

APPENDIX B

Arlington Transit Peer Review Technical Memorandum

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1.0 OVERVIEW OF PEER ANALYSIS PROCESS

A peer analysis provides the means to compare various performance characteristics of a transit agency to transit systems of similar size. Transit agencies report such information to the Federal Transit Administration (FTA), which records the information annually in the National Transit Database (NTD). Agencies have strict requirements regarding the manner in which cost and service characteristics are reported to the NTD. Thus, the NTD provides a consistent set of measurable data that can be used in a peer systems analysis.

While a peer analysis based on NTD data provides operational and financial information, it is important to keep in mind other aspects of service quality that are not reported in the NTD, such as passenger satisfaction, vehicle cleanliness and comfort, schedule adherence and route connectivity. It is also worth noting that there may be unique operating and financial characteristics associated with a particular transit agency.

1.1 National Transit Database

The National Transit Database is the only comprehensive source of validated operating and financial information reported by transit systems nationwide. This database is updated annually by submissions from each transit system. The FTA reviews and confirms the accuracy of the information received and publishes a final report after all reporting transit systems successfully respond to comments and inquiries. The NTD is used by the FTA and other federal, state, and local agencies as a resource to help guide public investment decisions, shape public policy, and develop planning initiatives. The NTD reports various standard measures of performance that allow decision makers and other stakeholders to determine the efficiency and effectiveness of transit services on a local, regional and national basis. It is important to note that smaller systems (i.e., operating with fewer than nine peak vehicles) have the option of taking an exemption from NTD reporting.

This peer review includes NTD data from Fiscal Year 2008 from the peer systems – the last year available – and actual ART data from Fiscal Year 2010. Recent ART data reflects the current contract cost structure that became effective July 1, 2009. This allows a more accurate comparison of the current ART cost and productivity structure with its peers.

1.2 Technical Memorandum Contents

Sections 2 through 6 of this technical memorandum present a peer review of transit systems that are similar in service areas size, population, and operation to the ART system:

- Section 2 describes the process used to select the ART's peer transit systems.
- Section 3 provides an overview of the peer systems' operating and capital budgets, ridership, service area and passenger fare characteristics compared with ART.
- Section 4 contains a detailed comparison of specific service productivity measures. These productivity measures focus on vehicle utilization, service supply, service productivity, cost efficiency, and vehicle maintenance performance.
- Section 5 summarizes financial information, highlighting the revenue sources used by ART and its peers to fund operating and maintenance (O&M) and capital requirements.

- Section 6 summarizes the key findings of the Peer Analysis.
- Section 7 contains a supplementary peer review that compares ART on selected performance measures with other D.C.-area bus systems that are not necessarily similar in service area size, population density, or operating characteristics.

2.0 PEER SELECTION PROCESS

Select criteria were used to determine transit systems that have similar service area characteristics. As shown in Table 2-1, criteria included service area size, population density, the number of peak vehicles in operation on a typical weekday, and connection to a rail system.

Table 2-1: Criteria for Selecting Peer Transit Systems

Criteria	Importance
Population density	Primary
Number of Peak Buses	Primary
Proximity to Passenger Rail Service	Primary
Service Area Population	Secondary
Service Area Size	Secondary
Suburban Location in a Major Metropolitan Area	Secondary
Supplemental Regional Bus Service	Preference
Washington, D.C. / Baltimore Region	Preference

The following seven transit systems were identified as peers based on the application of the selection criteria and regional preference:

- Anaheim Transportation Network – ATN (Anaheim, CA)
- Culver City Municipal Bus Lines (Culver City, CA)
- City of Alexandria (Alexandria, VA)
- Norwalk Transit System (Norwalk, CA)
- Livermore /Amador Valley Transit Authority – LAVTA (Livermore, CA)
- Transit Services of Frederick County (Frederick, MD)
- Howard Transit (Laurel, MD)

Table 2-2 displays the population density, number of peak buses, service area population and square miles, as reported in the 2008 NTD (the most recent NTD information that is available). Metropolitan area location, proximity to rail and supplemental regional bus service are summarized below.

Anaheim Transportation Network – ATN (Anaheim, CA) – Located within Orange County, California with connections to Metrolink Commuter Rail and Blue Line Light Rail Transit service and also served by OCTA bus service. **Anaheim Resort Transit – (Anaheim, CA)** – Serves 16 routes throughout the Anaheim resort area.

Culver City Municipal Bus Lines (Culver City, CA) – Located north of the Los Angeles International Airport, between downtown Los Angeles and Santa Monica. Culver City Bus service connects to Aviation Station on the Metropolitan Transportation Authority (MTA) Green Line.

City of Alexandria, VA – Located 6 miles south of the District of Columbia (D.C.) and served by Metrorail, Virginia Railway Express (VRE) and Amtrak, as well as Metrobus service. The Alexandria Transit Company's DASH system provides bus service within the City of Alexandria, and connects with Metrobus, Metrorail, Virginia Railway Express, and all local bus systems. DASH serves all of the Alexandria Metrorail Stations and the Pentagon Metrorail station during morning and evening peak periods.

Norwalk Transit System (Norwalk, CA) – Located in Los Angeles County approximately 17 miles southeast of downtown Los Angeles. The Norwalk Transit System service connects with a Metrolink Commuter Rail Station, the Metropolitan Transportation Authority (MTA) Green Line, and is served by MTA bus routes.

Livermore /Amador Valley Transit Authority – LAVTA (Livermore, CA) – Located in Alameda County, in the San Francisco Bay area. LAVTA connects with Bay Area Rapid Transit (BART) at the Dublin/Pleasanton station.

Frederick, MD – About 50 miles northwest of Washington, D.C. and 50 miles west of Baltimore. The city is a station on the MARC commuter rail line and is served by Maryland Transit Administration buses to the Shady Grove Metrorail station.

Laurel, MD – In Prince George’s County, midway between Washington, D.C. and Baltimore. Laurel is served by two MARC stations and WMATA Metrobus.

Table 2-2 shows the following about ART’s peer group:

- *Square Miles* – Two of the peer service areas are smaller than the ART system, four are larger and one is approximately the same.
- *Population Density* – Two peers have higher population concentrations, four are less densely populated, and one (Alexandria, VA) has essentially the same population density as the ART system’s service area.
- *Peak Buses* – Five peer systems have a peak fleet that is larger than ART’s and two have a smaller peak fleet.

Table 2-2: Peer Transit Agency Comparisons (FY 2008)

System Location	Service Area			Peak Buses	Vehicle Rev-Miles	Vehicle Rev-Hours	Days
	Population	Square Miles	Population Density				
Anaheim, CA	350,000	25	14,000	35	608,146	93,964	Mon-Sun
Culver City, CA	298,478	26	11,480	33	1,444,350	135,528	Mon-Sun
Alexandria, VA	135,000	16	8,438	52	1,398,473	151,556	Mon-Sun
Norwalk, CA	218,955	37	5,918	28	1,386,189	105,188	Mon-Sun
Livermore, CA	166,972	40	4,174	47	1,983,822	137,452	Mon-Sun
Frederick, MD	60,154	18	3,342	18	655,976	57,586	Mon-Sat
Laurel, MD	97,243	51	1,907	18	1,087,825	72,957	Mon-Sun
Peer System:							
Low	60,154	16	1,907	18	608,146	57,586	n/a
High	350,000	40	14,000	52	1,983,822	151,556	n/a
Average	189,543	30	7,037	31	1,223,540	107,747	n/a
Arlington Transit	212,200	26	8,162	26	779,573	75,797	Mon-Sun

3.0 PEER SYSTEM OVERVIEW

A general overview of peer systems' operating and capital expenses, ridership, service area and passenger fare characteristics was completed prior to conducting a detailed assessment of specific financial, ridership and service characteristics.

3.1 Annual Operating and Capital Expenses

A summary of operating and capital expense characteristics for the peer systems is noted below. Peer system data is based on the 2008 National Transit Database (the most recent NTD information that is available). Arlington data reflects 2010 actuals.

Operating Expenses

- ART's FY 2010 fixed bus operating expenses of \$6.6 million represents approximately 71 percent of the peer average (\$9.34 million).
- ART derived a similar share of its fixed bus operating revenue from fares (18 percent of the total budget) than the peer average (19 percent).

Capital Expenses

- ART relied 100 percent on local assistance for its Capital Budget.
- The peer systems relied most heavily on federal assistance (58 percent average).

A more detailed analysis of the operating and capital expenses is provided in Section 5 of this report.

3.2 Annual Ridership

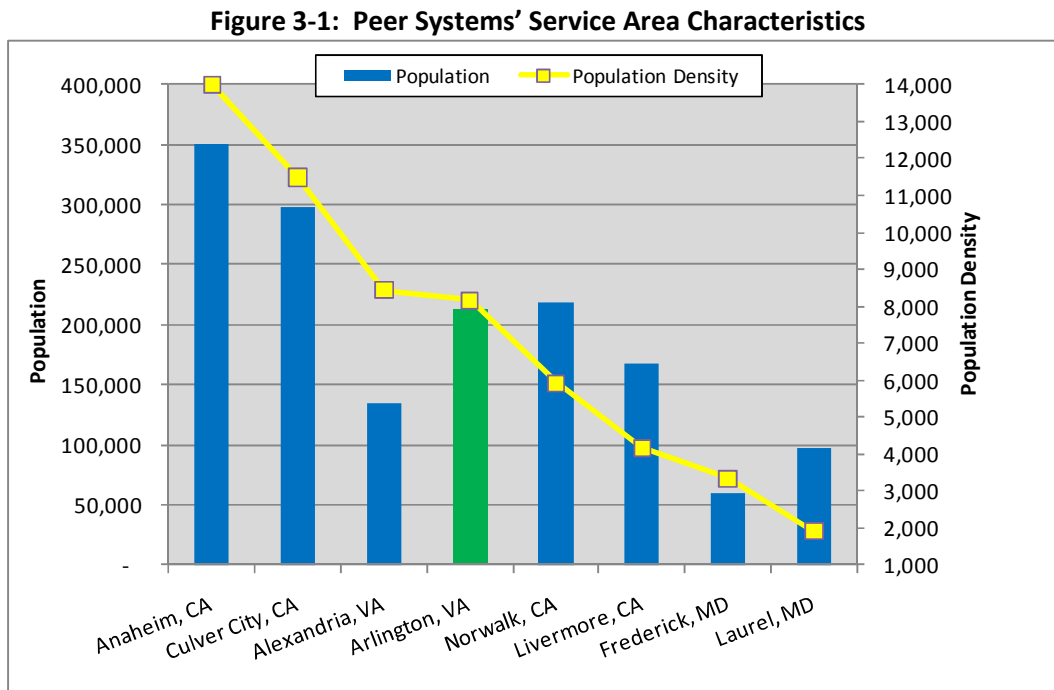
Annual fixed route ridership, as measured in passenger trips, reflects is the total number of boardings made by users of the transit system. A passenger trip is recorded every time a person boards a transit vehicle, including multiple transfers that may occur between the trip origin and the final destination. As shown above in Table 3-2, ART’s FY 2010 ridership (1,990,402) was the third least of the individual peer systems, which ranged between 737,974 and 6,055,246, and approximately half of the peer average (2,896,342). The closest peer ridership to ART was Livermore, CA (2,300,914).

Section 4.0 compares costs and ridership on a service level basis.

3.3 Service Area Characteristics

As shown in Table 2.2, the peer bus systems reported service areas that ranged in size from 16 to 51 square miles, with an average of 30. At 26 square miles, the ART’s service area is 85 percent of the peer average.

Figure 3-1 summarizes and compares the service area population and population density for ART and the peer systems. The source of the service area data in the graph is the 2008 National Transit Database except for Arlington, which was obtained directly from ART in March 2010. Although the NTD data is the best available source for this information, caution should be used when interpreting service area population and population-based measures. There are sometimes variations with regard to the way agencies report this information.



As shown in Figure 3-1, the peer average service area population (189,543) is 89 percent of ART’s service area population (212,200). ART’s service area density (8,162) was about 16 percent higher the peer average (7,037).

3.4 Services Provided

Of the peer systems, Norwalk, Livermore, Frederick and Laurel operate both fixed-route and demand-responsive services. Anaheim, Culver City and Alexandria do not operate demand response services, as these services are provided by the regional transit service provider (e.g., MTA in Los Angeles and WMATA in Alexandria). In 2008, the fixed-route spans of service for the peer systems were:

Anaheim Resort Transit – (Anaheim, CA):

6:00 a.m. to 1:00 a.m., Daily (depending on destination served)

Culver City Municipal Bus Lines (Culver City, CA):

5:20 a.m. to 12:39 a.m., Monday through Friday

5:40 a.m. to 11:56 p.m. Saturday and Sunday

City of Alexandria (DASH) (Alexandria, VA):

5:00 a.m. to 11:30 p.m., Monday through Friday

7:00 a.m. to 11:30 p.m., Saturday

8:00 a.m. to 8:00 p.m., Sunday

Norwalk Transit System (Norwalk, CA):

4:10 a.m. to 11:45 p.m., Monday through Friday

6:45 a.m. to 7:00 p.m., Saturday and Sunday

Livermore /Amador Valley Transit Authority – LAVTA (Livermore, CA):

4:30 a.m. to 1:00 a.m., Monday through Friday

7:00 a.m. to 1:00 a.m., Saturday

6:30 a.m. to 12:00 a.m., Sunday

Frederick, MD:

5:40 a.m. to 9:45 p.m., Monday through Friday

7:30 a.m. to 9:45 p.m., Saturday

Laurel, MD:

5:30 a.m. to 11:00 p.m., Monday through Friday

7:30 a.m. to 11:00 p.m., Saturday

8:00 a.m. to 8:30 p.m., Sunday

3.5 Fare Structure

Fare structures also have been compared for the peer transit agencies, as presented in Table 3-3. The lowest fares were in Norwalk, CA. All agencies except Anaheim and Alexandria, VA provide discounted elderly/disabled fares. None of the discounted fares varies by time of day. Only Laurel, MD offered a discounted rate for college students. Note that this table reflects a comparison of fares charged for all systems in early 2010. ART fares increased on July 1, 2010, and are now \$1.50 for fixed route, \$0.75 for elderly/disabled and student, and \$1.50 for college student and staff, with no charge for within-system transfers.

Table 3-3: Comparison of Fare Structure

City	Fixed Route	Discount Rates				Within-System Transfers
		Elderly/Disabled		Student	College	
		Peak	Off-Peak	(K-12)	Student & Staff	
Anaheim, CA ¹	\$3.00	\$3.00	\$3.00	\$1.00	\$3.00	
Culver City, CA	\$1.00	\$0.35	\$0.35	\$0.75	\$1.00	\$0.25 ²
Alexandria, VA	\$1.25	\$1.25	\$1.25	\$1.25 ³	\$1.25	\$0.00 ⁴
Norwalk, CA	\$0.90	\$0.35	\$0.35	\$0.60	\$0.90	\$0.25 ⁵
Livermore, CA	\$2.00	\$1.00	\$1.00	\$2.00 ⁶	\$2.00	\$0.00 ⁷
Frederick, MD	\$1.10 ⁸	\$0.55	\$0.55	\$1.10	\$1.10	\$0.00
Laurel, MD	\$1.50	\$0.50	\$0.50	\$0.50	\$0.50	\$0.00 ⁹

Peer System:

Low	\$0.90	\$0.35	\$0.35	\$0.60	\$0.50	\$0.00
High	\$3.00	\$3.00	\$3.00	\$2.00	\$3.00	\$0.25
Average	\$1.56	\$1.00	\$1.00	\$1.02	\$1.69	\$0.08

Arlington, VA	\$1.35	\$0.60	\$0.60	\$0.60	\$1.35	\$0.00¹⁰
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Notes: ¹One-way cash fare. Rate for children 3 to ten years old is \$1. Children under 3 years old ride free. There is a \$1 handling charge per order. ²Interagency transfer rate is \$0.40. Local transfer rate for Elderly/Disabled is \$0.10. Interagency transfer rate for Elderly/Disabled is \$0.20. ³Children under 4 years old ride free. ⁴Transfer is free if conducted within 4 hours. ⁵Interagency transfer rate is \$0.50. ⁶Children under 6 years old ride free. ⁷Transfer rate to BART is \$1.00. ⁸One way cash rate for Frederick to Emmetsburg is \$1.25. ⁹Transfer is free if conducted within 2 hours. ¹⁰System transfer with a Smart Card is free. Without a Smart Card a transfer is treated as a full fare.

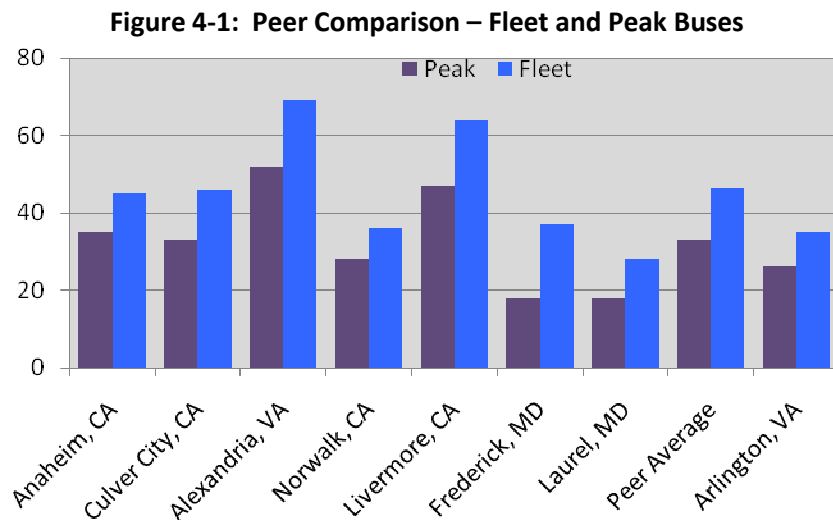
4.0 SERVICE PRODUCTIVITY COMPARISONS

This section presents a detailed comparison of specific fixed route service productivity measures. These productivity measures focus on: vehicle utilization, service supplied, ridership productivity, cost efficiency, and revenue vehicle maintenance performance. Unless stated otherwise, the data were obtained from the 2008 NTD for all systems, except Arlington, which is based on FY 2010 data.

4.1 Vehicle Utilization

The peer systems were compared on several indicators of vehicle utilization including size of the bus fleet available for revenue service, maximum number of buses in simultaneous scheduled service, and hours and miles of revenue service per peak bus.

- **Vehicles Available:** As shown in blue on Figure 4-1, the peer systems' active bus fleets ranged between 28 (Laurel, MD) to 69 (Alexandria, VA). At 35, ART's 2008 bus fleet was 24 percent smaller than the peer average of 46.

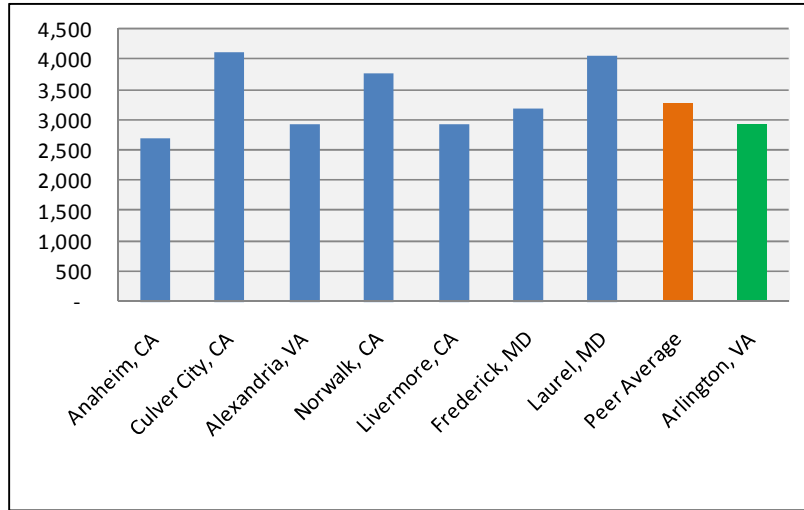


- **Peak Vehicles:** The number of vehicles operated in maximum service is shown above in Figure 4-1. Peer systems operated between 18 (Frederick, Laurel, MD) and 52 (Alexandria, VA) during peak periods. With a 26-vehicle peak requirement, ART operates just under the peer average of 33 peak vehicles or about 79 percent of the peer average.
- **Spare Ratio:** Spare ratio is an indication of how a transit agency meets its need to balance the provision of sufficient vehicles to operate scheduled revenue service with the requirements of vehicle maintenance and overhaul programs. FTA's formula to calculate a spare ratio is: $(\text{Total Active Fleet} - \text{Peak Vehicle Requirement}) / \text{Peak Vehicle Requirement}$. Accordingly, peer spare ratios range from 29 percent (Norwalk, CA) to 106 percent (Frederick, MD). At 26 percent, ART's spare ratio is lower than the peer average of 39 percent. Spare ratio's typically run higher during

times of vehicle replacement or prior to the implementation of large service initiatives. Generally, FTA prefers spare ratios near 20 percent.

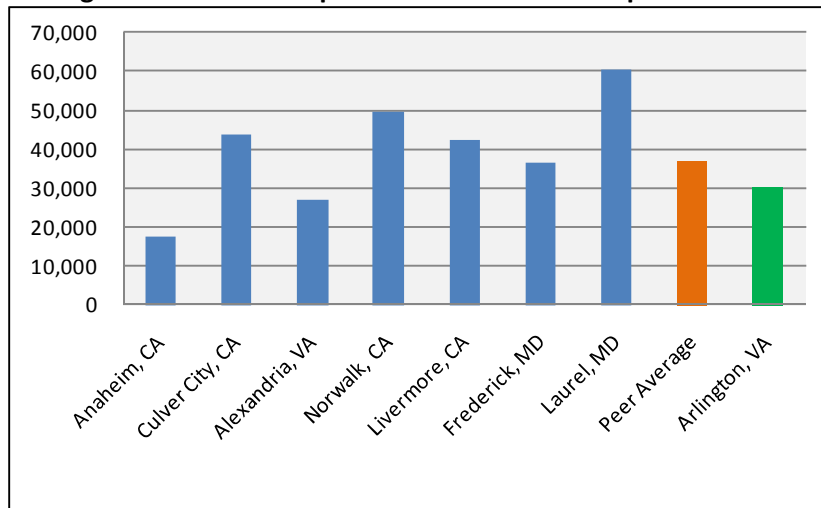
- Revenue-Hours per Peak Bus:** Figure 4-2 shows that the peer systems operated between 2,685 (Anaheim, CA) and 4,107 (Culver City, CA) revenue-hours per peak bus. At 2,915, ART operates 11 percent lower than the peer average of 3,265.

Figure 4-2: Peer Comparison – Revenue-Hours per Peak Bus



- Revenue-Miles per Peak Bus:** Figure 4-3 shows that the peer systems operated between 17,376 (Anaheim, CA) and 60,435 (Laurel, MD) revenue-miles per peak bus. At 29,985, ART operates 19 percent less than the peer average of 37,077. Transit service areas like Arlington, that experience lower overall travel speeds and higher congestion levels, exhibit lower miles per peak vehicle (proportionately lower when comparing revenue-hours per peak vehicle noted above).

Figure 4-3: Peer Comparison – Revenue-Miles per Peak Bus



4.2 Service Supplied

Service supplied compares the hours and miles of operation provided to the peers' service area populations as well as the geographic extent of service provision.

- Transit Service per Capita:** This analysis looks at two measures of the amount of bus service provided to the service area population – revenue-hours and revenue-miles per capita. Figure 4-4 shows that ART provides less service hours per capita (0.36) than most peer systems, which range between 0.27 (Anaheim, CA) and 1.12 (Alexandria, VA). The number of revenue-hours per capita that ART provides is 37 percent lower than the peer average (0.57). However, combined with the level of Metrobus service provided within Arlington County, overall transit service exceeds the peer average.

Figure 4-4:

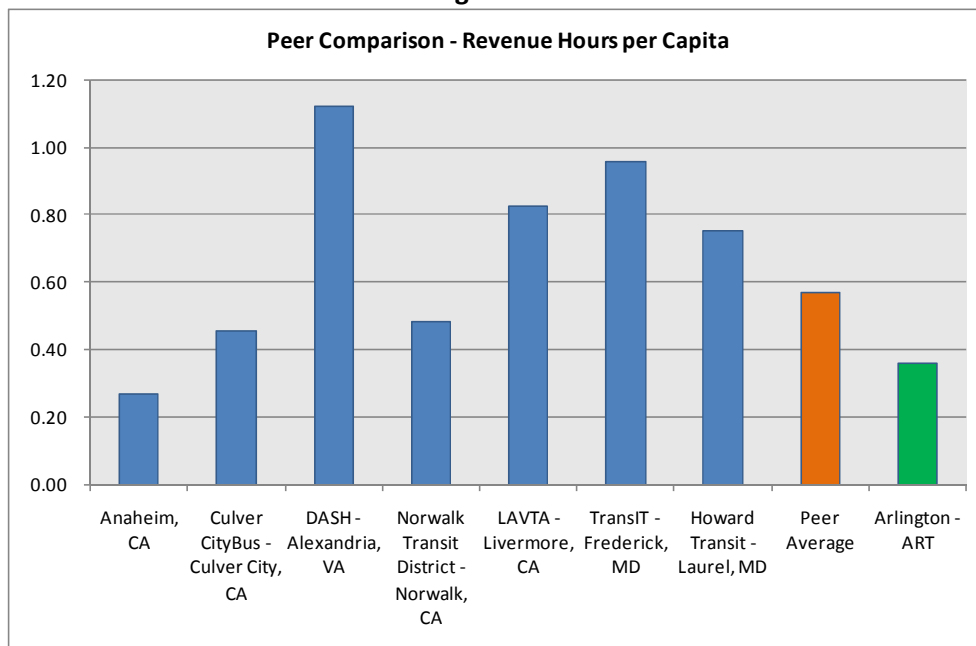
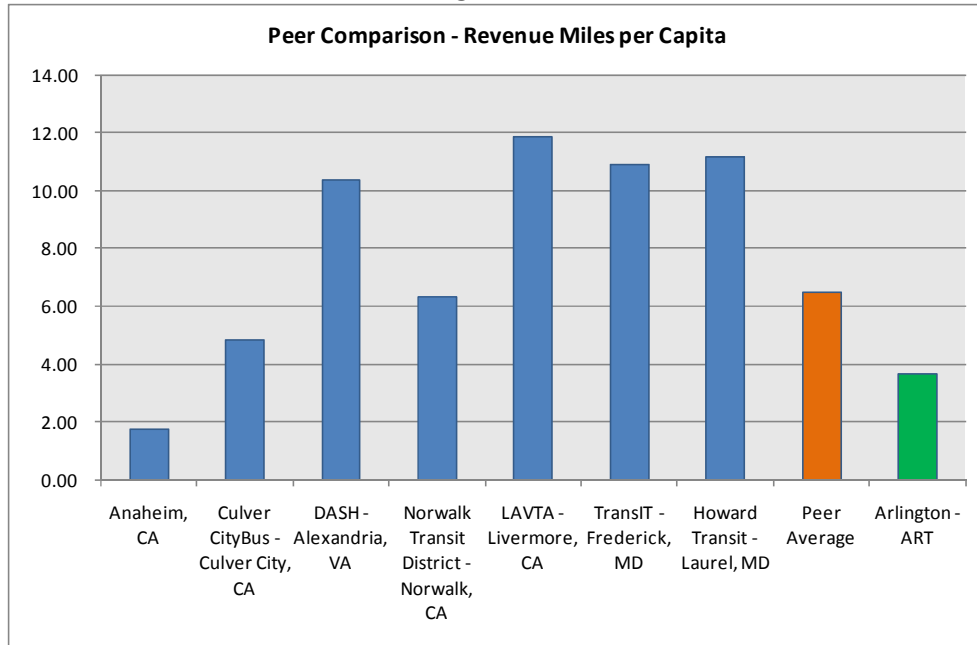


Figure 4-5 shows that ART operates less revenue-miles per capita (3.67) than most of the peer systems, which range between 1.74 (Anaheim, CA) and 11.88 (Livermore, CA). ART's revenue-miles per capita are 43 percent lower than the peer average (6.46). However, combined with the level of Metrobus service provided within Arlington County, overall transit service exceeds the peer average.

Figure 4-5:



- Service Area:** In Figure 4-6, the peer systems operated between 1,431 (Laurel, MD) and 9,472 (Alexandria, VA) revenue-hours per square mile. At 2,915 revenue-hours per square mile, ART supplies about 82% of the service-hours per square mile provided by the peer average (3,541).

Figure 4-6:

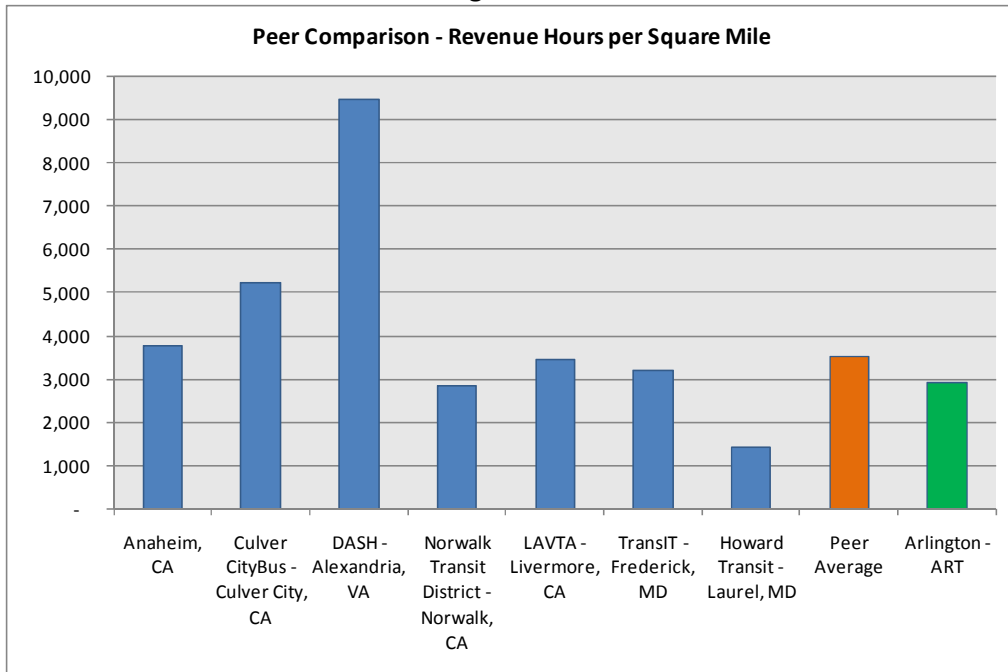
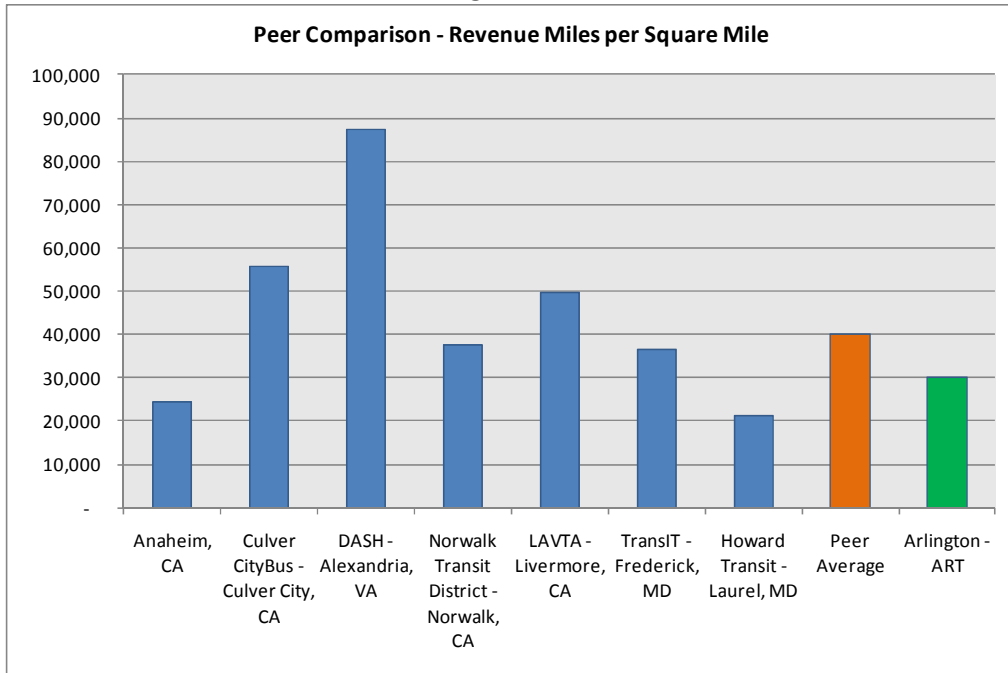


Figure 4-7 shows that ART operated 29,984 revenue-miles of service per square mile which is about 75 percent of the peer average (40,210). The peer systems that supplied the lowest and

highest revenue-miles of service per square mile were Laurel, MD (21,330) and Alexandria, VA (87,405).

Figure 4-7:

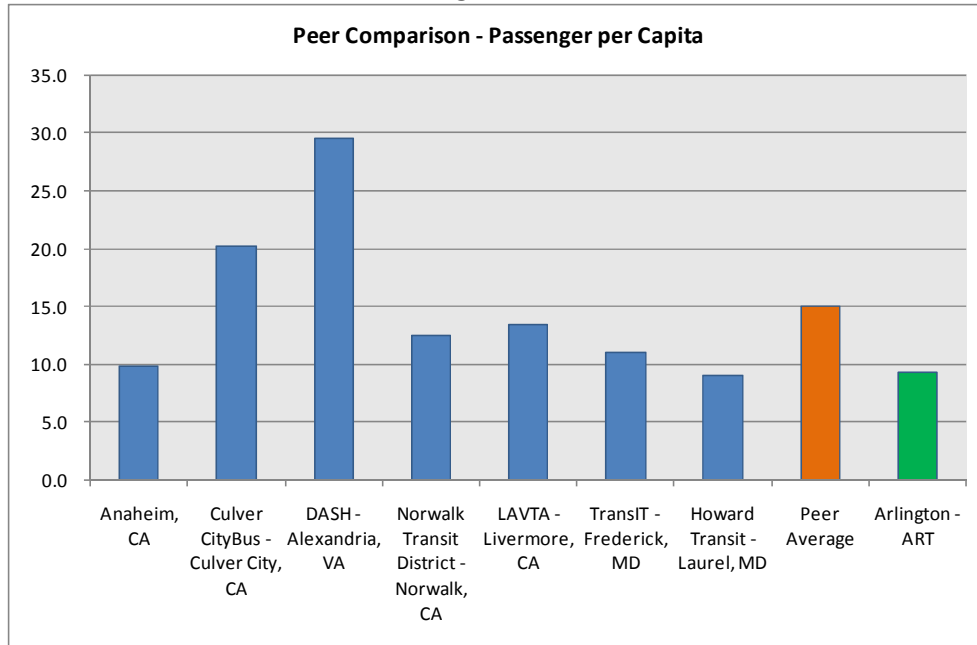


4.3 Ridership Productivity (Effectiveness)

Ridership productivity or effectiveness provides a way to evaluate how well a transit agency is able to attract passengers relative to the level of service operated. Three measures that reveal productivity are passenger trips per capita, revenue-hour, and revenue-mile.

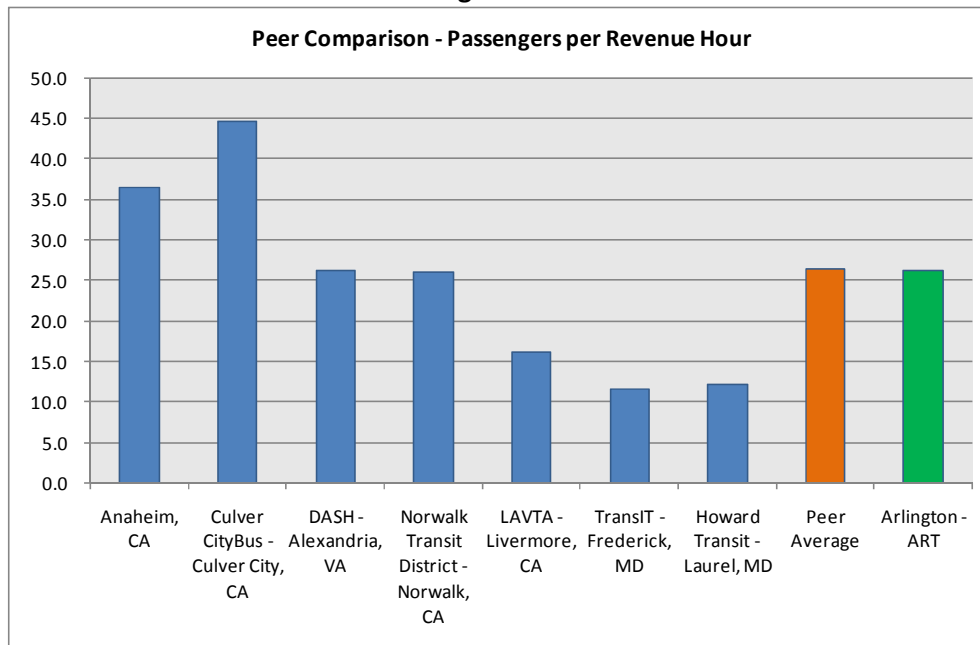
- Passenger Trips per Capita:** As shown in Figure 4-8, ART records lower passengers per capita (9.4) than all peer systems with the exception of Laurel, MD. (9.1). ART's productivity on this measure is about a 62% of the peer average. However, this is not inclusive of passenger volumes recorded on Metrobus within Arlington County.

Figure 4-8:



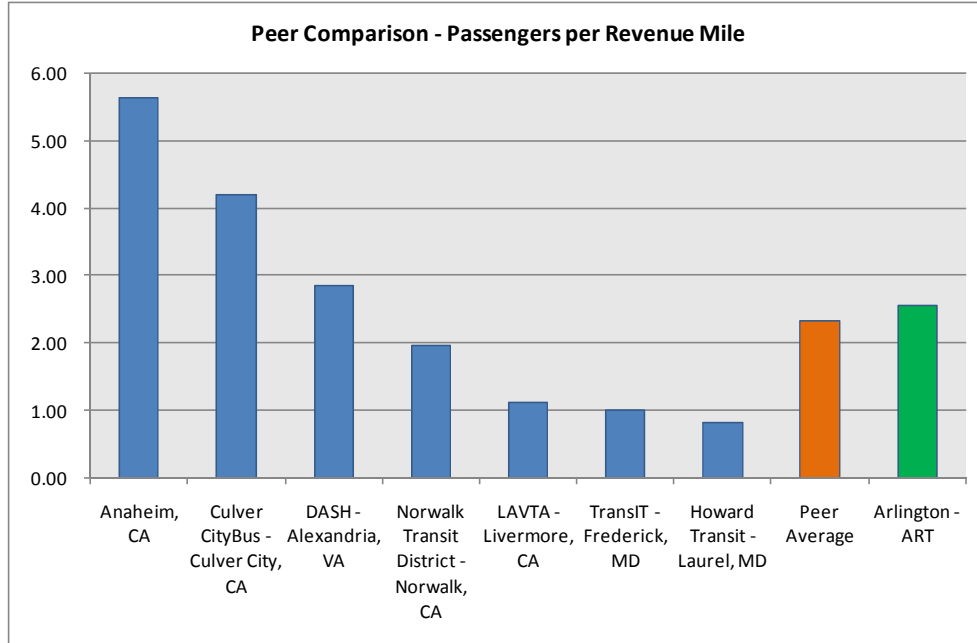
- Passenger Trips per Revenue-Hour:** Figure 4-9 shows that the peer systems generate between 12 (Frederick and Laurel, MD) and 45 (Culver City, CA) passenger trips for every revenue-hour of bus service. ART’s productivity of 26.3 passengers per revenue-hour is very close to the peer average of 26.5.

Figure 4-9:



- Passenger Trips per Revenue-Mile:** Figure 4-10 shows the peer systems generate between 0.8 (Laurel) and 4.2 (Culver City, CA) passenger trips per revenue-mile of service. ART serves 2.55 passengers per revenue-mile which is slightly better than its peers at 2.33.

Figure 4-10:

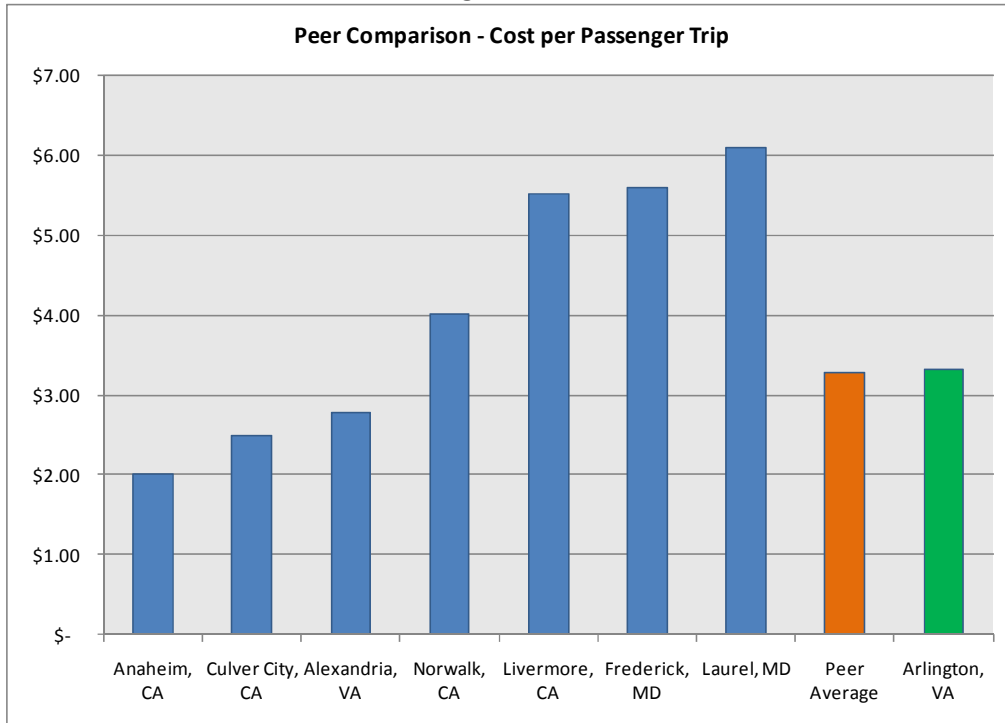


4.4 Cost Efficiency

Transit systems typically must balance the level of service they operate with the budget required to do so. Cost efficiency performance can be measured in several ways, including operating cost per passenger trip, revenue-hour, and revenue-mile.

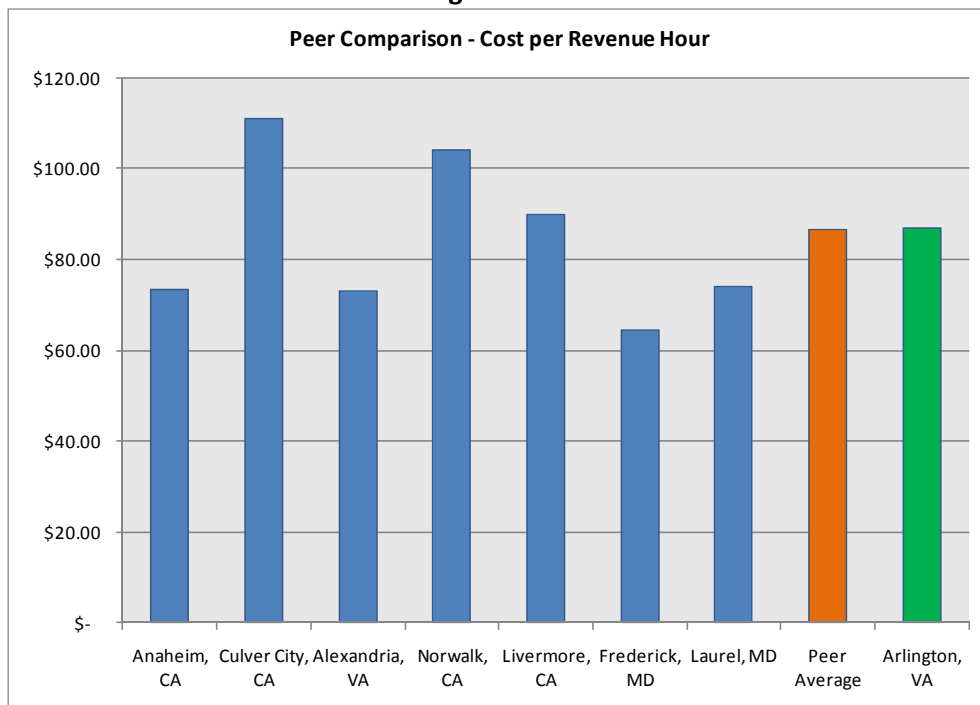
- Operating Cost per Passenger Trip:** This performance measure provides an indication of how efficient a system is at balancing the cost of providing service with the number of patrons it serves. Peer system costs per passenger trip range from \$2.01 (Anaheim, CA) to \$6.09 (Laurel, MD) with an average of \$3.27. ART's performance on this measure is \$3.32, which is slightly above the peer average at \$3.27.

Figure 4-11:



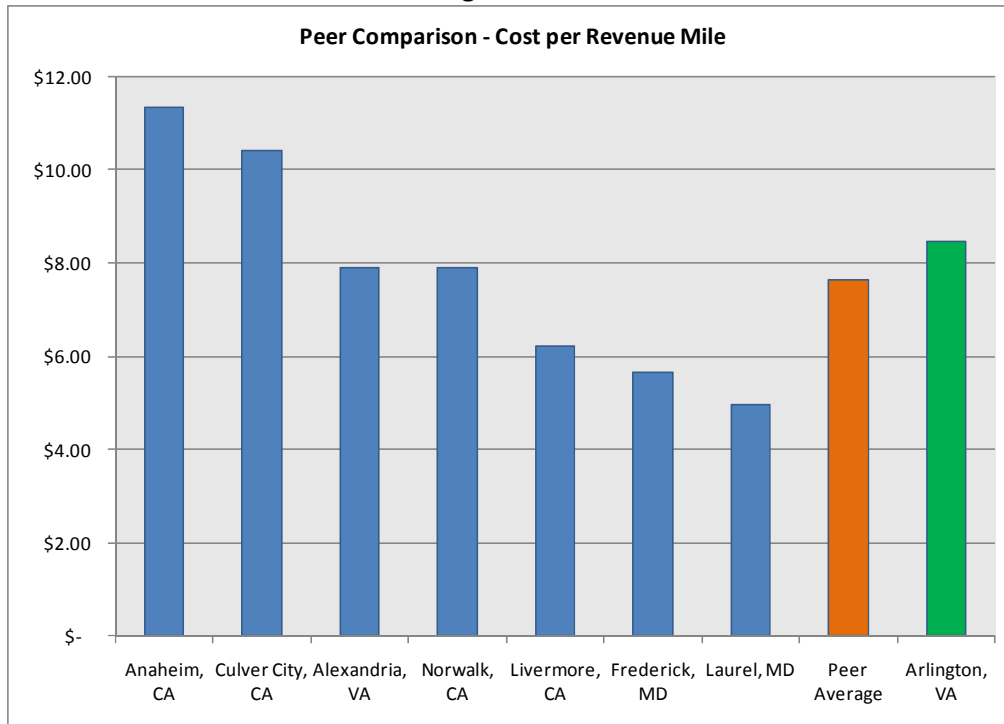
- Operating Cost per Revenue-Hour:** Figure 4-12 shows the peer systems' cost per revenue-hour range from \$64.57 (Frederick, MD) to \$110.90 (Culver City, CA), averaging at \$86.68. On this performance measure ART's cost per revenue hour is higher than all peers. ART's operations cost of \$87.07 per revenue-hour is slightly above the peer average.

Figure 4-12:



- Operating Cost per Revenue-Mile:** Figure 4-13 shows that on this measure of efficiency, the peers range between \$4.96 (Laurel, MD) and \$11.34 (Anaheim, CA) with an average cost per revenue-mile of \$7.63. Art's operations cost of \$8.47 per revenue-mile is slightly above the peer average.

Figure 4-13:



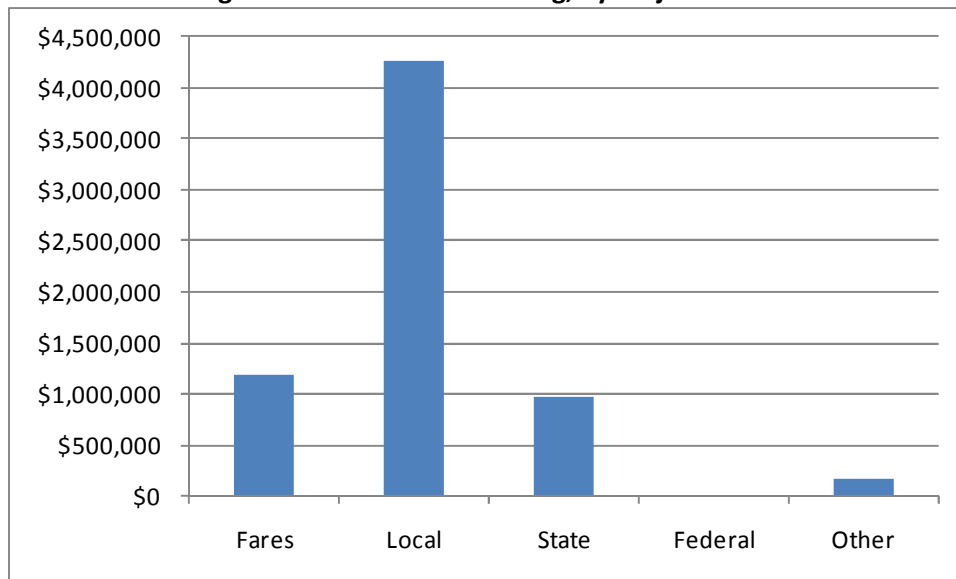
5.0 FINANCIAL ANALYSIS

The subsections below highlight the revenue sources used by ART and its peers to fund operating and maintenance (O&M) and capital requirements. Note that the data utilized for the following analyses indicate the range of funding sources reported for the 2008 NTD report year for the peer systems and 2010 estimates for ART (note that some of the peer numbers include funding sources for both fixed route and paratransit services). While levels and sources of funding used for O&M tend to be relatively consistent from year to year, annual capital funding levels and sources can vary significantly, depending on the projects programmed and grant sources occurring in a particular year.

5.1 Funding Sources Used for O&M

Figure 5-1 illustrates the ART's key revenue sources for fixed route service for report year 2010. ART relied most heavily on local (72 percent) and state (13 percent) assistance. Passenger fares accounted for 18 percent and private development contributions accounted for 2 percent of ART's operating funds. ART received no federal and minimal "other" funding for O&M.

Figure 5-1: ART O&M Funding, by Major Source



The next two figures compare sources of operating funds for the peer systems. The operating funds referred to finance fixed-route and demand-response service for the peer systems that operate both modes. Figure 5-2 provides an overview of the total dollar level of O&M funding used by ART and its peer systems. Figure 5-3 uses percentages to show the relative reliance on each funding source of the peers.

Figure 5-2: Summary of Funding Used for O&M (in 2008 dollars, ART in 2010 dollars)

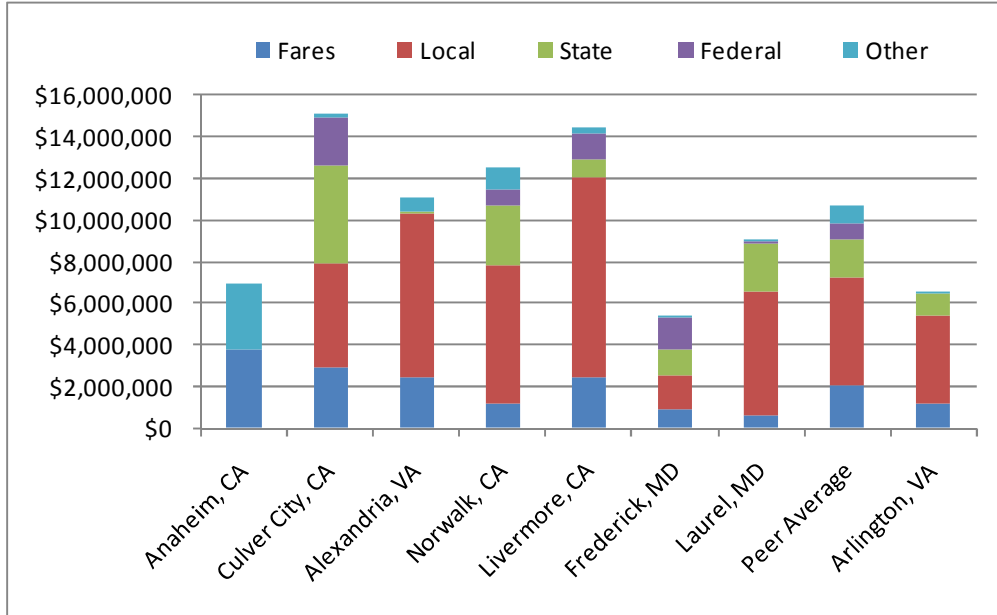
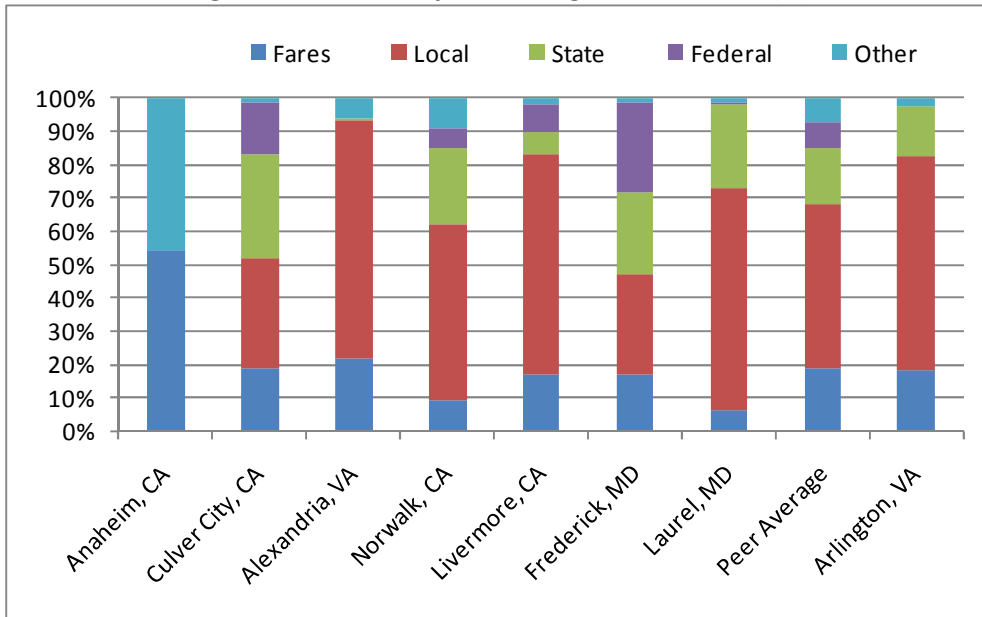
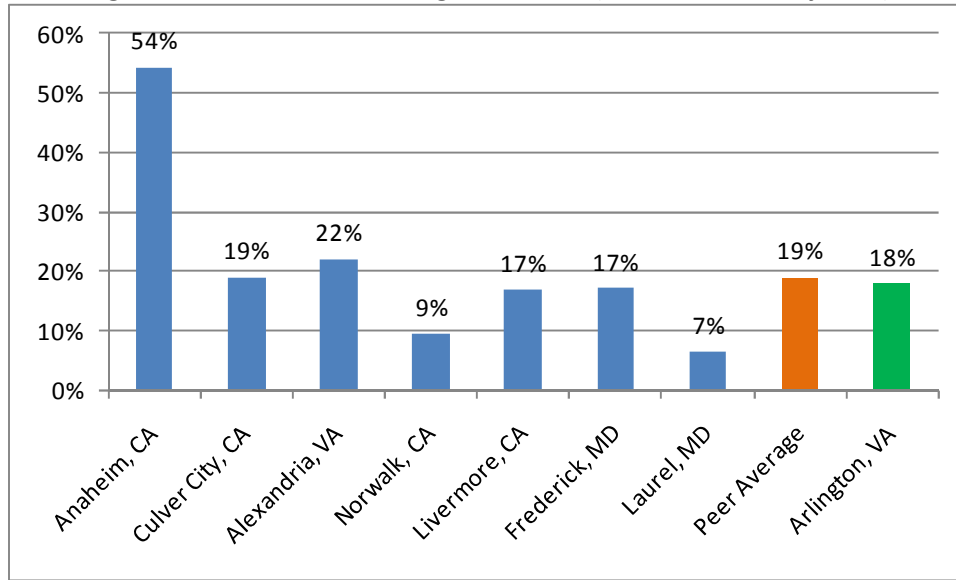


Figure 5-3: Summary of Funding Used for O&M (%)



- Farebox Revenues for O&M:** Most transit agencies collect fares for the services they provide. The extent to which fares cover O&M costs is referred to as the farebox recovery rate. The NTD does separate farebox data by mode and Figure 5-4 shows the recovery rate for the peer bus systems, without including demand response.

Figure 5-4: Bus O&M Funding from Fares (Farebox Recovery Rate)

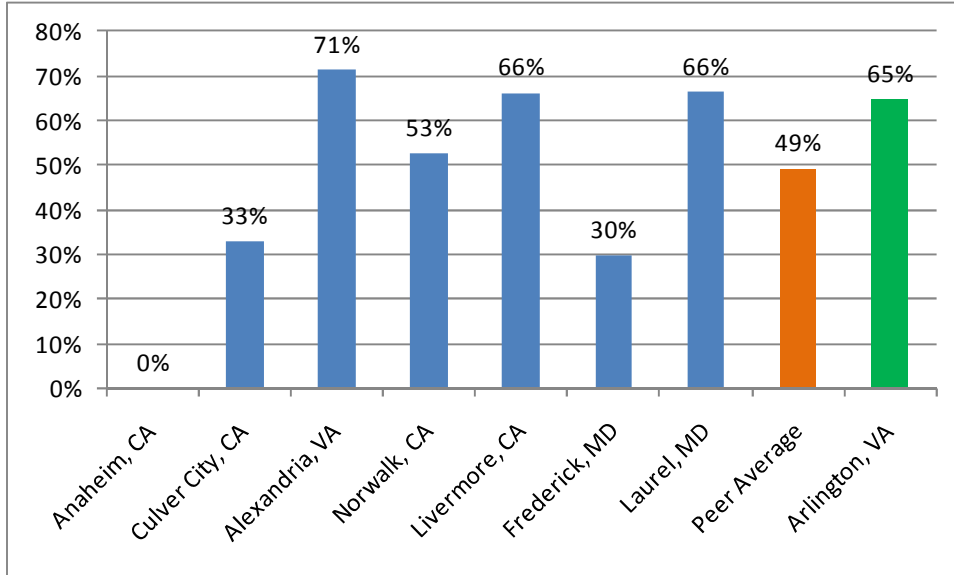


For peer systems reporting, farebox recovery rates ranged from 7 percent (Laurel) to 54 percent (Anaheim). ART's farebox recovery rate (18%) is slightly lower than the peer average of 19 percent.

- **Local Assistance for O&M:** For transit agencies that receive local operating assistance, these funds may be generated from various sources and provided to the agency by the local political jurisdiction (e.g., through local sales, property, and/or gasoline taxes) or be specifically designated for transit. Dedicated local funds are either received directly by the transit agency or collected by the local jurisdiction(s) in the service area and contributed to the transit agency in payment for service.

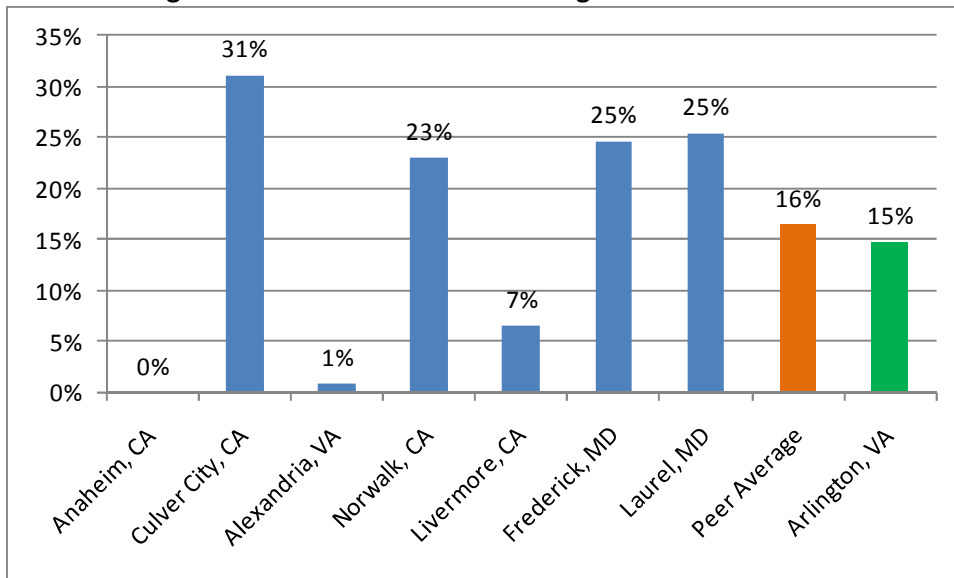
Figure 5-5 shows a wide variation among the peer systems with respect to reliance on local sources of operating funds. Local funds ranged between 0 percent (Anaheim) to 71 percent (Alexandria). With 65 percent of its operating budget funded locally, ART is substantially higher than the peer average of 49 percent.

Figure 5-5: Percent of O&M Funding from Local Sources



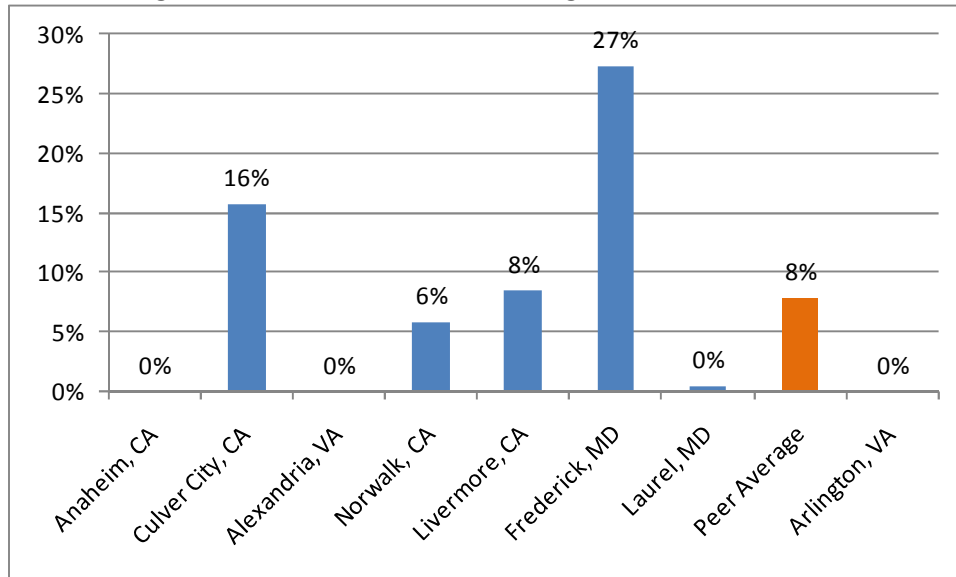
- State Sources for O&M:** States vary with respect to funding transit programs. As shown in Figure 5-6, peer system reliance on state funding sources varies from 0 (Anaheim) to 31 percent (Culver City). With 15 percent of ART’s operating cost funded by the state, it is slightly below the peer average of 16 percent.

Figure 5-6: Percent of O&M Funding from State Sources



- Federal Sources for O&M:** As shown in Figure 5-7, peer system reliance on federal sources of O&M funds ranged from 0 (Anaheim, Alexandria, and Laurel) to 27 percent (Frederick). With no reliance on federal funds for operations, ART is below the peer average of 8 percent.

Figure 5-7: Percent of O&M Funding from Federal Sources



5.2 Funding Sources Used for Capital

While funding sources and levels used for O&M remain relatively consistent from year to year, capital expenditure sources and levels can vary significantly from one year to the next, depending on the specific projects underway and the grants available. Thus, the information on capital funding described below reflects a snapshot for 2008, the most recent year for which data is available from the NTD. In 2008, ART reported approximately \$7.3 million from local funding sources used for capital expenditures. Figures 5-8 and 5-9 summarize capital funding in dollars and percent reliance by source, respectively.

Figure 5-8: Summary of Funding Used for Capital (in 2008 dollars)

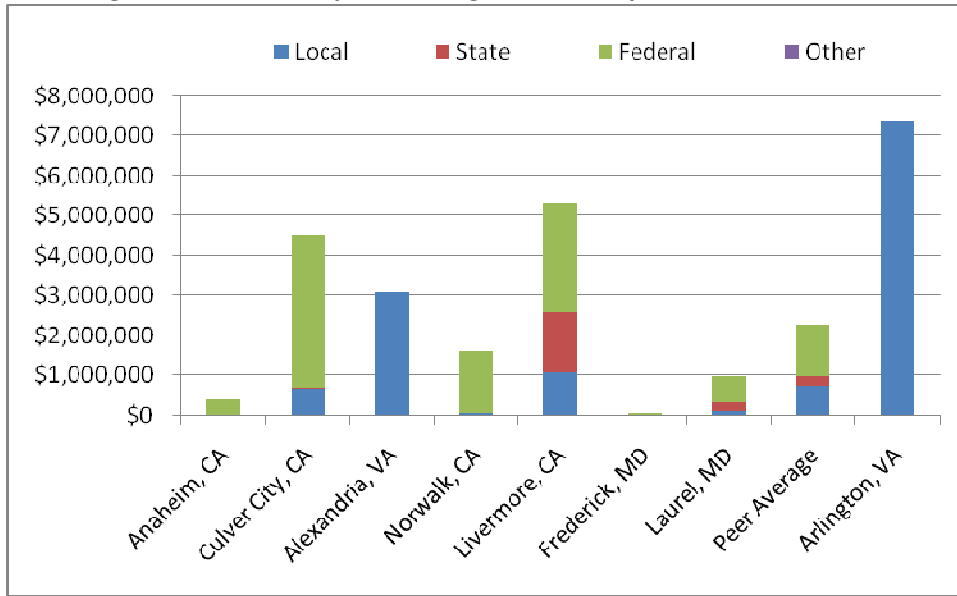
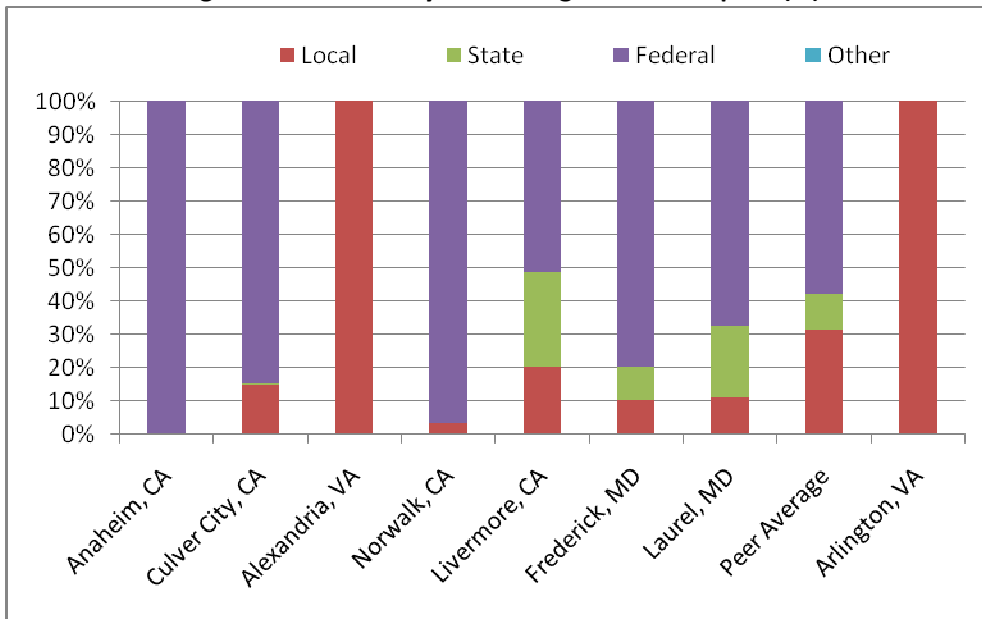
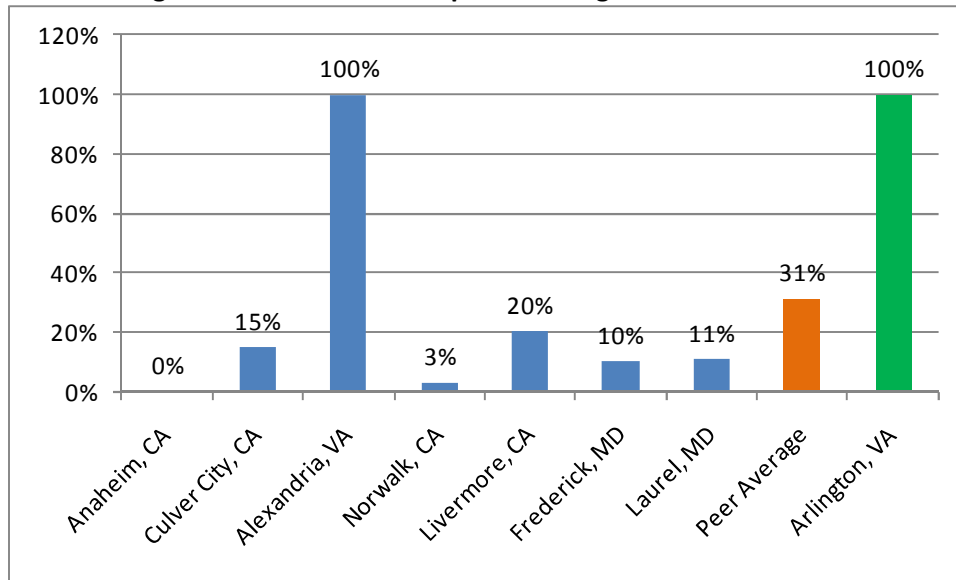


Figure 5-9: Summary of Funding Used for Capital (%)



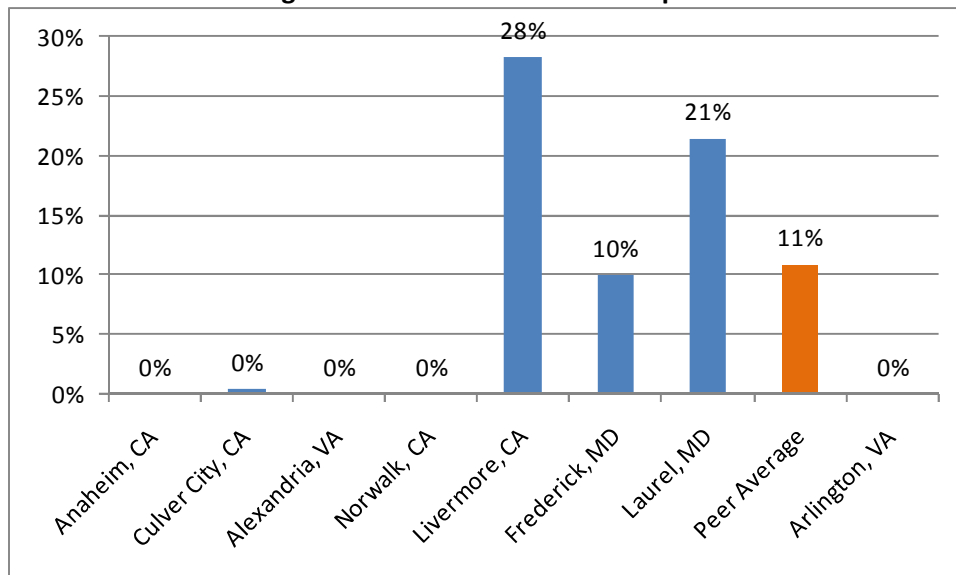
- Local Sources for Capital:** As with O&M, local jurisdictions that receive transit service may provide funding to pay a portion of capital costs for projects not paid through federal and state grants. As shown in Figure 5-10, the peer systems are divided between systems that did not receive any capital funds from local sources (Anaheim) and those that received 100 percent (Alexandria).

Figure 5-10: Percent of Capital Funding from Local Sources



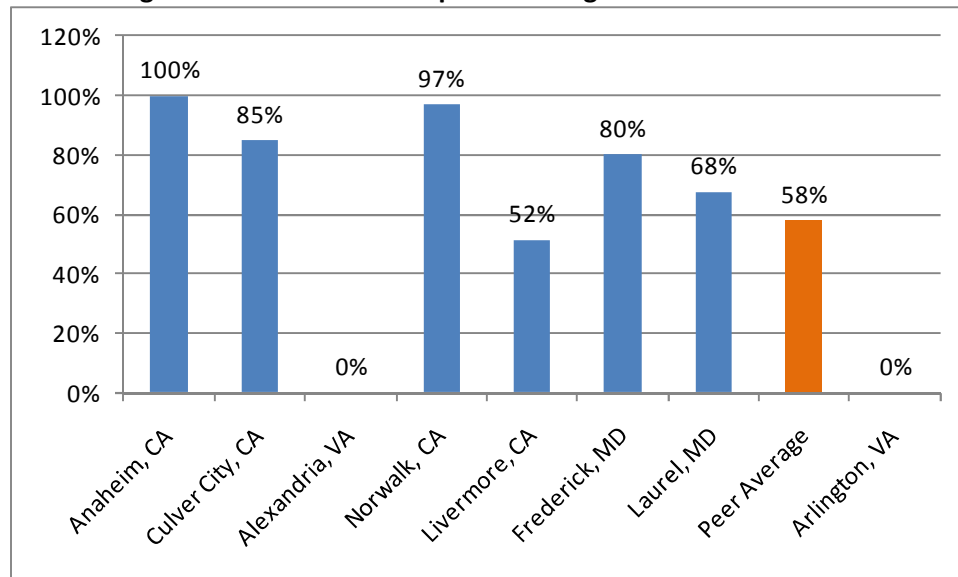
- State Sources for Capital:** States vary with respect to the existence of special state grant programs for transit capital projects. As with O&M, some of the peer systems funded capital expenditures with state money, covering from zero percent of their capital expenses to 28 percent (Livermore). The peer average was 11 percent. ART and four of the peers did not use any state sources for capital funding.

Figure 5-11: State Sources for Capital



- Federal Sources for Capital:** Transit agencies receive grants from various federal programs, notably the Federal Transit Administration’s formula and discretionary grant programs. As shown in Figure 5-12, reliance on federal funds for capital expenses, as demonstrated by ART and its peers ranged from 0 (Alexandria) to 100 percent (Anaheim). The peer average was 58 percent. It is important to note that although ART has not received federal transit dollars for capital in the past, it will in the near future. ARThas been approved to receive ARRA grant funding for six buses. Three will be CNG-electric hybrid buses mostly funded through the Transit Investments for Greenhouse Gas and Energy Reduction (TIGGER) program. The other three will be 30’ CNG buses funded through Regional Surface Transportation Program (RSTP) grant funds.

Figure 5-12: Percent of Capital Funding from Federal Sources



6.0 KEY FINDINGS OF PRIMARY PEER REVIEW

This review has compared the Arlington Transit (ART) bus system to seven peer transit systems with respect to operational and financial characteristics and performance. The Federal Transit Administration’s NTD was the primary source of data for these systems, with the most recently available data (2008) used in the analysis. The transit systems selected as peers to ART were:

- Anaheim Transportation Network – ATN (Anaheim, CA)
- Culver City Municipal Bus Lines (Culver City, CA)
- City of Alexandria (Alexandria, VA)
- Norwalk Transit System (Norwalk, CA)
- Livermore /Amador Valley Transit Authority – LAVTA (Livermore, CA)
- Transit Services of Frederick County (Frederick, MD)
- Howard Transit (Laurel, MD)

In general, ART’s service area, service, and financial characteristics were similar to the peer system averages, as summarized in Table 6-1.

Table 6-1: Summary of ART and DC Peer-Average Characteristics

Characteristic	Supplemental Peer Review	
	Peer Average	ART
Service Area		
Population	189,543	212,200
Square Miles	30	26
Population Density	7,037	8,162
Service		
Peak Buses	31	26
Passenger Trips	2,896,342	1,990,402
Revenue-Miles	1,223,540	779,573
Revenue-Hours	107,747	75,797
Financial		
Annual Operating Cost	\$ 9,340,000	\$ 6,600,000
Fare Revenue	\$ 1,774,600	\$ 1,187,856

Key findings were as follows:

- **Vehicle Utilization:** The size of ART’s bus fleet (35 buses) and vehicles operated in maximum service (26 buses) both were smaller than the peer average (24 and 21 percent lower, respectively). Additionally, ART’s revenue-miles and revenue-hours per peak bus were 19 and 11 percent lower, respectively. All the peers exhibited high spare ratios in comparison to FTA guidelines of 20 percent spares.

- **Service Supplied:** In comparison to its peers, ART operates 37 percent less revenue-hours and 43 percent less revenue-miles per capita and 18 percent less revenue-hours per square mile than the peer average.
- **Ridership Productivity:** ART was similar to the peer systems in attracting ridership on a revenue-hour and revenue-mile basis, but less so on a per capita basis. However, combined with the level of Metrobus service provided within Arlington County, overall transit service ridership productivity exceeds the peer average.
- **Cost Efficiency:** ART's cost was slightly higher than the peer average on a passenger trip and revenue-mile basis, and similar on a cost per revenue-hour basis.
- **Farebox Revenues:** ART farebox recovery was just under the peer average.
- **Source of O&M Funds:** ART had dissimilar characteristics to the peer average with regard to the percent of funding. ART reported less federal and state funding but substantially more local funding than the peer averages for these categories.
- **Source of Capital Funds:** For the analysis year of 2008, the peer systems varied widely with regard to capital funding (0 to 100 percent).

To conclude, this primary peer review analysis has determined that ART's ridership, service, and financial characteristics appear to be lower than the range experienced by its peer systems on a per capita basis, but within the range of peer systems on a revenue-mile and revenue-hour basis. However, when combined with the level of Metrobus service provided within Arlington County, overall transit service productivity and effectiveness on a per capita basis would exceed the peer average.

7.0 SUPPLEMENTAL PEER REVIEW

A limited peer review was conducted to compare the ART bus system to six suburban bus systems that all operate in the District of Columbia area. As with the primary peer review, this evaluation used the Federal Transit Administration’s 2008 NTD for five of the transit agencies (including one NTD report that was not in the included in the FTA’s database, but was provided by the agency) and FY 2010 data for ART. The bus systems selected as D.C.-area peers were:

- City of Fairfax - CUE (Fairfax, VA),
- City of Alexandria (Alexandria, VA),
- City of Falls Church (Falls Church, VA),
- Fairfax Connector Bus System (Fairfax County, VA),
- Ride-On Montgomery County Transit (Montgomery County, MD), and
- Prince George’s County Transit (Prince George’s County, MD).

Falls Church was the system for which NTD information was not available, but was obtained instead from the Virginia Transit Performance Report (FY 2002 – FY 2006).

Except for regional location, ART’s service area, service, and financial characteristics were unlike the D.C.-area peer averages, as summarized in Table 7-1:

Table 7-1: ART and D.C. Peer-Average Characteristics

Characteristic	Supplemental Peer Review	
	Peer Average	ART
Service Area		
Population	503,695	212,200
Square Miles	234	26
Population Density	3,889	8,162
Service		
Peak Buses	108	26
Passenger Trips	7,992,632	1,990,402
Revenue-Miles	4,053,493	779,573
Revenue-Hours	310,462	75,797
Financial		
Annual Operating Cost	\$ 29,315,247	\$ 6,600,000
Fare Revenue	\$ 1,124,819	\$ 1,187,856

7.1 Supplemental Peer Review Analysis

The following graphs compare ART and the D.C.-area peers on measures of service supplied, ridership productivity, and cost efficiency.

- **Service Supplied:** ART operates significantly less revenue-hours and revenue-miles per capita than the D.C. peer average.

Figure 7-1 shows that ART provides less service hours per capita (0.36) than any of the D.C.-area peer systems, which range between 0.23 (Prince George’s Co.) and 1.65 (City of Fairfax). The number of revenue-hours per capita that ART provides is approximately 44 percent of the peer average (0.80).

Figure 7-1: D.C. Peer Comparison – Revenue-Hours per Capita

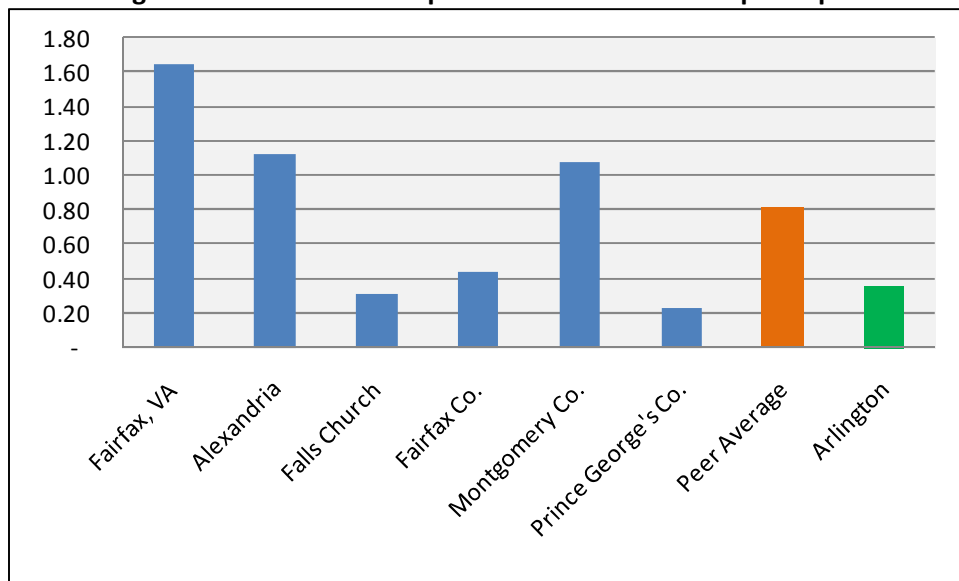
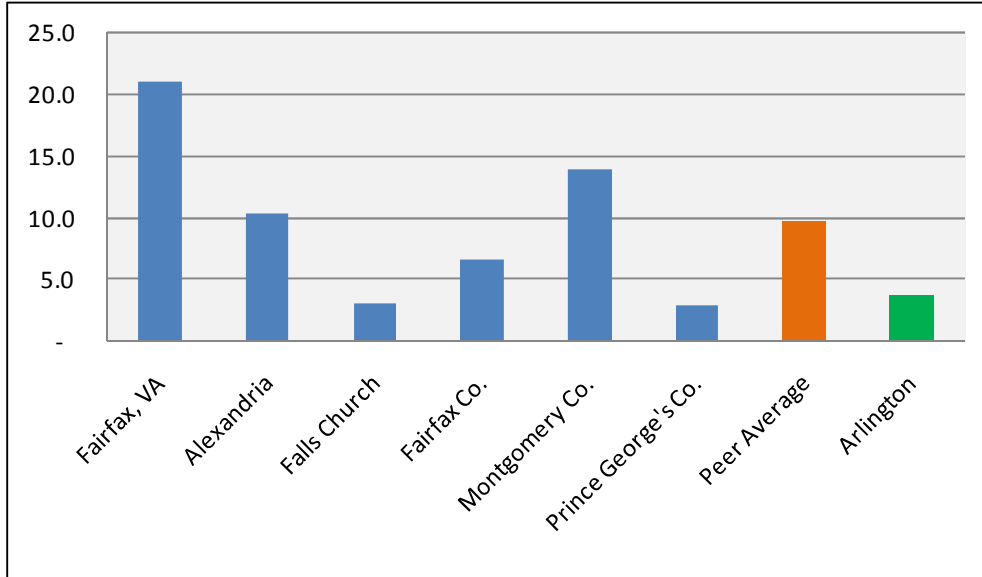


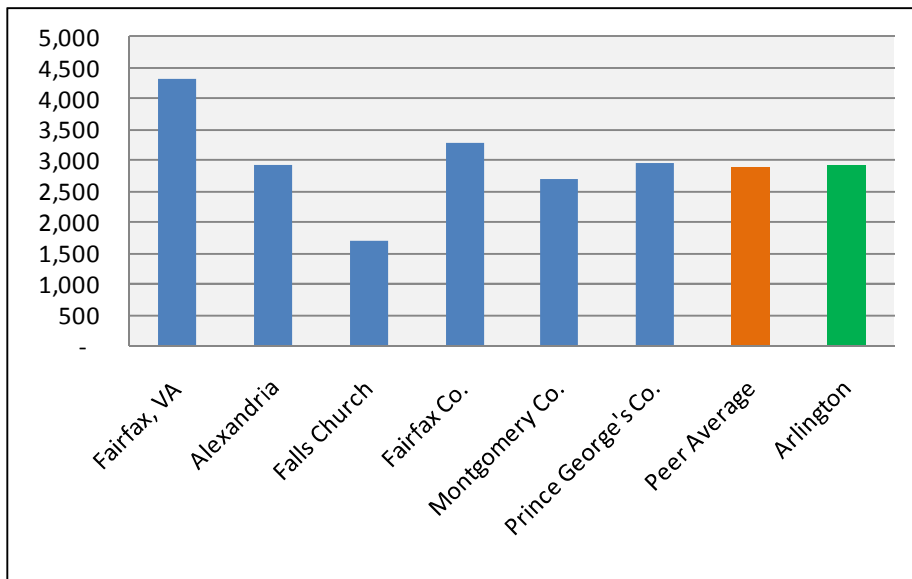
Figure 7-2 shows that ART also operates less revenue bus-miles per capita (3.7) than any of the D.C.-area peer systems, which range between 2.9 (Prince George’s Co.) and 21 (City of Fairfax). ART’s revenue-miles per capita is approximately 38 percent of the peer average (9.6).

Figure 7-2: D.C. Peer Comparison – Revenue-Miles per Capita



- Vehicle Utilization:** Figure 7-3 shows that the peer systems operated between 1,711 (Falls Church) and 4,325 (City of Fairfax) revenue-hours per peak bus. At 2,915, ART operates a very similar number of revenue-hours per peak bus as the peer average (2,884).

Figure 7-3: D.C. Peer Comparison – Revenue Vehicle-Hours per Peak Bus



- **Ridership Productivity:** ART was less productive than the D.C. peer average in attracting ridership per capita and also less productive in terms of passenger trips per revenue-hour and per revenue-mile.

As shown in Figure 7-4, ART is less effective at attracting riders per capita than most of the D.C.-area peer systems. ART's productivity on this measure is 44 percent of the peer average.

Figure 7-4: D.C. Peer Comparison – Passenger Trips per Capita

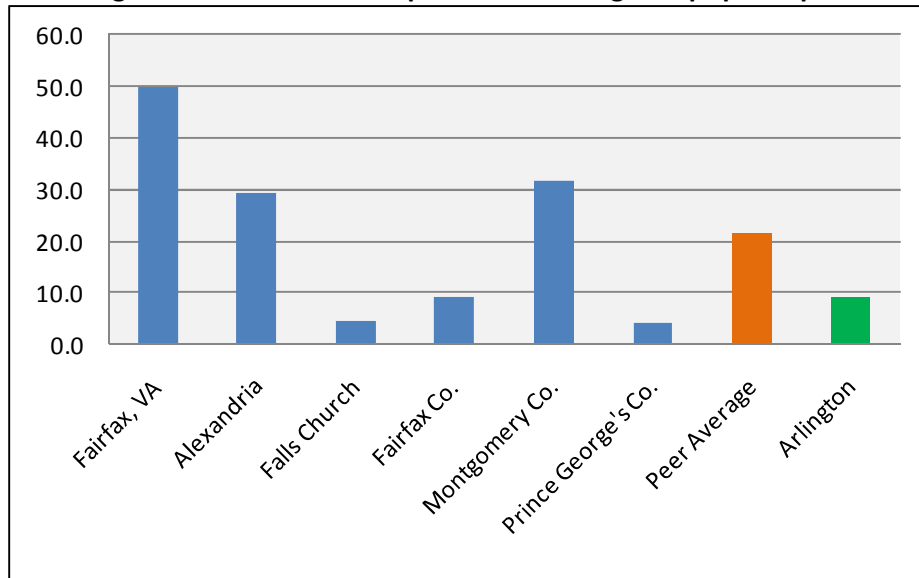


Figure 7-5 shows that the D.C.-area peer systems generate between 15.5 (Falls Church) and 30.3 (City of Fairfax) passenger trips for every revenue-hour of bus service. ART's productivity of 26.3 passengers per revenue-hour is better than the peer average of 23.3.

Figure 7-5: D.C. Peer Comparison – Passenger Trips per Revenue-Hour

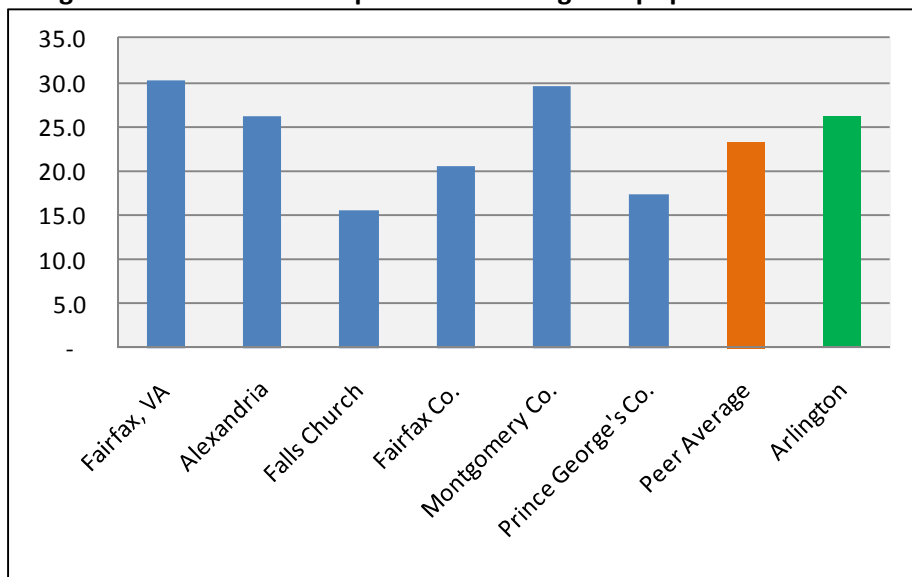
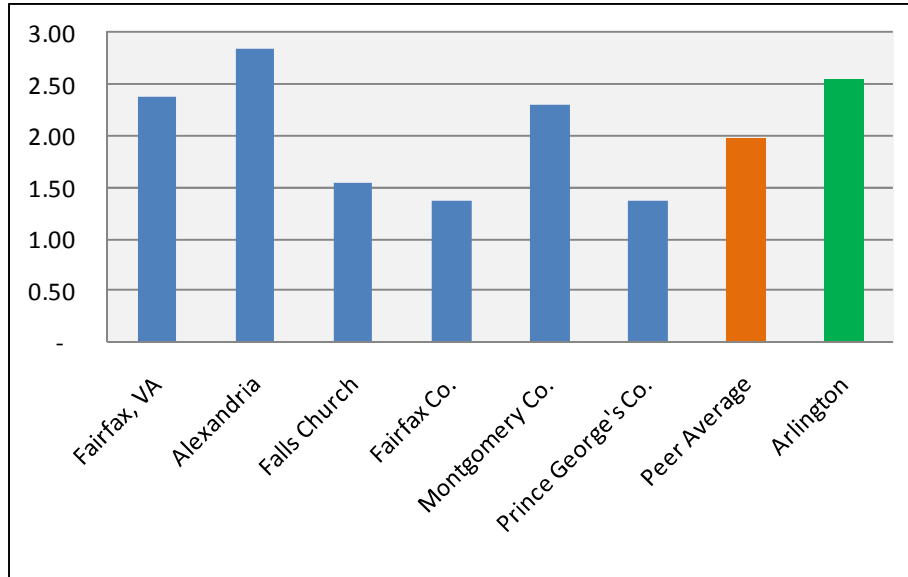


Figure 7-6 shows the D.C.-area peer systems generate between 1.4 (Fairfax County, Prince George’s County) and 2.8 (Alexandria) passenger trips per revenue-mile of service. ART serves 2.55 passengers per revenue-mile exceeds the D.C. peer average (1.97).

Figure 7-6: D.C. Peer Comparison – Passenger Trips per Revenue-Mile



- **Cost Efficiency:** ART’s cost efficiency was better than the D.C. peer average when compared on a passenger trip basis and revenue-hour, and revenue-mile basis.

Figure 7-7 shows the D.C. peer systems’ cost per passenger trip ranges from \$2.78 (Alexandria) to \$5.10 (Falls Church), averaging at \$3.97. On this performance measure, ART’s cost of \$3.32 per passenger trip is lower than the peer average by 17%.

Figure 7-7: D.C. Peer Comparison – Operating Cost per Passenger Trip

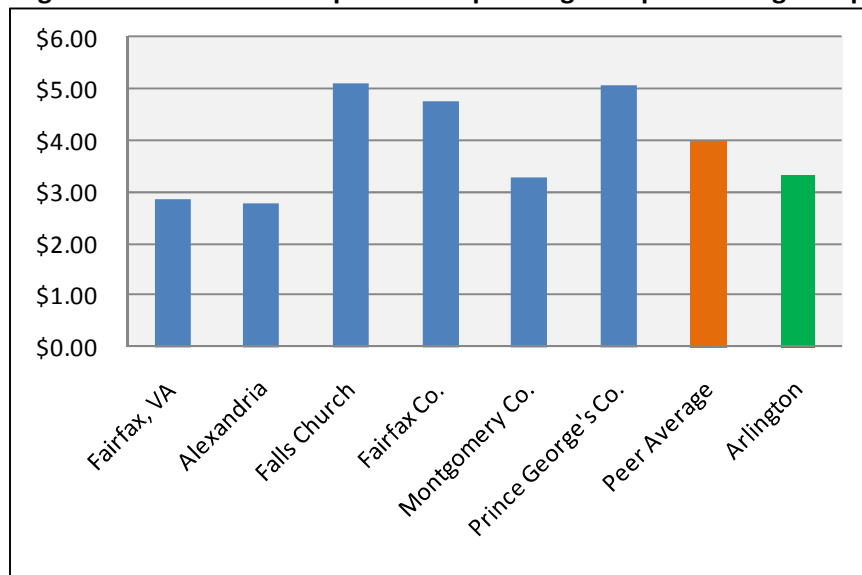


Figure 7-8 shows the D.C. peer systems' cost per revenue-hour ranges from \$72.96 (Alexandria) to \$98.26 (Fairfax County), averaging at \$87.00. On this performance measure, ART's costs are very close to the peer average at \$87.07 per revenue-hour.

Figure 7-8: D.C. Peer Comparison – Operating Cost per Revenue-Hour

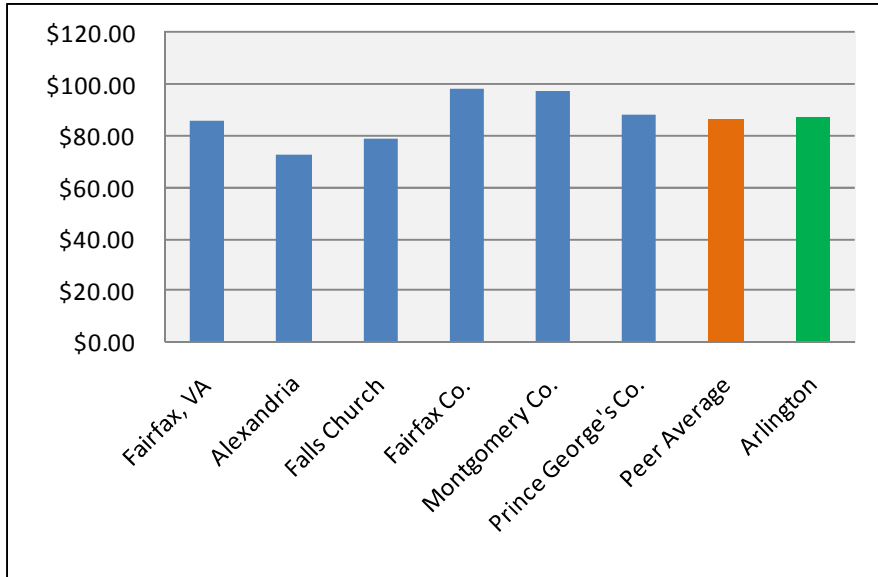
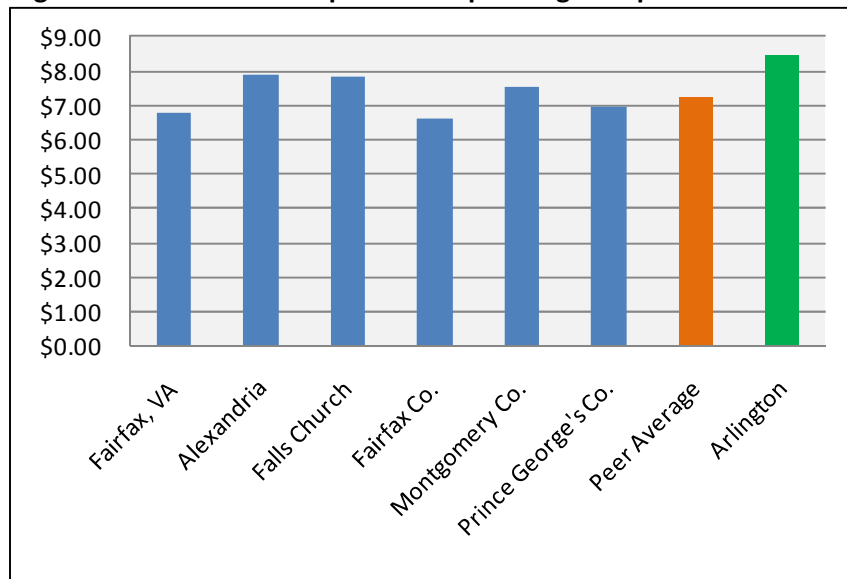


Figure 7-9 shows that on a cost per revenue-mile basis, the D.C.-area peers range between \$6.60 (Fairfax County) and \$7.91 (Alexandria) with an average cost per revenue-mile of \$7.35. ART is less efficient the peer system average by spending \$8.47 for each revenue-mile of service.

Figure 7-8: D.C. Peer Comparison – Operating Cost per Revenue-Mile



7.2 Supplemental Peer Review Findings

The peer review completed with data from D.C.-area suburban transit systems presents a conclusion very similar to the full peer review assessment. ART service provides much less service per capita than other suburban D.C. systems, yet ART service has similar or better service productivities and cost efficiencies than most of its local peers on a per-hour basis and is generally just slightly higher on a per-mile basis. Cost comparisons on a per mile basis are skewed for average bus operating speeds in Arlington are typically lower than the peer systems. Comparisons on a per capita basis also tend to be skewed for Arlington enjoys a much higher level of WMATA Metrobus and Metrorail service than the peer systems (i.e., there is a higher level of transit service in Arlington County than the peers when both ART and WMATA service is jointly taken into consideration).