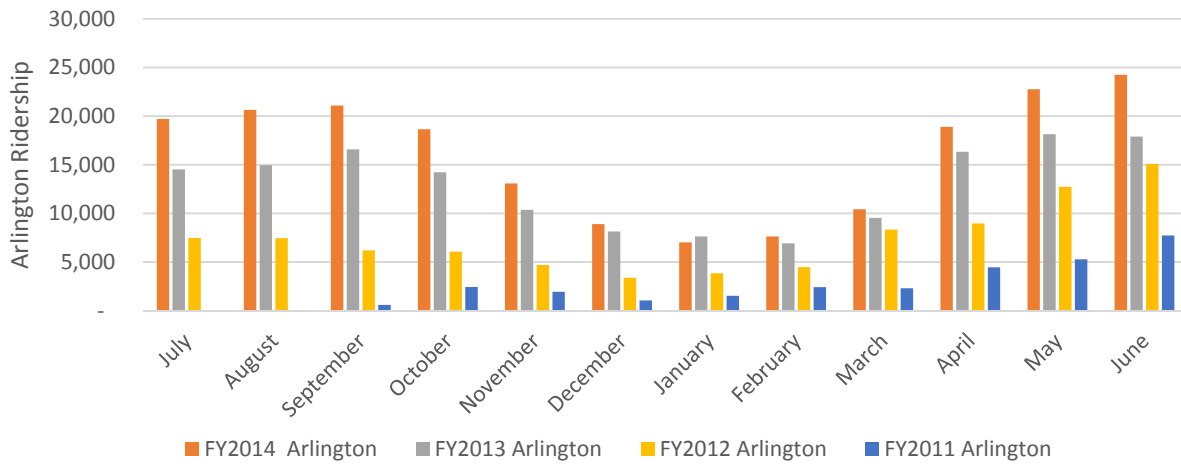
## RIDERSHIP TRENDS

Capital Bikeshare's Arlington operations continued to experience significant growth in ridership between FY2013 and FY2014. In FY2014, 191,961 trips began in Arlington, an increase of 37,798 trip origins, or 24 percent over FY2013. While ridership continued to grow in FY2014, the pace of growth has slowed since FY2013, when ridership increased by 75 percent in one year, and from FY2012, where ridership nearly doubled in one year. The system also expanded by 16 stations in FY2014 for a total of 70 stations and 382 bicycles. The average annual number of trips per bicycle decreased slightly between FY2013 and FY2014 from 393 to 381. This decrease was expected as the system expands to outside of Arlington's Metrorail corridors where the highest ridership stations are located. Moving forward, the system will likely see a slowing of ridership growth as the service matures.

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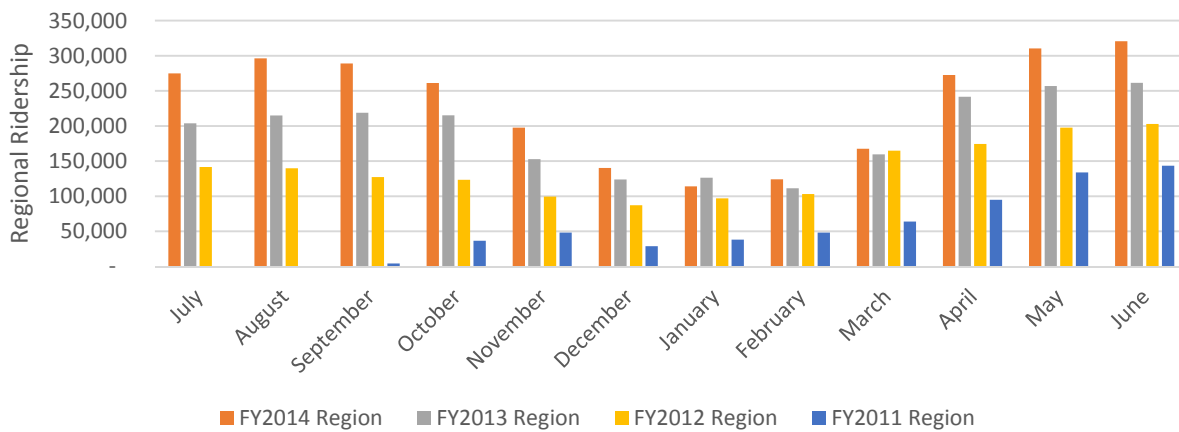
<sup>1</sup> Calculated by multiplying the number of Arlington bikeshare subscribers by reported annual savings per user.

**Figure 1 Monthly Ridership in Arlington, FY2011 – FY2014<sup>2</sup>**



As seen in **Figure 1**, Capital Bikeshare ridership is highly seasonal, with the highest ridership volumes occurring in the warmer months. The seasonality of ridership and Arlington’s ridership trends over time reflect a similar growth pattern as Capital Bikeshare trips in the region overall, as seen in **Figure 2**. Ridership continues to increase, but the pace of growth in FY2014 was slightly slower than in FY2013.

**Figure 2 Monthly Ridership in the Washington, D.C. Region, FY2011 – FY2014**



## SERVICE PERFORMANCE MEASURES

In the summer of 2014, Arlington County completed its baseline performance assessment of the system. Baseline measures provide a benchmark for the County to track performance over time. This is the first

<sup>2</sup> The system opened in September 2010. Ridership reported as trips per month regardless of membership type. Ridership numbers reported in this chart were downloaded from the Capital Bikeshare Dashboard available online at: <http://cabidashboard.ddot.dc.gov/CaBiDashboard/>. Trip information is aggregated and may differ slightly from ridership totals reported from direct ridership reports from the operator.

year that the TDP has a complete set of performance indicators to track progress at meeting service goals and objectives.

Because the baseline measures are so recent, there has been little change in many of the performance statistics. It will likely require multiple years of data before clear trends in the service emerge. Moreover, statistics based on the Capital Bikeshare user survey rely on a small sample size; year-to-year variations may not be statistically significant.

The following outlines trends between the baseline measures and FY2014 statistics group by goal:

**Goal 1: Reduce the negative impacts of travel on community and environmental resources, including air and water quality, and increase energy efficiency.**

Progress on meeting this goal has remained stable between the baseline measure and FY2014 figures. The service's share of bikeshare miles to VMT has not changed, and calories burned per trip has decreased slightly due to a decrease in average trip distance. Overall the total calories burned by users has grown, reflecting higher ridership.

**Goal 2: Supporting Economic Sustainability and Growth**

The Capital Bikeshare service has seen varied progress in meeting the objectives of this goal. The Capital Bikeshare user survey found that a larger proportion of users are taking economically productive trips with bikeshare that they otherwise would not have taken. The percentage of users who report taking more trips for shopping, errands, eating out, socializing, and appointments due to bikeshare, increased from 24 percent to 35 percent. While the average money saved per user per week declined slightly between the baseline and 2014, the total annual transportation savings provided by Capital Bikeshare to Arlington residents grew by \$300,000.

Despite efforts to achieve the service's objective of attracting a diverse user base, 2014 saw a decline in reported user diversity. Compared to the baseline measure, Arlington bikeshare users are less ethnically diverse, more likely to be male, and wealthier. As this data point relies on a relatively small sample from the user survey, additional years of data will be needed to conclude whether this is a trend.

**Goal 3: Increase accessibility to jobs, recreation and other locations, enhancing the quality of life.**

For most of the performance measures under this goal, new data was not available over the baseline indicator. The population served by bikeshare according to U.S. Census data figures has declined slightly but the decrease is within the margin of error for the sample. This change is solely due to variations in the Census data used; the size of the system has not changed since the baseline measure was calculated. The percentage of riders who use bikeshare to connect to other modes has grown over the baseline.

**Goal 4: Create a community culture that embraces bicycle use as a convenient and safe travel choice.**

Between the baseline measure and FY2014 the commute mode share of cycling in the County has increased by 0.1 percent. No data was available for the other two performance measures under this goal.

**Goal 5: Fund, manage, and operate the regional system in an efficient and cost-effective manner.**

The service saw improvements in the two measures linked with Goal 5. The service’s cost recovery ratio grew by 4 percent between the baseline and FY2014 measure, reflecting an increase in revenue generated per user. Overall ridership and membership grew in FY2014.

For more information see **Tables 1, 2, and 3.**

**Table 1 | Progress with Achieving Bikeshare Goals and Objectives**

Objective	Measure	FY2014 Measure	Baseline Measure
<b>Goal 1: Reduce the negative impacts of travel on community and environmental resources, including air and water quality, and increase energy efficiency.</b>			
1.1: Divert vehicle miles traveled from automobile to bicycle	(A) Ratio of Arlington County bikeshare miles traveled to Arlington vehicle-miles traveled	<b>0.04</b>	0.04
1.2: Foster improved public health by increasing bicycle vehicle miles traveled	(B-1) Total calories burned by Arlington County residents	<b>14,390,372 calories</b>	12,469,473 calories
	(B-2) Average calories burned per trip	<b>75 calories</b>	80 calories
<b>Goal 2: Support economic sustainability and growth.</b>			
2.1: Support regional and local economic development	(C) Percentage of induced bikeshare trips for shopping, errands, eating out, and socializing for Arlington residents in the last month	35%	24%
	(D-1) Average money saved per bikeshare user	\$13.65	\$15.39
	(D-2) Total annual savings among all Arlington Capital Bikeshare users	\$1,966,855.80	\$1,660,000
2.2: Attract a wide variety of users, including by age, race, income, and gender	(E) Percentage of users by age, race, gender, income bracket	The system has seen a decrease in user diversity since the 2013 survey. A higher rate of respondents reported being white, male, and with an income over the county household median. The proportion of users over 45 years of age increased by 1 percentage point. See <b>Table 2.</b>	
<b>Goal 3: Increase accessibility to jobs, recreation and other locations, enhancing the quality of life.</b>			

Objective	Measure	FY2014 Measure	Baseline Measure
3.1: Increase the reach of other transportation modes that complement bicycle use, particularly transit and walking.	(F) Percent of total bikeshare trips linked with another mode	2014 saw an increase in the proportion of riders and frequency of trips for using bikeshare to connect to transit. See <b>Table 3</b> .	
3.2: Provide mobility through bicycle and transit connections to Arlington residents, employees, and visitors to and between Regional Activity Centers and mixed-use corridors.	(G-1) Absolute number and percent of Arlington population within quarter-mile of bikeshare stations (Census)	111,999; 52% *Difference due to use of latest U.S. Census estimates.	113,428; 55%
	(G-2) Absolute number and percent of Arlington population within quarter-mile of bikeshare stations (2015 projection)	No change	118,308; 53%
	(G-3) Absolute number and percent of Arlington jobs within quarter-mile of bikeshare stations (2015 projection)	No change	187,506; 76%
	(H) Percentage of hotel rooms in Arlington within quarter-mile of a station	No change	97% of all rooms
<b>Goal 4: Create a community culture that embraces bicycle use as a convenient and safe travel choice.</b>			
4.1: Increase bicycle mode share for a variety of trip types, contributing to the County objective of an annual one-half percent SOV mode share reduction.	(I) Bicycle commute mode share	1.3%	1.2%
	(J) Public opinion on bicycling as a legitimate transportation option	Not currently collected by surveys	
4.2: Reduce bikesharing crashes and encourage a culture of safety among users.	(K) Helmet use among bikeshare users in Arlington	Not available in 2014 survey	51% of riders sometimes or always use a helmet
<b>Goal 5: Fund, manage, and operate the regional system in an efficient and cost-effective manner.</b>			
5.1: Minimize operating costs while providing an effective service at the regional and local levels.	(L) Cost recovery ratio	63%	59%

Objective	Measure	FY2014 Measure	Baseline Measure
5.2: Provide cost-competitive transportation for individual users.	(M) Average user revenue acquired per trip	\$4.66	\$3.84

**Table 2 | Select Demographics for Arlington Bikeshare Members: Baseline and 2014 Measure**

	Current	Baseline
45+ Year of Age	20%	19%
Minority	15%	23%
Female	34%	40%
Under Median Income	39%	44%

**Table 3 | Proportion of Arlington Bikeshare Members Connecting to Other Transit Modes**

	Metrorail		Bus		Commuter Rail	
	2014	Baseline	2014	Baseline	2014	Baseline
0 trips	23%	25%	69%	73%	96%	96%
1-2 trips	25%	28%	10%	15%	2%	4%
3-5 trips	23%	21%	8%	6%	1%	0%
6-10 trips	10%	11%	4%	3%	0%	0%
11 or more trips	19%	16%	9%	3%	1%	0%

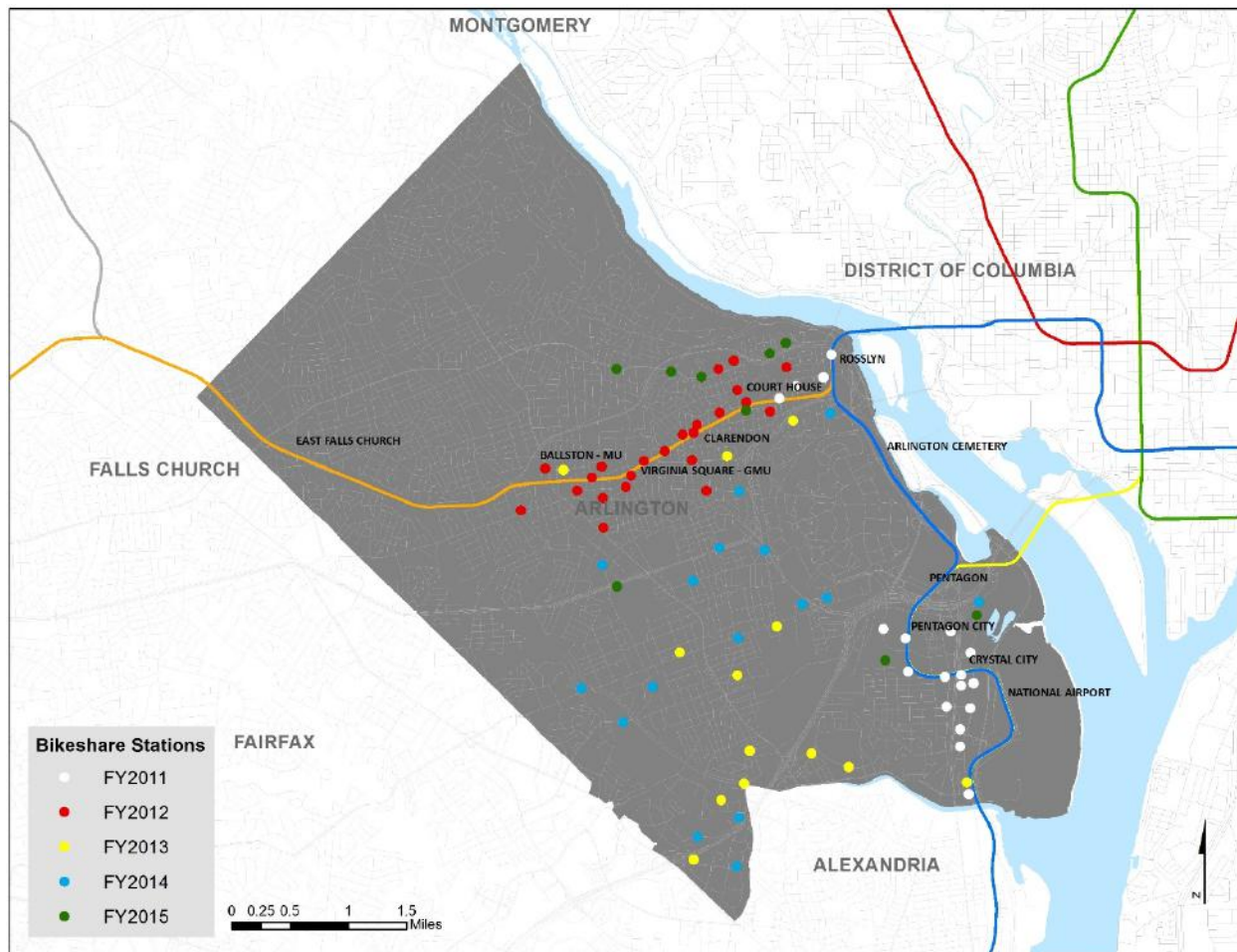
## IMPROVEMENTS IMPLEMENTED IN FY2014

FY2014 was a year of major expansion for Capital Bikeshare in Arlington County. The county installed 16 new stations, primarily filling in the bikeshare system in South Arlington as envisioned by the 2012 TDP. A total of 209 new Capital Bikeshare docks were added, excluding expansions to existing stations, in Arlington County in FY2014. **Figure 3** shows station locations by installation date, including stations installed in FY2015 as of January 2015.

The pace of expansion in FY2014 was slowed down somewhat by the unexpected bankruptcy of PBSC, Capital Bikeshare’s primary equipment provider. The County had funding in place for 15 additional stations, however procurement delays have pushed back the installation date of these stations.



**Figure 3 Capital Bikeshare Stations Installed in Arlington, as of January 2015**



## ANTICIPATED FUTURE IMPROVEMENTS

Arlington County over the last 12 months has worked to update its bikeshare expansion plans, and identify future expansion locations based on the work conducted in the 2012 TDP (see **Figure 13**). Between the start of FY2015 and FY2020 the County plans to add 65 new bikeshare stations, nearly doubling the size of the system. In the short-term, procurement issues continue to slow down bikeshare expansion and Arlington does not expect to be able to install stations in their year of funding. The County is working to resolve these supplier issues and ensure that the service has reliable future access to new equipment. The practical implication of these procurement issues is that Arlington faces a procurement backlog; the goal over the next few years is to catch-up with this backlog. The County continues to approve station locations for when new equipment can be ordered.

### FY2015

Arlington County has funding in place for up to 22 additional stations in FY2015, however many of these funded stations will be delayed into FY2016 and FY2017 because of supplier issues.

As of January 2015, nine of stations and 137 docks have already been installed; all of these stations are funded with capital revenue dating from FY2014 or earlier. Four of these stations are located along the County's Metro corridors and help build-out the existing system. The other five stations are located along the Lee Highway corridor in North Arlington and within South Arlington. Four to five additional stations are expected to be installed this fiscal year.

#### FY2016

In FY2016, Arlington County will focus on completing most of the system expansion initially slated for FY2015. Up to eight of the stations will be funded through the Federal Lands Access Program (FLAP), a Federal Highways program that funds transportation access improvements on federal lands. Stations funded with FLAP will be placed in Arlington National Cemetery, National Airport, Joint Base Myer Henderson Hall, and Roosevelt Island, if each individual landowner approves. The remaining seven stations will be funded with FY2015 funds and will be located in West Columbia Pike, Lee Highway, and Ballston/Virginia Square expansion areas.

#### FY2017

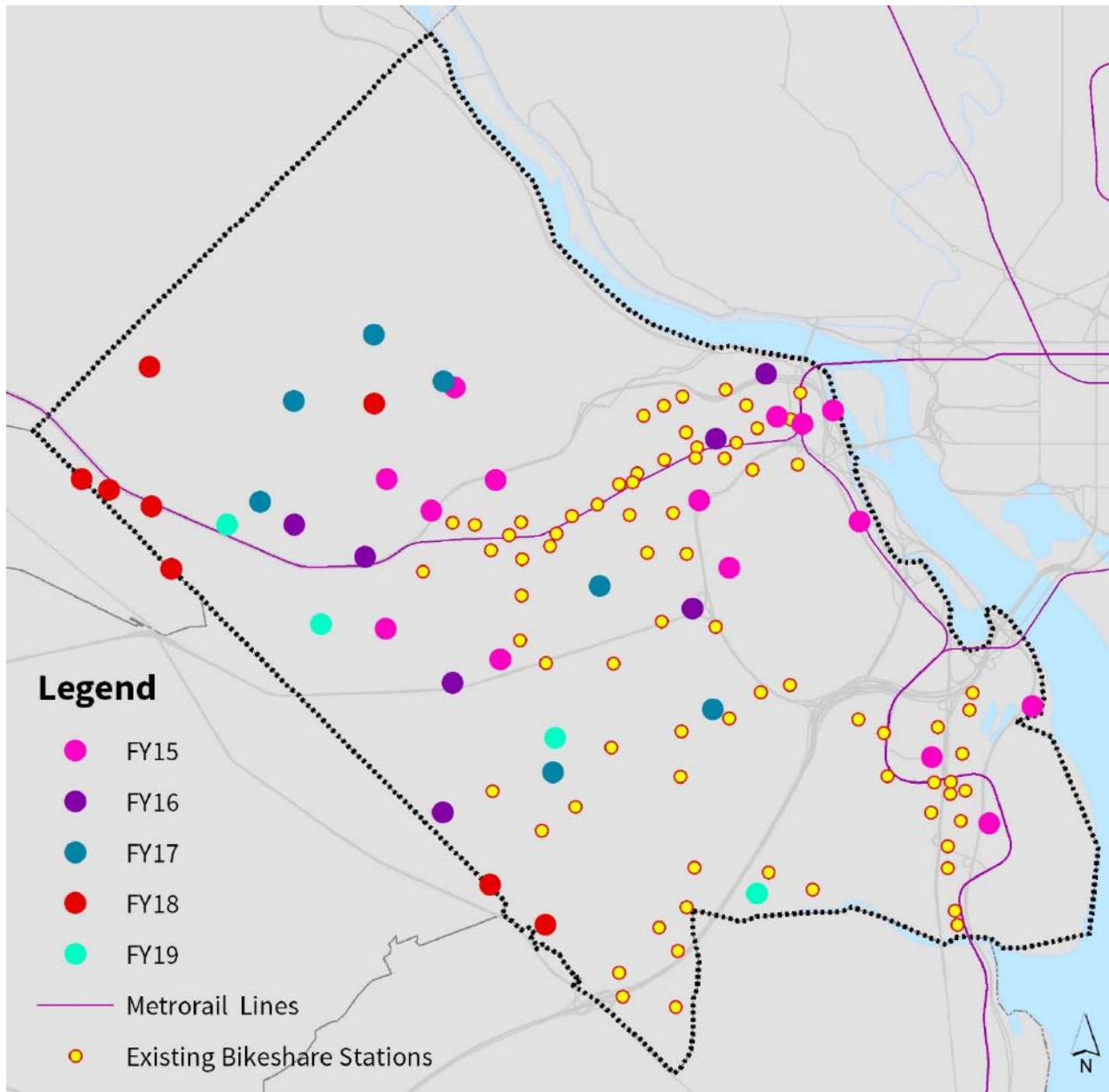
In FY2017, the County expects to finish installing stations funded through the Federal Lands Access Program. The County hopes to also install 14 additional stations funded with FY2016 and FY2017 capital revenue. By the end of this fiscal year, the County will have fully caught up with its installation backlog.

#### FY2018 to FY2020

Arlington County has the funding in place to install seven additional stations per year between FY2017 and FY2020. These stations will continue to build out the current Capital Bikeshare network, along with expanding the system westward toward the East Falls Church Metro station.

The final station allocations differ somewhat from what was originally proposed in the Capital Bikeshare TDP. The initial station allocation was developed based on sub-areas of Arlington County, but it did not identify specific locations. Station locations were modified due to changes in funding allocations from sponsors, in response to demand, and also due to difficulty locating suitable station locations within designated expansion areas. All stations funded and sited through FLAP were not included in the initial TDP. Similarly, the TDP proposed a mini station pilot concept to use smaller and less capital intensive stations to connect residential neighborhoods to mixed-use and commercial corridors. The concept proved to be infeasible and has not been realized. Funding identified for the pilot was used to install regular-sized docks in other locations. **Figure 4** shows the planned expansion for FY2015 through FY2020.

Figure 4 Anticipated Future Improvements, FY2015 - FY2020



\*Location for seven FY2020 stations yet to be identified. All proposed station locations subject to change.

## PRIOR YEAR FINANCIAL PERFORMANCE

### Operations

Arlington County’s Capital Bikeshare service has seen fairly stable financial performance between FY2013 and FY2014. The overall cost recovery ratio went up by four percentage points to 63 percent. The increase in the cost recovery ratio is largely due to reduction in the management and marketing costs of the service; some of these reductions are due to certain management costs now being integrated with the capital budget. When solely examining system operations (i.e., the system’s operating costs and user revenue, excluding administrative costs), the cost recovery ratio declined by two percentage points. The County anticipated a slight decline in the recovery ratio due to the system expanding into new lower-density markets that do not generate as much revenue due to the lower demand.

In FY2015, operating costs are anticipated to grow only slightly. System expansion will lead to higher costs for operations and system maintenance, however this increase will be largely offset but the transfer of administrative costs to the capital budget. The overall portion of the budget that will be funded through commissions on the sale of transit fare media by Arlington County Commuter Services (ACCS Commissions) is anticipated to decline substantially due to new operating revenue being made available through the local Transportation Capital Fund. User revenue is anticipated to account for a growing share of total revenue in FY2015. This reflects the region-wide trend of higher utilization per bicycle.

**Table 4 | FY2014 Operating Expenditures and FY2015 Projected Operating Expenditures.**

	FY2014 (Actual)	FY2015 (Projected)
<b>Expenses</b>		
System Operations	\$1,246,000	\$1,371,000
Management and Marketing	\$185,000	\$103,000
<b>Total</b>	<b>\$1,431,000</b>	<b>\$1,474,000</b>
<b>Revenue</b>		
User Revenue	\$792,000	\$972,000
Private Sponsorships	\$102,000	\$89,000
ACCS Commissions	\$558,339	\$65,000
Local Funding (TCF)	\$0	348,000
<b>Total</b>	<b>\$1,452,339</b>	<b>\$1,474,000</b>

### Capital

Arlington County Capital Bikeshare received \$404,000 in new capital revenue in FY2014. The amount of capital funds spent in any given fiscal year often differs substantially from the amount of revenue awarded in a fiscal year; for example in FY2014 capital expansion was funded almost exclusively through revenue generated in the previous year. The lag time between when capital revenue becomes available to the County and when procurement is completed explains the difference between revenue received and spent. The unspent capital revenue from prior fiscal years is provided also in the **Table 5**.

In FY2015, the County expects a large increase in capital revenue. State and local funding through the Transportation Capital Fund will be available for the first time to Capital Bikeshare. Furthermore, the system will receive funding through the Federal Land Access Program (FLAP) to install stations on and nearby federal property.

Starting in 2015, system administration costs will be transferred to the capital budget. This increase in capital costs will be supported through the Transportation Capital Fund.

It is important to note that the projected FY2015 budget reflects budgeted capital expenditures, not the actual expected value of equipment to be installed; all new stations installed in FY2015 are installed with prior fiscal year revenue. Procurement delays mean that the stations funded in this fiscal year will be installed in Fiscal Years 2016 and 2017.

**Table 5 | FY2014 and FY2015 Capital Budgets**

	<b>FY2014 (Actual)</b>	<b>FY2015 (Projected)</b>
<b>Expenses</b>		
Administration	N/A	\$155,107
New Equipment & Installation	\$730,259	\$833,663
State-of-Good- Repair	\$29,537	\$58,000
<b>Total</b>	<b>\$759,759</b>	<b>\$1,046,770</b>
<b>New Revenue</b>		
Local Revenue (Decal/PAYG)	\$287,879	\$252,000
Sponsorships and Private Contributions	\$115,373	\$13,675
Transportation Capital Fund	N/A	\$692,107
Federal Funding (CMAQ/FLAP)	N/A	\$105,000
<b>Total New Revenue in FY</b>	<b>\$403,252</b>	<b>\$1,062,782</b>
<b>Carry-Over Revenue From Prior FY</b>	<b>\$356,544</b>	<b>\$405,469</b>
<b>Total Revenue Available in FY</b>	<b>\$759,796</b>	<b>\$1,486,251</b>

\*FY15 surplus to be applied to future years

## PROJECTED CAPITAL AND OPERATING EXPENSES

### Operations

In FY15, Arlington’s Capital Bikeshare is projected to see a reduced dependence on ACCS Commissions and improvements in cost recovery. The availability of Transportation Capital Fund (TCF) revenue to support Capital Bikeshare represents a major shift in how the service is funded. In the past, all operating costs not covered through user revenue and sponsorships were funded through ACCS Commissions, with a small part by station sponsorship. The 2012 TDP identified this dependency on ACCS Commissions as a major structural problem as commissions are not a reliable nor consistent source of long-term funding. The availability of TCF funding will replace commissions as the primary operating subsidy. The service’s financial projections show a small operating surplus in FY16, FY17, and FY18 that can be applied to cover expected capital shortfalls due to equipment replacement costs. In 2016 Capital Bikeshare will increase its

member costs for the first time since the service launched in 2010. Fee increases that are tied to inflation are expected to occur every two years.

The service expects to return to an operating deficit starting in FY19 largely due to a reduction in available TCF funding, compounded by further expansion in outlying parts of Arlington with less projected ridership demand and therefore less revenue generated by station.

**Table 6 | Operating Budget Projections, FY2015-FY2021**

	FY15	FY16	FY17	FY18	FY19	FY20	FY21
<b>System Size</b>							
Stations	80	95	114	121	128	135	135
Bicycles	648	900	1096	1149	1201	1254	1254
Docks	1014	1148	1406	1511	1616	1721	1721
Percent Increase Over Prior FY	14%	13%	22%	7%	7%	6%	0%
<b>Ridership (Trips)</b>							
Registered Member Trips	215,485	288,696	379,566	405,223	435,826	477,656	513,956
Casual Member Trips	60,958	83,876	112,669	124,645	136,608	149,804	161,928
<b>Total Ridership</b>	<b>276,443</b>	<b>372,572</b>	<b>492,234</b>	<b>529,868</b>	<b>572,434</b>	<b>627,460</b>	<b>675,884</b>
<b>Revenue</b>							
User Revenue	\$972,075	\$1,239,017	\$1,538,868	\$1,710,915	\$1,844,693	\$2,062,822	\$2,211,870
Sponsorships	\$88,808	\$88,808	\$88,808	\$88,808	\$65,529	\$65,529	\$65,529
Local TCF	\$347,847	\$413,596	\$477,238	\$503,093	\$276,736	\$300,842	\$294,958
<b>Total Revenue</b>	<b>\$1,408,729</b>	<b>\$1,741,422</b>	<b>\$2,104,914</b>	<b>\$2,302,815</b>	<b>\$2,186,958</b>	<b>\$2,429,193</b>	<b>\$2,572,357</b>
<b>Operating Costs</b>							
Daily Ops.	\$1,371,118	\$1,560,798	\$1,901,526	\$2,156,482	\$2,391,768	\$2,629,247	\$2,831,520
Marketing	\$103,000	\$106,090	\$109,273	\$112,551	\$115,927	\$119,405	\$122,987
<b>Total Costs</b>	<b>\$1,474,118</b>	<b>\$1,666,888</b>	<b>\$2,010,799</b>	<b>\$2,269,033</b>	<b>\$2,507,696</b>	<b>\$2,748,652</b>	<b>\$2,954,507</b>
<b>Funding Gap</b>							
Cost Recovery Ratio	72%	80%	81%	79%	76%	77%	77%
Surplus / Deficit	-\$65,389	\$74,534	\$94,115	\$33,782	-\$320,738	-\$319,459	-\$382,151
Additional Funding Needed	\$65,389	\$0	\$0	\$0	\$320,738	\$319,459	\$382,151

## Capital Budget

The capital funding situation has improved since the 2012 Bikeshare TDP was completed. In the 2012 TDP, the system was projected to face a major capital funding crunch starting in FY2016 due to growing maintenance needs related to bicycle replacements and limited revenue. (At that time, Arlington's Decal fee was the only stable source of capital funding in the service.) In FY2015, Arlington gained access to new capital funding sources that improve this situation. The County was awarded a \$280,000 grant to fund bikeshare stations on federal land. Furthermore new Transportation Capital Fund revenue from the State and County will further boost capital revenue. These new sources of funding will support additional expansion between FY2015 and FY2020.

The service still faces an unfunded projected shortfall in capital revenue due to state-of-good-repair costs. As the system ages, bicycles and stations will need to be replaced. As of FY2015, bikeshare bicycles have proven more durable than initially expected and will last longer than the planned-for five years. The TDP has assumed a six-year useful life for bicycles, instead of the previously assumed five. The TDP does expect an initial wave of bicycle replacements to begin in FY2016, however the value of these replacements may be lower than stated if older bicycles remain operational with proper maintenance. This deficit could be covered largely by TCF funds initially earmarked for operations due to the anticipated operating surplus.

The largest funding challenge facing the system will occur starting in FY2021. In this year the system's stations will begin reaching the end of their expected useful life and require replacement. The biggest capital costs for Capital Bikeshare are the stations themselves, especially the terminals. Even with no further expansion after FY2020, Arlington's existing capital revenue is insufficient to meet these replacement needs.

**Table 7 | Projected Capital Needs (\$000), FY2015-FY2026**

	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026
<b>New Equipment*</b>												
# New Stations	10	12	7	7	7	7	-	-	-	-	-	-
# New Bikes	78	92	53	53	53	53	-	-	-	-	-	-
Equipment Costs	\$550	\$636	\$376	\$387	\$399	\$411	\$0	\$0	\$0	\$0	\$0	\$0
Administration	\$155	\$174	\$180	\$185	\$190	\$196	\$202	\$208	\$214	\$221	\$227	\$234
Site Planning & Installation	\$284	\$92	\$55	\$57	\$59	\$61	\$0	\$0	\$0	\$0	\$0	\$0
<b>Subtotal</b>	<b>\$989</b>	<b>\$902</b>	<b>\$611</b>	<b>\$629</b>	<b>\$648</b>	<b>\$668</b>	<b>\$202</b>	<b>\$208</b>	<b>\$214</b>	<b>\$221</b>	<b>\$227</b>	<b>\$234</b>
<b>Maintenance / Replacements</b>												
Stations	\$0	\$0	\$0	\$0	\$0	\$0	\$966	\$1,314	\$763	\$960	\$613	\$1,039
Bicycles	\$58	\$234	\$309	\$195	\$236	\$179	\$272	\$478	\$373	\$271	\$303	\$176
<b>Subtotal</b>	<b>\$58</b>	<b>\$234</b>	<b>\$309</b>	<b>\$195</b>	<b>\$236</b>	<b>\$179</b>	<b>\$1,238</b>	<b>\$1,792</b>	<b>\$1,137</b>	<b>\$1,231</b>	<b>\$916</b>	<b>\$1,215</b>
<b>Total Capital Costs</b>	<b>\$1,047</b>	<b>\$1,137</b>	<b>\$920</b>	<b>\$825</b>	<b>\$885</b>	<b>\$847</b>	<b>\$1,440</b>	<b>\$2,000</b>	<b>\$1,351</b>	<b>\$1,451</b>	<b>\$1,143</b>	<b>\$1,449</b>
<b>New Funding</b>												
Decal Fee / PAYG	\$252	\$190	\$200	\$200	\$252	\$452	\$687	\$692	\$702	\$722	\$0	\$0
Federal	\$105	\$175	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Developer Contributions	\$14	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Sponsorships	\$0	\$33	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Transportation Capital Fund	\$537	\$440	\$468	\$481	\$191	\$203	\$203	\$203	\$0	\$0	\$0	\$0
<b>Total</b>	<b>\$1,063</b>	<b>\$1,012</b>	<b>\$848</b>	<b>\$866</b>	<b>\$633</b>	<b>\$851</b>	<b>\$1,092</b>	<b>\$895</b>	<b>\$702</b>	<b>\$722</b>	<b>\$0</b>	<b>\$0</b>
<b>Funding Gap</b>												
<b>Surplus/Deficit</b>	<b>\$16</b>	<b>-\$124</b>	<b>-\$72</b>	<b>\$41</b>	<b>-\$251</b>	<b>\$5</b>	<b>-\$348</b>	<b>-\$1,105</b>	<b>-\$649</b>	<b>-\$729</b>	<b>-\$1,143</b>	<b>-\$1,449</b>

\*Represents the number of stations funded by new revenue in each fiscal year. Actual date of installation will differ substantially. See Table 6 for anticipated phase-in of system.



## PROGRESS TOWARD IMPROVING USER EQUITY

Bikeshare services across North America have struggled to widen their user base and attract more diverse riders in terms of age, ethnicity, income, and primary language. As the FY2014, bikeshare riders in Arlington are more likely to be white, male, and younger than the County’s average resident.

Many minority groups are largely underrepresented among bikeshare riders (see **Table 8**). The share of black and Hispanic bikeshare riders according to the 2014 user survey is only a fraction of the proportion of these two groups in the County population. The proportion of minority users may be underreported due to the share of survey takers (10.3%) who did not respond to this question.

**Table 8 | Race of Arlington Capital Bikeshare Survey Respondents Compared to County Population**

	<b>Arlington 2014 Bikeshare Survey Respondents</b>	<b>Arlington County Population</b> <i>*Data Source: American Community Survey, 2008-2012</i>
Asian/Pacific Islander	6.8%	9.7%
Black/African-American	2.4%	8.5%
White, Non-Hispanic	74.6%	71.4%
Hispanic/Latino, All Races	3.4%	15.1%
Other/Multi-racial	2.4%	10.5%
Prefer not to answer	10.3%	-

In terms of age and gender, bikeshare users differ from the average Arlington resident. Only 34 percent of Arlington bikeshare survey respondents identified as female. Furthermore, Arlington residents over 45 years of age are underrepresented among users; even though this group represents 35 percent of the County’s adult population, they only account for 20 percent of bikeshare trips.

By income, bikeshare users do not diverge greatly from the County median household income, with the exception that households making less than \$35,000 a year comprise 14 percent of the population but only 2 percent of bikeshare survey respondents.

**Table 9 | Bikeshare Survey Participants Reported Income vs. County Income Cohorts**

Household Income	Bikeshare Users	County Population
less than \$10,000	0%	4%
\$10,000 - \$14,999	1%	2%
\$15,000 - \$24,999	0%	4%
\$25,000 - \$34,999	1%	4%
\$35,000 - \$49,999	<b>7%</b>	<b>7%</b>
\$50,000 - \$74,999	<b>18%</b>	<b>14%</b>
\$75,000 - \$99,999	<b>18%</b>	<b>14%</b>
\$100,000 - \$149,999	<b>31%</b>	<b>21%</b>
\$150,000 - \$199,999	11%	13%
\$200,000 or more	13%	19%

### Strategies to Tackle the Equity Gap

To address the equity gap, communities must understand what factors are limiting usage of bikeshare among a broader group of people. While there are many factors that contribute to the equity gap, there are three key elements that can impact whether a person uses bikeshare:

- **System access:** Is the system physically located in one’s neighborhood and convenient to use?
- **Barriers to use:** Are there barriers to use that could exclude a person from using the system?
- **Public perception and awareness:** Is one aware of Capital Bikeshare, do they understand how to use it, and are they open to considering it as a transportation option?

Arlington County has policies in place to address all three of the above factors. The Capital Bikeshare TDP strived to **improve system access** for a wider range of Arlington residents. In the first few years of the Capital Bikeshare service, station expansion occurred largely in Crystal City and along the Rosslyn-Ballston corridor. The user base of the service very much reflected the demographics of these areas: educated, white, and young adults. Expansion over the last two fiscal years has been focused on South Arlington, providing stations in neighborhoods with a higher proportion of minority residents (**Figure 5**). Further expansion will continue to build out the system in South Arlington and make the system accessible to a more diverse user base.

The second major strategy to improve bikeshare equity is to **reduce or eliminate barriers to use**. Capital Bikeshare requires a credit card or debit card to open an account and there is a \$101 hold for casual debit card users which will be removed on 5/1/15. These two factors pose a challenge for attracting a more diverse range of users. People who are *unbanked*, lacking access to credit or debit card, are unable to use the system.

To address these barriers Arlington in 2015 became the first bikeshare system in the country to allow residents to purchase bikeshare memberships at the County’s four physical Commuter Store locations and one mobile location. Residents can purchase a key fob to access the system and have the choice of two payment plans:

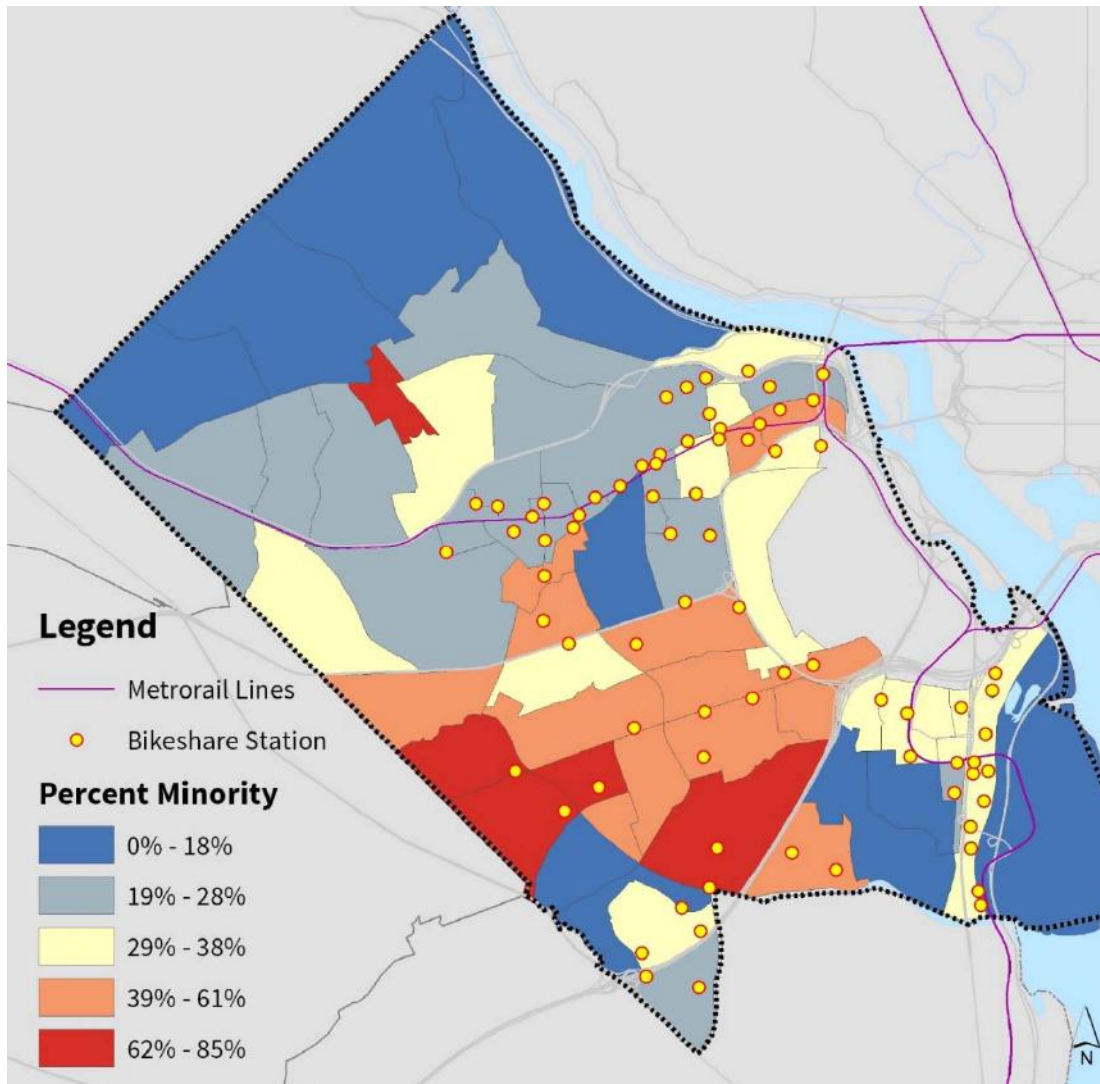
**Pay-Per-Month Annual Membership:** Users create an account with as little as \$16 and pay the standard \$7 per month to keep their account active.

**Lump-Sum Annual Membership:** User pays \$75 in one installment for an annual membership and places a \$25 deposit as credit for future usage fees.

Since the store sales service launched in May 2014, Commuter Stores have sold 800 memberships, with sales shown by location below:

- Rosslyn – 344
- Ballston – 194
- Crystal City – 184
- Mobile Commuter Store – 53
- Shirlington – 25

**Figure 5 | Arlington Census Tracts by Percent Minority (Hispanic or Non-White)**



Finally, the last strategy to improve bikeshare user equity is to **increase awareness of bikeshare among the public** as a mode of transportation. Most bikeshare services, including Capital Bikeshare, largely depend on word of mouth and on-street presence for publicity. Low-participation population groups are less likely to consider bikeshare a viable mode if no one in their social network utilizes the service. Marketing and outreach strategies should therefore focus on targeted outreach to low-participation groups to both increase awareness and acceptance of bikeshare.

Arlington County Commuter Services already has the marketing and outreach infrastructure in place to successfully connect with a diverse range of Arlington residents. Programs like BikeArlington specialize in increasing awareness and educate the Arlington public about cycling. ACCS has existing relationships with community groups, employers, and residential complexes that can be utilized to get the word out about bikeshare. In recent months the County has garnered publicity in the local and national media, helping to get the word out about in-store bikeshare membership sales. Arlington is working with the Car Free Diet marketing team to further promote the service, including through “Bikeshare Fiestas”, pop-up events across the County intended to build awareness about bikeshare.

As a relatively new mode of transportation, most of these equity strategies are largely untested. Over the next few years, indicators including those provided in this report, will allow Arlington County to assess how well these strategies work at attracting a more diverse user base. The County is working closely with our peers within the Capital Bikeshare system and nationwide to explore and adopt new strategies for broadening bikeshare participation.

## SERVICE INNOVATIONS

If Arlington County’s Capital Bikeshare was a standalone system, it would represent the eighth largest bikeshare service in the country. The County is committed to being at the forefront of innovation in the bikeshare industry and exploring new ways to make bikeshare a more seamless component of the public transit system.

On the technology side, Capital Bikeshare is considering the implementation of Open Payment technology to be included with future purchases of bikeshare stations. Open Payment will allow the bikeshare stations to be compatible with the Washington Metropolitan Area Transit Authority’s (WMATA) future fare payment system, which is currently in the testing and development phase. Bikeshare users will be able to use the same fare media to unlock a bikeshare bike as they would to access Metrorail or Metrobus.

As mentioned in the Bikeshare Equity section, Arlington was the first service to offer bikeshare membership sales in person. Over 800 people have taken advantage of in-store bikeshare sales to date.

Over the next few years we expect to see further innovations adopted by the service. As more bikeshare equipment vendors enter the market, Capital Bikeshare benefits from expanded procurement options and new kinds of technology in use in the system.