



ARLINGTON COUNTY, VIRGINIA

County Board Agenda Item Meeting of June 11, 2011

DATE: June 13, 2011

SUBJECT: Extend Route ART 45 to Columbia Heights West

C. M. RECOMMENDATION:

Accept Attached Report

ISSUES: The County Board directed the staff to examine the ART 45 route to determine how best to provide direct service connecting the Columbia Heights West community with Department of Human Services Stambaugh Center offices at 2100 Washington Boulevard.

SUMMARY: Staff recommends extending ART 45 service along Columbia Pike to Carlin Springs Road, 8th Road South, and South Greenbrier Street as described in the Attachment as Option A. This recommendation would be implemented with other service changes on Monday, August 15, 2011.

BACKGROUND: During the deliberations on the FY 2012 budget, the County Board in response to complaints from residents and advocates (Virginians Organized for Interfaith Community Engagement (VOICE)) directed the staff to examine the ART 45 route to determine how best to provide direct service between DHS offices and the Columbia Heights West community.

DISCUSSION: Several alternative configurations of the ART 45 were reviewed. The recommended Option A meets the immediate objectives of a direct connection between Columbia Heights West and DHS offices without reducing the major source of ART 45 ridership: the connection between Rosslyn and Columbia Pike. The August 15, 2011 implementation date allows sufficient time to update scheduling, dispatch, SmarTrip and transit wayfinding software, post bus stop signs and poles, print brochures, and train bus operators.

FISCAL IMPACT: The annual additional operating cost, less increased fare revenue, will be approximately \$205,322. In Fiscal Year 2012 the net cost (less revenue) will be approximately \$180,780 assuming service is adjusted on August 15th. Funding for this enhanced service will be

County Manager:

County Attorney:

Staff: Steve Yaffe DES

appropriated to the Department of Environmental Services as a part of the FY 2011 close-out with Metro expenditure savings from FY 2011.

provide a direct connection to the Rosslyn Metrorail station as required by the lease agreement¹; and maintain a 30-minute frequency of service. The ART 45 route served each of these directives, and it has proven successful in the short time it has been deployed. Based on staff experience, a minimum of 18 to 24 months are required for a new route to achieve its long term ridership potential. However, as shown in Table 1 below, the ART 45 is carrying 496 passengers per day and it has exceeded minimum performance standards.

Table 1: ART 45 Performance

Performance Measure	Minimum	ART 45
Rides per Revenue Hour	12	18
Farebox Recovery	20%	25%

As designed, the ART 45 did not provide a one-seat ride to DHS clients who resided in Columbia Heights West. Rather, the route provided service to residents south of Columbia Pike in a neighborhood that had no transit service since WMATA had eliminated the 16W. With the addition of a third bus, the ART 45 route can be extended to provide direct service to DHS for residents who reside both north and south of the western end of Columbia Pike. The third bus will provide more flexibility in the ART 45 schedule, enabling service to more stops on Columbia Pike.

Staff’s recommendation would maintain the current connection of the ART 45 to Rosslyn, although on a different alignment. As part of the evaluation of the current ART 45, staff conducted an on-board passenger survey. Every northbound ART 45 trip was surveyed over a two-day period, Tuesday and Wednesday, April 12-13th. Of the 259 boardings, 80% alighted in Rosslyn. Only one-quarter of those destined to Rosslyn boarded at DHS Stambaugh.

While the survey results show the success of this route, two results are worth noting. First, for the vast majority of ART 45 riders the connection to Rosslyn is critical. Second, the number of people alighting at DHS Stambaugh clearly is less than what would be assumed from neighborhoods along western Columbia Pike. A number of factors contribute to the second finding. A significant number of clients travel to DHS by automobile. Data from a 2008 survey reported that 53% of clients drove to the DHS office in Clarendon.² There is little reason to think this number has gone down given the abundance of free parking available at the Sequoia location. Another reason is the difficulty of transferring without paying an additional fare, which is now limited to SmarTrip users. Similarly, the recent SmarTrip limitation for weekly passes may also contribute to relatively lower ridership. Table 2 below shows the likely potential of

¹ The lease agreement provided that the County would provide service to the Pentagon and Rosslyn Metrorail stations to replace the landlord’s shuttle buses to those destinations. At that time the ART 42 provided service to the Pentagon, but there was no service to the Rosslyn station.

² The survey DHS completed in September 2008 showed that of the 512 clients per average day at the Clarendon offices: (273) 53% drove or parked; 131 rode the bus (26%); and 21% walked, took Metrorail, a taxi or were dropped off.

DHS clients who reside in western Columbia Pike neighborhoods who would ride transit, if we assume a 50% transit mode split.

Table 2: Columbia Pike West Neighborhood Potential Trip Generation to DHS

Census Tract / Neighborhood Along Western Columbia Pike	Current Routes to DHS Sequoia	DHS Clients	Est. Annual Round Trips	Est. Daily Round Trips All Modes	% Zero-Car Households	Est. Daily Round Trips by Transit (assumes 50% of Total)
Columbia Heights West	16G->42/45	4,922	22,641	90	13%	45
Columbia Forest	16's->42/45	2,587	11,900	47	9%	24
Douglas Park (Barcroft Apts.)	45	2,931	13,483	34	15%	17
Barcroft/Alcova Heights	22A->45	1,614	7,424	30	5%	15
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In developing alternatives that might improve ridership, staff estimated demand from census tracts with the highest concentration of DHS clients to DHS Stambaugh, as shown by the table below. While Columbia Heights West has the highest concentration of clients, other neighborhoods also have notable demand for rides to DHS Stambaugh. Buckingham has the second-highest concentration of DHS clients in Arlington, and it has the highest number of families that do not own an automobile. Buckingham residents currently have a number of alternatives to reach DHS Stambaugh. One alternative is to ride one of several routes to Ballston Metro and transfer to the ART 42 to reach DHS. Another is to ride the Metrobus 4B and transfer to the ART 42 or 77. In Figure 3 below, neighborhoods served by the ART 45 directly or indirectly are highlighted.

Table 3: Neighborhoods with Substantial DHS Client Populations

Census Tract / Neighborhood with Highest Concentrations of DHS Clients	Current Routes to DHS Sequoia	DHS Clients	Est. Annual Round Trips	Est. Total Daily Round Trips	% Zero-Car Households	Est. Daily Round Trips by Transit (assumes 50% of Total)
Columbia Heights West	16G->42/45	4,922	22,641	90	13%	45
Columbia Forest	16's-> 42/45	2,587	11,900	47	9%	24
Douglas Park (Barcroft Apts.)	45	2,931	13,483	34	15%	17
Nauck	77	1,999	9,195	37	8%	19
Barcroft/Alcova Heights	22A->45	1,614	7,424	30	5%	15
Buckingham ³	4B -> 42/77	3,474	15,980	64	31%	32
Lyon Park	4B -> 45/77	1,799	8,275	33	11%	17
Radnor/Fort Myer Heights	4A&B,61->45	1,718	7,903	31	19%	16
Average		2,631	12,100	46	13.90%	23
County-wide		40,000	184,000	733	12.40%	367

Finally, in developing alternatives to better serve DHS clients, staff reviewed total ridership to DHS with the current route structure. Total ridership to/from DHS Stambaugh on Wednesday, March 16 (clear weather) is shown below in Table 4.

Table 4: Boardings & Alightings at DHS Stambaugh

ROUTE	DIRECTION	ON	OFF	TOTAL
ART 45	Rosslyn	52	32	84
ART 45	Columbia Pike	39	33	72
ART 42	Pentagon	22	22	44
ART 42	Ballston	19	24	43
ART 77	Rosslyn	14	24	38
ART 77	Shirlington	15	22	37
	Totals:	161	157	318

³ At an April 1, 2011 Buckingham (Gates of Ballston) meeting to discuss SmarTrip card use, none of the 129 in attendance expressed concern about this particular transfer.

Alternatives: Given all of the above information, transit bureau and ART operations staff developed and reviewed four basic alternative routes which are discussed below.

Option A: Extend the current ART 45 to serve several Metrobus 16G bus stops through Columbia Heights West as shown in Figure 1. Because of expected delays on Arlington Blvd. due to realignment of the interchange at Court House Road, the revised ART 45 route would serve Metrobus 4B stops on N. Barton Street and selected Metrobus 38B stops to connect Courthouse Metro with Rosslyn Metro. This extension and realignment would add 20 minutes running time and require one additional bus. Operating the additional bus would cost approximately \$225,000 annually. As the operating cost for this route would increase by one-third, special efforts to entice more riders bound to DHS Stambaugh and Rosslyn would be needed to keep route performance above minimum standards.

Advantages:

- Provides improved access to DHS Stambaugh from Columbia Heights West and Columbia Forest
- Preserves and extends the expeditious cross-town link from Columbia Pike to Rosslyn

Disadvantages:

- Does not provide a direct link between Buckingham and DHS Stambaugh
- Risks the ability of the ART 45 to maintain performance above minimum standards.

Option B: Extend the current ART 45 to serve the Metrobus 16G bus stops in Columbia Heights West and reroute the middle of the ART 45 route to serve the Buckingham neighborhood as shown in Figure 2. This routing would be tailored primarily for DHS access, while providing a lengthier and more circuitous routing to Rosslyn. As shown on the attached map, Option B would use Four Mile Run Drive Minor instead of Major (north side of Four Mile Run). The high density housing on Four Mile Run Major are higher income and more likely to use the Rosslyn link. The high density housing on Four Mile Run Minor would include more DHS clients. The route would remain on S. George Mason, connecting Four Mile Run to Pershing Drive in the midst of the Buckingham neighborhood. The route would continue on Pershing, and then run non-stop on Washington Blvd. to DHS Stambaugh. This route would not serve Columbia Pike east of S. George Mason, resulting in a significant loss of riders, who now use the ART 45 to get from Columbia Pike to Rosslyn. This loss of Rosslyn riders would actually result in a net loss of ridership. Like Option A, this route would require a third bus at an annual cost of \$225,000.

Advantages:

- Provides improved access to DHS Stambaugh from Columbia Heights West and Columbia Forest
- Provides a direct link between Buckingham and DHS Stambaugh

Disadvantages:

- Eliminates the connections between Rosslyn and Columbia Pike east of S. George Mason.
- The connection between western Columbia Pike and Rosslyn would become visibly circuitous, though less congested and only two minutes longer than the current route.

- Substantially reduces the ability of the ART 45 to maintain performance above minimum standards.

Option C: Extend the current ART 45 to serve the Metrobus 16G bus stops in Columbia Heights West, reroute the middle of the ART 45 to serve the Buckingham neighborhood, and reassign the link between DHS Stambaugh from the ART 45 to the ART 77 as shown in Figure 3. The link between DHS Stambaugh and Rosslyn via the ART 77 would include Clarendon and Courthouse and an extra thirteen minutes round trip. The third bus would be reassigned to the ART 77, instead of the ART 45. Since the ART 77 has a longer span of service, the additional cost would be \$285,000. The extension of the ART 77 to Rosslyn was recommended by the Arlington County Transit Development Plan to occur in Fiscal Year 2016.

Advantages:

- Provides improved access to DHS Stambaugh from Columbia Heights West and Columbia Forest
- Provides a direct link between Buckingham and DHS Stambaugh
- Provides additional bus service between Clarendon and Rosslyn
- Provides direct connections between Shirlington and Rosslyn

Disadvantages:

- Eliminates the connections between Rosslyn and Columbia Pike east of S. George Mason.
- The connection between western Columbia Pike and Rosslyn would become visibly circuitous and require a transfer at Walter Reed instead of Columbus, adding several minutes to the trip traversing congestion on Columbia Pike as well as Clarendon/Wilson Blvds.
- Likely will result in a net loss of riders; and greatly reduces the ability of the ART 45 to maintain performance above minimum standards.

Option D: Maintain the current ART 45 service as presently constituted while creating a new ART 47 route specifically for DHS Stambaugh consumers as shown in Figure 4. The ART 47 would serve the Metrobus 16G bus stops in Columbia Heights West, stops around the Barcroft Apartment complexes on Four Mile Run Minor and S. George mason, as well as stops on Pershing Drive to serve the Buckingham neighborhood. The route would end at DHS Stambaugh. Round Trip travel-time would be one-hour. The new ART 47 would require two buses to maintain a 30 minute frequency and would cost approximately \$450,000. Potential ridership is limited as the only notable trip attractor would be DHS. Table 5 shows an estimation of the maximum number of potential DHS riders that would be served by the ART 45 and ART 47.

If the maximum ridership potential is 250 one-way trips per day, then the likely passenger loads over a 13.5 hour span of service would be nine per one-way trip.

Advantages:

- Provides improved access to DHS Stambaugh from Columbia Heights West, Columbia Forest and Buckingham
- Preserves the expeditious cross-town link from Columbia Pike to Rosslyn

- Enables the ART 45 to maintain and improve strong performance levels

Disadvantages:

- This option is the most costly
- The ART 47 is not likely to meet minimum performance standards given other travel options and the availability of free parking

Table 5: Potential ART 47 Ridership

Census Tract / Neighborhood Along Western Columbia Pike	Current Routes to DHS Stambaugh	DHS Clients	Est. Annual Round Trips	Est. Daily Round Trips All Modes	% Zero-Car Households	Est. Daily Round Trips by Transit (assumes 50% of Total)
Columbia Heights West	16G->42/45	4,922	22,641	90	13%	45
Columbia Forest	16's->42/45	2,587	11,900	47	9%	24
Douglas Park (4 Mile-Quincy)	45	2,931	13,483	34	15%	17
Barcroft/Alcova Heights	22A->45	1,614	7,424	30	5%	15
Buckingham	4B ->42/77	3,474	15,980	64	31%	32
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Summary: Table 6 summarizes the projected ridership and financial impact of each option: assuming that Options A and D preserves current Rosslyn ridership; Option B deters two-thirds of them; and Option C deters one-third of them, and that some current DHS riders would be diverted from the ART 45 in Option D to the ART 47.

Table 6 – Summary of Options

Option	Annual Cost	Potential Daily Ridership (Net ⁴)	Annual Net Ridership	Gross Cost / Rider	Net Cost ⁵	Net Cost / Rider ⁶
A	\$225,000	98	24,598	\$9.15	\$205,322	\$8.35
B	\$225,000	-46	-11,431	-\$19.68	\$234,144	-\$20.48
C	\$285,000	17	4,189	\$68.03	\$281,649	\$67.23
D	\$450,000	250	62,750	\$7.17	\$399,800	6.37

Options A and D are the only viable options given projected ridership and relative cost effectiveness. Option D is the most costly, although it will generate more new riders because it does serve both Columbia Heights West and Buckingham. While option A does not serve Buckingham, it does provide a direct connection to DHS Stambaugh and Rosslyn for Columbia Heights West residents. Staff would recommend Option A for the extension of the ART 45, and would further recommend that it study an alternative means for a better connection between Buckingham and DHS Stambaugh.

DISCUSSION – SMARTRIP CARD USAGE

Residents on the west end of Columbia Pike have concerns about using SmarTrip cards since WMATA’s recent termination of paper bus passes. Some residents find it difficult and costly to ride buses to the new DHS location as they do not know how to get a free transfer. Residents are unsure where and how to load money and bus passes on their SmarTrip cards.

Recommendations and Actions:

1. Load money and bus passes on SmarTrip cards at DHS Stambaugh Center:
 - DHS staff requested WMATA approval to become a retail site for loading SmarTrip cards. WMATA does not have any Compact Point of Sales (CPOS) devices needed to load cards and estimates a six month wait time to re-load their stock. DHS is on the waitlist for the device.
 - Staff is reviewing the WMATA contract to become a retail site with the County Attorney’s Office.
 - To become a retail site DHS needs to add a phone line, install the CPOS device, establish an accounting system and dedicated bank account, receive training on the device and products, and install signage promoting the new service.
 - It is difficult to anticipate how many people will use this service and we are evaluating the expected volume of work in relation to available staffing.

⁴ Growth over current ridership

⁵ Option C does not include potential additional riders to Rosslyn along existing ART 77 Route

⁶ Assumes average fare revenue of \$0.80 per rider

2. Notify Columbia Heights West DHS clients about neighborhood retail site for loading SmarTrip cards
 - Staff verified that there is a CVS in the Columbia Heights West neighborhood that sells and loads SmarTrip cards with both money and bus passes.
 - Staff has notified clients at the Harvey Hall Community Center about the availability of services where they live.
3. Provide information and training on use of SmarTrip.
 - WMATA and DES trained over 100 residents at Harvey Hall and Buckingham, including giving a hands-on component on loading money to a SmarTrip card. Training was given in English and Spanish.
 - Short multi-lingual videos regarding SmarTrip and public transportation will be shown in DHS lobbies.
4. Distribute free SmarTrip cards at DHS sites.
 - Staff continues to give out free SmarTrip cards to clients with a remaining 1,300 cards.
 - Staff has requested an additional supply of free cards from WMATA.