FY 2022 – FY 2027
ALEXANDRIA TRANSIT COMPANY (DASH)
TRANSIT DEVELOPMENT PLAN (DRAFT)

PRESENTED TO ATC BOARD OF DIRECTORS ON MARCH 10, 2021

ALEXANDRIA TRANSIT COMPANY
DASH

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1.0 / Executive Summary

This document represents the FY 2022 – FY 2027 Transit Development Plan (TDP) for the Alexandria Transit Company (ATC). The Alexandria Transit Company is responsible for the management, operation and maintenance of the DASH bus system in Alexandria, Virginia.

The Transit Development Plan (TDP) provides a comprehensive vision of future service development, fare adjustments, and capital investments based on recommendations from the General Manager, ATC Board of Directors and DASH staff. More specifically, it evaluates current DASH system performance, outlines projected service levels for FY 2022 based on the draft budget, and provides fiscally-unconstrained guidance on future service changes and capital improvements for the remaining five years of the six-year plan cycle (FY 2023 – FY 2027). The TDP is updated each year by DASH staff and is subject to annual review, amendment, and adoption by the ATC Board of Directors. The document also serves as a resource for the City staff as they consider future ATC requests for financial assistance.

The FY 2022 Transit Development Plan addresses the period beginning July 1, 2021 and ending June 30, 2027. The document has been prepared in accordance with board-adopted procedures and is divided into four main sections – System Overview (Section 3), System Performance (Section 4), Service & Fare Change Recommendations (Section 5), and Capital Budget (Section 6).

The key findings and recommendations of these four sections are summarized below:

1.1 / System Performance

- In FY 2020, DASH was budgeted to operate roughly 240,000 platform hours of regular DASH service. Ultimately, DASH operated approximately 220,000 platform hours, which was over eight percent lower than planned due to the COVID pandemic.

- DASH recorded nearly 2.8 million boardings in FY 2020, not including passengers carried by the Blue Line Shuttle in the Summer of 2019. This represents a 24.4 percent decrease from FY 2019. For comparison purposes, Metrobus average daily ridership in Northern Virginia was also down by roughly 24 percent during the same period.

- The DASH Operating Ratio, which measures the portion of total annual operating costs that are covered by revenues was 32.2 percent in FY 2020, which was 2.9 percent lower than FY 2019. The ratio was higher than normal in FY20 and FY19 due to contract revenue earned for the Blue Line Shuttle service in the Summer of 2019.

- DASH On-Time Performance was approximately 88 percent in FY 2019, which represents a 3 percent improvement from FY 2019 and is above the industry OTP standard of 85 percent.

1.2 / FY 2022 Service & Fare Change Recommendations

- The following DASH service changes are proposed for FY 2022:

    - **FY 2022 Service Levels.** Based on guidance from the City's Office of Management and Budget, DASH projects that it will operate 240,720 platform hours and 2,025,000 annual platform miles of service in FY 2022, which are roughly the same amounts as was budgeted for FY 2021. This total does not include two additional service enhancement projects that would be funded by the I-395 Commuter Choice Program. With additional funding from the Commuter Choice, DASH would operate roughly 314,000 platform hours and 2.9 million platform miles in FY 2022. Additional information on this program is provided below.

    - **New DASH Network to launch in September 2021.** The "New DASH Network" represents the first phase of the Alexandria Transit Vision Plan and is scheduled to be launched in FY 2022. The new network will include new routes, new route names, and changes to most existing DASH route alignments. It will represent the most significant service change in DASH history. Full details on the proposed network changes are included in Section 5-1 of this document.

    - **King Street Trolley to resume service in September 2021.** The King Street Trolley is scheduled to resume service in September, instead of July, due to budget constraints and anticipated decreases in tourism. Trolley service has been suspended since March 2020 due to the COVID pandemic.

    - **I-395/95 Commuter Choice Program.** DASH received nearly $3 million in funding for service enhancements on the AT-1 Plus and the AT-9 as part of the inaugural I-395 Commuter Choice program in FY 2021. DASH and the City of Alexandria have applied jointly for additional service enhancements as identified through the Alexandria Transit Vision Plan for the FY 2022 – FY 2023 I-395 Commuter Choice project cycle. The two project applications for service enhancements from the West End to the Pentagon (Line 35) and the West End to Potomac Yard (Line 36) would build upon and expand the previous service enhancements and accelerate the implementation of the New DASH Network. Final project selections will be announced in the Spring, however, early indications are positive for both projects, so both are assumed to be included as part of the New DASH Network in FY 2022.

- The following DASH fare-related actions are planned for FY 2022:

    - **Fare Changes.** No changes to the prices of the base fare or DASH Pass are proposed for FY 2022.

    - **SmarTrip DASH Pass.** In order to increase its usefulness, DASH Passes purchased through SmarTrip will no longer be tied to a specific calendar month and will instead

become rolling passes that are valid for 31 days after initial purchase. This would be consistent with the DASH Passes that are sold through the DASH Bus App.

- **Senior/Disabled 7-Day Regional Pass.** DASH is proposing to remove a $0.75 upcharge that is current assessed for riders who use a Senior/Disabled 7-Day Regional Pass during weekday peak periods.

- **WMATA Regional Pass Products.** If WMATA expands its regional pass offerings in FY 2022, DASH will begin allowing DASH passengers to use any WMATA pass product as valid fare payment, in accordance with recommendations from WMATA's Bus Transformation Project. Currently, DASH accepts the 7-Day Regional Bus Pass and participates in a regional revenue sharing agreement that distributes funds based on pass usage. This planned change would expand this agreement to include all current and future WMATA regional passes for both bus and rail. It would also make the SmarTrip app and Apple Wallet even more useful for DASH passengers.

- **Free Rides for City Employees.** Beginning in July 2021, DASH will be providing free rides for all City employees. City employees will need to show their valid city-issued identification badges to the bus operator to be allowed to ride for free.

- **Free Student Rides Program.** DASH staff will continue the "Free Student Rides" program for Alexandria high school students for its fifth year. This program promotes transit awareness and ridership among young adults who can become future DASH users. Towards the end of the 2020-2021 school year, DASH temporarily expanded the program to include three middle schools to assist with school bus capacity concerns. This change will be evaluated by DASH and ACPS staff over the summer to determine if it will be extended into the 2021-2022 school year.

- **Fare-Free Days.** DASH will begin to operate fare-free service on selected days to promote public transit awareness and usage. Eligible days could include but are not limited to holidays, election days, air quality alert days, or the introduction of major service changes such as the New DASH Network.

- **DASH Bus Mobile Ticketing App.** The DASH Bus app was launched in Spring 2019 on the moovel platform as a one-year pilot.DASH staff will be extending the mobile ticketing program through at least June 2022. This will allow DASH additional time to evaluate the app and to coordinate with regional partners on potential next steps.

1.3 / FY 2023 – FY 2027 Service & Fare Change Recommendations

- **Alexandria Transit Vision Plan:**

  - In FY 2022, DASH is planning to implement the first phase of the Alexandria Transit Vision (ATV) Plan, in the form of the New DASH Network. Due to funding constraints, the full service levels identified by the Final 2022 Alexandria Transit Vision Plan will not be implemented in FY 2022. Consequently, DASH will be working to secure additional funding in FY 2023 to implement the remainder of the 2022 ATV network.

- Between FY 2023 and FY 2030, DASH is planning to implement the 2030 ATV Plan Network. As shown in Section 5-3, these recommendations include route realignments in West Alexandria and major frequency and span improvements. Two corridors – Eisenhower Avenue and Duke Street – have been identified as the top priorities among the 2030 changes in the hopes that they can be implemented by FY 2024 – FY 2025.

- No additional fare changes for FY 2023 or beyond are being proposed at this time.

1.4 / ATC Capital Program Summary

- **DASH Fleet.** As of the start of FY 2022, the current DASH bus fleet will include 93 active buses, and 16 contingency spare buses.

- **Electric Buses.** In FY 2021, DASH purchased and took delivery of six new 100% electric buses, including three New Flyer (801-803) and three Proterra (804-806) buses. These buses were purchased through the Virginia Volkswagen Environmental Mitigation Trust program to replace six Orion diesel buses and were the first electric buses purchased by a transit agency in Northern Virginia. The installation of the charging equipment and the corresponding facility upgrades was completed in late 2020 and was funded by an NVTA grant.

  In FY 2022, DASH will be receiving eight additional electric buses through the NVTA grant program, including four articulated (60-foot) electric buses.

- **Fleet Replacement**. The City of Alexandria's FY 2022 – FY 2031 Capital Improvement Plan (CIP) includes substantial funding for DASH replacement buses that will allow DASH to maintain its State of Good Repair (SGR), however, due to a gap in bus purchases between 2007 and 2011, DASH is not slated to receive any CIP funding for replacement buses in FY 2022. The total requested funding in the FY 2022 – FY 2031 CIP for replacement bus purchases – including a gradual transition to a zero-emission fleet – is $110 million.

- **Zero-Emission Fleet Planning.** DASH recently worked with the Center for Transportation & the Environment (CTE) to complete a Zero-Emission Fleet Feasibility Study. In early 2021, DASH will be working with a consulting team from WSP to complete the first phase of a Zero-Emission Fleet Implementation Plan to identify how the DASH facility should be designed to accommodate a transition to a 100% electric bus fleet over the next 15 years.

- **DASH Facility & Fleet Expansion Project**. In 2021, DASH will be entering the design phase for its major facility expansion project that will be funded by the state's Smart Scale program. The project will allow DASH to expand its facility onto the existing city impound lot that is located immediately west of the existing DASH garage. The expansion will include capacity for up to 45 additional buses and electric charging equipment and infrastructure in support of a future zero-emission bus fleet. It also includes six expansion buses to be purchased by FY 2024. Construction of the facility expansion project is expected to be completed by 2024.

- **Other Capital Improvement Projects**. Additional FY 2022 – FY 2031 CIP funds are allocated for hybrid bus powertrain repair and replacement, electronic fare payment, farebox upgrades, and other DASH technology needs.

2.0 / TDP Background

The Transit Development Plan is prepared each year to document and present the General Manager's recommendations relating to service, fares and the capital budget for the upcoming fiscal year. The plan also serves as a planning and budgetary road map for the following five years. To this end, the TDP provides an evaluation of the existing DASH bus service and a corresponding outline for future service development and capital investment. The plan aligns with the budgetary assumptions for the upcoming fiscal year (FY 2022) and will be used as a starting point for budget discussions in future fiscal years (FY 2023 – FY 2027).

2.1 / Purpose & Format

The Transit Development Plan (TDP) is designed to provide a comprehensive vision of future service development, fare adjustments, and capital investments based on recommendations from the General Manager, ATC Board of Directors and DASH staff. More specifically, it evaluates current DASH system performance, outlines projected service levels based on the FY 2022 draft budget, and provides fiscally-unconstrained guidance on future service changes and capital improvements for the remaining five years of the six-year plan cycle (FY 2023 – FY 2027). The TDP is updated each year by DASH staff and is subject to annual review, amendment, and adoption by the ATC Board of Directors. The document also serves as a resource for the city staff as they consider future ATC requests for financial assistance

2.2 / Process & Timeline

The TDP approval process is designed to run in parallel with the City of Alexandria's annual budget timeline. As shown in Table 2-1, the basic TDP assumptions are developed by DASH management in the late fall and early winter. A draft of the TDP is typically submitted to the Board of Directors and released for public review in March. This release marks the beginning of the public comment period that culminates with a formal public hearing at the April meeting of the ATC Board. The public comment period includes multiple virtual community meetings, online engagement and the opportunity for comments to be submitted via phone, email, or during the Public Hearing at the Board of Directors meeting in April. DASH staff reviews all feedback and modifies the document as needed to incorporate feedback and align with the final city budget. The final ATC Transit Development Plan is then reviewed and adopted by the ATC Board of Directors in May so that the plan may be implemented for the subsequent fiscal year on July 1st. For FY 2022, most of the proposed service changes will be implemented in September 2021 as part of the launch of the New DASH Network.

Table 2 – 1 / Annual ATC Transit Development Plan (TDP) Timeline

	ATC Staff	ATC Board	City Staff/OMB/Council
October	Staff submits current budget to OMB	Draft FY22 budget presented to ATC Board for input	City Manager releases priorities and instructions
November	Staff submit suppl. requests and reductions to OMB	BOARD ACTION to approve or amend proposed budget	Suppl. requests and reductions due to OMB.
December	N/A	N/A	Focus Area Teams meet
January	Staff meet with OMB and City Manager	N/A	City Manager finalizes budget
February	Staff receives subsidy level from OMB, revises budget	N/A	Manager releases proposed budget/CIP to City Council
March	Proposed TDP & Budget completed; outreach begins	Proposed TDP & Budget presented to Board for input	City Council Budget Work Sessions
April	Staff present budget to Council, conduct public outreach	Board holds Public Hearing for Proposed FY22 TDP & Budget	City Council Budget Work Sessions
May	Staff develops final TDP/Budget based on input	BOARD ACTION to adopt revised FY22 TDP and Budget	City Council adopts FY22 Budget and Capital Imp. Program (CIP)
June	Prepare for launch of new ATV network on September 5, 2021.	N/A	N/A

2.3 / Alexandria Transit Vision Plan

The Alexandria Transit Vision (ATV) Plan is an ambitious bus network redesign study conducted by DASH and the City of Alexandria to take a community-driven approach to re-designing the city's transit network from scratch. The ultimate goal of the ATV – as determined through community outreach – is to create a more useful bus network that encourages more people to go more places at more times using transit. Similar transit network redesigns have been successfully implemented in Houston, Seattle, San Jose, and Richmond.

After three rounds of public engagement and nearly two years of discussion, the final 2022 and 2030 Alexandria Transit Vision Plan networks were adopted by the DASH Board of Directors in December 2019. The networks were designed based on the policy guidance that DASH should dedicate 85 percent of its annual revenue hours to ridership maximization, and 15 percent to coverage-oriented service. The resulting 2030 ATV recommendations would create a network of frequent, all-day bus routes across the City of Alexandria that will provide significant improvements in mobility options for most Alexandria residents and encourage additional transit usage, which benefits the City as a whole. Major improvements to off-peak service during middays, evenings and weekends would also be included. Additional information, maps and tables for the 2022 and 2030 ATV networks are provided in Section 5-1 and 5-3 of this document and on the ATV website (www.dashbus.com/transitvision).

The first implementation phase of the Alexandria Transit Vision Plan is planned for September 2021. As part of the city's FY 2022 budget process, DASH submitted a supplemental budget request for an additional $3.4 million that would be required on an annual basis to operate the full 2022 ATV Plan.

Due to budget constraints, the City was not able to accommodate this request for FY 2022; however, the City was able to avoid significant reductions to the annual DASH subsidy and is allowing DASH to proceed based on a "Current Services" budget, which maintains the same number of total annual service hours for FY 2022 as were assumed for the approved FY 2021 budget. Given the circumstances, this decision reflects the strong support for public transportation that exists among City leadership.

As a result of this decision, DASH will be able to implement a reduced version of its 2022 ATV Plan in FY 2022, and will seek additional funding opportunities in subsequent years in the hopes of implementing the full plan that was adopted by the ATC Board in 2019. The reduced version of the 2022 ATV Plan will allow for the introduction of the New DASH Network and many of its benefits that were expected with the Full 2022 ATV Plan. A full discussion of the New DASH Network that will be implemented in FY 2022 is included in Section 5-1. Additional service changes in subsequent years that will allow DASH to implement the full 2022 and 2030 ATV network plans are included in Section 5-3.

3.0 / System Summary

DASH currently operates traditional fixed-route bus service on eleven regular bus routes, and the King Street Trolley. The primary DASH service area covers approximately 15 square miles and generally aligns with the jurisdictional boundaries of the City of Alexandria. A map of the DASH bus system is included as Figure 3-1. An inset map depicting bus service in Old Town Alexandria is shown as Figure 3-2.

3.1 / Service Area

The majority of DASH service operates within the City of Alexandria, however, two routes – the AT-3 and AT-4 – also provide service along Interstate 395 between Alexandria and the Pentagon during weekday peak hours. As shown in Figures 3-1 and 3-2, the DASH bus system design follows a modified hub-and-spoke network design model with Old Town as the "hub", and the major east-west arterials (King Street, Seminary Road, Duke Street, and Eisenhower Avenue) serving as the "spokes". Several "crosstown routes" also provide connections between outlying areas and major trip generators on the West End and northern Alexandria. All but one of the twelve DASH routes connect to at least one of the four Metrorail Stations within the City of Alexandria.

Based on a geospatial analysis of the existing DASH network, approximately 146,000 Alexandria residents (96% of all residents) are within short walking distance (¼ mile) of a DASH or WMATA bus stop. Roughly 82,000 jobs (91% of all jobs) in or around Alexandria are within short walking distance of a DASH or WMATA bus stop.

3.2 / Routes

The DASH bus system consists of 11 regular bus routes and the King Street Trolley. The basic characteristics of each route are summarized in Table 3-1. All twelve bus routes operate on weekdays, however, only eight routes run on Saturdays and Sundays. On most routes, weekday service runs from roughly 6:00 AM to 10:00 PM, Saturday service from 7:00 AM to 10:00 PM, and Sunday service from 8:00 AM to 8:00 PM. Weekday peak service for most routes runs every 15-30 minutes. Weekday off-peak service typically runs every 30-60 minutes during mid-days and evenings. Of the eight Saturday routes, five run every 30 minutes or less, while on Sundays, six of the eight routes only run once every hour. Due to COVID-19, most routes operated with reduced service during the Spring and Summer of 2020. By the Fall of 2020, most routes had returned to normal service levels, however, the AT-3, AT-4 and AT-6 have continued to operate with reduced weekday service levels for all of FY 2021.

DASH also operates the iconic King Street Trolley, a free tourist-oriented service running between the King Street Metro and the Old Town Waterfront. The trolleys typically run every 10-15 minutes, 365 days per year. Daily service usually starts at 10:30 AM and typically ends at 10:30 PM, with extended late-night service on Thursdays, Fridays, and Saturdays. Due to the pandemic, however, King Street Trolley service was suspended in March 2020 until further notice.

Additional information on the destinations, service levels and operating characteristics for specific DASH routes is provided in Table 3-1.

Figure 3 – 1 / DASH System Map

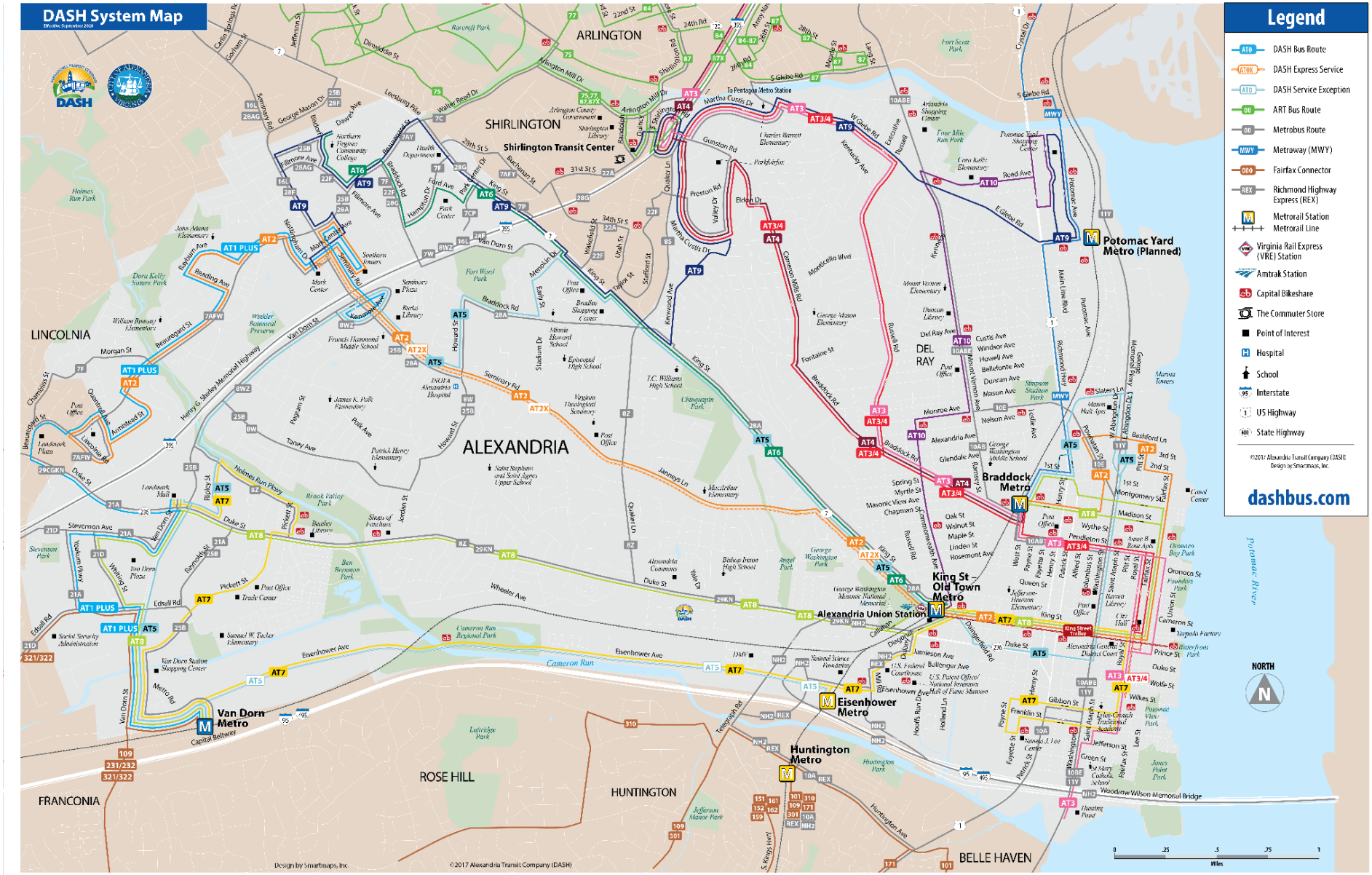


Figure 3-2 / Old Town Alexandria Inset Map

Table 3-1 / DASH Service Characteristics by Route (FY 2021 - Full Weekday Service Levels)

Route	Route Description	Span/Frequency							
		Weekday				Saturday		Sunday	
		Span	Peak	Off-Peak	Night	Span	Freq.	Span	Freq.
AT1	**Seminary Plaza to Van Dorn Metro** via Beauregard & Duke	6am - 11pm	10	20	60	7am - 11pm	30	8am - 11pm	30
AT2 (2X)	**Lincolnia to Braddock Road Metro** via Seminary, King Street Metro & Old Town (2X - Mark Center Express)	6am - 10pm (6 - 9am & 3 - 6pm)	20/30 (10/20)	30	60	8am - 11pm	60	8am - 8pm	60
AT3	**Hunting Point to Pentagon Metro** via Old Town, Braddock, Russell, Glebe and I-395	6 - 9am & 4 - 8pm	20	-	-	-	-	-	-
AT4	**Braddock Road Metro to Pentagon Metro** via Cameron Mills, Parkfairfax and I-395	6 - 9am & 4 - 7:30pm	20	-	-	-	-	-	-
AT3/4	**City Hall to Parkfairfax Loop** via Old Town, Braddock Road Metro, Braddock, Glebe & Russell	10:30am - 3pm & 8:30 - 10:30pm	-	60	60	9am - 8pm	60	9am - 6pm	60
AT5	**Van Dorn Metro to Braddock Road Metro** via Landmark Mall, Van Dorn, King & Old Town	6am - 10:30pm	20/30	30	60	7:30am - 10:30pm	30	8am - 8pm	60
AT6	**King Street Metro to NVCC** via King	6am - 10pm	15	30	30	-	-	-	-
AT7	**Landmark Mall to Lee Center** via Van Dorn Metro, Eisenhower Metro, King Street Metro & Old Town	6am - 10pm	30	60	60	-	-	-	-
AT8	**Braddock Road Metro to Van Dorn Metro** via Old Town, King Street Metro, Duke & Landmark	5:30 am - 12 am	10/20	30	60	7am - 11:30pm	30	7am - 11pm	20/40
AT9	**Potomac Yard to Mark Center** via Glebe, Shirlington, King & NVCC	7am - 11pm	20	30	60	7:30am - 11pm	30	7:30am - 10:30pm	30
AT10	**Potomac Yard to King Street Metro** via Mt. Vernon, Del Ray & Commonwealth	7am - 10pm	30	30	60	7am - 10pm	30	9am - 7pm	60
KST	**King Street Trolley**	10:30am - 10:30pm (12am Th, Fri & Sat)	10-15	10-15	10-15	10am - 12am	10-15	10am - 10:15pm	10-15

3.3 / Other Transit Providers

The DASH bus network in Alexandria provides a local complement to the regional transit network. Regional operators that provide service to/from Alexandria include:

- **Metrorail (WMATA).** Metrorail operates heavy rail service to 91 stations throughout the Washington, DC region, and typically carries over 180 million passengers per year. The City of Alexandria is served by the Blue and Yellow lines at four different Metrorail Stations – Braddock Road, King Street, Eisenhower Avenue, and Van Dorn. These four stations typically draw about 40 million passenger boardings per year. DASH also provides service to the Pentagon Metro Station during weekday peak periods. The new Potomac Yard Metrorail Station – an in-fill station in northern Alexandria on Potomac Avenue – is slated to open in 2022.

- **Metrobus (WMATA).** In addition to Metrorail, WMATA also operates a regional bus network that typically carries over 130 million passengers per year. Metrobus runs 28 routes that provide service within the City of Alexandria. This includes the "Metroway" rapid bus service between Pentagon City and Braddock Road Metro, and the Richmond Highway Express (REX), which provides frequent, limited-stop service from Mount Vernon to Old Town via Route 1. Annual Metrobus ridership in Alexandria is typically around 17 million boardings per year.

- **Amtrak/Virginia Railway Express.** Intercity and commuter rail services such as Amtrak and VRE stop at Alexandria Union Station, before crossing the Potomac River into Washington, DC. VRE typically carries 4-5 million passengers per year.

- **Private Shuttles.** Several dozen private shuttles operate within the City of Alexandria to provide connections to Metrorail Stations. Examples include the Carlyle/PTO Shuttle, and the Van Dorn Exchange shuttle, which connects the Van Dorn Exchange apartment complex with the Van Dorn Metro.

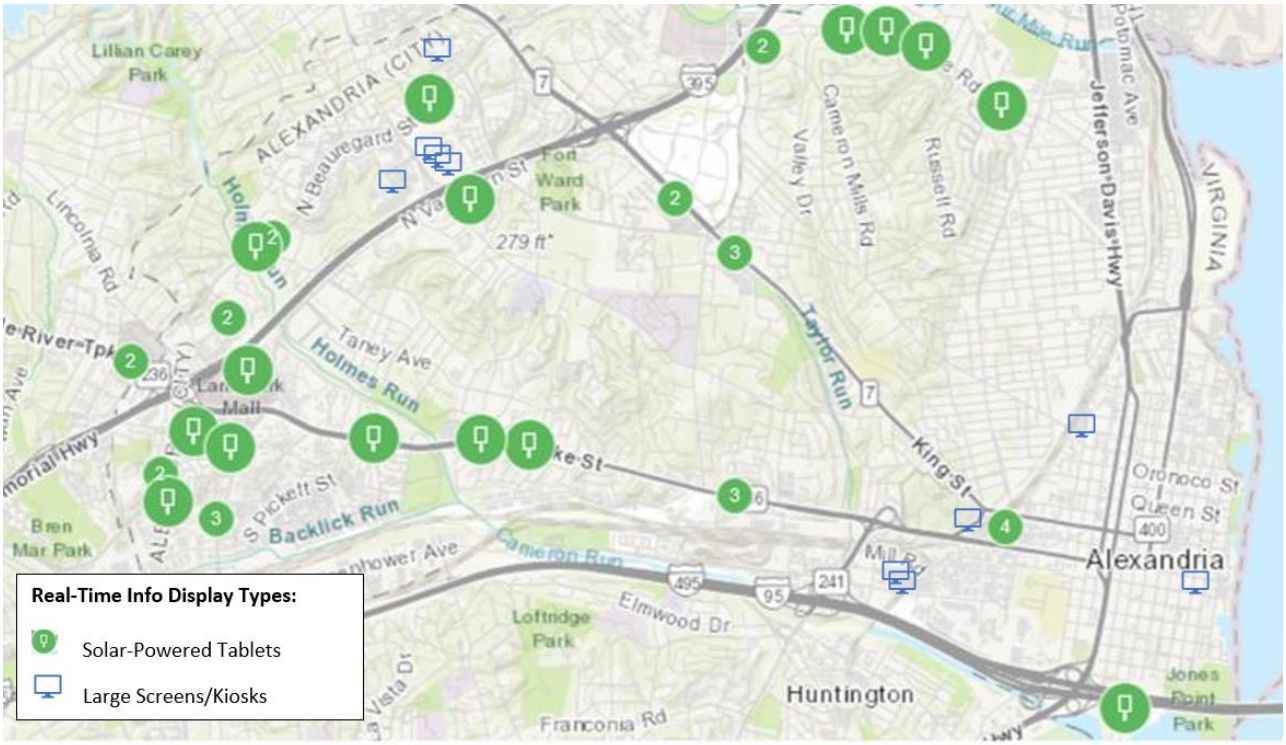
- **Accessible Service.** Accessible paratransit options are provided through the City of Alexandria's DOT program and the WMATA MetroAccess service.

3.4 / Passenger Facilities

DASH buses provide service to five Metrorail Stations, five non-Metrorail transit centers (Landmark Mall, Mark Center, Southern Towers, NVCC-Alexandria and Potomac Yard), and over 700 local bus stops. Roughly 22 percent of these stops are shared by Metrobus or another provider. City staff estimate that roughly 90 DASH bus stops have shelters, while another 200 have amenities such as benches and/or trash cans. Approximately 100 stops (14 percent) have route schedules mounted on the bus stop poles. The distribution of stop amenities is based primarily upon daily ridership, with shelters, benches and trash cans generally installed at any stop with over 40 daily boardings.

In 2018, DASH began installing real-time bus arrival information kiosks and tablets at various high-ridership locations throughout the city. Major kiosks have been installed at City Hall, Southern Towers, NVCC-Alexandria and NSF with additional screens planned for the King Street Metro and other key stop locations. By the end of FY 2021, DASH will have real-time information displays at over 60 stop locations, which combined account for roughly 45 percent of DASH average weekday ridership.

Figure 3-3 / Real-Time Information Display Locations (2021)



All DASH bus stops that have been installed or updated since 2006 are compliant with ADA design standards for individuals using wheelchair or other mobility devices. DASH also coordinates closely with city staff during the site plan review process to ensure any proposed developments include adequate considerations for existing and future bus stops.

3.5 / Bus Fleet

For the start of FY 2022, the DASH will be comprised of a core bus fleet of 93 active buses for use in daily revenue service. The pre-COVID peak service requirement in 81 vehicles, however, the New DASH Network will reduce the peak fleet requirement to roughly 75 vehicles, for a spare ratio of 24 percent. Due to additional off-peak and weekend service, the fleet will be utilized more efficiently and more buses will be needed during those non-peak periods.

In FY 2021, DASH purchased its first six 100% electric buses with funding from DRPT and installed charging equipment with funding from NVTA. Three of the six buses were manufactured by New Flyer and have been in revenue service since October 2020. Three additional Proterra electric buses were delivered in January and are scheduled to enter revenue service by early Spring 2021. More information about the DASH electric bus program in Section 6-5.

A summary of the active and contingency bus fleets are shown in Table 3-2.

Table 3-2 / FY 2022 DASH Bus Fleet Summary

ACTIVE BUS FLEET

Vehicle ID's	Year	Make	Type	Length	# of Vehicles
200-206	2011	Gillig	Hybrid	35’	7
300-302	2011	Gillig	Hybrid	40’	3
400-404	2011	Gillig (Trolley)	Hybrid	29’	5
207-211	2012	Gillig	Hybrid	35’	5
303-307	2012	Gillig	Hybrid	40’	5
212-216	2014	Gillig	Hybrid	35’	5
308-309	2014	Gillig	Hybrid	40’	2
217-229	2015	Gillig	Hybrid	35’	13
405	2015	Gillig (Trolley)	Hybrid	35'	1
230-233	2017	Gillig	Hybrid	35’	4
310-311	2017	Gillig	Hybrid	40’	2
501-514	2018	Gillig	Clean Diesel	35’	14
515-527	2019	New Flyer	Clean Diesel	35'	13
528-530	2020	New Flyer	Clean Diesel	35'	3
701-705	2020	New Flyer	Clean Diesel	40'	5
801-803	2020	New Flyer	Electric	40'	3
804-806	2021	Proterra	Electric	40'	3
TOTAL ACTIVE FLEET					**93**

CONTINGENCY BUS FLEET

Vehicle ID's	Year	Make	Type	Length	# of Vehicles
87	2005	Orion	Diesel	35’	1
91, 95-98	2007	Orion	Diesel	35’	5
101-102	2007	Gillig	Diesel	35’	2
103-105, 326	2002	MCI	Diesel	40'	4
601, 602, 612, 614	2002-2003	Neoplan	Diesel	60'	4
TOTAL CONTINGENCY FLEET					**16**
TOTAL FLEET SIZE (ACTIVE + CONTINGENCY)					**109**

In order to maintain State of Good Repair, DASH is required to replace each bus once it reaches the end of its 12-year useful life cycle. A more detailed discussion of bus fleet replacement, expansion plans and the “DASH Capital Budget Program” is included in Section 6 of this document.

3.6 / Fares

The current DASH base fare is $2.00 for a single trip with a four-hour DASH-to-DASH transfer window. DASH allows free transfers from most other bus providers with SmarTrip and provides a $0.50 discount for transfers to and from Metrorail. Disabled persons with valid Alexandria DOT or MetroAccess cards may board DASH buses for free. Two routes – the King Street Trolley and the Mark Center Express (AT-2X) – do not require fares as the operating costs are covered by dedicated external subsidies. For frequent riders, DASH also offers the monthly DASH Pass, which costs $45.00 and entitles the cardholder to unlimited rides on DASH buses during the specified month.

DASH continues to accept SmarTrip cards for rapid, automated fare payment. Roughly 80 percent of DASH boardings are made using SmarTrip cards. Riders who use a Senior SmarTrip card to ride DASH DASH continues to accept SmarTrip cards for convenient, automated, electronic fare payment. Prior to COVID-19, roughly 80 percent of DASH fares were purchased using SmarTrip cards. Senior/Disabled SmarTrip cardholders are able to ride DASH buses during off-peak hours with a $1.00 discount to their fare.

DASH also accepts virtual Smartrip cards with Apple Wallet on the SmarTrip app. With these new mobile payment options, all SmarTrip cardholders can transfer their existing plastic SmarTrip cards to their smartphones or smartwatches and tap their device on the bus farebox, or Metrorail fare gate, to pay their fare. These new platforms were introduced in FY 2021 and will offered increased convenience to transit passengers across the Washington, DC region.

In 2019, DASH launched the DASH Bus app, a mobile ticketing program using the moovel platform, which allows customers to purchase their DASH fare products on smartphones using debit cards, credit cards and selected e-wallet platforms. It also permits DASH to offer customized fare products without going through WMATA, and to maintain fare partnerships with local organizations like Alexandria City Public Schools, which is not currently possible with the SmarTrip mobile platform. Since the DASH Bus app was suspended for nearly a year due the pandemic, DASH has extended the DASH Bus app program to June 2022 to further evaluate the program and determine what the next steps will be.

In FY 2018, DASH started a pilot program to allow T.C. Williams High School students to ride for free using their student identification cards. The program is designed to introduce students to DASH and improve their perceptions of public transit to promote future transit usage. Since its inception, the "Free Student Rides" program has been expanded to include four additional schools – Bishop Ireton High School, Episcopal High School, St. Stephens & St. Agnes School and Fusion Academy. DASH was also able to introduce Smartrip-enabled Student ID cards at each of the schools in 2018, and in 2019, two of the schools were migrate to the new DASH bus mobile payment app.

Additional free fares on DASH buses are available to disabled passengers through the WMATA MetroAccess and City of Alexandria's DOT Paratransit program.

3.7 / Funding

DASH service is operated by the Alexandria Transit Company (ATC), which is an independent public service corporation that is owned by the City of Alexandria. The City provides extensive input and guidance via the Transportation Planning Division of the city's Department of Transportation & Environmental Services. City staff play an integral role in supporting the DASH annual budget request and managing a wide variety of state and regional grant programs.

The majority of annual DASH operating funds comes from an operating subsidy that is allocated each year from the City of Alexandria's General Fund. The City also provides funding for operations through the Transportation Improvement Program (TIP) and for capital investments through the biennial Capital Improvement Program (CIP) process.

Additional external sources of DASH funding include the Virginia Department of Rail and Public Transportation (DRPT), the Virginia Smart Scale program, the Northern Virginia Transportation Authority (NVTA), and the Northern Virginia Transportation Commission (NVTC) I-395 Commuter Choice Program.

DASH also relies upon subsides to operate specific services such as the free King Street Trolley for the City of Alexandria, and the Mark Center Express for the Department of Defense. Additional revenue is also generated by bus charters for both public and private events.

Passenger fare revenues typically cover between 20 and 25 percent of the annual DASH operating costs and are used to reduce the DASH operating subsidy from the city. Due to the suspension of fare collection in March 2020, fare revenues only covered approximately 11 percent of DASH operating costs for FY 2020.

4.0 / System Performance

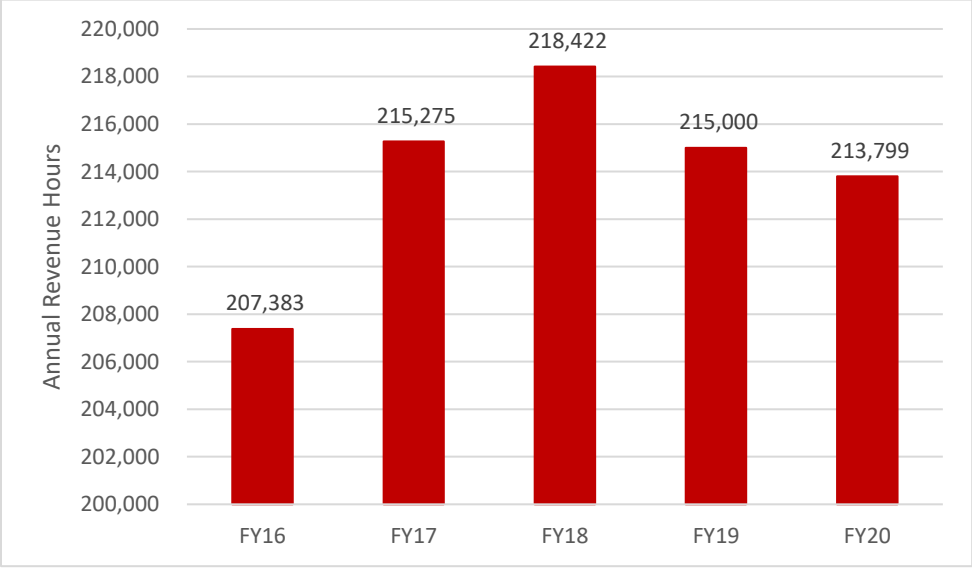
The following section uses FY 2020 data to review DASH service performance at both the system and route levels. The overall performance of a bus system is typically measured in terms of service provided (revenue hours), service consumed (ridership), cost efficiency (boardings per revenue hour, operating ratio), and service reliability (on-time performance, missed trips, road calls and customer feedback). Additional metrics such as access and mobility that were highlighted during the ATV Plan are also important in determining how well the transit network is meeting the needs of the community.

The FY 2020 performance data outlined in this section was affected by two major events – the WMATA Platform Improvement Project in Summer 2019, which closed all four Metrorail stations in Alexandria for three consecutive months, and the COVID-19 Pandemic, which began in March 2020 and led to major ridership decreases in the months that followed. The service level and ridership data also reflect the introduction of major service enhancements on the AT-1 Plus and AT-9, which were funded by the I-395 Commuter Choice grant program and implemented in October 2019.

4.1 / Service Levels

In FY 2020, DASH operated approximately 214,000 hours of revenue bus service. This represents a 0.6 percent decrease as compared to FY 2019 service levels. Although DASH operated sharply reduced "Enhanced Sunday" or "Enhanced Saturday" service during the pandemic, the service increases from the supplemental AT-3 and AT-4 service from the Platform Improvement Project, and the I-395 Commuter Choice service enhancements led to a relatively minor decrease in total annual revenue hours. A graph showing the historic trend in DASH annual revenue hours for the last five years is shown in Figure 4-1.

Figure 4-1 / DASH Annual Revenue Hours (FY 2016 - FY 2020)



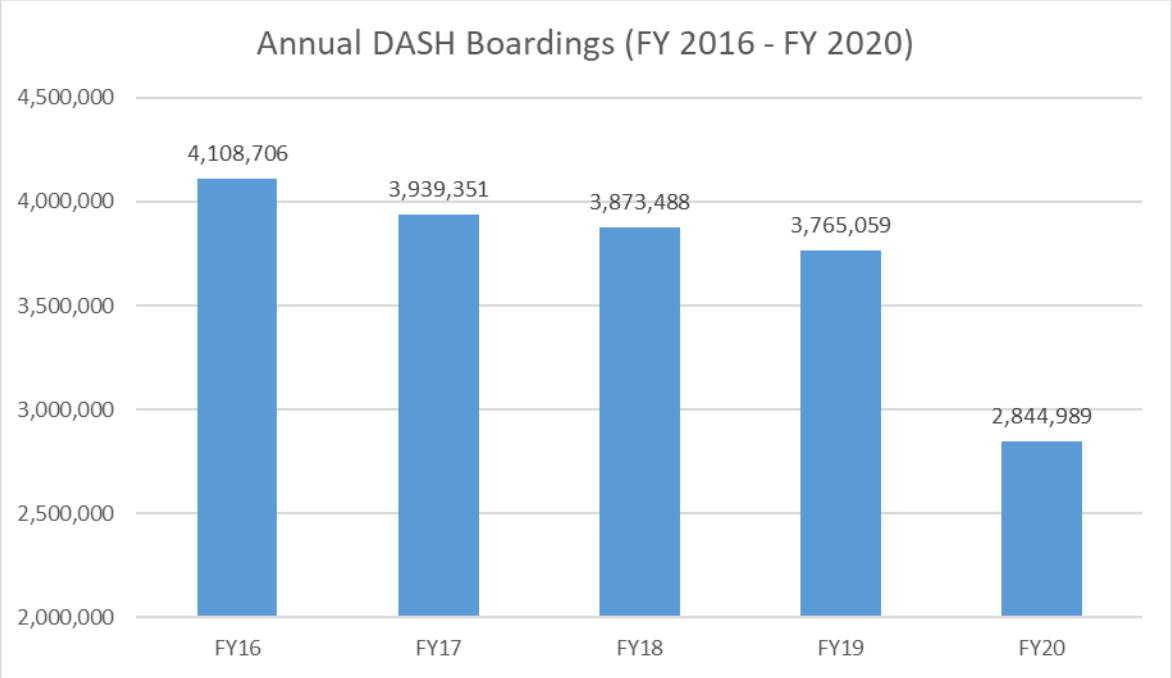
4.2 / System Ridership

As shown in Figure 4-2, annual ridership has decreased steadily over the last five years, even before the onset of the COVID pandemic. In FY 2019, DASH recorded just under 3.8 million passenger boardings, which was down roughly 2.8 percent from FY 2017, and down 12 percent from FY 2015. In FY 2020, DASH saw just over 2.8 million annual boardings for a 24.4 decrease in total ridership from FY 2019.

The ridership decrease in FY 2020 can be largely attributed to the extraordinary ridership decreases resulting from the COVID-19 pandemic. During the last three months of FY 2021, overall system ridership was down by over 80 percent. By comparison, overall system ridership during the five months between the end of the Platform Improvement Project and the start of the COVID pandemic was actually up by 3.3 percent from FY 2019, due in large part to the I-395 Commuter Choice improvements that were implemented in October 2019.

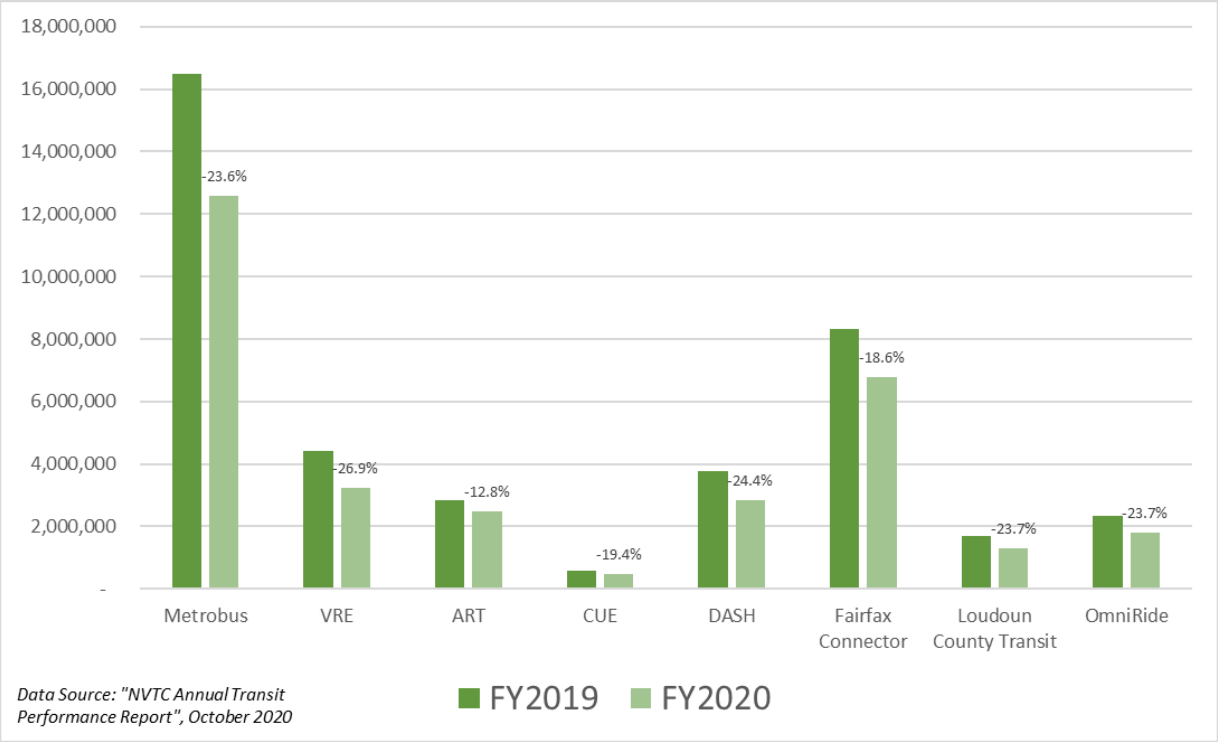
In terms of daily boardings in FY 2020, DASH drew an average of 9,700 boardings on weekdays, nearly 6,600 boardings on Saturdays, and approximately 3,500 boardings on Sundays. This translates to an approximately 21.4 percent decrease in weekday boardings from FY 2019. Average Saturday and Sunday boardings were also down by 6.3 percent and 17.2 percent, respectively.

Figure 4 -2 / DASH Annual Ridership (FY 2016 - FY 2020)



As shown in Figure 4-3, ridership was down significantly for transit agencies across Northern Virginia in FY 2020 as compared to the previous year. Based on NVTC's Annual Transit Performance Report, overall transit ridership in Northern Virginia was down by 24 percent compared to FY 2019. Metrorail ridership was down by over 26 percent in FY 2020 and fell by over 90 percent during the first few months of the pandemic. On the bus side, Metrobus was down by almost 24 percent in FY 2020. Similar decreases in annual ridership totals were reported by ART (-12.8%), Fairfax Connector (-18.6%), Loudoun County Transit (-23.7%) and PRTC/Omniride (-23.7%).

Figure 4 -3 / Total Annual Boardings for Northern Virginia Transit Agencies (FY 2020 vs. FY 2019)



Ridership Promotion Programs. In an effort to attract additional ridership, DASH has initiated programs like the "Free Student Rides" program for high school students, the introduction of free rides for MetroAccess and DOT paratransit program participants, and reduced fares for senior riders who use their Senior SmarTrip cards during off-peak periods.

The DASH "Free Student Rides" program has been particularly successful in its first three full years in encourage transit awareness and usage among Alexandria high school students. In FY 2018, the first year the program was offered, DASH recorded approximately 1,000 student boardings on a typical weekday. In FY 2019, the program ridership grew to 1,200 average weekday boardings, due in part to the expansion of the program to several additional schools. In the first six months of the 2019-2020 school year, student ridership was continuing to grow, and by February 2020, the program registered an average of over 1,500 student boardings per school day for the first time ever. Once the pandemic began, however, schools were closed and fare collection was suspended so the program was paused.

In FY 2018, DASH also launched a program to allow free rides for DOT and MetroAccess paratransit cardholders. Although the program includes both DOT and MetroAccess participants, the vast majority of program participants – more than 99 percent – are DOT paratransit users. In the first eight months of FY 2020, DASH recorded nearly 4,000 DOT/MetroAccess boardings per month, which was up by almost 40 percent from FY 2019. Due to the suspension of fares, however, DOT/MetroAccess boarding data is not available after March 2020.

4.3 / Ridership by Route

At the route level, Figure 4-4 shows that most DASH routes have declined in weekday ridership over the last three years with larger drop-offs in FY 2020. For FY 2020, the largest yearly decreases were observed on the AT-3/4, AT-6 and King Street Trolley, which fell by more than 30 percent. Among the routes benefitting from I-395 Commuter Choice service improvements, the AT-1+ fell by only 1.2 percent in FY 2020, while the AT-9 actually increased by nearly 10 percent.

Figure 4-4 / Average WEEKDAY Ridership by Route (FY 2018 – FY 2020)

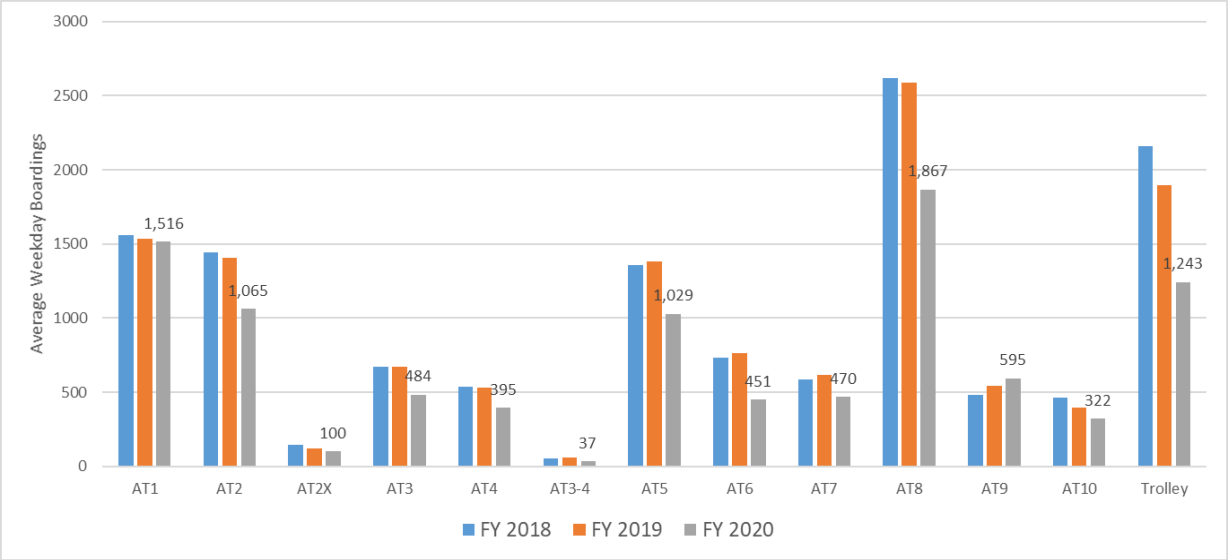


Figure 4-5 / Average SATURDAY Ridership by Route (FY18-FY20)

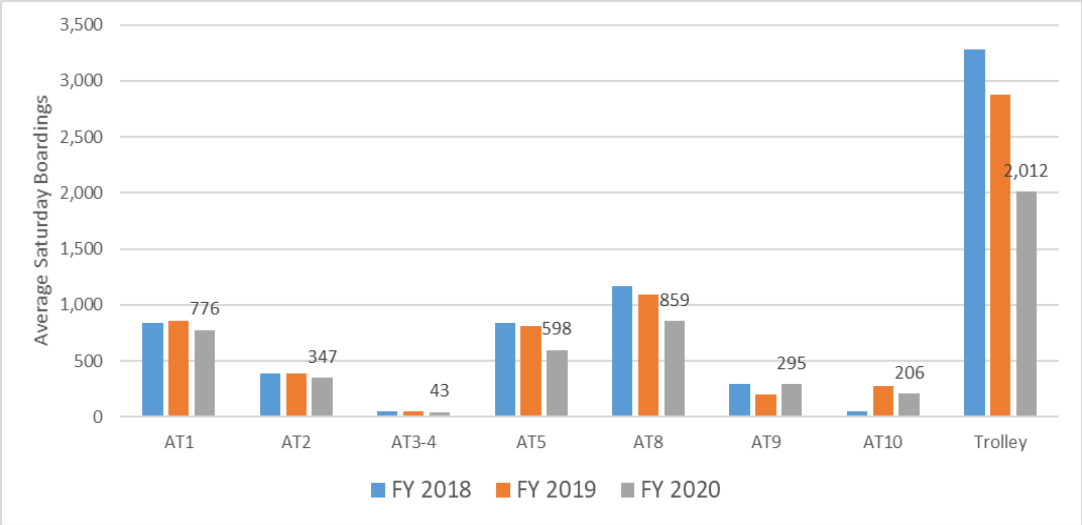
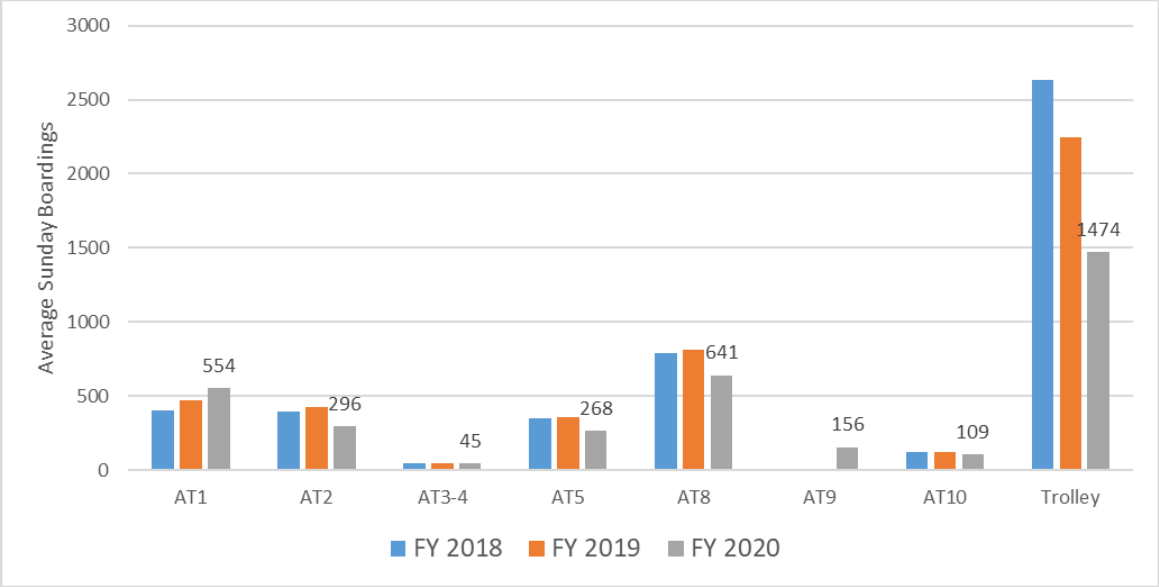


Figure 4-6 / Average SUNDAY Ridership by Route (FY18-FY20)



Weekend ridership has decreased on most DASH routes since FY 2018. As shown on Figure 4-5, average Saturday boardings on most DASH routes fell by 10 – 30 percent in FY 2020, however, the AT-9 saw an increase of 46 percent. Saturday ridership on the AT-1+ and AT-2 only fell by roughly 10 percent from FY 2019 to FY 2020, while the biggest decreases were seen on the King Street Trolley, AT-5 and AT-10.

As shown on Figure 4-6, Sunday ridership on all regular DASH routes except the AT-1+ and AT-9 has gone down from FY 2019 to FY 2020. The AT-1 demonstrated the largest growth with increase of 18 percent, while the AT-9 averaged over 150 boardings on Sundays despite not operating on Sundays for the first three months of FY 2020. The AT-2, AT-5 and King Street Trolley all fell by more than 25 percent from their average Sunday boardings in FY 2019.

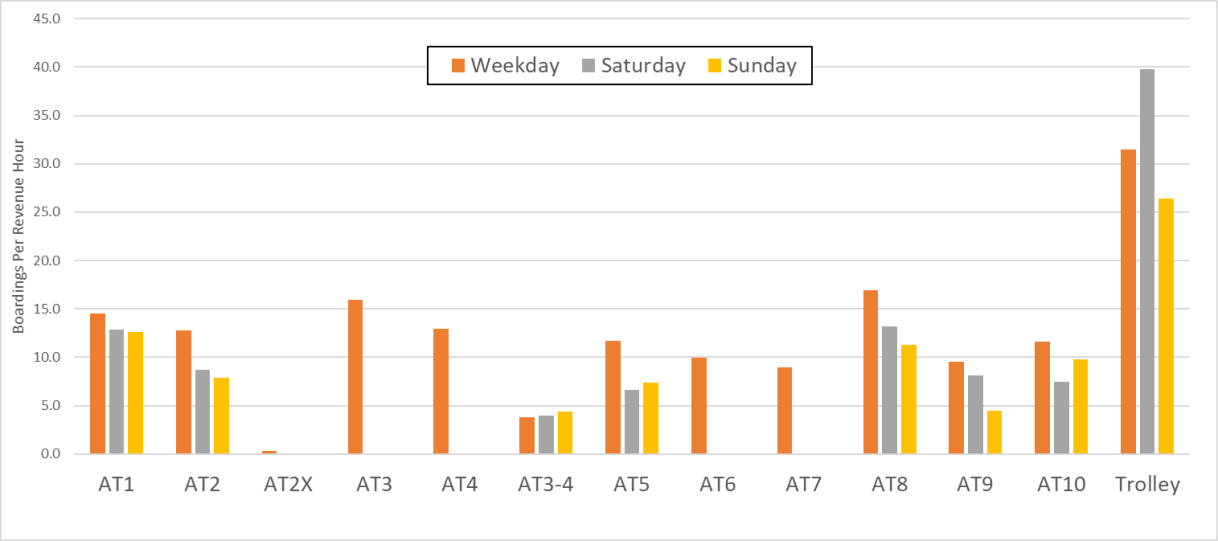
Seminary Road & Janneys Lane Ridership

One of the key decisions made by the ATC Board of Directors as part of their decision to adopt the Alexandria Transit Vision Plan was to maintain local bus service on Seminary Road and Janneys Lane between Howard Street and King Street. As a condition to this decision, the Board recommended that the average weekday ridership on this corridor should be monitored on an annual basis over the subsequent five years to ensure that the service was being sufficiently utilized to warrant its continued operation. To this end, the Board identified a target increase of 20 percent for average weekday boardings along this segment. The AT-2 recorded approximately 100 weekday boardings along the segment in FY 2019, so the ridership target of 120 average weekday boardings along the segment will be monitored in each of the next four Transit Development Plan documents. Based on extrapolations of automated passenger counter (APC) data, DASH estimates that an average of 18 boardings per weekday were recorded on this segment in FY 2020. This decrease of more than 80 percent was due in large part of the COVID pandemic and the WMATA Platform Improvement Project.

4.4 / Cost Efficiency

Total ridership data alone only tells part of the story. In order to determine the cost efficiency of the system, ridership numbers must be compared to revenue hours to determine how efficiently the system and its routes are operating. This metric is typically expressed in boardings per revenue hour. In FY 2020, the DASH bus system drew approximately 14.6 boardings per revenue hour. This was a decrease of over 34 percent from the 22.3 boardings per revenue hours that were recorded in FY 2019.

Figure 4-7 / Average Boardings per Revenue Hour by Route and Day (FY 2020)

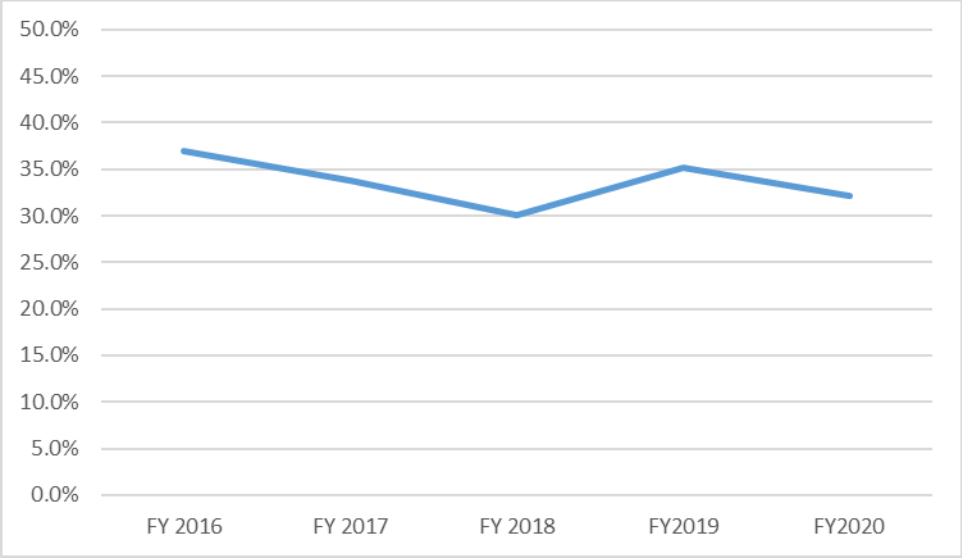


Route-by-route boardings per revenue hour for weekdays, Saturdays and Sundays in FY 2020 are shown in Figure 4-7. Routes with the highest weekday productivity include the King Street Trolley and the AT-8. The least productive weekday routes are the AT2X and the AT3-4, which both drew less than four boardings per revenue hour. On weekends, the AT-1, AT-8 and King Street Trolley maintain an average productivity at or above 10 boardings per revenue hour. The AT-3/4 is the least productive route on weekends with less than five boardings per revenue hour on both Saturdays and Sundays.

4.5 / Operating Efficiency

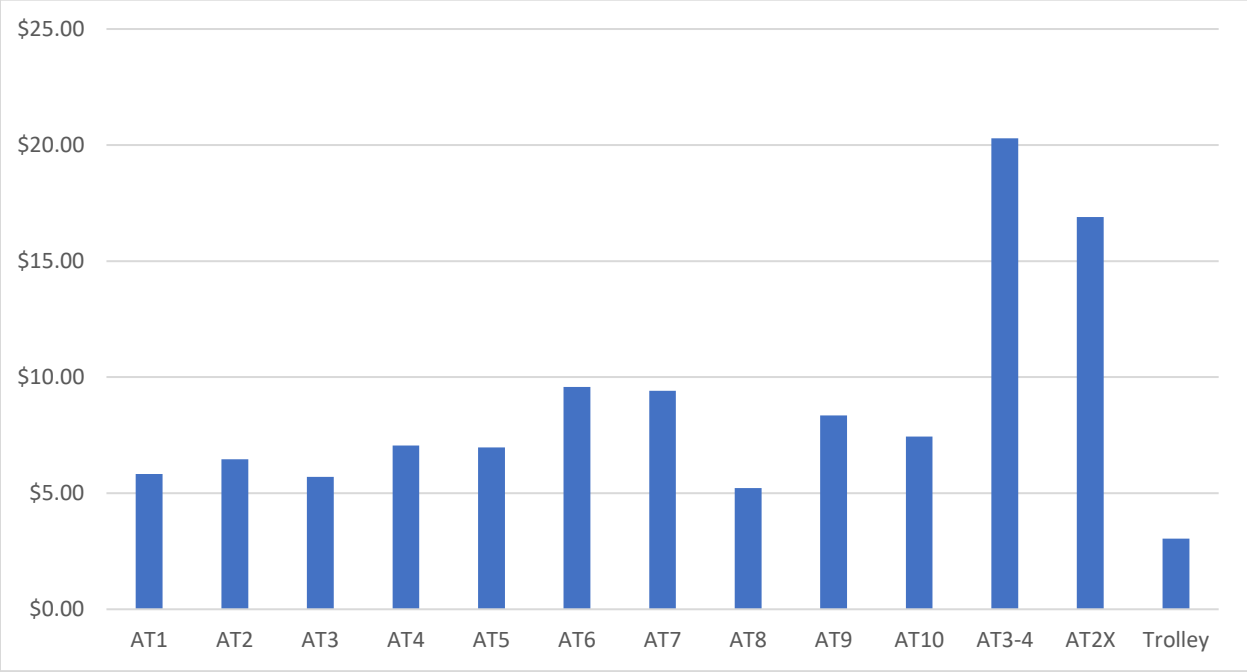
One other common measure of cost efficiency in transit planning is the Operating Ratio, which measures the percent of total operating costs that are covered by revenues, including passenger fares. Presumably, an efficient, well-designed transit system will generate higher ridership and greater fare revenues per unit cost of operating expense than a less efficient system. Based on FY 2014 and FY 2016 NTD data, the normal range for operating ratios is 15 to 25 percent. For FY 2020, DASH recorded an operating ratio of 32.2 percent, which represented a 2.9 percent decrease from FY 2019. The annual DASH operating ratios for the last five years are shown in Figure 4-8.

Figure 4-8 / Annual DASH Operating Ratio (FY16 – FY20)



Operating efficiency can also be measured by subsidy cost per boarding, which compares the number of boardings on a given route to the cost to operate the route, minus any fare revenues collected for the route. Figure 4-9 shows that DASH routes ranged from just over $5.00 subsidy per boarding (AT-1, AT-2, AT-3 & AT-8). The least cost-efficient route is the AT-3/4 Loop, which costs $20.00 per boarding to operate and could be discontinued in the Fall 2021. The AT-2X also operates at a low rate of cost efficiency but the cost of the service is covered by an agreement with the Department of Defense.

Figure 4-9 / FY 2022 DASH Subsidy Cost Per Boarding (Weekdays)



4.6 / Service Reliability

Service reliability can be measured by on-time performance, missed trip percentage, average miles per road call and customer feedback. It is important to note that service reliability is invariably tied to service frequency since the consequences of a missed trip are far less significant if the next bus is only 10 or 15 minutes away instead of 60 minutes away.

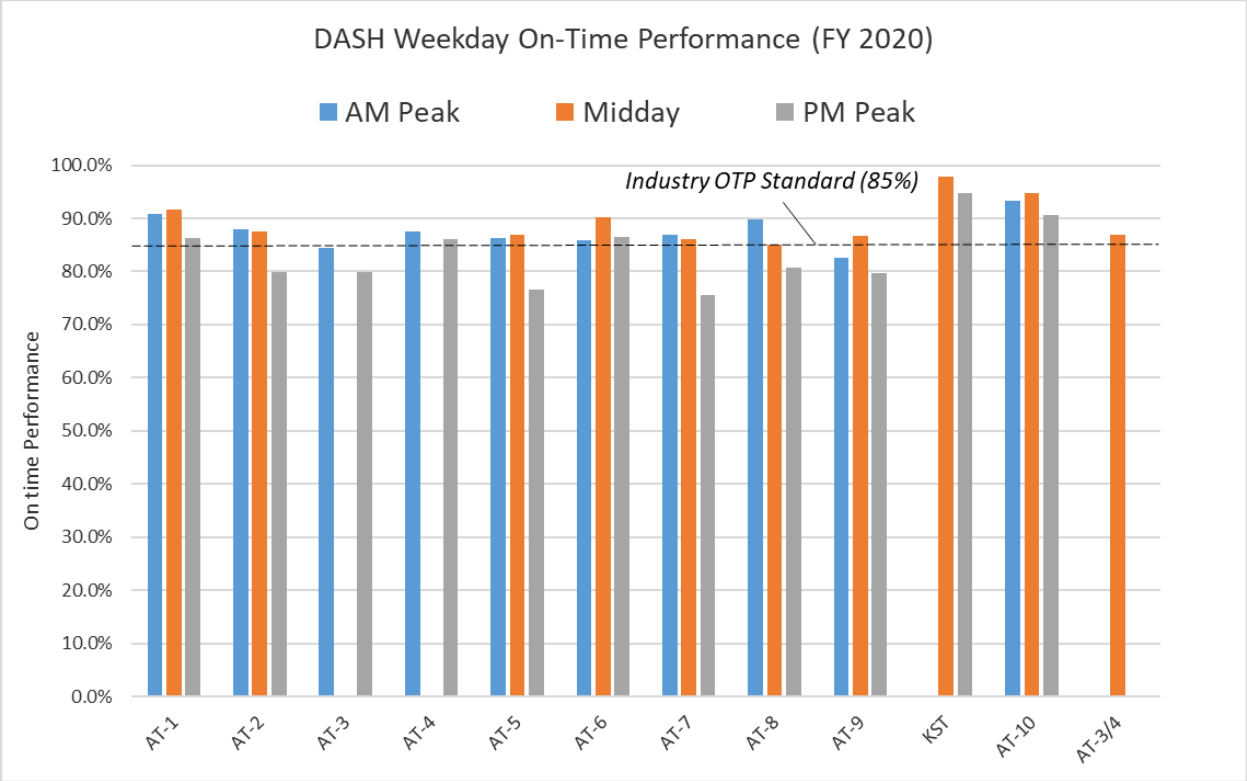
The most common indicator for service reliability is on-time performance (OTP), which measures the percentage of trips that are arriving at each timepoint within five minutes of their scheduled arrival time. In FY 2020, approximately 88 percent of all DASH weekday trips arrived on time. This a 3 percent increase from the 85 percent of trips that arrived on time in FY 2019, and it is several percentage points above the industry OTP standard of 85 percent. On weekends, DASH trips arrived on time 89 percent of the time on Saturdays and 85% of the time on Sundays.

A chart showing FY 2020 weekday on-time performance by route is included as Figure 4-9. Most DASH routes are shown to operate at or above the industry standard of 85 percent for most weekday time periods. The most reliable routes in the system are the King Street Trolley (97%), AT-10 (93%), and AT-1 (90%). The least reliable weekday routes are the AT-3 (82%), AT-2 (83%) and AT-7 (83%). On-Time performance appears to have improved across the board in FY 2020 due to reduced traffic congestion during the COVID pandemic.

The most challenging time of day for on-time performance is the weekday afternoon peak period from 3:00 PM to 6:00 PM. In previous years, overall on-time performance during the weekday PM peak periods has been less than 80 percent, however, in FY 2020, DASH service was on-time 84 percent of the time during the afternoon peak. This may be due in part to reduced traffic congestion during the COVID pandemic. The routes that continue to operate with lower on-time performance during the afternoon peak are the AT-2 (80%), AT-3 (80%), AT-5 (76%), AT-7 (76%) and AT-9 (80%). These routes run through some of the more congested parts of the City. DASH is working with the City to address several of these choke points through signal timing adjustments and Transit Signal Prioritization (TSP) technology.

Service reliability is also often impacted by the performance of the DASH maintenance department, which is responsible for ensuring that buses are maintained in good operating shape to minimize the chances for breakdowns and missed trips. In FY 2020, DASH averaged over 13,400 miles per road call, which was an 11 percent decrease from 15,100 miles per road call in FY 2019 but still well above the industry average (11,500 miles per road call). The FY 2020 total missed trip percentage was 0.041 percent, which was a slight decrease from the 0.047 percent of trips that were missed in FY 2019.

Figure 4-10 / Weekday On-Time Performance by Route and Time Period (FY 2020)



Another, more indirect measure of service reliability is customer feedback. The DASH Customer Service Department is responsible for documenting and categorizing all calls and e-mails that are received from passengers. In FY 2020, DASH received 34 valid complaints relating to "Schedule Adherence" for a bus not running as scheduled. This represented a significant decrease from the 43 similar complaints that were registered in FY 2019.

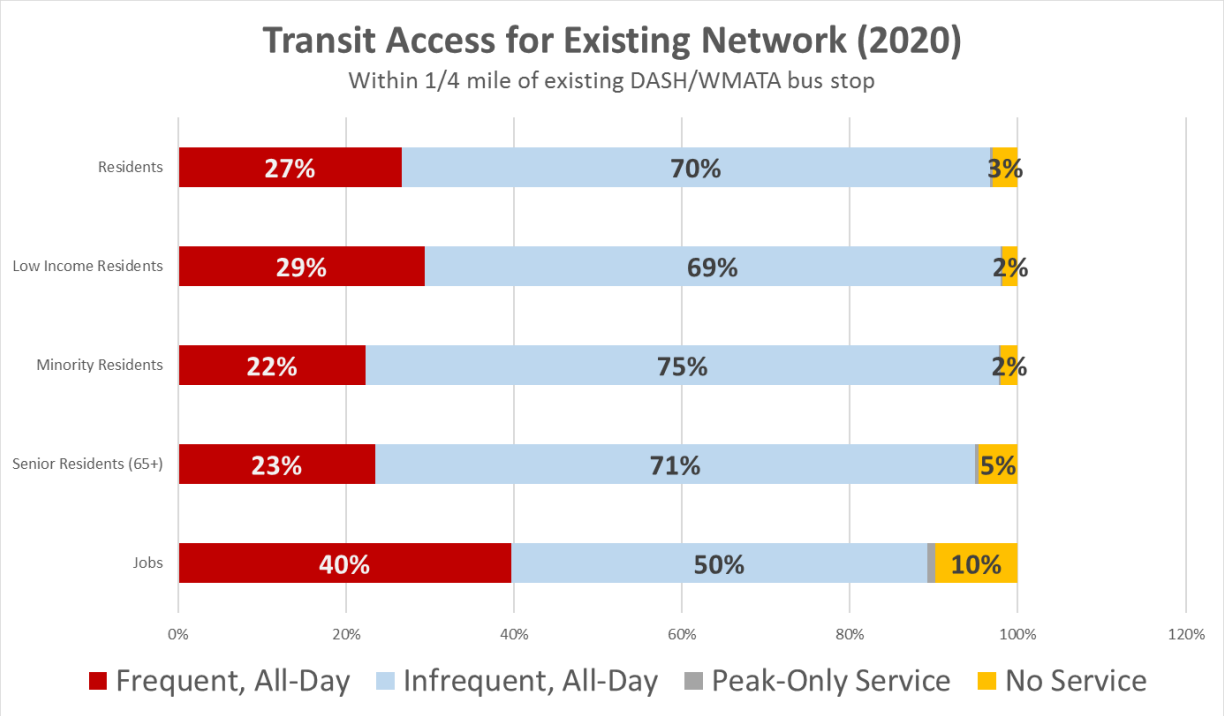
4.7 / Access & Mobility

As discussed extensively in the Alexandria Transit Vision Plan, two of the most important performance measures for a bus system are transit access and mobility. These metrics can measure how well a transit system serves the community, and the extent to which transit provides access to opportunities (e.g. jobs, housing, schools, shopping centers, day cares, civic centers, etc).

In order for transit to be effective, it must be accessible to large numbers of residents, jobs and activity centers. It must also be useful and convenient. Figure 4-11 provides a summary of access to the current DASH bus network for all residents, non-white residents, residents in poverty, and jobs in Alexandria. Access is measured by the percentage of each group that are within a quarter-mile walking distance of transit service at 12pm on a weekday, or the baseline off-peak service.

As shown below, the current DASH bus network does an exceptional job of providing access to basic transit for each of the groups identified below, however, the access to frequent all-day transit among these groups is relatively low. This is a common theme that was identified during the Alexandria Transit Vision Plan process. With the new ATV Network Plan, the percentages of each group with access to frequent, all-day transit will increase dramatically.

Figure 4-11 – Access to Transit & High-Frequent Transit



The second metric, mobility, can be derived from the isochrone maps that are included as Figures 4-12, 4-13 and 4-14. Each map assumes that a transit user – represented as a stick figure – is at a selected location at a certain day and time. The colored isochrone shapes represent the area that can be reached from that specified location on the specified day and time using transit or walking based on an average trip times of five minutes (white), 10 minutes (blue), 20 minutes (teal), and 30 minutes (red). The trip time calculation accounts for both travel time, and average waiting time based on route frequencies. The larger the isochrone shape, the more access to locations with different types of "opportunities" described above.

As an example, Figure 4-12 shows the mobility of a transit user in Old Town at the intersection of King Street and Washington Street on weekdays during the midday (12:00 PM) and the afternoon peak (5:00 PM). Since the service levels and frequencies are increased during the peak period, passengers as this location can travel further within the 30-minute window during the peak period, and the size of the isochrone shapes on the right side are larger. In other words, a passenger starting in Old Town could travel to Foxchase Shopping Center on Duke Street within 30 minutes during peak periods, but it would take 45 minutes or longer during the middle of the day. The graphs also can be used in reverse to show the areas from which one can get to the location (i.e. Old Town) within 30 minutes using transit.

Figure 4-12 / Mobility Comparison to/from Old Town Alexandria

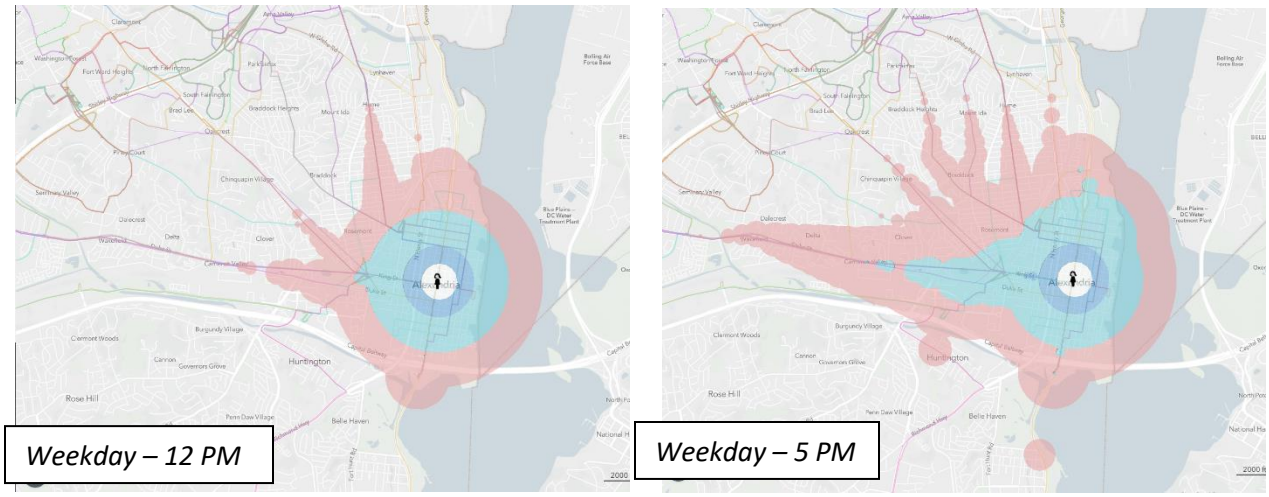
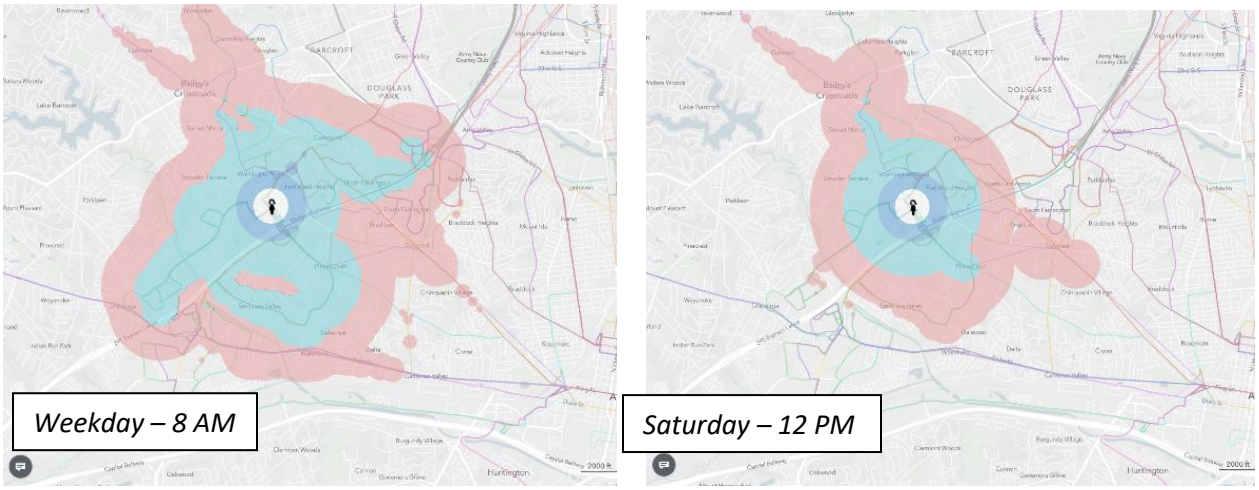


Figure 4-13 / Mobility Comparison to/from Southern Towers



While the size of the isochrone shapes illustrate how far a passenger can travel within 30 minutes using transit, the number of opportunities (population, jobs, etc) within the shapes are even more important. This measure more accurately reflects the actual access to opportunities that transit is providing to the community. For example, Figure 4-13 shows the same isochrone maps for a different location – Southern Towers apartments. The first map shows the areas that can be reached within 30 minutes using transit at 8:00 AM on a weekday. As shown in Table 4-1, the total area covered by the isochrones includes over 110,000 residents and more than 40,000 jobs. In other words, there are 40,000 jobs that can be reached from Southern Towers within 30 minutes using transit on a weekday morning at 8:00 AM.

With the introduction of frequency and span improvements from the new Alexandria Transit Vision Plan network, these access and mobility performance measurements are expected to improve dramatically.

Figure 4-14 / Mobility Comparison to/from Arlandria

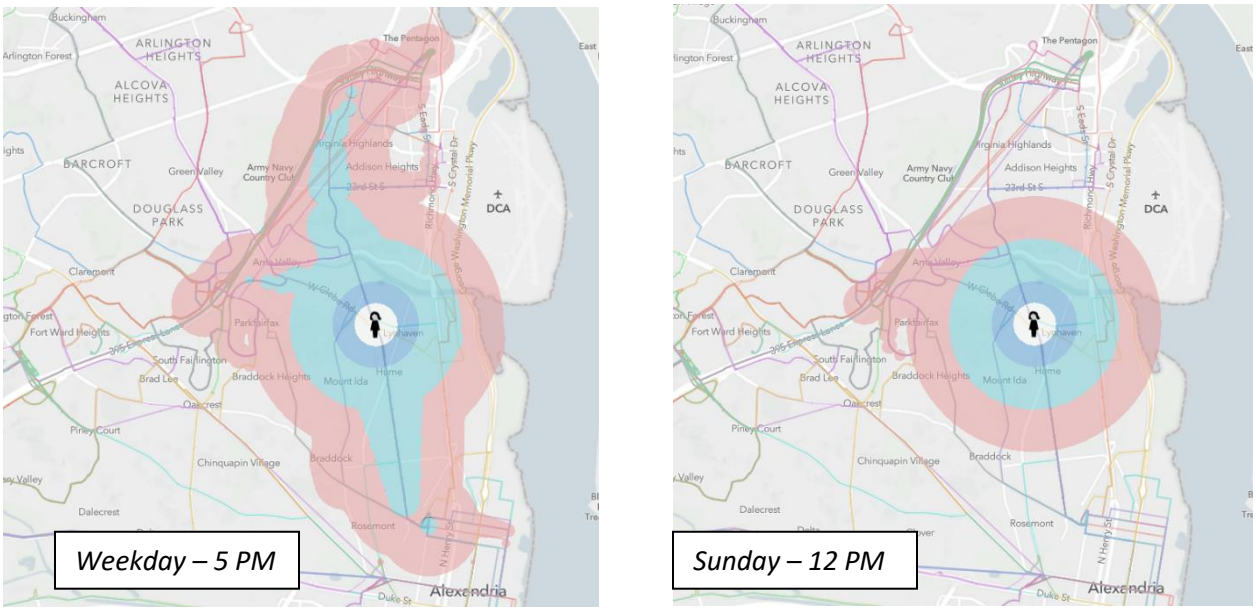


Table 4 -1 / Existing Transit Access within 30 Minutes Using Transit

Location	Residents within 30 min.		Jobs within 30 min.	
	Peak	Off-Peak	Peak	Off-Peak
Old Town	49,037	32,260	51,222	40,112
Southern Towers	110,488	65,450	40,012	26,556
Arlandria	71,218	38,200	40,394	12,650

4.9 / System Performance Summary

In FY 2020, DASH experienced a major decrease in overall service levels and ridership due in large part to the COVID pandemic, as well as the Summer 2019 WMATA Platform Improvement project. Peak ridership demand decreased by the largest amount, but service levels and ridership on all routes decreased significantly. As a result, the ridership productivity and cost efficiency of DASH service also declined noticeably.

In terms of another key metric, service reliability, DASH improved both in terms of overall on-time performance and on-time performance during afternoon peak hours. Customer complaints about schedule adherence also decreased dramatically in FY 2020. Finally, transit access and mobility remained largely unchanged in FY 2020 but are expected to improve dramatically with the introduction of the New DASH Network in FY 2022.

5.0 / Service & Fare Recommendations

The following section provides a series of recommendations for future service improvements and fare adjustments. These recommendations are primarily based on the Alexandria Transit Vision Plan, staff analyses, and guidance from the General Manager and ATC Board of Directors. The recommendations are organized chronologically, beginning with the service and fare assumptions for the New DASH Network in FY 2022, which are based on the draft FY22 DASH budget. Service and fare recommendations for the rest of the six-year plan cycle (FY 2023 – FY 2027) are also included later in the section.

5.1 / Service Recommendations (FY 2022)

In September 2021, DASH is planning to launch the New DASH Network, which will be the largest and most comprehensive service change in DASH history. It will also be the first step towards the realization of the Alexandria Transit Vision Plan, which was adopted by the Board of Directors in 2019. This section provides an overview of the New DASH Network that is proposed for implementation in FY 2022.

Service Levels. Based on guidance from City staff, DASH is proposing to maintain a "Current Services" budget for FY 2022 that represents no increase in total annual service hours from what was budgeted for the previous fiscal year. DASH projects that FY 2022 service levels for regular DASH routes and the King Street Trolley will be 240,720 platform hours and 2,025,000 platform miles. The total annual service provided for FY 2021, including the potential I-395 Commuter Choice improvements, is estimated to be approximately 314,000 platform hours and 2.9 million platform miles.

I-395 Commuter Choice Program. Similar to FY 2020 and FY 2021, DASH has applied for a significant amount of funding for major service enhancements in the West End, Arlandria and Potomac Yard through the I-395 Commuter Choice program. This program is managed by the Northern Virginia Transportation Commission (NVTC) and leverages toll revenues from the I-395 Express Lanes to support multimodal projects that will benefit toll payers by reducing congestion. For FY 2022 and FY 2023, DASH submitted two applications – West End-Pentagon Bus Service Enhancements (Line 35) and West End-Potomac Yard Bus Service Enhancements (Line 36). If awarded, these two applications would provide DASH with an additional $2.5 million and $1.6 million, respectively, for both capital and operating expenses in FY 2022. They would also allow both routes to operate every 10-15 minutes, all-day, seven days per week.

Final FY 2022 – FY 2023 I-395 Commuter Choice project awards will not be adopted by the Commonwealth Transportation Board (CTB) until June 2021, however, early indications suggestion that DASH is well-positioned to receive funding for both projects. As a result, the FY 2022 service recommendations reflected in this section are based on the assumption that DASH will be able to implement enhanced service on both Line 35 and Line 36. More information about these routes is available on the route-by-route pages later in this section.

New DASH Network Map. A map of the proposed New DASH Network for FY 2022 is included as Figure 5-1. This map is based on the network structure of the Final 2022 ATV Plan, with several minor exceptions. This map improves upon the previous DASH system map by using the new line numbers and colors to provide additional information about service frequency and days of operation.

New Line Numbers. As part of the New DASH Network launch, DASH will introduce brand new route identifiers that will replace the traditional "AT-" prefix. Based on feedback from staff and customers, the "AT" prefix creates confusion, particularly among non-native English speakers, because it sounds very similar to the number "80." Based on this, DASH will be moving to a numeric system that will be easier to understand and more consistent with regional partners like Metrobus, ART and Fairfax Connector.

As shown in Figure 5-1, the New DASH Network will include Lines 30-36 and Lines 102-104:

- Lines 30-36 represent the core DASH routes that operate all day, seven days per week.
- Lines 102-104 are numbered differently to reflect that they only operate during weekdays and are not available on weekends.
- The numbers for Lines 102, 102X, 103 and 104 were selected to convey the similarity to the existing DASH AT2, AT2X, AT3 and AT4 routes. For example, Line 104 is virtually identical to the existing AT-4 routing,
- Customers traveling on the Duke Street Corridor may use Metrobus Line 28A, 29K, 29N or DASH Line 30 for travel between the King Street Metro and the Foxchase area.
- Customers traveling in Old Town may use the new "Old Town Circulator" service, which will be comprised of service on Lines 30 and 31. In future years, Line 32 will also be incorporated.

"Frequent Network" & Route Colors. One of the main goals of the ATV and the resulting New DASH Network is to provide more useful transit service for a larger number of Alexandria residents. Based on the ATV, DASH generally defines "useful" bus service as a route that runs every 15 minutes or better, all day, seven days per week. At this level of service, the average rider no longer needs to consult a timetable and has the freedom to walk out to the bus stop at virtually any time and a bus will be along shortly. No current DASH routes meet this threshold, but in the proposed FY 2022 New DASH Network, four DASH routes – Line 31, Line 35, Line 36 and the Old Town Circulator – would operate with frequent, all-day service.

These four frequent, all-day DASH routes that comprise the new "Frequent Network" are shown in **red** on the map in Figure 5-1. Routes shown in **blue** on the map are proposed to run all-day on weekdays, while routes shown in **green** only operate during weekday peak periods. The King Street Trolley is shown in **purple** since it does not currently operate during the AM Peak on weekdays. All Metrobus routes are shown in **gray**, regardless of service characteristics.

Old Town Circulator. The "OTC" is a new DASH service that will provide extremely frequent bus service in Old Town from King Street Metro to Braddock Road Metro via King Street, North Fairfax Street, and Montgomery/Madison Streets. The service is proposed to operate as a combination of Lines 30 and 31, which both start at different locations in West Alexandria, but meet at the King Street Metro and share the same alignment in Old Town. The schedules for the two routes will be offset so that the buses will be running every 5-15 minutes, all-day, seven days per week, including holidays. More information on this route is provided later in this section.

Figure 5-1 / New DASH Network Map

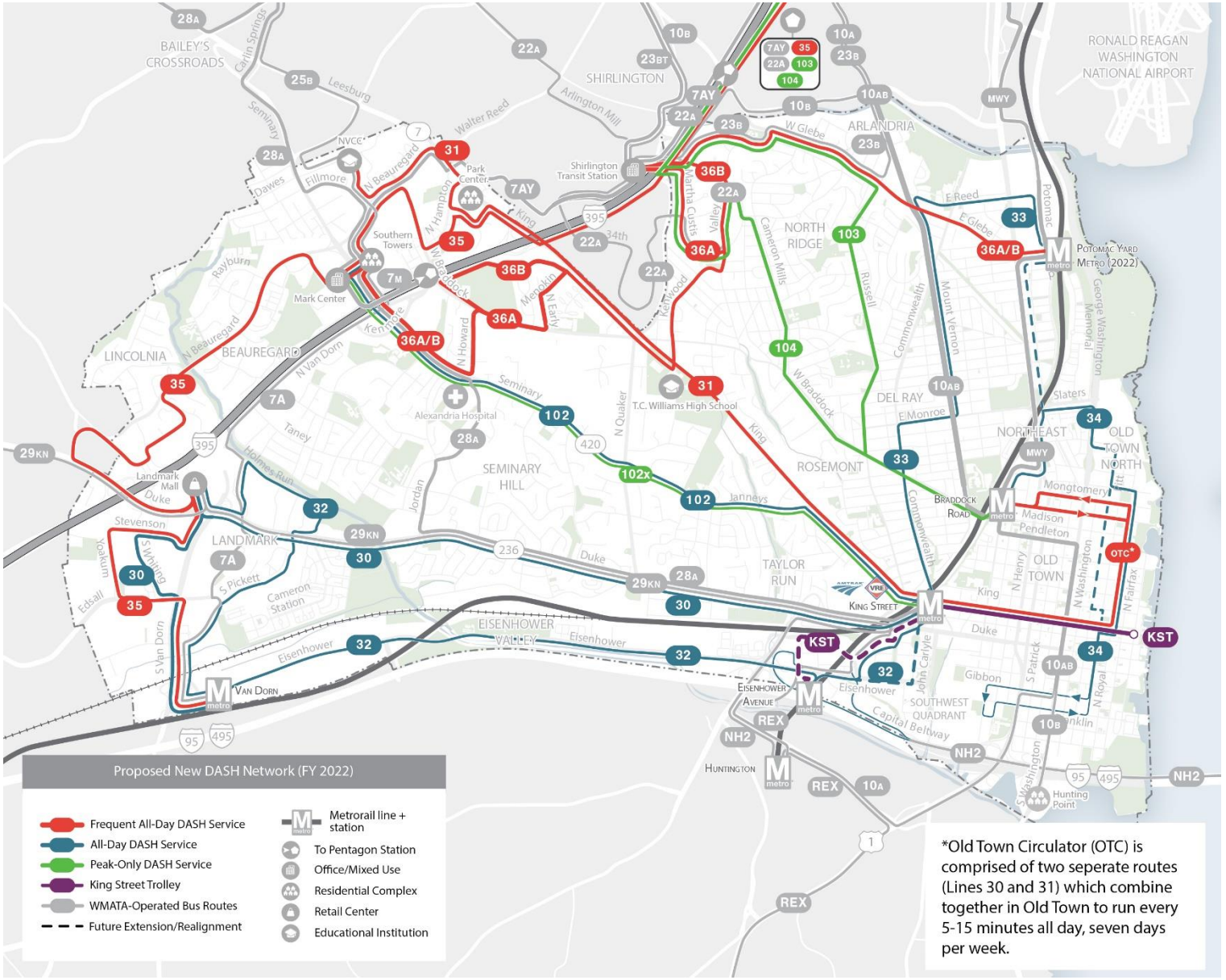


Figure 5-2 / New DASH Network Map - Old Town

Transit Access. The New DASH Network significantly expands the number of residents and jobs that are within walking distance of a bus stop that is served by the new red "Frequent Network". Table 5-1 summarizes the percentage of residents and jobs that are currently served by frequent, all-day service, and the percentage that would be served by the FY 2022 New DASH Network and the 2030 ATV Plan:

Table 5-1 - Residents/Jobs within ¼ Mile of Frequent, All-Day Service

	Existing	FY22 Network	2030 ATV Plan
All Residents	**27%**	**66%**	**83%**
Low Income	29%	73%	89%
Minority	22%	70%	87%
Seniors	23%	62%	78%
Jobs	**40%**	**66%**	**81%**

Note: Above percentages assume that DASH is awarded I-395 Commuter Choice funding for Line 35 and Line 36 enhancements in FY 2022 and FY 2023.

In terms of access to transit, regardless of frequency or span, the existing bus network is within walking distance of 97 percent of residents. With the New DASH Network in place, staff estimates that 96 percent of residents will be within walking distance of a bus stop. It is important to note, however, that staff has analyzed the locations of existing bus boardings and found that over 99.5 percent of existing boardings would still be located within 1/8 mile of a bus stop in the New DASH Network.

Existing DASH Routes. Due to the complexity of the changes proposed by the New DASH Network and the introduction of new route ("line") numbers, the following table is provided to allow existing DASH passengers to understand which new lines will be most useful to them. Note that some trips that currently are possible with one route may now require the use of two different lines with a transfer. More detailed information on each bus line in the New DASH Network is included on the pages that follow.

Table 5-2 – Comparison of Existing DASH Routes to New DASH Network Routes

Existing DASH Route	Area(s) Served	Replaced by New DASH Network Line(s)…	Page(s)
AT-1 Plus	Beauregard, Lincolnia, South Van Dorn	Line 35	46
	Seminary Plaza	Line 102 & Metrobus 28A	50
AT-2	Old Town, Old Town North	Line 30 (Old Town Circulator)	36
	Old Town, Old Town North	Line 31 (Old Town Circulator)	38
	Old Town North (Bashford, 2nd Sts)	Line 34	44
	Lincolnia, Beauregard, Seminary, Old Town, Old Town North	Line 35	46
	Central Alexandria	Line 102 & Metrobus 28A	50
AT-2X	Mark Center-King Street Metro Express	Line 102X	50
AT-3	Braddock Road, Parkfairfax, Pentagon	Line 103	52
	Old Town, Old Town North	Line 30 (Old Town Circulator)	36
	Old Town, Old Town North	Line 31 (Old Town Circulator)	38
AT-4	Braddock Road Metro, Arlandria, Parkfairfax Pentagon	Line 104	54
	Old Town, Old Town North	Line 30 (Old Town Circulator)	36
	Old Town, Old Town North	Line 31 (Old Town Circulator)	38
AT-3/4	Parkfairfax, Arlandria	Line 36A/B	48
	Old Town, Old Town North	Line 30 (Old Town Circulator)	36
	Old Town, Old Town North	Line 31 (Old Town Circulator)	38
	Parkfairfax, North Ridge	Line 103 (Peak Only)	52
	Parkfairfax, North Ridge	Line 104 (Peak Only)	54
AT-5	Van Dorn Metro, Landmark Mall, Van Dorn Street	Line 35 & Metrobus 7A	46
	N. Ripley Street	Line 32 & Metrobus 7A	40
	Alexandria Hospital, Bradlee, TCWHS	Line 36A/B	48
	Old Town, Old Town North	Line 30 (Old Town Circulator)	36
	King Street Corridor, Old Town	Line 31 (Old Town Circulator)	38
	Old Town North (Slaters Lane)	Line 34	44
AT-6	NVCC, Park Center, King Street, King Street Metro	Line 31	38
	Beauregard, Park Center	Line 35	46
AT-7	Landmark, South Van Dorn, Eisenhower Valley	Line 32	40
	Old Town, Old Town North	Line 30 (Old Town Circulator)	36
	Old Town, Old Town North	Line 31 (Old Town Circulator)	38
	Lee Center, South Old Town	Line 34	44
AT-8	South Van Dorn, Landmark, Duke Street, Old Town	Line 30	36
AT-9	Potomac Yard, Arlandria, Shirlington, Parkfairfax, Bradlee Center	Line 36A/B	48
	NVCC, Park Center, King Street	Line 31	38
AT-10	Del Ray, Arlandria, Potomac Yard	Line 33 & Metrobus 10A/B	42
Trolley	Old Town	King St. Trolley	56

Line 30 / Old Town Circulator (OTC)

(a.k.a. "Line N3" in 2022 ATV Plan)

Route Description: **Van Dorn Metro to Braddock Metro via Duke Street**
Route(s) Replaced: AT-8 (identical routing)
Corridor(s) Served: Duke Street, South Van Dorn Street, Old Town Circulator
Major Destination(s)s: Van Dorn Metro, Van Dorn Plaza, Landmark Mall, Foxchase, King Street Metro, Old Town, City Hall, Braddock Road Metro

Residents within ¼ Mile: **48,365 residents**
Low Income Residents: *6,142 (12.7 percent)*
Minority Residents: *24,618 (50.9 percent)*
Senior Residents: *6,094 (12.6 percent)*
Jobs within ¼ Mile: **39,446 jobs**

Proposed Service Levels:

	Frequency	Span (Approx.)
Weekday		5am – 12am
AM/PM Peak	10-20 min.*	
Midday	30 min.	
Evening	30 min.	
Saturday	30-60 min**.	6am – 11:30pm
Sunday	30-60 min.**	6am – 11:30pm

**Line 30 will run every 10 minutes between Landmark Mall and King Street Metro during weekday peaks. The Van Dorn Metro-Landmark Mall and Old Town segments will only operate every 20 minutes during weekday peaks.*
***On weekends, Line 30 runs every 30 minutes from Landmark Mall to Braddock Road Metro, but only every 60 minutes from Landmark Mall to Van Dorn Metro. This is consistent with existing AT8 service levels, but DASH is proposing to operate 30 minutes across the full route in FY 2023.*

Line 30 is a direct replacement for the existing AT-8 route, which runs from the Van Dorn Metro to the Braddock Road Metro via Landmark Mall, King Street Metro and Old Town. The Line 30 routing is identical to the AT-8 with the core ridership segment stretching along the Duke Street corridor from Landmark Mall to King Street Metro. The proposed FY 2022 service frequency and hours of operation are also virtually identical to the existing AT-8. **Between King Street Metro and Braddock Road Metro, Line 30 trips will be run as part of the "Old Town Circulator" (OTC) service. These OTC trips will be offset with Line 31 trips to provide extremely frequent service running every 8-15 minutes in the heart of Old Town. Buses will display both "Line 30" and "Old Town Circulator" on headsigns along this segment.**

With major developments planned on South Van Dorn Street and the old Landmark Mall site, the Duke Street corridor is primed for additional bus service in FY 2023 and beyond. Though it was not designated to become a frequent, all-day route in the 2022 ATV Plan, this document proposes to increase the line to run every 15 minutes, all-day, seven days per week as early as FY 2023. The City has also designated the Duke Street Corridor for high-intensity bus service with the Duke Street BRT project. This grant-funded project will introduce major capital improvements along the Duke Street corridor to improve bus reliability and overall passenger experience by FY 2025.

Figure 5-3 - Line 30 (Van Dorn Metro to Braddock Metro via Duke Street)

Line 31 / Old Town Circulator (OTC)

(a.k.a. "Line N4" in 2022 ATV Plan)

Route Description:	**NVCC-Alexandria to Braddock Metro via King Street**
Route(s) Replaced:	AT-5, AT-6, AT-9 (King Street, Park Center, NVCC)
Corridor(s) Served:	King Street, Old Town Circulator
Major Destination(s):	NVCC-Alexandria, Park Center, Bradlee Shopping Center, TC Williams, King Street Metro, Old Town, City Hall, Braddock Road Metro
Residents within ¼ Mile:	**37,777 residents**
Low Income Residents:	*3,513 (9.3 percent)*
Minority Residents:	*14,393 (38.1 percent)*
Senior Residents:	*5,818 (15.4 percent)*
Jobs within ¼ Mile:	**31,994 jobs**

Proposed Service Levels:

	Frequency	Span (Approx.)
Weekday		5am – 12:30am
AM/PM Peak	10 min.	
Midday	15 - 30 min.	
Evening	30 min.	
Saturday	15 - 30 min.	6am – 12:30am
Sunday	15 - 30 min.	6am – 10:30pm

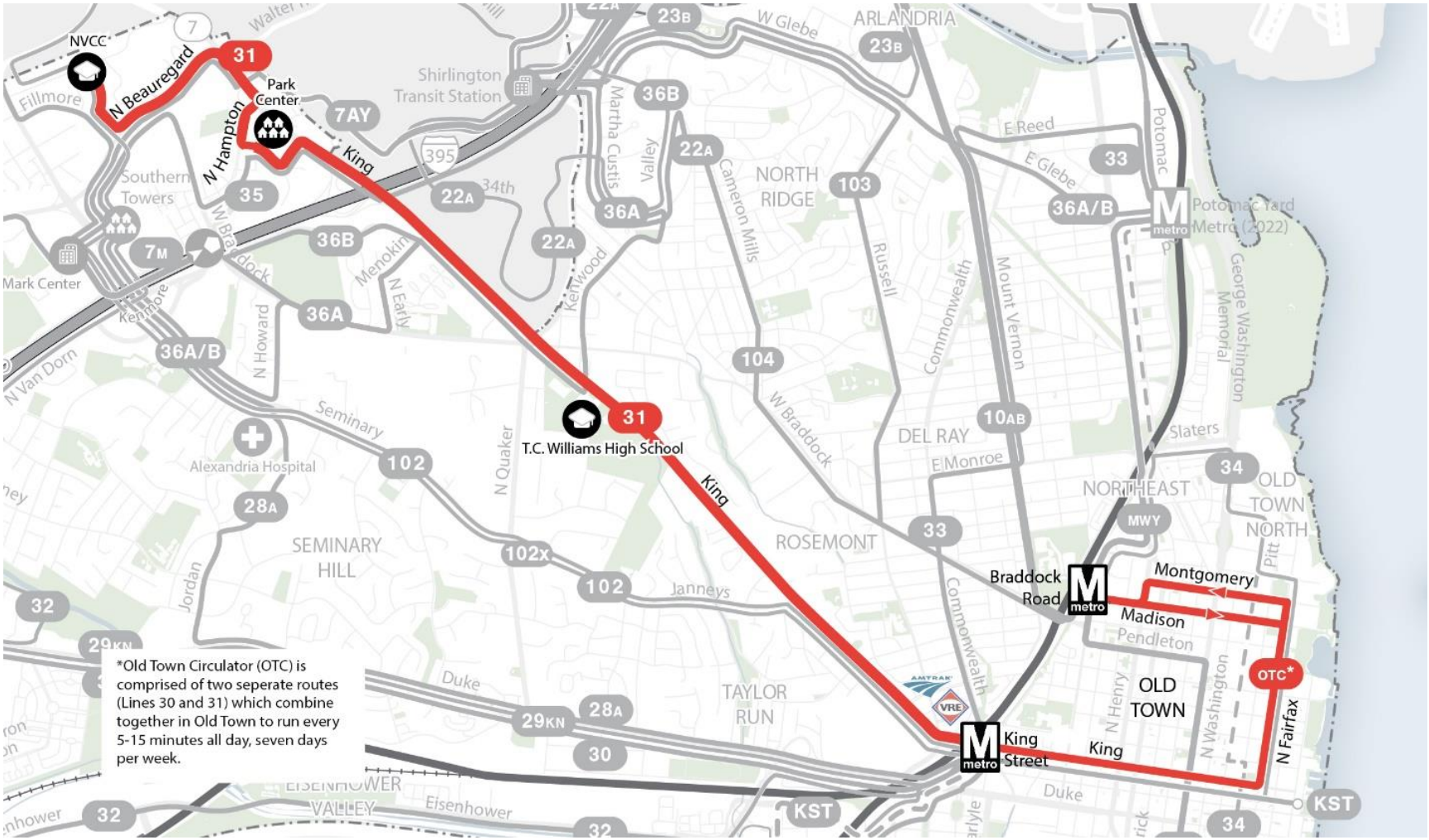
**Line 31 to run every 15 minutes from NVCC to King Street Metro during off-peaks and weekends. Old Town segment would potentially operate with 30-minute service during these times, but would be coordinated with Old Town Circulator and King Street Trolley to ensure 8-15 minute headways on King Street in Old Town.*

The proposed **Line 31** route alignment follows the entire King Street corridor from the NVCC-Alexandria campus and Beauregard Street to City Hall. It will effectively replacing the existing DASH AT-6 route, and a large portion of the DASH AT-5 route. **From the King Street Metro to Braddock Road Metro, Line 31 trips will be run as part of the "Old Town Circulator" (OTC) service. These OTC trips will be offset with Line 30 trips to provide extremely frequent service running every 5-15 minutes in the heart of Old Town. Buses will display both "Line 31" and "Old Town Circulator" on headsigns along this segment.**

This route is proposed to operate as part of the "Frequent Network" with buses running every 10 minutes during peak periods, and every 15 minutes during middays and weekends. This high frequency service will provide a short, convenient transfer for passengers traveling from West Alexandria into Old Town. These passengers could transfer between Lines 31 and 35 at Park Center on Ford Avenue.

As part of the Final Recommendations of the 2030 ATV Plan, this route would be extended from NVCC-Alexandria to Carlin Springs Road in Baileys Crossroads via Seminary Road. This future improvement will introduce a new regional connection from the King Street corridor to the Columbia Pike corridor in Arlington via the Metrobus. This connection was one of the major missing network connections that was identifying during ATV planning and analyses. Finally, although the King Street corridor is not identified as one of the city's high-intensity bus corridors, it would benefit greatly from street and stop improvements that help prioritize fast and reliable transit service, particularly in Old Town.

Figure 5-4 - Line 31 (NVCC-Alexandria to Braddock Road Metro via King Street)



Line 32

(a.k.a. "Line N1" in 2022 ATV Plan)

Route Description: **Landmark Mall to King Street Metro via Eisenhower Avenue**
Route(s) Replaced: AT-5, AT-7 (Eisenhower Avenue)
Corridor(s) Served: Eisenhower Avenue, South Van Dorn Street
Major Destination(s): Landmark Mall, Van Dorn Metro, Eisenhower Valley, Eisenhower Metro, Carlyle, Eisenhower East, King Street Metro

Residents within ¼ Mile: **37,590 residents**
Low Income Residents: *4,248 (11.3 percent)*
Minority Residents: *16,991 (45.2 percent)*
Senior Residents: *5,075 (13.5 percent)*
Jobs within ¼ Mile: **41,502 jobs**

Proposed Service Levels:

	Frequency	Span (Approx.)
Weekday		5am – 10pm
AM/PM Peak	30 min.	
Midday	60 min.	
Evening	30 min.	
Saturday	60 min.	7am – 10pm
Sunday	60 min.	7am – 10pm

Line 32 serves mostly as a replacement for the existing AT-7 route, which runs from the Landmark Mall and Van Dorn Metro to the King Street Metro via Eisenhower Avenue, but it introduces new weekend service with a direct connection to the King Street Metro. The Line 32 alignment is identical to the AT-7 from Landmark Mall to King Street Metro, but it does not continue into Old Town and Lee Center like the existing AT-7. The AT-7 segment from King Street Metro to Lee Center is covered by the Old Town Circulator and new Line 34.

In FY 2022, Line 32 would operate with similar headways and hours of operation as the existing AT-7, as shown in the table above. Based on the major new development activity at Landmark Mall and along the South Van Dorn Street and Eisenhower Avenue corridors, this route is proposed to be significantly improved in both FY 2023 and FY 2024. In FY 2023, the route would be extended from King Street Metro to Braddock Road Metro and would be coordinated with Lines 30 and 31 to further improve the Old Town Circulator headways. Service during weekday middays and weekends would also be improved from every 60 minutes to every 30 minutes. Additional weekday improvements would introduce 15-minute peak service from Van Dorn Metro to King Street Metro in FY 2024.

Figure 5-5 - Line 32 (Landmark Mall to King Street Metro via Eisenhower Avenue)

Line 33

(a.k.a. "Line N5" in 2022 ATV Plan)

Route Description: **King Street Metro to Potomac Yard via Mount Vernon Avenue**
Route(s) Replaced: AT-10
Corridor(s) Served: Mount Vernon Avenue
Major Destination(s): King Street Metro, Del Ray, Arlandria, Potomac Yard Metro

Residents within ¼ Mile: **21,088 residents**
Low Income Residents: *1,455 (6.9 percent)*
Minority Residents: *7,444 (35.3 percent)*
Senior Residents: *1,877 (8.9 percent)*
Jobs within ¼ Mile: **9,103 jobs**

Proposed Service Levels:

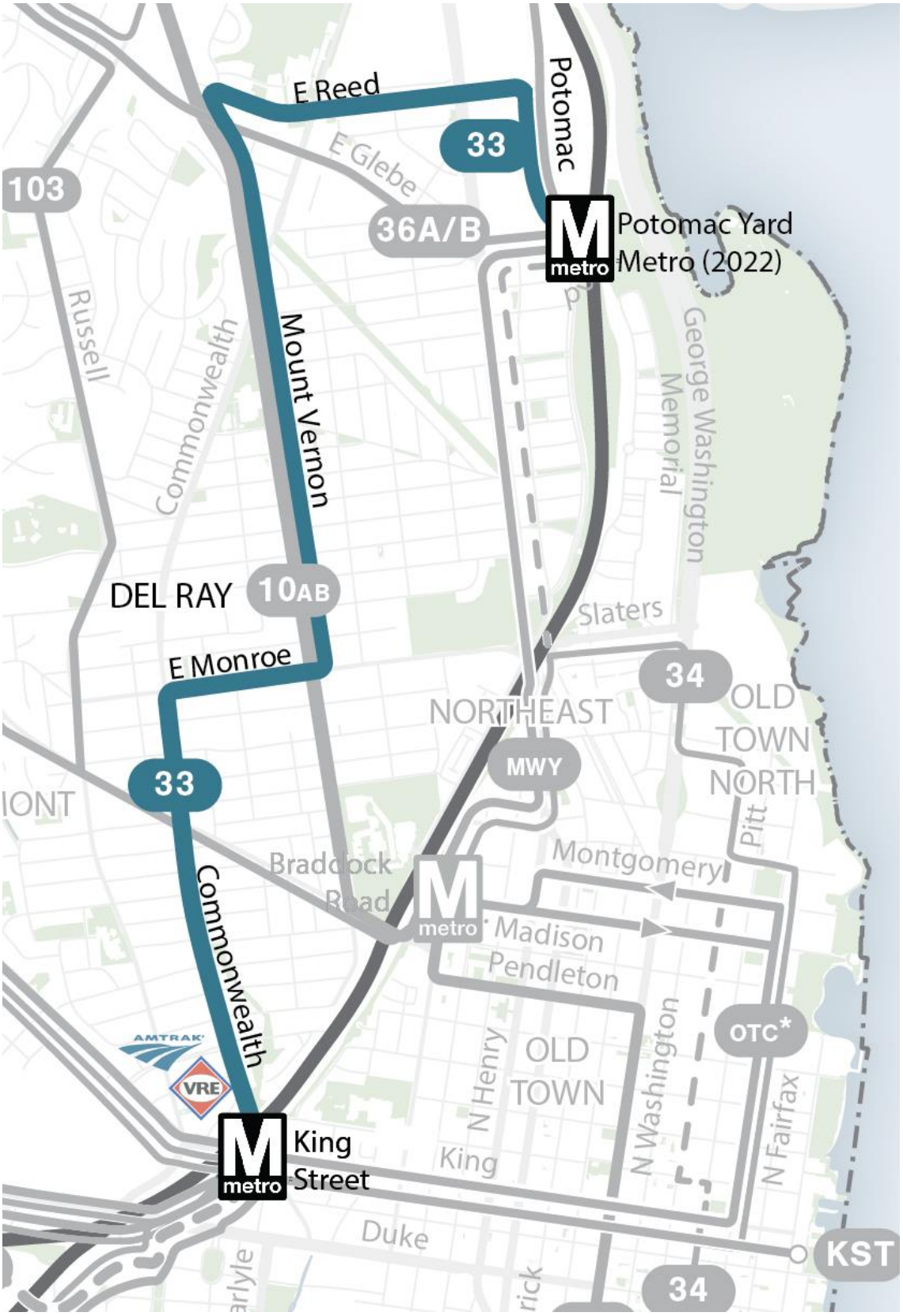
	Frequency	Span (Approx.)
Weekday		6am – 10pm
AM/PM Peak	30 min.	
Midday	30 min.	
Evening	60 min.	
Saturday	30 min.	7am – 10pm
Sunday	60 min.	7am – 10pm

Line 33 is a direct replacement for the existing DASH AT-10 route, which runs from the King Street Metro to Potomac Yard via Mount Vernon Avenue. The Line 33 routing is identical to the existing AT-10 with consistent daily service to areas such as Del Ray and Arlandria. When the Potomac Yard Metro station opens in 2022, it will also provide key rail connections at both ends of the route. Prior to the opening of the new rail station, the northern terminus of the route will be Potomac Yard Shopping Center.

The Line 33 service headways and spans for FY 2022 are very similar to the existing AT-10. Based on the 2022 ATV Plan, Line 33 is recommended to increase Sunday service to have trips running every 30 minutes all-day instead of hourly. This improvement is proposed for implementation in FY 2023. The route will also be coordinated with Metrobus 10A and 10B routes on Mount Vernon Avenue as much as possible to provide highly-frequent bus service on the Mount Vernon Avenue corridor from Del Ray to Arlandria.

This route will become increasingly important once the new Potomac Yard Metro opens and major development projects like the Virginia Tech Innovation Campus are constructed in the station vicinity. Connections to Metroway or Metrorail will also provide easy transit access for Line 33 passengers to the nearby Amazon HQ2 campus and National Landing.

Figure 5-6 - Line 33 (King Street Metro to Potomac Yard via Mount Vernon Avenue)



Line 34

(a.k.a. "Line N6" in 2022 ATV Plan)

Route Description: **Lee Center to Braddock Road Metro via City Hall**
Route(s) Replaced: AT-2, AT-5, AT-7 (Old Town, Old Town North)
Corridor(s) Served: Fairfax Street, Pitt Street, Slaters Lane
Major Destination(s): Lee Center, Old Town, City Hall, Braddock Road Metro (Potomac Yard Metro)

Residents within ¼ Mile: **16,551 residents**
Low Income Residents: *1,523 (9.2 percent)*
Minority Residents: *5,032 (30.4 percent)*
Senior Residents: *2,648 (16.0 percent)*
Jobs within ¼ Mile: **16,515 jobs**

Proposed Service Levels:

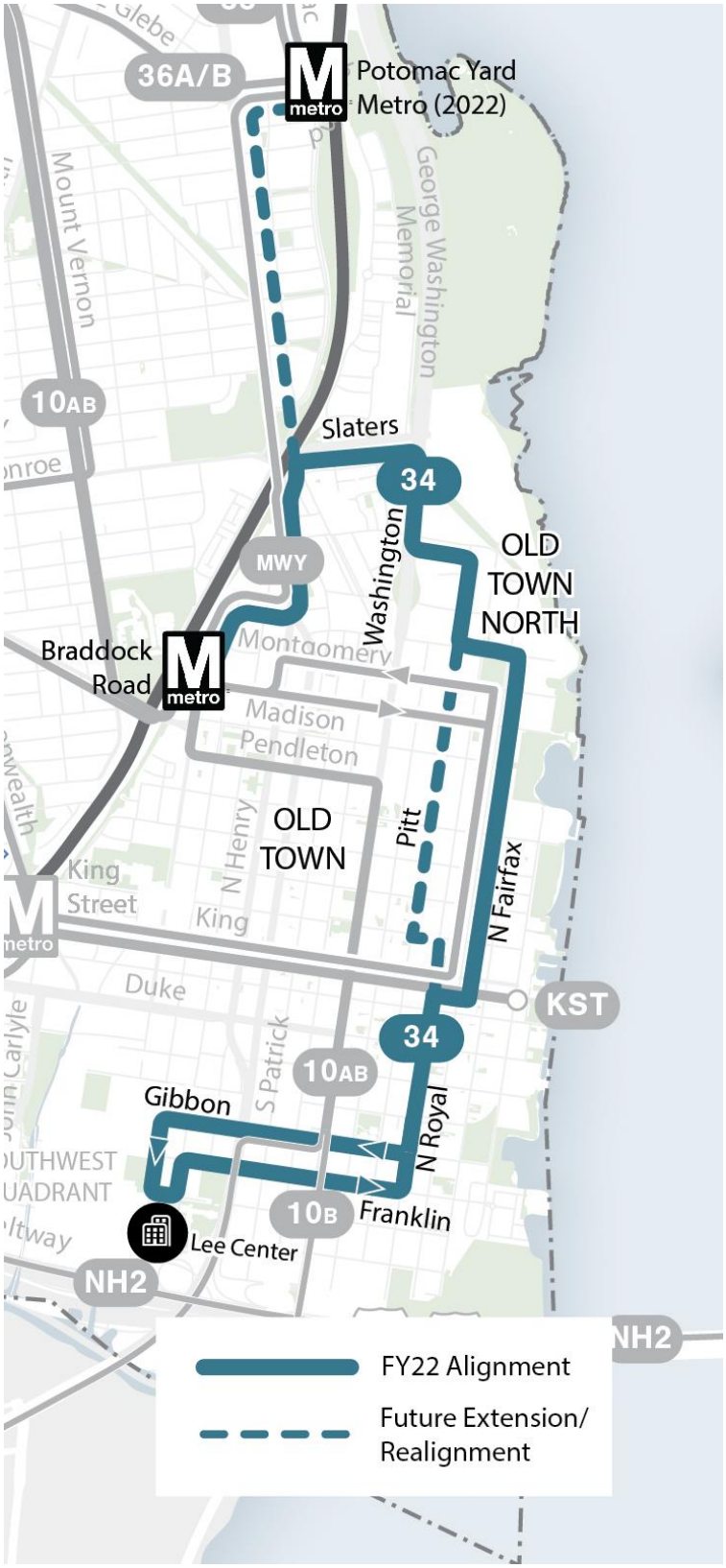
	Frequency	Span (Approx.)
Weekday		5am – 10pm
AM/PM Peak	30 min.	
Midday	30 min.	
Evening	30 min.	
Saturday	30 min.	6:30am – 10pm
Sunday	60 min.	7am – 10pm

Line 34 is a new DASH route that will provide north-south bus service through Old Town, focusing on the parts of Old Town that are not well-served by the Old Town Circulator. For FY 2022, the route is proposed to operate from Lee Center to Braddock Road Metro via North Fairfax Street and Slaters Lane. This will replace parts of three existing DASH routes: (1) the AT-2 in Old Town North, east of Washington Street; (2) the AT-5 in Old Town North, from Slaters Lane to the Braddock Road Metro; and (3) the AT-7 in South Old Town from City Hall to Lee Center via Royal Street, Gibbons Street and Franklin Street.

Proposed FY 2022 service levels on Line 34 will be comparable to the existing routes that are being replaced. It will run every 30 minutes all day and on Saturdays, with hourly service on Sundays. Weekend service to Lee Center and South Old Town is not currently operated, so that represents an improvement over the existing Old Town network; however, South Old Town passengers traveling to the King Street Metro will need to make a transfer to the Old Town Circulator at City Hall, or take a slightly longer one-seat trip up to the Braddock Road Metro.

Several major changes are proposed for Line 34 in FY 2023 due to the opening of the Potomac Yard Metro. When the station opens in mid-2022, Line 34 will be re-routed from Slaters Lane to the Potomac Yard Metro via Richmond Highway to provide a direct connection from Old Town North to Potomac Yard. As part of this FY 2023 realignment, DASH will also be proposing to shift Line 34 from North Fairfax Street to North Pitt Street between Cameron Street and 2nd Street to provide better coverage in Old Town, provide more convenient transit access to the residential complexes and new developments along North Pitt Street. Finally, as recommended by the Old Town North Small Area Plan, Line 34 could also be realigned in future years to serve any major redevelopment at the former "Power Plant" site.

Figure 5-7 - Line 34 (Lee Center to Braddock Road Metro via City Hall)



Line 35

(a.k.a. "Line N7" in 2022 ATV Plan)

Route Description: **Van Dorn Metro to Pentagon via Beauregard Street**
Route(s) Replaced: AT-1+, AT-2, AT-6 & Metrobus 7A/F
Corridor(s) Served: South Van Dorn Street, Beauregard Street, I-395
Major Destination(s): Van Dorn Metro, Landmark Mall, Lincolnia, Mark Center, Southern Towers, Park Center, Pentagon Metro

Residents within ¼ Mile: **49,405 residents**
Low Income Residents: *6,521 (13.2 percent)*
Minority Residents: *33,348 (67.5 percent)*
Senior Residents: *4,298 (8.7 percent)*
Jobs within ¼ Mile: **15,157 jobs**

Proposed Service Levels*:

	Frequency	Span (Approx.)
Weekday		5am – 1am
AM/PM Peak	10 min.	
Midday	10 min.	
Evening	30 min.	
Saturday	15 min.	6am – 12:30am
Sunday	15 min.	6am – 12am

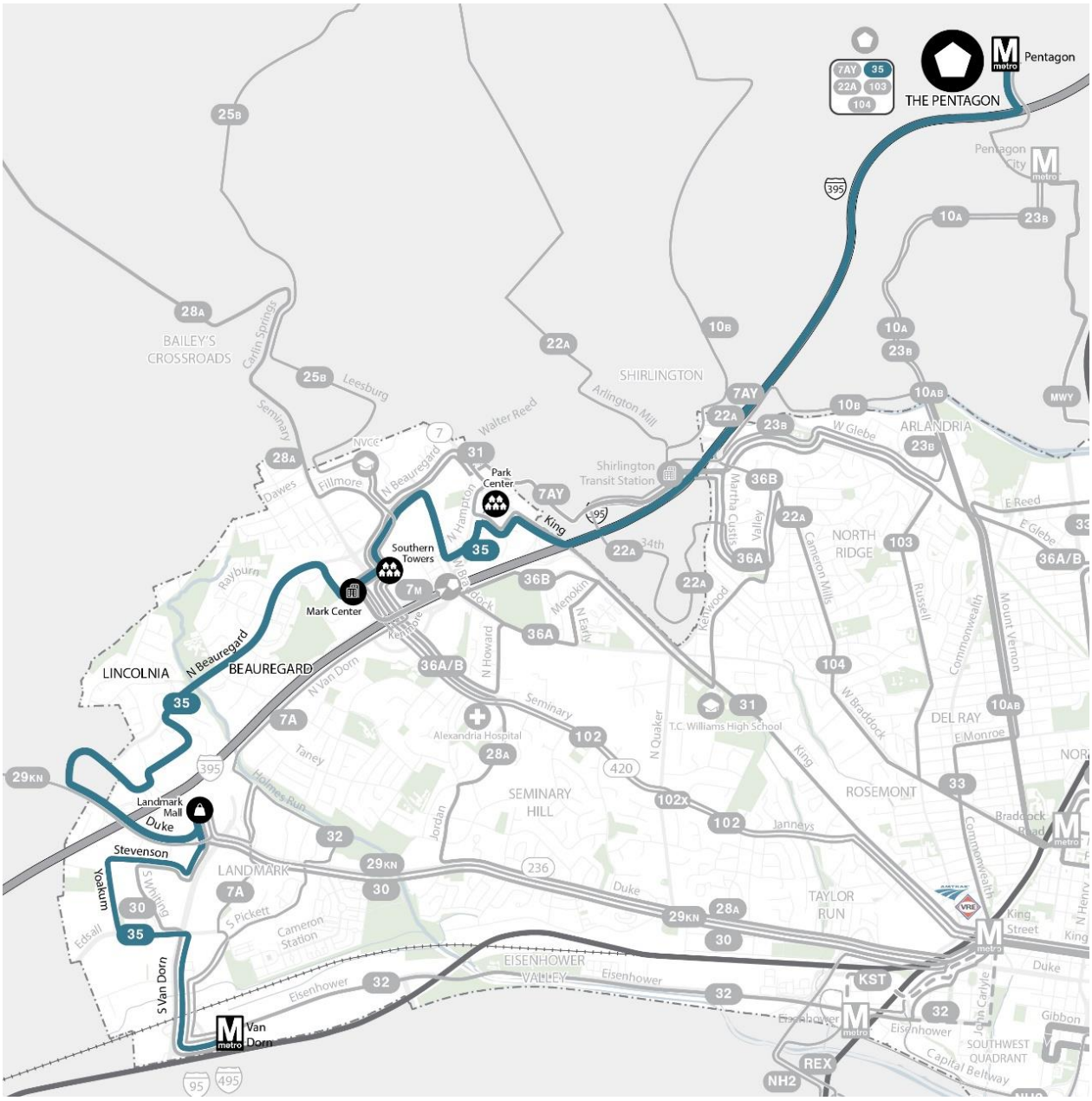
**Above frequencies and span are assumed to include FY22 I-395 Commuter Choice funding, which will not be determined until June 2021.*

Line 35 provides new all-day DASH service from the West End up to the Pentagon via Interstate 395. It will operate along roughly the same alignment as the existing DASH AT1+ route from Van Dorn Metro to Southern Towers via Beauregard Street, and will replace (or partially replace) three existing three routes that serve that alignment (AT-1+, AT-2 & Metrobus 7A/F). For FY 2022, DASH is proposing to run Line 35 as a frequent, all-day route that operates every 10 minutes all day on weekdays, every 15 minutes on weekends, and later in the evenings. The consolidation of existing routes with high-frequency service will provide more useful transit for West End residents and allow them to make convenient transfers for travel between the West End and Old Town.

Despite these service increases, there are two impacts to existing customers. Existing AT-2 riders traveling from the West End to Old Town will need to board Line 31 and then make a brief transfer at Landmark Mall (Line 30 or Metrobus 29K/N), Southern Towers (Line 102 or the Metrobus 28A), or Park Center (Line 31) to get to Old Town. Line 35 would also not make the current AT-1/AT-2 deviation from Beauregard Street to Reading Avenue and Rayburn Avenue. Riders in this area would need to walk up to Beauregard Street, but would likely have a much shorter wait time due to frequent, all-day service.

Most of the improvements on Line 35 for FY 2022 are being funded by the I-395 Commuter Choice program, which is not yet finalized. Without this funding, the route would operate every 10-15 minutes on the Beauregard Street corridor, but only every 20-30 minutes to the Pentagon and Van Dorn Street. In 2030 ATV Plan, Line 35 will be restructured and partially replaced by the West End Transitway.

Figure 5-8 – Line 35 (Van Dorn Metro to Pentagon via Beauregard Street)



Line 36A/B

(a.k.a. "Line N10/N11" in 2022 ATV Plan)

Route Description:	**Mark Center to Potomac Yard via Shirlington**
Route(s) Replaced:	AT-5, AT-6, AT-9
Corridor(s) Served:	Beauregard Street, King Street, West/East Glebe
Major Destination(s):	Mark Center, Southern Towers, Alexandria Hospital, Bradlee Shopping Center, Shirlington Transit Center, Arlandria, Potomac Yard
Residents within ¼ Mile:	**41,128 residents**
Low Income Residents:	*4,072 (9.9 percent)*
Minority Residents:	*20,687 (50.3 percent)*
Senior Residents:	*3,578 (8.7 percent)*
Jobs within ¼ Mile:	**11,751 jobs**

Proposed Service Levels*:

	Frequency (Trunk/Branch)	Span (Approx.)
Weekday		6am – 11pm
AM/PM Peak	15 min./30 min.	
Midday	15 min./30 min.	
Evening	15 min./30 min.	
Saturday	15 min./30 min.	7am – 10:30pm
Sunday	15 min./30 min.	7am – 10:30pm

**Above frequencies and span are assumed to include FY22 I-395 Commuter Choice funding, which will not be determined until June 2021.*

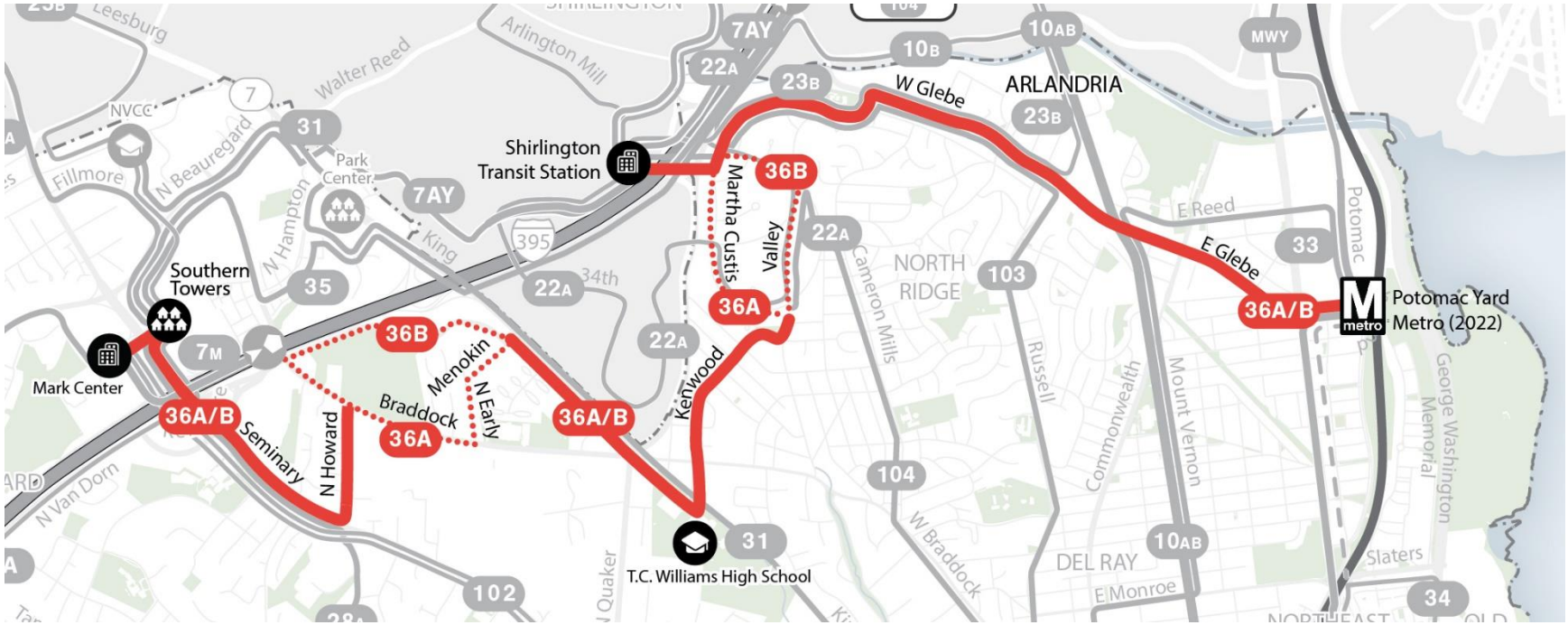
Line 36 A/B is proposed as a pair of routes that would run from Mark Center to Potomac Yard via Bradlee Shopping Center, Shirlington, and Arlandria. The main Line 36A/B route alignment is similar to the existing AT-9 route from Bradlee Shopping Center to Potomac Yard, but it takes a different routing to Mark Center. In two locations, the trunk routing is proposed to split into two branches – "Line 36A" and "Line 36B" – to provide new all-day service to North Van Dorn Street and Valley Road in Parkfairfax.

The proposed FY 2022 service levels on this route would allow it operate as a frequent, all-day route with trips running every 15 minutes all day, seven days per week along the trunk route. In the split route segments, the service would only run once every 30 minutes due to the alternating trips.

The improvements on Line 36 are contingent upon the receipt of FY 2022 I-395 Commuter Choice funding, which will be finalized in June. If DASH does not receive this funding, the proposal would be modified and the route would only run every 30 minutes, all day, seven days per week. The 36A/B split between Braddock Road and King Street would be maintained with hourly service on each branch, but the Parkfairfax split would be eliminated so that all Line 36 trips would follow the Line 36A alignment to Shirlington. Preliminary indications suggest that DASH is well-positioned to receive the funding for the service enhancements, but the process will not be finalized until late Spring.

Line 36A/B will be maintained for several years beyond FY 2022, but when the West End Transitway is introduced, it could be modified as part of the route restructuring in West Alexandria. This is unlikely to occur prior to FY 2027.

Figure 5-9 - Line 36A/B (Mark Center to Potomac Yard via Shirlington)



Lines 102 & 102X

(a.k.a. "Lines N12 & N22" in 2022 ATV Plan)

Route Descriptions:	**Mark Center to King Street via Seminary** & **Mark Center Express**
Route(s) Replaced:	AT-5, AT-6, AT-9 (King Street, Park Center, NVCC)
Corridor(s) Served:	King Street, Old Town Circulator
Major Destination(s):	NVCC-Alexandria, Park Center, Bradlee Shopping Center, TC Williams, King Street Metro, Old Town, City Hall, Braddock Road Metro
Residents within ¼ Mile:	**17,424 residents**
Low Income Residents:	*1,289 (7.4 percent)*
Minority Residents:	*8,869 (50.9 percent)*
Senior Residents:	*2,039 (11.7 percent)*
Jobs within ¼ Mile:	**9,337 jobs**

Proposed Service Levels:

	Frequency (102/102X)	Span (Approx.)(102/102X)
Weekday		5am – 8pm / 6-9am, 3-6pm
AM/PM Peak	30 min/15 min.	
Midday	60 min/No Service	
Evening	No Service	
Saturday	No Service	No Service
Sunday	No Service	No Service

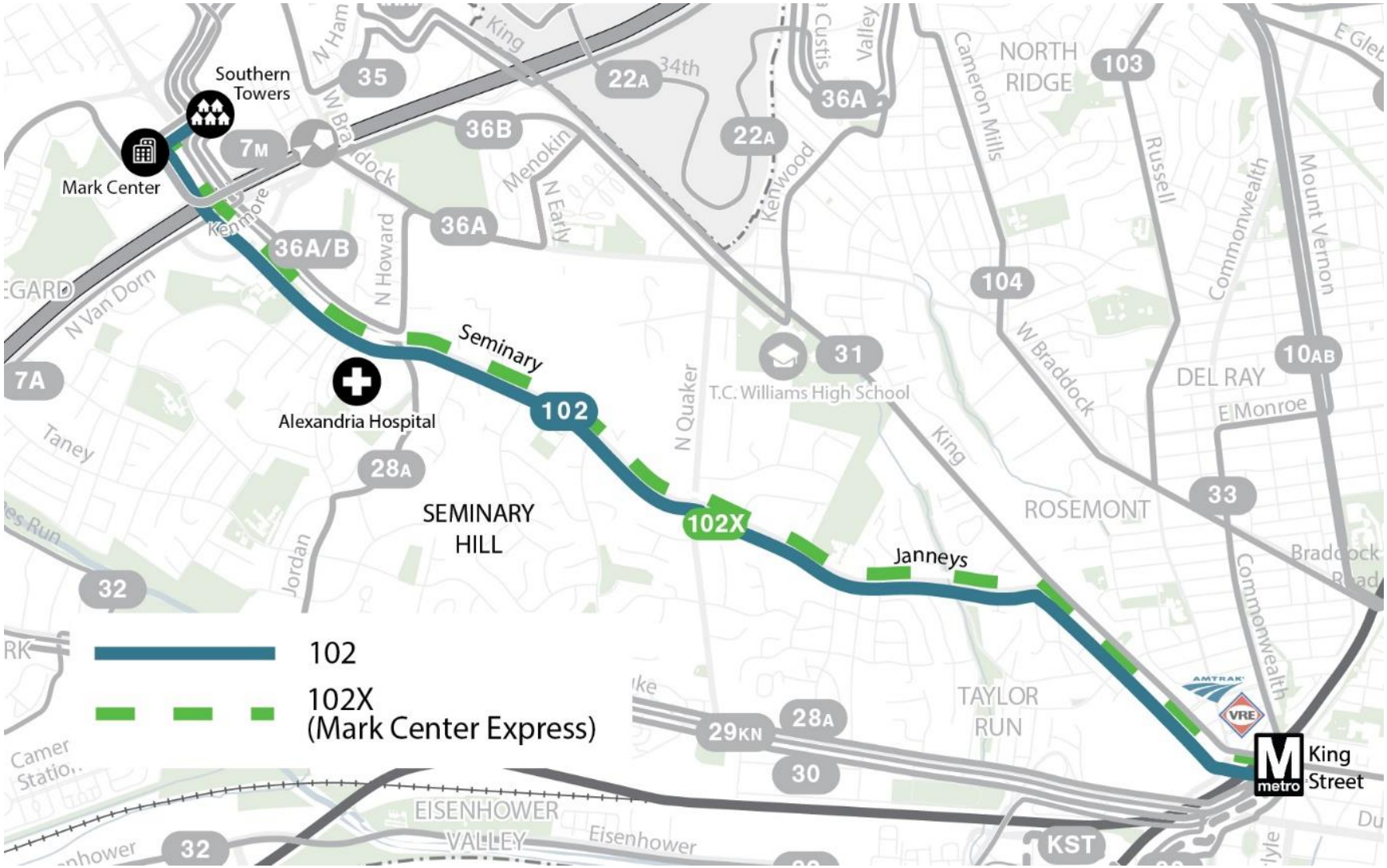
Line 102 is proposed to replace the section of the existing AT-2 from Mark Center to the King Street Metro with local service along Seminary Road and Janneys Lane. It will run every 30 minutes during weekday peaks and every 60 minutes service during midday. No weekend service would be operate on this corridor on Seminary Road and Janneys Lane from Howard Street to King Street.

While Line 102 is replacing the central portion of the AT-2, other parts of the AT-2 are replaced by Lines 34, 35, and the Old Town Circulator. Existing AT-2 riders who are traveling from the West End to Old Town will need to board Line 31 and then make a brief transfer at Landmark Mall (Line 30 or Metrobus 29K/N), Southern Towers (Line 102 or the Metrobus 28A), or Park Center (Line 31) to get to Old Town

As stipulated by the ATC Board of Directors as part of the adoption of the Final ATV Plan, staff will continue to monitor Line 102 ridership on Seminary Road and Janneys Lane between Howard Street and King Street to see if the designated threshold of 120 average daily boardings can be reached by 2025.

Line 102X is a non-stop express route that operates between the King Street Metro and Mark Center during weekday peak periods and is currently known as the AT-2X. The route is contracted by the Department of Defense but is open to all passengers. Line 102X runs express trips every 15 minutes and is coordinated with Line 102 to provided combined peak headways of 10-12 minutes between King Street Metro and Mark Center. No changes are proposed for Line 102X, other than the name change. This service will continue to operate based on contract terms. Any future changes to contract terms will be reflected in future versions of this document.

Figure 5-10 - Line 102 (Mark Center to King Street via Seminary) & Line 102X (Mark Center Express)



Line 103

(a.k.a. "Line N23" in 2022 ATV Plan)

Route Description: **Braddock Road to Pentagon via Parkfairfax**
Route(s) Replaced: AT-3 (Braddock Road Metro to Pentagon)
Corridor(s) Served: Russell Road, West Glebe, Interstate 395
Major Destination(s): Braddock Road Metro, Arlandria, North Ridge, Parkfairfax, Pentagon

Residents within ¼ Mile: **21,926 residents**
Low Income Residents: *2,565 (11.7 percent)*
Minority Residents: *9,077 (41.4 percent)*
Senior Residents: *1,864 (8.5 percent)*
Jobs within ¼ Mile: **5,083 jobs**

Proposed Service Levels:

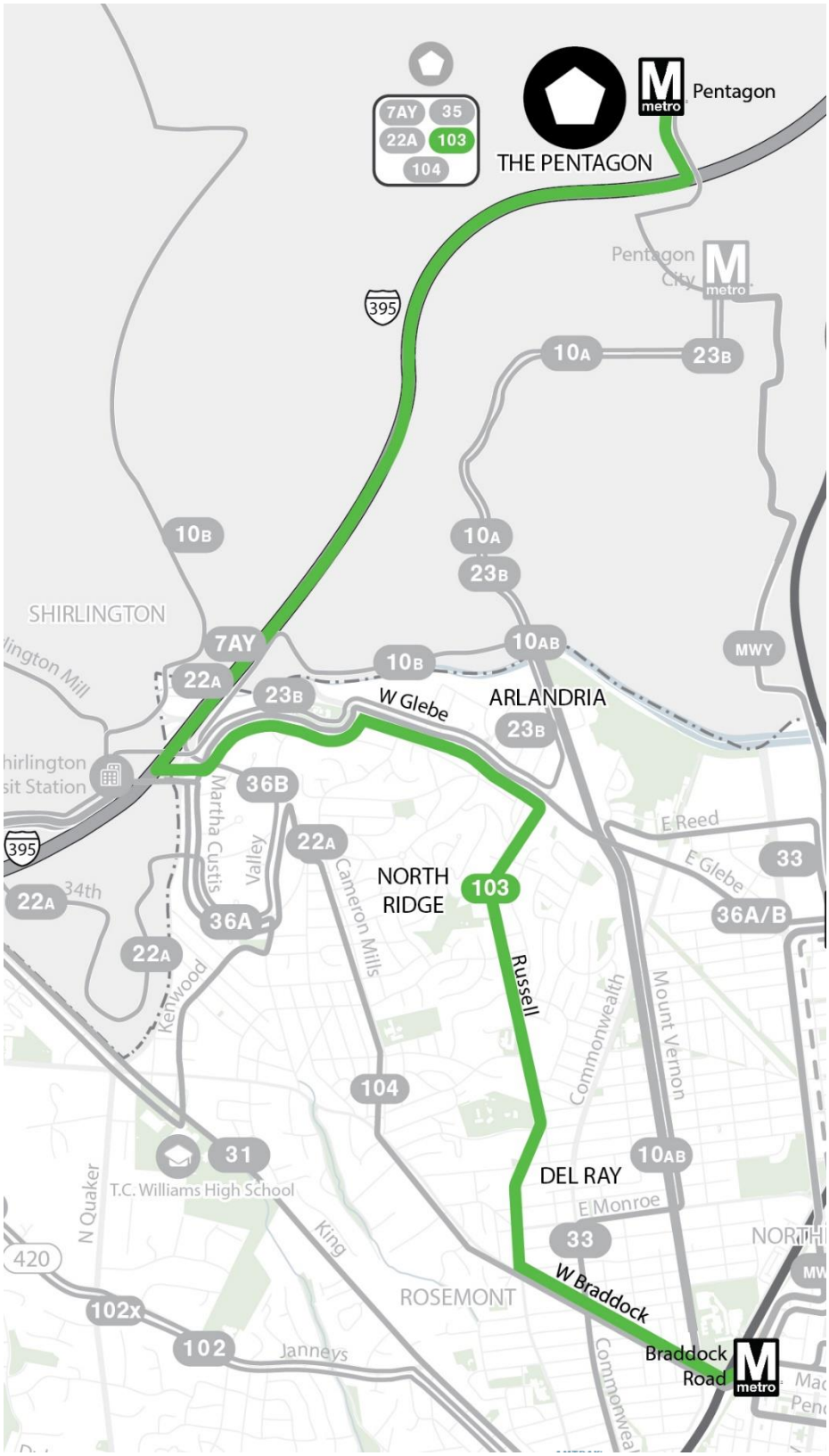
	Frequency	Span (Approx.)
Weekday		6am – 9:30am, 4pm – 8pm
AM/PM Peak	30 min.	
Midday	No Service	
Evening	No Service	
Saturday	No Service	No Service
Sunday	No Service	No Service

Line 103 is proposed to replace the existing AT-3 route from Braddock Road Metro to the Pentagon. The route follows the same alignment as the existing AT-3 but does not serve Old Town or Hunting Point. Passengers who have relied upon the AT-3 in Old Town may use the Old Town Circulator, Line 34, or the Metrobus 10A or 10B routes.

For FY 2022, Line 103 will operate every 30 minutes during weekday peak periods with a span that matches regular AT-3 service levels. This is an improvement compared to the current service that has been running every 60 minutes during the pandemic, however, it is a reduction from the 20-minute service that was operated before the COVID pandemic. DASH proposes that full 20-minute service would be restored on Line 103 no later than the start of FY 2023.

Line 103 will only operate during weekday peak hours. Currently, the AT-3/4 Loop provides off-peak service along this routing, but the route was not included in the 2022 ATV Plan due to low ridership. Existing AT-3/4 riders in Parkfairfax may also be able to use the new Line 36A/B, which runs every 15-30 minutes all day, seven days per week, with connections to Shirlington and the future Potomac Yard Metro station.

Figure 5-11 - Line 103 (Braddock Road to Pentagon via Parkfairfax)



Line 104

(a.k.a. "Line N24" in 2022 ATV Plan)

Route Description: **Braddock Road to Pentagon via Parkfairfax**
Route(s) Replaced: AT-4 (Braddock Road Metro to Pentagon)
Corridor(s) Served: Braddock Road, Cameron Mills, Interstate 395
Major Destination(s): Braddock Road Metro, North Ridge, Parkfairfax, Pentagon

Residents within ¼ Mile: **16,996 residents**
Low Income Residents: *833 (4.9 percent)*
Minority Residents: *4,130 (24.3 percent)*
Senior Residents: *2,040 (12.0 percent)*
Jobs within ¼ Mile: **4,137 jobs**

Proposed Service Levels:

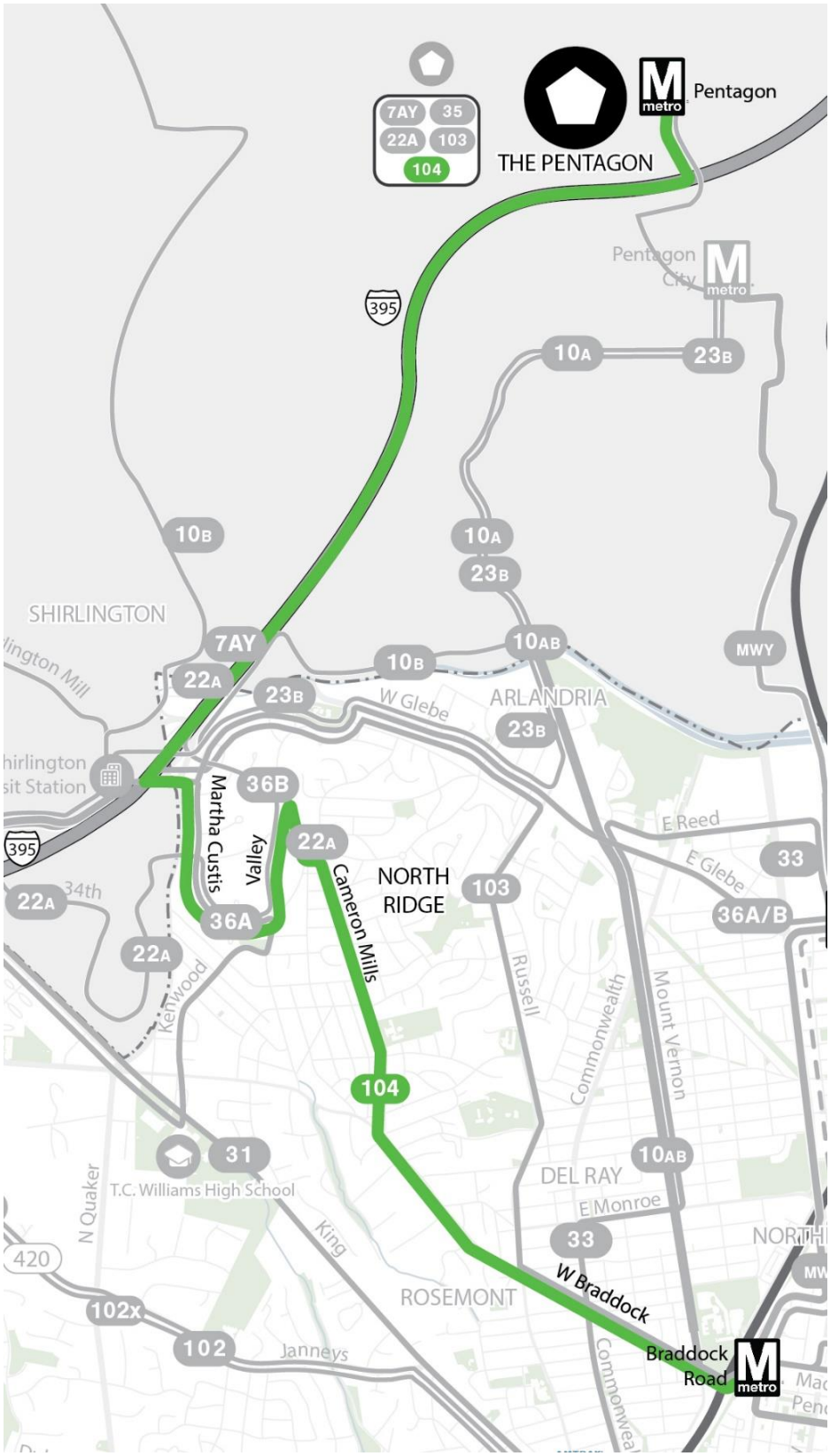
	Frequency	Span (Approx.)
Weekday		6am – 9:30am, 4pm – 8pm
AM/PM Peak	30 min.	
Midday	No Service	
Evening	No Service	
Saturday	No Service	No Service
Sunday	No Service	No Service

Line 104 is proposed to replace the existing AT-4 route from Braddock Road Metro to the Pentagon. The route follows the same alignment as the existing AT-4 but does not serve Old Town or City Hall. Passengers who have relied upon the AT-4 on Old Town may use the Old Town Circulator, or the Metrobus 10A and 10B routes.

For FY 2022, Line 104 will operate every 30 minutes during weekday peak periods with a span that is similar to regular AT-4 service. This is an improvement compared to the current service that has been running every 60 minutes during the pandemic, however, it is a reduction from the 20-minute service that was operated before the COVID pandemic. DASH proposes that full 20-minute service would be restored on Line 104 no later than the start of FY 2023.

Line 104 will only operate during weekday peak hours. Currently, the AT-3/4 Loop provides off-peak service along this routing, but the route was not included in the 2022 ATV Plan due to low ridership. Existing AT-3/4 riders in Parkfairfax may also be able to use the new Line 36A/B, which runs every 15-30 minutes all day, seven days per week, with connections to Shirlington and the future Potomac Yard Metro station.

Figure 5-12 - Line 104 (Braddock Road to Pentagon via Parkfairfax)



King Street Trolley (KST)

(a.k.a. "Line KST" in 2022 ATV Plan)

Route Description: **King Street Metro to Old Town Waterfront**
Route(s) Replaced: N/A
Corridor(s) Served: King Street, Old Town Circulator
Major Destination(s): King Street Metro, Old Town, City Hall, Waterfront

Residents within ¼ Mile: **6,169 residents**
Low Income Residents: *327 (5.3 percent)*
Minority Residents: *1,271 (20.6 percent)*
Senior Residents: *999 (16.2 percent)*
Jobs within ¼ Mile: **17,994 jobs**

Proposed Service Levels:

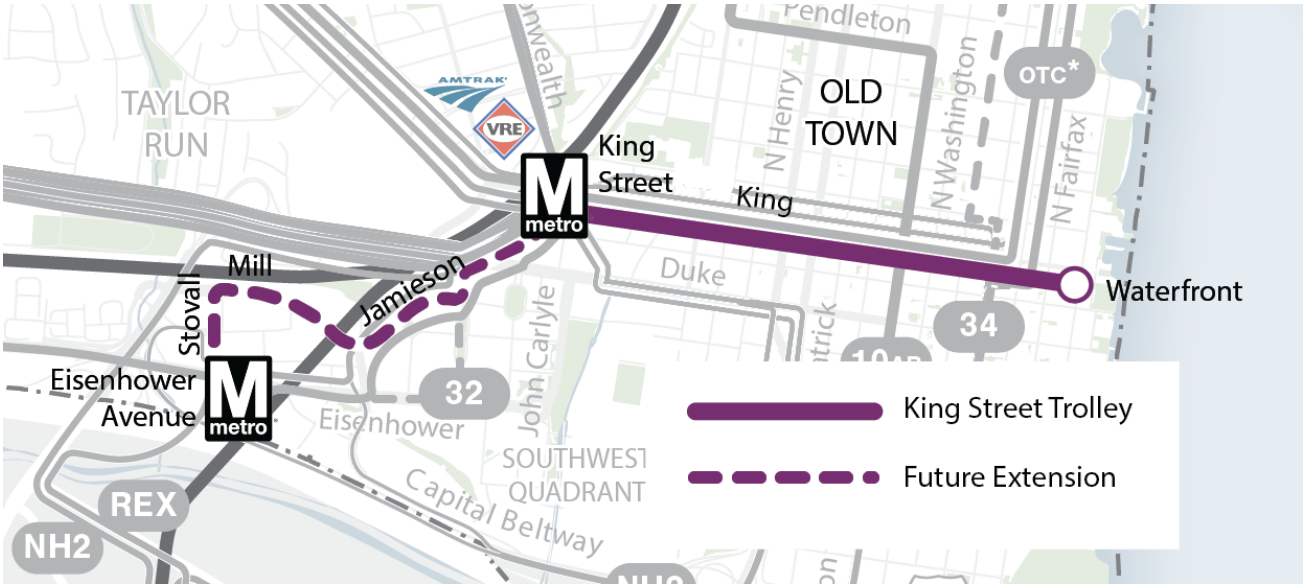
	Frequency	Span (Approx.)
Weekday		11am – 11pm
AM/PM Peak	15 min. (No AM Peak Service)	
Midday	15 min.	
Evening	15 min.	
Saturday	15 min.	11am – 11pm
Sunday	15 min.	11am – 11pm

After being out of service due to the pandemic for 18 months, the iconic **King Street Trolley** will resume operations in FY 2022 with a scheduled start date of September 5, 2021. The Trolley will not resume at the start of FY 2022 due to financial considerations and reduced tourist ridership demand. The Trolley will resume its regular route alignment; however, a new re-route to Cameron Street near the Waterfront due to the ongoing closure of the 100 Block of King Street may be introduced. If the closure is continued into the Fall, a new Trolley drop-off stop on Union Street at King Street will be introduced. Finally, a new Trolley stop on southbound Union Street at Prince Street is also proposed for FY 2022.

DASH proposes to run the King Street Trolley with simpler, 15-minute service from 11am to 11pm, 365 days per year. This is a reduction from pre-COVID levels, which included 10-minute headways during summer months, and service until midnight on Thursday through Saturday, but is easier to understand.

The 2022 ATV Plan included a proposed extension of the King Street Trolley from King Street Metro to the Eisenhower Avenue Metro via Dulaney Street, Jamieson Street, Mill Road and Stovall Street. This extension would provide a key connection from Old Town to Carlyle, which represents the densest area of the City, but is not currently well-served by transit. This extension would require at least two additional Trolleys which could be ready by FY 2024. If desired, this change could also include a transition to 100% electric trolley vehicles for a quieter more sustainable travel option in Old Town. Additional grant funding, and coordination with City leadership would be required for these changes. Lastly, the ATV Plan includes several ideas for better integrating the King Street Trolley with the Old Town Circulator, including changes to fare policies; however, no such changes are proposed for FY 2022.

Figure 5-13 - King Street Trolley



5.2 / Fare Recommendations (FY 2022)

As part of the FY 2022 budget development process, the following fare recommendations are proposed:

- **Fare Changes.** No changes to the base fare or DASH Pass are proposed for FY 2022. The base fare will remain at $2.00 and the DASH Pass will remain at $45.00.

- **31-Day Rolling DASH Pass on SmarTrip.** DASH proposes to modify the business rules for DASH Passes purchased through SmarTrip such that they would be valid for 31 days following purchase. Currently, DASH Passes purchased through SmarTrip are valid for one calendar month. Passes purchased through SmarTrip prior to the 15th of a given month are valid for the remaining days of that month. Passes purchased after the 15th of a given month are valid for the duration of the following month. Any revenue lost through this change is expected to be offset by increases in pass purchases due to increased convenience.

- **Senior/Disabled 7-Day Regional Pass.** DASH is proposing to eliminate a $0.65 upcharge on Senior/Disabled 7-Day Regional Passes. These passes are purchased through SmarTrip and allow passengers to take unlimited rides on all regional bus providers for seven days. The revenue impact of this change is expected to be negligible based on the number of passengers using these cards during peak periods in years past.

- **WMATA Regional Pass Products.** If WMATA expands its Revenue Sharing Agreement to include additional regional pass offerings in FY 2022, DASH will begin allowing DASH passengers to use any new WMATA pass product as valid fare payment, in accordance with recommendations from WMATA's Bus Transformation Project. Currently, DASH accepts the 7-Day Regional Bus Pass and participates in a regional revenue sharing agreement that distributes funds based on pass usage. This planned change would expand this agreement to include all current and future

WMATA regional passes for both bus and rail. It would also make the SmarTrip app and Apple Wallet even more useful for DASH passengers.

- **Free Rides for City Employees.** Beginning in July 2021, DASH will be providing free rides for all City employees. City employees will need to show their valid city-issued identification badges to the bus operator to be allowed to ride for free.

- **Free Student Rides Program.** DASH staff will continue the "Free Student Rides" program for Alexandria high school students for its fourth year. This program promotes transit awareness and ridership among young adults who can become future DASH users. During the 2020-2021 school year, DASH transitioned this program from student ID cards to the DASH Bus app. This will allow the program to be administered more efficiently, provide additional convenience for students, and allow DASH to continue testing its mobile ticketing

  In FY 2022, DASH will consider expanding the program to middle school students (Grades 6-8) at George Washington Middle School, Francis Hammond Middle School, Patrick Henry Middle School, and Jefferson-Houston School for the 2021-2022 school year. At the request of ACPS staff, DASH temporarily allowed middle school students from these schools to participate in the program in Spring 2021 to alleviate school bus capacity issues related to the COVID pandemic. Staff will evaluate this change over the summer to determine if it should be continued in Fall 2021.

- **DASH Bus App.** The DASH Bus app was launched in Spring 2019 and will be extended for a third year to allow for further program evaluation and additional coordination with regional partners. DASH staff prepared a "DASH Bus App Mobile Ticketing Report" in February 2019 to document the initial program results and findings (https://www.dashbus.com/ride-dash/mobileapp). The app has offered additional convenience for DASH passengers and has been useful for offering custom DASH fare products and fare partnerships. Ultimately, DASH envisions a mobile ticketing solution that is can be used across multiple regional providers, includes real-time bus arrival and trip planning information, and features electronic validation with onboard readers.

- **SmarTrip App.** DASH began accepting the new SmarTrip app in March 2021. The new platform allows customers to purchase virtual SmarTrip cards, add funds in real-time, buy passes, check balances, set up auto-reload and manage SmartBenefits. The app also allows for electronic validation where customers can hold their phones above the SmarTrip reader to validate their fares. DASH will continue to accept and promote the SmarTrip app as a convenient way to ride.

- **Convert DOT Paratransit Cards to SmarTrip Cards.** DASH is continuing to work with the City of Alexandria to transition DOT cards from the current paper version to a SmarTrip-enabled chip card. Through this effort, DOT cardholders will be able to tap their cards on the farebox of DASH buses which will increase operational efficiency, customer convenience, and data collection, while reducing the occurrence of fraud. Since DOT cards are valid for three years, the transition from paper cards to SmarTrip cards is expected to take several years to complete.

5.3 / Service Recommendations (FY 2023 – FY 2027)

Based on the recommendations of the Alexandria Transit Vision (ATV) Plan, DASH will implement the first phase of the plan – a reduced version of the Final 2022 ATV Network – in the first half of FY 2022. The rest of the 2022 ATV Plan will be proposed for implementation in FY 2023, while the full vision, which is reflected by the 2030 ATV Network, will be implemented between FY 2024 and FY 2030 based on funding availability. Additional information on the Alexandria Transit Vision Plan project, process, outcomes, and final report can be found at the project website: www.dashbus.com/transitvision.

Since most of the route restructuring for the 2022 ATV Plan will be implemented in FY 2022, the majority of service changes proposed for FY 2023 are increases in service frequency, which will allow DASH to implement the full 2022 ATV Plan.

The service changes proposed for FY 2023 include several changes that will be contingent upon the opening of the new Potomac Yard Metro Station, which is currently scheduled for mid-2022. The full list of proposed FY 2023 changes includes:

- **Line 30.** Line 30 operates from Van Dorn Metro and Landmark Mall to Braddock Road via Duke Street and Old Town. In FY 2023, weekday peak service would also be improved so that all peak trips continue into Old Town to Braddock Road Metro as part of the Old Town Circulator. This would create 10-minute service for Line 30 from Landmark Mall to Braddock Road Metro and would allow the Old Town Circulator to run every five minutes during weekday peak periods.

- **Line 31.** Line 31 serves the King Street corridor from NVCC in West Alexandria into Old Town. In FY 2022, some Line 31 trips would only be able to operate from NVCC to King Street Metro during off-peaks and weekends. In FY 2023, all Line 31 trips would operate along the full route alignment to Braddock Road Metro, as recommended in the Full 2022 ATV Plan. This will improve Old Town Circulator headways during off-peaks and weekends.

- **Line 32.** In FY 2022, DASH is slated to replace the AT-7 service along Eisenhower Avenue with Line 32, but due to budget constraints it will only be able to operate from Landmark Mall to King Street Metro. In FY 2023, DASH proposes to extend Line 32 from King Street Metro to Braddock Road Metro and combine it with Lines 30 and 31 to increase the frequency of the Old Town Circulator. Weekday midday service will be improved from every 60 minutes to every 30 minutes. Finally, weekend service will also be improved from every 60 minutes in FY 2022 to every 30 minutes in FY 2023 from Landmark Mall to King Street Metro.

- **Line 33.** In FY 2022, Line 33 replaces the AT-10 serving Del Ray, Arlandria and Potomac Yard, but with reduced Sunday service running once every 60 minutes. In FY 2023, Sunday service is improved with trips running every 30 minutes. This will improve weekend connections to the Potomac Yard Metro Station, which is scheduled to open in 2022.

- **Line 34.** Line 34 will be introduced in FY 2022 as a new north-south route that runs from Lee Center to Braddock Road Metro via City Hall and Old Town North. The planned opening of the new Potomac Yard Metro Station in mid-2022, however, will trigger a realignment of Line 34 so that it will no longer serve the Braddock Road Metro and instead will travel north on Richmond Highway and terminate at the new Potomac Yard Metro. DASH is also proposing that the Line 34 alignment in Old Town will be shifted from North Fairfax Street to North Pitt Street at this time. Finally, Line 34 is scheduled to only run hourly on weekends in FY 2022 but would be increased to operate every 30 minutes on Saturdays and Sundays in FY 2023.

- **Line 103.** In FY 2022, Line 103 replaces the AT-3 with weekday peak service running every 30 minutes between Braddock Road Metro and the Pentagon Metro via Arlandria. In FY 2023, the service headways would be improved to run every 20 minutes, similar to AT-3 service prior to the COVID pandemic.

- **Line 104.** In FY 2022, Line 104 is proposed to replace the AT-4 with weekday peak service every 30 minutes between Braddock Road Metro and the Pentagon Metro. In FY 2023, the headways would be improved to run every 20 minutes, similar to AT-4 service prior to the COVID pandemic.

For FY 2024, DASH proposes the following additional service changes, which will represent the first steps beyond the 2022 ATV Plan towards the 2030 ATV Plan:

- **Line 30.** Line 30 operates from Van Dorn Metro and Landmark Mall to Braddock Road via Duke Street and Old Town. In FY 2024, DASH would implement major off-peak service enhancements on the routes so that it would run every 15 minutes during weekday middays, evenings and weekends. This is a major improvement over the existing off-peak service that operates every 30 minutes along one of the more productive transit corridors in the City.

- **Line 32.** DASH proposes to increase weekday peak service on Line 32 from every 30 minutes to every 15 minutes. This will improve connectivity along the Eisenhower Avenue Corridor, including major new developments at Landmark Mall, South Van Dorn Street, Eisenhower Valley, Eisenhower East and Carlyle. Contingent upon the King Street Trolley extension outlined below, the route alignment of Line 32 would also be adjusted in the Carlyle area so that it runs via Duke Street, John Carlyle Street, and Eisenhower Avenue.

- **King Street Trolley.** For FY 2024, DASH proposes to extend the King Street Trolley from the King Street Metro to the Eisenhower Metro via Dulaney Street, Jamieson Avenue, Mill Road and Stovall Street. This route extension will require at least two additional Trolley vehicles, which could potentially be 100% electric as part of a larger effort to transition the Trolley fleet to electric buses. DASH will also seek to expand morning service hours for the Trolley and to find ways to integrate it more fully with the Old Town Circulator service. These trolley changes and any further changes to Trolley service or fare policies will require additional coordination with city leadership.

For FY 2025, FY 2026, and FY 2027, additional service change proposals will be made to advance the implementation of the 2030 Alexandria Transit Vision Plan network based on available funding. An overview of the 2030 ATV Plan network is provided below.

2030 Alexandria Transit Vision Plan

The 2030 ATV Network represents the ultimate vision for the new ridership-oriented bus network while providing frequent, all-day bus service across most of the city. Many of the routes in the 2030 network are similar to the routes from the 2022 network, but with additional frequency improvements. Figures 5-14 and 5-15 show the new 2030 network during peak and midday time periods, respectively, while Figure 5-16 shows the service frequencies and hours of operations for all DASH and WMATA routes.

The 2030 ATV Network assumes the equivalent of a 20 percent increase in service hours for both DASH and WMATA. The final 2030 network would be highlighted by an even more extensive network of high-frequency bus routes operating every 15 minutes or better, all-day seven days per week that would allow transit users to move easily across the city at all times.

The 2030 ATV Network was designed to be implemented by 2030, however, some of the improvements could be introduced during the latter part of the FY 2023 – FY 2027 period covered by this TDP if funding is available. One major component of the 2030 ATV Network that may be implemented earlier than 2030 is the West End Transitway. The capital improvements for the West End Transitway could be completed as early as 2025, in which case, the new "N9" West End Transitway route could be implemented at time, as well as the the corresponding changes to the "N8", "N10" and "N11" routes.

The 2030 ATV Plan will provide the following major benefits:

- Expansion of the citywide network of frequent, all-day bus service, seven days per week.
- Access to frequent, all-day transit for nearly 120,000 city residents (vs. 40,000 today).
- 91% of low-income residents will have access to frequent, all-day transit (vs. 29% today).
- 89% of minority residents will have access to frequent, all-day transit (vs. 22% today).
- 78% of seniors will have access to frequent, all-day transit (vs. 23% today).
- Maintains bus service coverage to the extent that 99.5 percent of existing DASH and WMATA boardings will still be within 1/8 mile of a bus stop under the 2022 ATV Network.
- Significant expansion of evening and weekend service, including a 50% increase in weekend service that will benefit non-traditional commuters and off-peak transit users.

Full information about the 2030 ATV Plan can be found at www.dashbus.com/transitvision.

Additional projects that will be relevant to the implementation of the 2030 ATV Plan are noted below:

- **Potomac Yard Metro Station**. WMATA is planning to construct a new in-fill Metrorail Station at Potomac Yard, between the existing Braddock Road and National Airport Metro Stations. The station will be constructed just west of the intersection of Potomac Avenue and East Glebe Road, with an adjacent bus transit center for DASH, WMATA and Metroway buses. DASH will provide local bus service to this station with Lines 33, 34 and 36.

- **West End Transitway.** The City of Alexandria is planning to build the West End Transitway, a high-capacity BRT service that would operate along the I-395 corridor between Alexandria and the Pentagon. The original route began at the Van Dorn Metro with stops at Landmark, Mark Center, Southern Towers and Shirlington Transit Center before reaching the Pentagon. Although a specific transit provider has not been identified for this service, DASH is expected to be considered due to its other nearby services and cost efficiency. Operating funds for this service have not yet been identified, but the I-395 Commuter Choice program and other state and regional funding sources will be actively pursued.

- **Duke Street Bus Rapid Transit (BRT).** The City of Alexandria was recently recommended to receive $75 million in NVTA grant funding for the design and construction of the first phase of the Duke Street BRT, which is scheduled for completion by 2025. This project could provide dedicated transit lanes, bus prioritization, and other capital improvements that will increase bus speeds, reliability and convenience between Landmark Mall and King Street Metro. This will greatly benefit the future operations of the DASH Line 30, and the Metrobus 28A, 29K and 29N.

Figure 5-14 / 2030 Alexandria Transit Vision Network – Peak Service

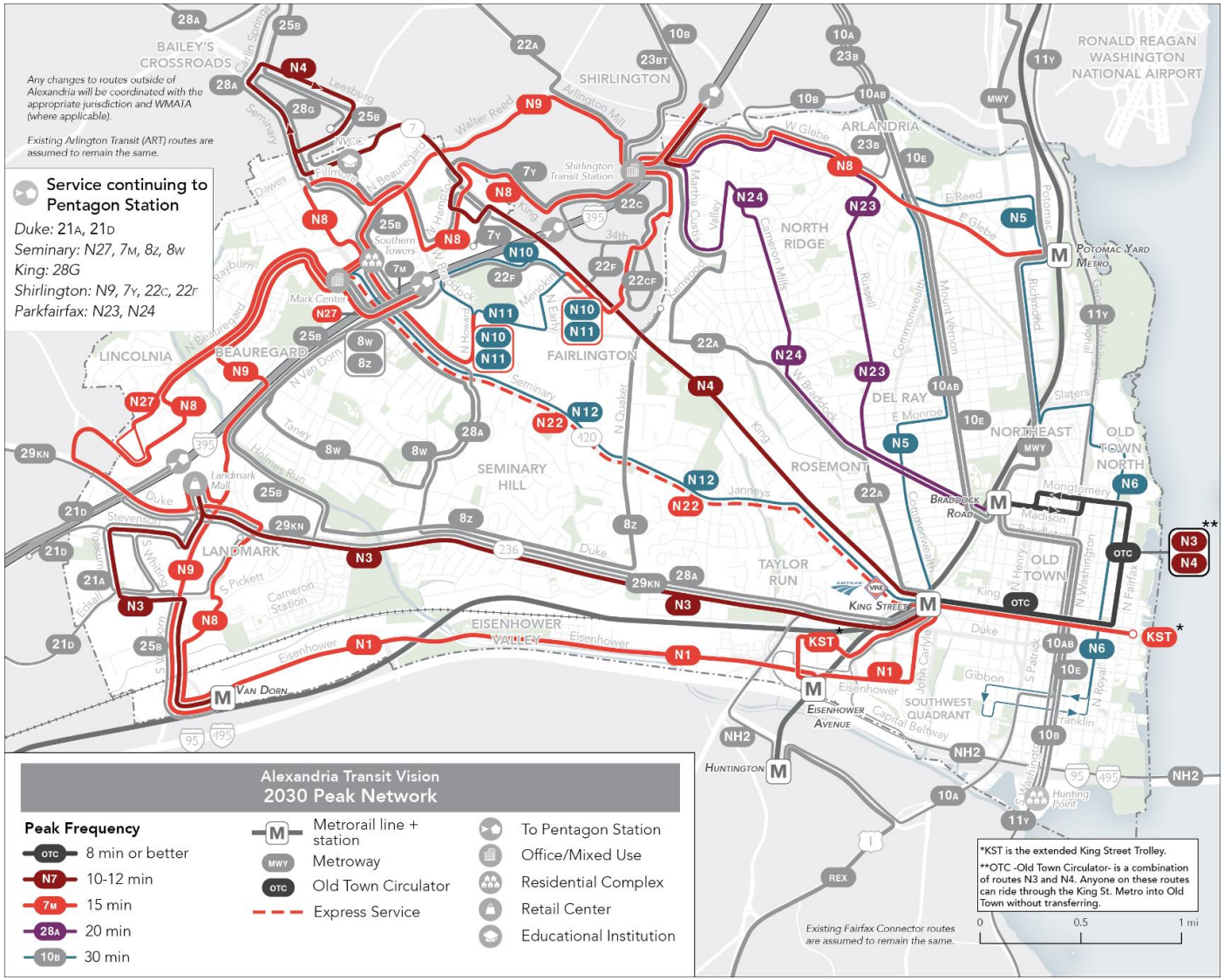


Figure 5-15 / 2030 Alexandria Transit Vision Network – Midday Service

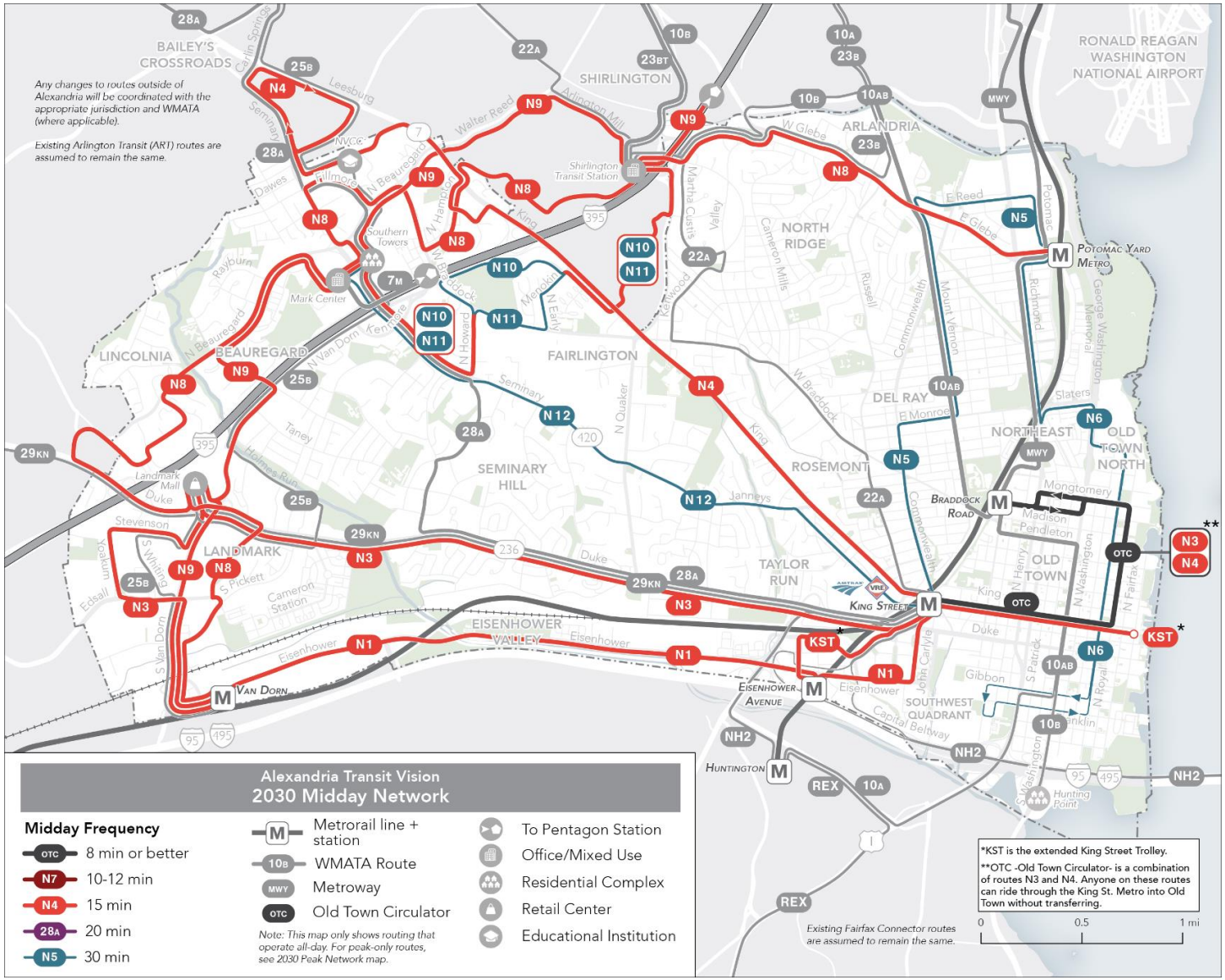
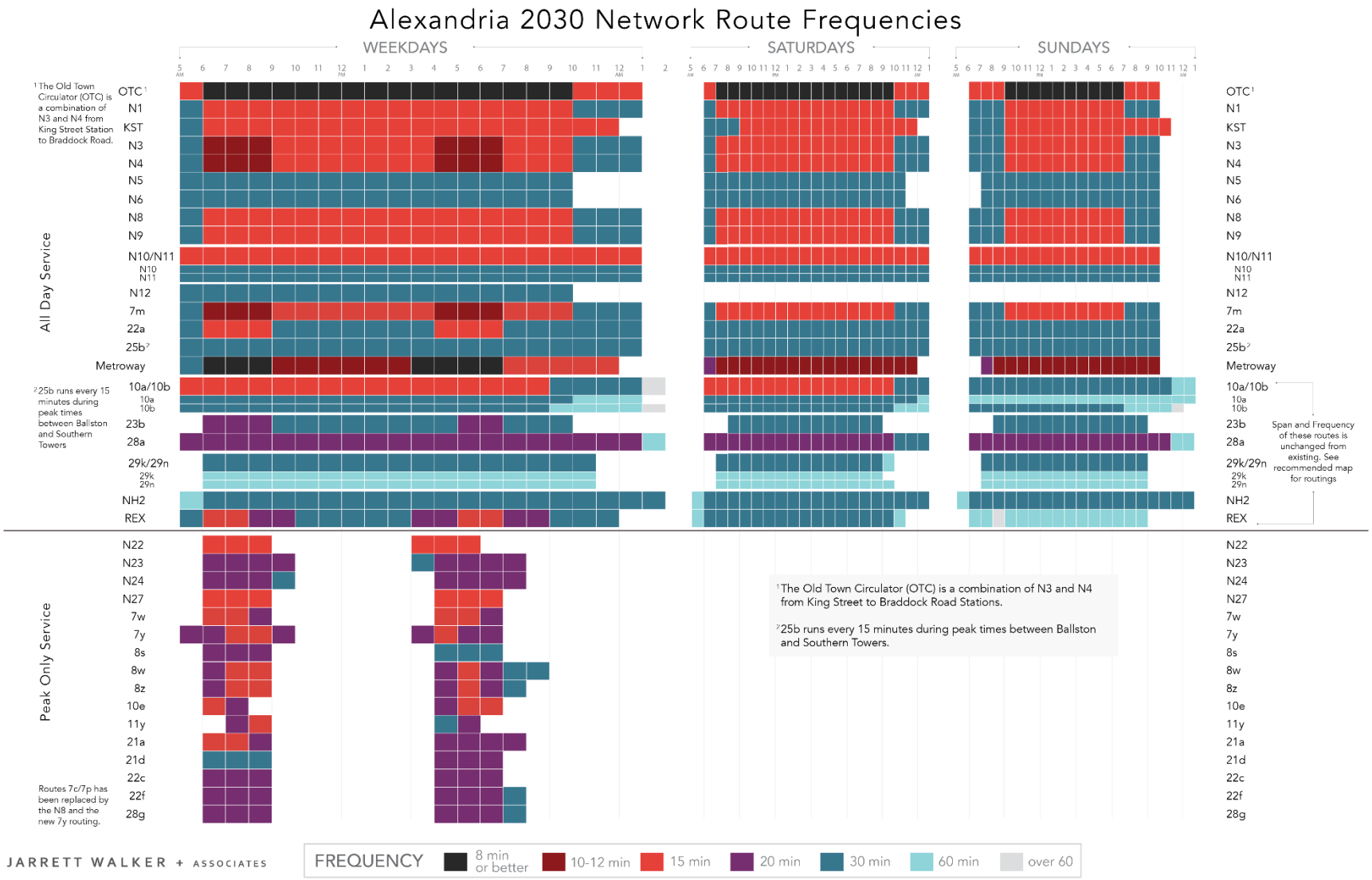


Figure 5-16 / 2030 Alexandria Transit Vision Network – Frequency Table



5.4 / Future Fare Change Recommendations (FY 2023 – FY 2027)

- **Free Transfers to/from Metrorail.** Prior to the onset of COVID-19, DASH staff were working with WMATA and City staff on a potential fare policy change to allow free transfers to/from Metrorail in the near future. Metrorail passengers transferring to a DASH bus would ride DASH for free, while DASH passengers transferring to Metrorail would receive a discount equal to the amount of their DASH fare ($2.00). Under current DASH policy, the transfer discount to/from Metrorail is only $0.50, while transfers to Metrobus are free.

- **Future Fare Changes.** No future changes to base fare or DASH Pass are proposed or planned for FY 2023 to FY 2027 at this time; however, fare policy changes decisions are typically not made more than one year in advance.

6.0 / DASH Capital Budget Program

This section outlines the capital improvements that are planned to support the long-term viability and growth of the DASH bus system. The primary source of capital funding for DASH is the City of Alexandria's Capital Improvement Program (CIP), however, ATC capital improvements are also funded by other state and regional sources, such as the Virginia Department of Rail and Public Transportation (VDRPT) and the Northern Virginia Transportation Authority (NVTA).

6.1 / FY 2022 – FY 2031 Capital Improvement Plan (CIP)

DASH relies upon capital funding from the City of Alexandria and regional funds from NVTA to pay for replacement buses, facility improvements, technology systems and a wide range of other capital projects. The City of Alexandria's Capital Improvement Program covers a ten-year period and operates on two-year cycles. The CIP was last updated for FY 2021 and the next full update will be for FY 2023.

Based on the proposed FY 2022 – FY 2031 CIP, DASH is requesting a total of nearly $138 million for six different ATC capital projects. These projects include bus replacements, hybrid bus powertrain repair and replacements, facility and fleet expansion, and investments in new technology for fare collection and scheduling software.

Table 6-1 depicts a summary of the approved FY 2022 CIP project funding requests and overall funding levels for the entire FY 2022 – FY 2031 CIP life cycle.

6.2 / Fleet Replacement Plan

A detailed summary of the current Fleet Replacement Plan is included in Table 6-2. This table shows the proposed replacement schedule for each of the nine active sub-fleets of buses, based on a useful life cycle of 12 years. In order to maintain a State of Good Repair and ensure that service is provided in a safe and reliable manner, DASH must replace all buses that are more than 12 years old. Any buses that are replaced within the yellow portion of the table are buses that are being kept in service beyond their useful life, which represents a failure to maintain State of Good Repair.

As shown in Table 6-2, DASH purchased 21 clean diesel replacement buses in 2019, and six 100% electric buses in 2020 through the VW Environmental Mitigation Trust program described below. Based on these replacements, DASH will be able to retire the last of its old diesel buses, which are now operating beyond their useful 12-year life cycle.

The proposed transition to electric buses is outlined in the fleet replacement plan shown in Table 6-2. Additional information on DASH Zero-Emission Bus fleet planning is in included in Section 6.5.

As outlined in Figure 6-1, DASH is not requesting any CIP funding for FY 2022 for bus replacements. This is because the DASH fleet is currently compliant with State of Good Repair requirements, and DASH did not purchase any new buses between 2007 and 2011 that would need to be replaced at the end of their 12-year useful life span. The overall CIP funding request, however, did increase by over $31 million due to a large number of additional replacement buses that are needed in FY 2031.

Table 6-1 / FY 2022 – FY 2031 Capital Improvement Plan (CIP) Summary

Item	Project Description	FY 2022 CIP Funding			FY 2022-2031 Total CIP Funding		
		Requested	Approved (FY21)	Net Difference	Requested	Approved (FY21)	Net Difference
1	**Bus Fleet Replacement.** DASH is responsible for the planning, procurement, purchase, testing, acceptance and maintenance of its active bus fleet. This program provides funding for the purchase of replacement transit buses that enable DASH to operate fixed-route bus service throughout the City of Alexandria. DASH will be working with City staff and other stakeholders to coordinate the procurement, purchase and delivery of the replacement buses that are funded by this project.	$0	$0	$0	$111,687,400	$80,177,200	$31,510,200
2	**DASH Hybrid Battery & Powertrain Replacement.** This project funds repair or replacement of any or all components of the hybrid powertrain including battery packs, the dual-power inverter module (DPIM), transmission, or diesel engine. Experience suggests that proactive replacement of battery packs which are showing no defects is unnecessary (DASH has yet to experience a battery failure in eight years of hybrid operation). Repair or replacement will be made on an as-needed basis to conserve resources for actual failures.	$0	$0	$0	$1,978,800	$2,390,800	-$412,000
3	**DASH Fleet & Facility Expansion.** The current DASH Facility has reached its maximum bus capacity and cannot accomodate future fleet expansion. DASH has secured funding from multiple state and regional sources for a staged implementation of expanded bus storage capacity, which will be integrated with facility and utility upgrades to support a zero-emission subfleet. The City's temporary parking arrangement for its overflow impound lot, currently housed on the adjacent DASH bus expansion land, will ultimately need to be relocated. This project also includes the purchase of 14 new buses, which are intended to be used to enhance service in high development areas such as Potomac Yard and the Van Dorn Corridor. At least eight of the new buses will be zero-emission buses.	$3,421,000	$3,421,000	$0	$19,630,000	$19,630,000	$0
4	**DASH Electronic Fare Payment.** This project will provide for purchase of new farebox hardware and the implementation of new electronic fare payment technologies for the DASH bus fleet that will allow DASH to maintain its fare collection system and enhance the usefulness of its mobile ticketing app. This will include required upgrades to the hardware which supports the SmarTrip card-based payment system, designed and managed by WMATA and its vendors. It will also include electronic validation hardware for the DASH Bus mobile fare payment app or a future regional mobile app (including a potential WMATA app) or transition to a regionwide mobile ticketing platform.	$350,000	$350,000	$0	$350,000	$350,000	$0
5	**DASH Technology.** This project funds future technology initiatives (FY23-FY24) that allow DASH to incorporate new innovations into their day-to-day operations to improve ridership, cost efficiency and customer satisfaction. Such technologies include onboard equipment (real-time infotainment screens, WiFi, phone charging ports, etc), facility security technology upgrades, service planning analysis software tools, enhanced onboard video monitoring systems, advanced bus maintenance diagnostic systems, or other elements to improve operations and customer experience.	$0	$0	$0	$855,745	$855,745	$0
	TOTALS	**$3,771,000**	**$3,771,000**	**$0**	**$134,501,945**	**$103,403,745**	**$31,098,200**

6.3 / Fleet Expansion

In order to maintain appropriate urban service levels for the City of Alexandria, increase service frequency on productive existing routes, add new service in developing areas, and achieve an industry-standard spare ratio, DASH must periodically increase its active bus fleet size. The current fleet includes 93 active vehicles. With a planned peak pull-out requirement of 75 buses in FY 2022, DASH has recently been able to increase its spare ratio to 24 percent, which is just above the industry standard of 20 percent.

DASH is planning the following fleet expansions over the next few years:

- **FY 2018-2023 NVTA Six Year Plan Funding.** In 2018, DASH was awarded $11.9 million to be used for facility upgrades and for the purchase of eight zero-emission buses. A portion of this funding has been used for infrastructure upgrades needed to support the first six electric bus charging stations. These eight expansion buses are expected to be delivered by FY 2022.

- **FY 2022 – FY 2023 Smart Scale Funding.** DASH secured roughly $11.1 million in state funding through the Smart Scale program. Most of the funding for this project will be used towards the facility expansion project described in Section 6.6, but the funds will also cover the purchase of six clean diesel expansion buses to be used towards improved DASH bus service in major development corridors throughout the city. Though these buses were initially scoped as hybrid buses, DASH has since received approval from DRPT to purchase clean diesel buses instead due to ongoing reliability issues with hybrid-electric buses. These six expansion buses are scheduled for FY 2025 delivery.

- **FY 2024 – FY 2025 Smart Scale Funding**. DASH was also able to secure $12 million in additional Smart Scale funding for the purchase of 12 additional zero-emission expansion buses. These buses are scheduled for purchase in FY 2024 and delivery by FY 2025.

Based on these planned expansions, DASH will be increasing its active fleet size from 99 buses to roughly 120 buses over the next five years. The corresponding facility expansion that is needed to accommodate the growing DASH bus fleet is summarized in Section 6.6.

6.4 / Hybrid Battery Pack & Powertrain Replacements

Nearly two-thirds of the DASH active bus fleet is comprised of hybrid-propulsion buses. DASH has identified a capital funding need for hybrid bus powertrain repair and replacement. As shown in Table 6-1, DASH is requesting nearly $1.98 million in CIP funds for hybrid powertrain repair and replacement over the next decade. This amount has been reduced from previous CIP submissions due to a shifting approach that performs battery pack replacements on an as-needed basis. As a result, no funds are requested for this project in FY 2022.

Table 6-2 / Fleet Replacement Schedule.

Funding Year	Type	Quantity	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31
Delivery Year			FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
2002 Neoplan Artics (PIP)	*Diesel*	*14*	*10*	4									
2011 Gilligs	Hybrid	10			10								
2011 Gilligs (Trolley)	Hybrid	5			5								
2012 Gilligs	Hybrid	10				10							
2014 Gilligs	Hybrid	7						7					
2015 Gilligs	Hybrid	13							13				
2015 Gillig (Trolley)	Hybrid	1							1				
2017 Gilligs	Hybrid	6									6		
2018 Gilligs	Clean Diesel	14										14	
2019 New Flyers	Clean Diesel	13											13
2019 New Flyers	Clean Diesel	8											8
2020 New Flyers (VW)	Electric	3											
2021 Proterras (VW)	Electric	3											
2021 New Flyer Artics (NVTA)	Electric	4											
2021 Proterras (NVTA)	Electric	4											
Total Retirements			*10*	*4*	*15*	*10*	*0*	*7*	*14*	*0*	*6*	*14*	*21*
Replacement Buses (Clean Diesel)			0	0	10	5	0	0	0	0	0	0	0
Replacement Buses (Electric)			0	0	5	5	0	7	14	0	6	14	21
Total Replacement Buses			**0**	**0**	**15**	**10**	**0**	**7**	**14**	**0**	**6**	**14**	**21**
Expansion Buses (Clean Diesel)			0	0	0	**6**	0	0	0	0	0	0	0
Expansion Buses (Electric)			**8**	0	0	0	**12**	0	0	0	0	0	0
Total Expansion Buses			**8**	**0**	**0**	**6**	**12**	**0**	**0**	**0**	**0**	**0**	**0**

Note: Dashed line indicates the point at which each subfleet will reach the end of its useful life cycle (12 years). Buses must be replaced before the end of their useful life cycle in order to maintain State of Good Repair (SGR) status. Numbers in yellow cells are representative of buses that will be kept beyond the end of their useful life cycle.

6.5 / DASH Electric Bus Program

Last year DASH became the first transit agency in Northern Virginia to operate electric buses when it took delivery of three New Flyer electric buses as part of the state's VW Mitigation Trust. This marked the culmination of both a two-year foray into zero-emission bus technology and the first step toward transitioning the DASH bus fleet to 100% electric by 2037.

The transition continues in 2021 with the arrival of three Proterra electric buses in January, which replaced the last of the Orion diesels in the active fleet and were also purchased through the VW Environmental Mitigation Trust program. By Summer 2021, DASH expects to take delivery of eight more electric buses through the NVTA grant, bringing the total DASH electric bus fleet size to 14. These buses are expected to be supported by the six electric chargers that were installed in 2020 through the same NVTA-funded project.

This movement towards zero-emission buses is supported by the City of Alexandria's 2008 Transportation Plan and Eco-City Alexandria, which both seek to improve quality of life and sustainable transportation options.

Other DASH efforts towards a zero-emission fleet have included:

- **DASH has modified its most recent Capital Improvement Program (CIP) funding requests to the City of Alexandria to include funding for electric replacement buses as early as FY 2023. The request assumes that the electric bus purchases would increase each year until FY 2026, at which point all DASH replacement buses would be electric buses;**

- **DASH has been awarded multiple regional and state grant funding opportunities through Virginia Smart Scale and NVTA (70% Funds) that will help cover the cost of facility expansions, upgrades, infrastructure improvements, and additional electric buses, bus chargers, and maintenance equipment over the next five years;**

- **DASH worked with the Center for Transportation and the Environment (CTE) to complete a Zero-Emission Bus Feasibility Review in 2020 that determined that DASH and the City of Alexandria were well-suited for electric bus technology; and**

- **In 2021, DASH will be conducting the first phase of a Zero-Emission Fleet Implementation Plan to develop a plan for how the facility can be upgraded to accommodate a larger zero-emission fleet. The second phase of this study will focus on fleet needs and is planned for FY 2022.**

6.6 / DASH Facility Expansion

As part of the $11 million Smart Scale project mentioned above, DASH has secured funding to expand its existing garage facility to increase vehicle capacity from roughly 90 buses to 135 buses to meet anticipated service demand in the coming decades. The existing William B. Hurd Transit Facility was opened in 2009 but has since reached its maximum bus capacity.

In preparation for future expansion, the City of Alexandria secured the rights to the parcel of land immediately west of the existing DASH facility. This parcel, which is currently occupied by a temporary impound lot, will be regraded and integrated into the existing facility. Though the design of the facility expansion is currently being determined, it will likely house the future electric bus fleet and charging infrastructure. Construction is scheduled to begin as early as FY 2023, and the new expanded facility would likely open by FY 2024.

6.7 / Technology Improvements

Over the last few years, DASH has continued to improve its customer experience, enhance passenger safety, and internal efficiencies through the use of new transit technologies. Recent projects have included Transit Signal Prioritization (TSP), Smartyard, Real-Time info displays, Mobileye Pedestrian Detection Systems, TMS Daily Operations, Disruption Management, and MobileCAD.

- **Automated Passenger Counters.** DASH was awarded $200,000 in FY 2019 to retrofit its current fleet with more accurate optical APC equipment and is preparing to publish a solicitation for the work. With these installations, nearly 100% of the DASH fleet will be equipped with optical APC's and much more detailed ridership data will be available for service planning decision-making and NTD reporting. Due to procurement delays associated with the COVID-19 pandemic, this project is scheduled for completion by late 2021.

- **Scheduling Software.** DASH has identified a major need for new, upgraded scheduling software. The current system that we are using is designed for smaller agencies with less complexity to their route networks and labor rules. With the launch of the new Alexandria Transit Vision (ATV) Network in 2021 and the more complex labor rules from the new Collective Bargaining Agreement, DASH needs a more advanced software solution that is easier to use and more reliable. Although CIP funding for scheduling software is included in FY 2023, DASH and City staff have worked together to identify capital funding that will be available in 2021 to address this immediate need. Procurement for this project is ongoing and the new platform is expected to be implemented by late 2021.

- **Disruption Management.** The Disruption Management program was launched in FY 2021 to allow DASH to improve its ability to modify operations in real-time during service disruptions. Disruption Management enables DASH to create temporary re-routes, bus bridges, emergency detours, or other on-the-fly service adjustments. The program then is able to update the instructions that are provided to bus operators through the Clever CAD/AVL system, as well as the real-time bus arrival information that is provided to customers. This tool will be especially helpful during major service disruptions and winter weather events.

- **Real-Time Information Enhancements**. DASH continues its work to provide comprehensive, accurate real-time bus information to all customers. Some of these efforts include:

    - DASH will be making real-time information available to customers via text message (SMS) and telephone (IVR) as part of the launch of the New DASH Network in September 2021. The new bus stop signs that are being installed for the New DASH Network will include the Stop ID number for each stop and instructions on how to call or text to get information about upcoming bus arrival times at that specific bus stop.

This system is expected to help individuals without smartphones and those with disabilities that prevent them from using other real-time platforms.

- In 2020, DASH launched an upgraded version of its BusTracker, which is now available on the DASH website. The new version is more user-friendly, mobile-compatible, and include better route and stop information. It is also compatible with the WMATA bus tracking platform for added convenience for shared customers.

- DASH was awarded a FY 2021 Demonstration Grant from DRPT for an "Enhanced Real-Time Predictions" project that will improve the accuracy of real-time arrival predictions by incorporating traffic sensor data, and preceding bus trips on the same route pattern. This will be particularly beneficial during major service disruptions when real-time arrival estimates become far less accurate. Due to the COVID pandemic, the start of this project was delayed but is still expected to be completed by late 2021.

- In FY 2020, DASH installed two dozen additional solar-powered digital bus arrival signs across the city to bring the total number of bus stops with real-time information displays up to 60. These include both solar-powered signs and large, LCD kiosks like those at the Mark Center Transit Center. In addition, DASH is in the process of placing a double-sided LCD kiosk at King Street Metro for the reconstructed bus loop. DASH will continue to add more real-time signs in FY 2022 and beyond.

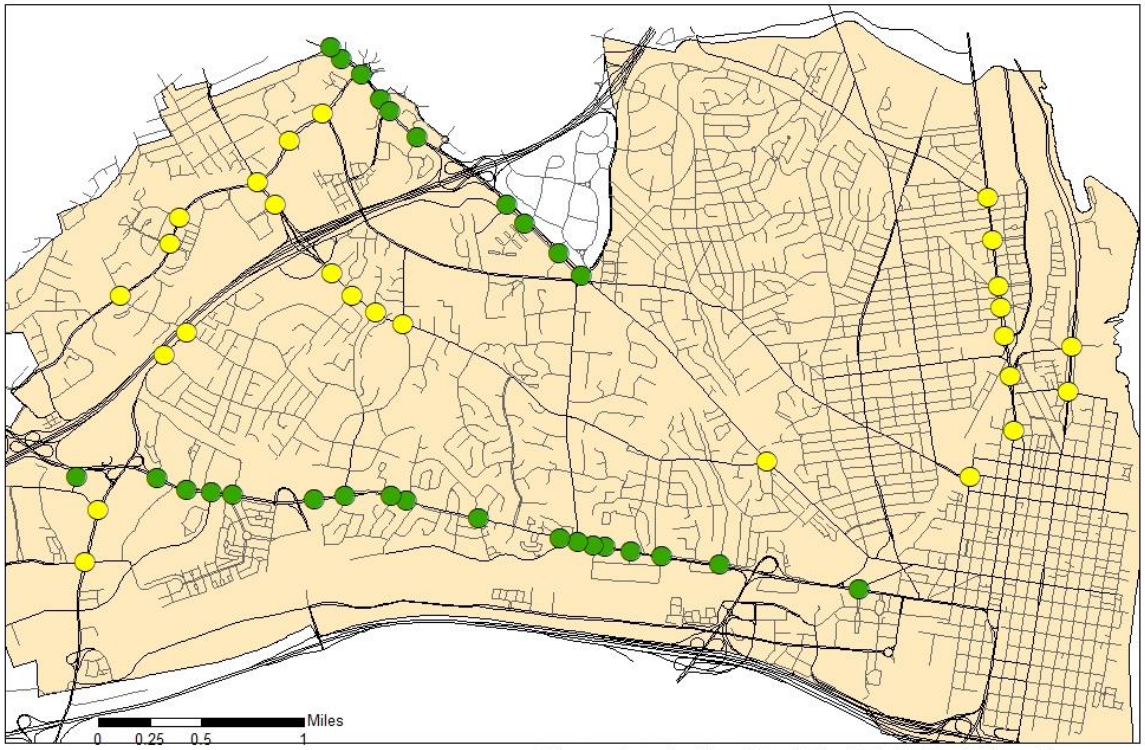
- **Transit Signal Prioritization.** DASH and the City of Alexandria T&ES staff have been working over the last three years to install Transit Signal Prioritization (TSP) technology at key intersections on transit corridors throughout the City. This technology enables traffic signals to sense when a bus is approaching so that it can extend the green phase to allow the bus to move through more quickly. This leads to increased bus speeds and greater service reliability, particularly for bus routes that operate on more congested corridors.

  To date, the City has installed TSP technology at 54 intersections and has plans to expand to most intersections used by Metrobus or DASH buses by 2026. DASH buses are currently benefiting from TSP at 28 intersections, including 18 on the Duke Street corridor and 10 on the King Street Corridor. By the end of 2021, 5-10 additional intersections along Beauregard Street and Van Dorn Street are anticipated to be available for DASH buses. A map of TSP locations is included as Figure 6-1.

  Over half of the of the DASH revenue fleet (51 buses) are currently equipped with TSP, including all new DASH buses purchased since 2018, and all 40-foot buses. All new bus builds will include TSP equipment, and additional retrofits will be completed as funding becomes available.

- **Fareboxes.** DASH is working with WMATA and other regional partners on several efforts to modernize regional bus farebox equipment. In 2020, this includes the purchase of 20 new driver control units (DCU) tablets, which allow bus operators to record passenger boardings with a new touch-screen interface. DASH is also participating in other longer-term projects to modernize the current farebox and move towards mobile ticketing and other off-board payment solutions.

Figure 6-1 / Transit Signal Prioritization (TSP) Location in City of Alexandria



- **Multidoor Boarding Study.** DASH was awarded a FY 2021 DRPT Technical Assistance grant for a Multidoor Boarding Study that would explore the feasibility of multidoor boarding on selected DASH routes. Multidoor boarding and/or off-board fare payment can greatly reduce dwell times and overall travel times in busy transit corridors. Due to the COVID pandemic, this project was delayed and the grant has been extended. DASH anticipates that the study will be completed by the end of 2021.

6.8 / Other Capital Outlay Items

The FY 2022 ATC proposed operating budget also includes capital funding for regular equipment replacement. This funding will be used for the replacement and repair of items such as heavy duty maintenance equipment, support vehicles, building security and surveillance systems, and network equipment.

7.0 / Public Outreach

In support of the FY 2022 Transit Development Plan, DASH staff will be conducting an extensive public outreach campaign to raise awareness about the plan for those that might be affected, and to collect feedback from the community. While the TDP outreach process typically includes a significant amount of in-person meetings and pop-up events, most outreach activities will be conducted virtually to mitigate safety risks to DASH staff and customers.
A summary of the TDP outreach activities that are planned for the next month is included below. **The deadline for public feedback is Friday, April 9, 2021.**

- Four (4) Virtual Community Meetings to be held via Zoom/Facebook (Each meeting will be focused on the impacts for the designated part of the City, but all are welcome to attend).
    - Tuesday, March 23 (5:30 PM) – Community Meeting #1 **(West Alexandria)**
    - Thursday, March 25 (5:30 PM – Community Meeting #2 **(Central Alexandria)**
    - Monday, March 29 (3:00 PM) – Community Meeting #3 **(Arlandria/Potomac Yard)**
    - Wednesday, March 31 (5:30 PM) – Community Meeting #4 **(Old Town)**
- **Virtual Public Hearing at Board of Directors Meeting - Wednesday, April 14 (5:30 PM)**

Additional public outreach efforts will include:

- Flyers posted at Key Bus Stops
- Onboard posters/flyers (English/Spanish)
- Onboard audio announcements in the week leading up to virtual meetings.
- Promotional video for TDP Outreach
- DASH Website Information (News/Events)
- Special "New DASH Network" web page – www.dashbus.com/newnetwork
- Neighborhood-specific service change information
- Multiple e-mail blasts to DASH E-mail List
- Social Media Engagement (Facebook, Twitter, Next Door)
- Zebra Press Online/Print Ads
- Information Distributed to Operations Supervisors + Bus Operators

Public feedback also can be submitted via:

- Facebook – www.facebook.com/dashbus
- E-mail – dashbus@alexandriava.gov
- Telephone – (703) 746-3274

Documentation of all public feedback will be provided to the Board of Directors in the April board meeting packet, and as part of the Final TDP document that is presented to the Board in May.