

***DRAFT* FY 2024 – FY 2029**
ALEXANDRIA TRANSIT COMPANY (DASH)
TRANSIT DEVELOPMENT PLAN (TDP)



ALEXANDRIA TRANSIT COMPANY
DASH

DASHBUS.COM
703.746.DASH (3274)
@DASHBUS

TABLE OF CONTENTS

1.0 / Executive Summary	1
1.1 / System Performance	1
1.2 / FY 2024 Service & Fare Change Recommendations	2
1.4 / ATC Capital Program Summary	3
2.0 / TDP Background	5
2.1 / Purpose & Format	5
2.2 / Process & Timeline	5
2.3 / Alexandria Transit Vision Plan	6
3.0 / System Summary	7
3.1 / Service Area	7
3.2 / Routes	7
3.3 / Other Transit Providers	11
3.4 / Passenger Facilities	11
3.5 / Bus Fleet	17
3.6 / Fares	19
3.7 / Funding	19
4.0 / System Performance	20
4.1 / Service Levels	20
4.3 / Ridership by Route	22
4.4 / Cost Efficiency	23
4.5 / Service Reliability	24
4.6 / Access & Mobility	25
4.7 / System Performance Summary	27
5.0 / Service & Fare Recommendations	31
5.1 / Service Recommendations (FY 2024)	31
5.3 / Service Recommendations (FY 2025 – FY 2029)	40
5.4 / Future Fare Change Recommendations (FY 2025 – FY 2029)	42
6.0 / DASH Capital Budget Program	46
6.1 / FY 2024 – FY 2033 Capital Improvement Plan (CIP)	46
6.2 / Fleet Replacement Plan	46

6.3 / <i>Fleet Expansion</i>	48
6.4 / <i>DASH Electric Bus Program</i>	50
6.5 / <i>DASH Facility Expansion</i>	51
6.6 / <i>Technology Improvements</i>	52
6.7 / <i>Other Capital Outlay Items</i>	54
7.0 / Public Outreach & Feedback	55

1.0 / Executive Summary

This document represents the FY 2024 – FY 2029 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 2024 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 2024 – FY 2029). 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 2023 Transit Development Plan addresses the period beginning July 1, 2023 and ending June 30, 2029. 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 2022, DASH operated roughly 290,000 platform hours and 2.7 million platform miles of regular DASH service, including I-395 Commuter Choice service.
- In FY 2022, DASH recorded just over 3 million passenger boardings, which was up roughly 98% from FY 2021, but was still down by 20% from before the pandemic. In more recent months, DASH has eclipsed pre-pandemic ridership levels.
- DASH On-Time Performance was approximately 86% in FY 2022, which represents a 2% decrease from FY 2021, but is still above the industry OTP standard of 85%.
- DASH continues to provide exceptional access to its frequent, all-day bus routes, which are within walking distance to 73% of Alexandria residents and 81% of those who reside in low-income households.
- DASH saw a major increase in missed trips due to staffing shortages in FY 2022.

1.2 / FY 2024 Service & Fare Change Recommendations

- The DASH service plan for FY 2024 can be summarized as follows:
 - **FY 2024 Service Levels (Baseline).** Assuming preliminary budget subsidy levels provided by City's Office of Management and Budget and no "Unfunded ATV Improvements", DASH projects that it will operate just over 325,000 platform hours and roughly 3.05 million annual platform miles in FY 2024, which is a one (1) percent increase over the annualized amount of service budgeted for FY 2023. These totals include enhanced service on Line 35 and Line 36A/B which is currently funded by the I-395 Commuter Choice Program. DASH has applied for a two-year extension of this funding that (if approved) will allow current service levels on both routes.
 - **FY 2024 Service Levels (Unfunded ATV Improvements).** DASH has also developed an alternate, unfunded scenario that includes four (4) service improvements from the 2022 Alexandria Transit Vision (ATV) Plan that have not yet been implemented. These additional improvements would increase the annual service totals to roughly 338,000 platform hours and 3.17 million platform miles, which represents an increase of roughly four (4) percent above the baseline scenario. These improvements would require \$1.6 million in additional annual operating costs for FY 2024, which could be identified by City Council through the "Add/Delete" budget process and included in the city's final FY 2024 budget.

Of the four additional improvements, the Line 33 and 34 enhancements were identified as the top priorities for FY 2024 due to their importance in providing more convenient off-peak bus connections to the new Potomac Yard Metro Station from Arandria, Old Town North and Del Ray.

- **I-395/95 Commuter Choice Program.** In FY 2022, DASH and the City of Alexandria were awarded funding for two major service enhancements on Lines 35 and 36A/B through the NVTC I-395 Commuter Choice grant program. The enhanced service on these two routes was launched with the New DASH Network in September 2021, but DASH must re-apply for the funding every two years. Based on this, DASH has applied for the necessary funding to extend these service enhancements from September 2023 to September 2025. DASH is also applying for one new project through the I-395 Commuter Choice program that would fund the purchase of five (5) 60-foot articulated buses that would be deployed to Line 35 to provide additional passenger capacity along the busiest corridor in the DASH system.
- The following DASH fare-related actions are planned for FY 2023:
 - **Free Fares.** DASH will continue as a 100% fare-free operation, as was first introduced in September 2021 with the New DASH Network. The fare-free program will continue through FY 2025 as funded and required by the Transit Ridership Incentive Program (TRIP) from the Virginia Department of Rail and Public Transportation (DRPT) with local support from the City of Alexandria. Continued local support is anticipated as demonstrated by the City and ATC Board.

1.3 / FY 2024 – FY 2028 Service & Fare Change Recommendations

- **FY 2025 Service Improvements.** In FY 2025, DASH will propose to implement any remaining improvements from the 2022 Alexandria Transit Vision (ATV) Plan that are not implemented in FY 2024, including any “Unfunded ATV Improvements” that remain unfunded. In addition to these improvements, DASH plans to seek funding for additional improvements on Line 30, Line 32, Line 103 and Line 104, as outlined in Section 5.3.
- **WMATA Better Bus Network Project.** DASH will also continue to work closely with WMATA and other regional partners in the ongoing development of the “Better Bus Network” regional bus network redesign project, which could have major impacts for future bus service in Alexandria and the greater Washington D.C. region. The first phase of route changes resulting from this project could be implemented as early as FY 2025. More information about WMATA’s “Bus Transformation Project” can be found at: <https://bustransformationproject.com/>.
- **FY 2026 Service Improvements.** In FY 2025, DASH will propose to implement additional improvements on Line 32, along with the extension of the King Street Trolley from the King Street Metro to the Eisenhower Avenue Metro.
- **2030 Alexandria Transit Vision Plan.** DASH will continue to move forward with the implementation of the 2030 Alexandria Transit Vision Plan in FY 2027 and beyond. More information on the 2030 Alexandria Transit Vision Plan can be found in Section 5.3 or on the ATV website (www.dashbus.com/transitvision).
- **West End Transitway.** DASH will continue to work with the City of Alexandria on the planning and design of the West End Transitway, which will partially replace Line 35 service in the West End. More information on the West End Transitway can be found in Section 5.3.
- **Duke Street Bus Rapid Transit (BRT).** DASH will continue to work with the City of Alexandria on the planning for the Duke Street Transitway, which will span between Landmark Mall and the King Street Metro. More information on the Duke Street BRT can be found in Section 5.3.
- **Fare Changes.** No additional fare changes for FY 2025 or beyond are being proposed at this time.



1.4 / ATC Capital Program Summary

- **DASH Fleet.** As of the start of FY 2024, the DASH bus fleet will include 101 active buses and six (6) contingency spare buses.

- **Electric Buses.** In FY 2024, DASH is planning to purchase up to 21 additional 100% electric buses, including ten replacement buses, five replacement trolleys, and six expansion buses. Six expansion buses would be purchased with funding from the Virginia Department of Transportation (VDOT) SmartScale grant program. DASH and the City are also seeking additional funding for electric buses through several federal grant programs that are administered by the Federal Transit Administration (FTA).
- **Fleet Replacement.** The City of Alexandria's FY 2024 – FY 2033 Capital Improvement Plan (CIP) includes substantial funding for DASH replacement buses that will allow DASH to maintain its State of Good Repair (SGR) and continue its transition to electric buses. Based on City budget guidance, the proposed CIP includes funding for ten clean diesel replacement buses in FY 2024, which may be upgraded to 100% electric buses if DASH and the City are able to secure additional FTA funding through the FY 2024 Low/No Emission Vehicle grant program. The total requested funding in the FY 2024 – FY 2033 CIP for replacement bus purchases – including the transition to a zero-emission fleet – is \$105.1 million.
- **Zero-Emission Fleet Planning.** DASH is continuing to work with a consultant team from WSP, Inc. on its Zero-Emission Bus Implementation Plan. Phase II of the plan is expected to be completed by Spring 2023 and will guide DASH in its effort to transition the entire bus fleet to 100% electric propulsion by 2037.
- **DASH Facility Expansion Project.** In early 2022, DASH launched the design phase for its major facility expansion project, 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 40 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 2025.
- **Other Capital Improvement Projects.** Additional FY 2024 – FY 2033 CIP funds are allocated future fleet expansions, hybrid battery and powertrain replacements, on-route electric bus charging stations, and other DASH technology needs.

Finally, DASH has also submitted three (3) applications for the FY 2024 Virginia Department of Rail and Public Transportation (DRPT) grant cycle. These applications would provide funding for two demonstration projects – Electric Bus Charge Management System and an Automated Wheelchair Securement System – as well as the continuation of the DASH Public Transit Intern program for FY 2024.



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 (5) 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 2024) and will be used as a starting point for budget discussions in future fiscal years (FY 2025 – FY 2029).

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 2024 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 2025 – FY 2029). 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 input and revises 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.

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 FY24 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 FY24 TDP & Budget	City Council Budget Work Sessions
May	Staff develops final TDP/Budget based on input	BOARD ACTION to adopt revised FY24 TDP and Budget	City Council adopts FY24 Budget and Capital Imp. Program (CIP)
June	Prepare for implementation of any July service/fare changes	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 goal of the ATV – as determined through community outreach – is to create a more useful bus network that encourages more people to go to more places at more times using transit. 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 first implementation phase of the Alexandria Transit Vision Plan – known as the “New DASH Network” – was launched in September 2021. Due to budget constraints and other major DASH funding needs, the City was not able to fund the full 2022 ATV Plan recommendations in FY 2022 or FY 2023. Additional 2022 ATV improvements are not currently proposed for the FY 2024 baseline scenario but are included in the “unfunded” scenario for FY 2024 which would require additional funding from Alexandria City Council. Additional information on the 2030 ATV recommendations is included in Section 5-3.

3.0 / System Summary

DASH currently operates traditional fixed-route bus service on ten 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, three routes – Lines 35, 103, and 104 – also provide service along Interstate 395 between Alexandria and the Pentagon. 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” like Line 36 A/B also provide connections between outlying areas and major trip generators on the West End and northern Alexandria. DASH provides local bus service within the City, but also connects passengers to the Metrorail system, which has four stations within the City of Alexandria, and a fifth station scheduled to open at Potomac Yard in mid-2023 .

3.2 / Routes

The DASH bus system consists of 10 regular bus routes and the King Street Trolley. The basic characteristics of each route are summarized in Table 3-1. All eleven routes operate on weekdays and eight routes run on Saturdays and Sundays. On most routes, weekday service runs from at least 6:00 AM to 11:00 PM, and weekend service runs from at least 7:00 AM to 10:00 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 routes that run on Saturdays and Sundays, four run every 15 minutes or better. On Saturdays, only one of the eight routes runs only every 60 minutes, but on Sundays, three of the eight routes only run once every hour.

DASH also operates the iconic King Street Trolley, a free tourist-oriented service running between the King Street Metro and City Hall/Market Square via King Street. The trolleys typically run every 15 minutes from 11:00 AM to 11:00 PM, 365 days per year.

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

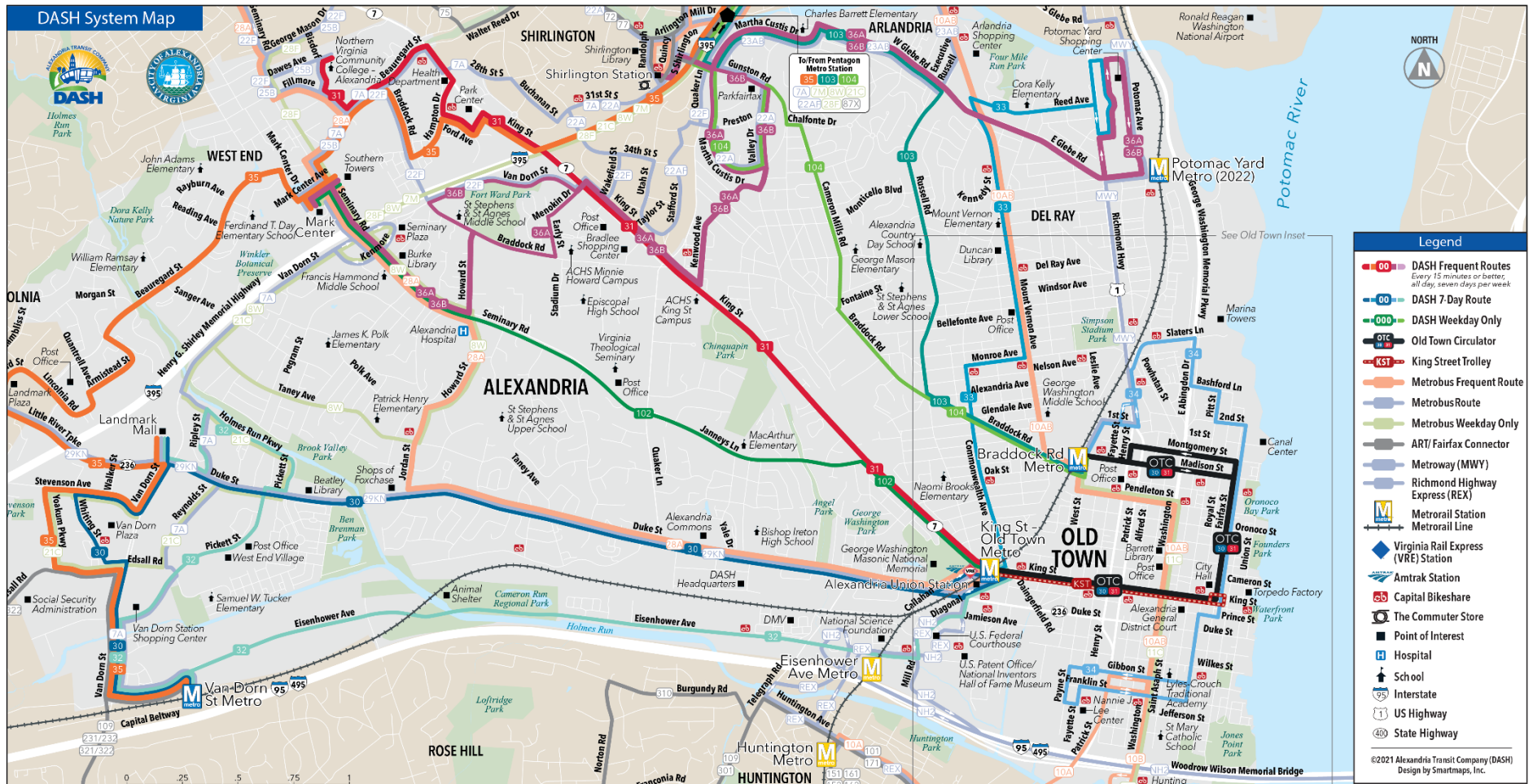


Figure 3-2 / Old Town Alexandria Inset Map



Table 3-1 / DASH Service Characteristics by Route

Route	Description	Span/Frequency							
		Weekday				Saturday		Sunday	
		Span	Peak	Off-Peak	Night	Span	Freq.	Span	Freq.
30	Van Dorn Metro to Braddock Road Metro via Landmark Mall, Van Dorn, King & Old Town	5:00am - 12:00am	10-20	30	30	5:45am - 12:40am	30	5:45am - 11:30pm	30
31	NVCC to Braddock Road Metro via Bradlee Shopping Center, King Street Metro & Old Town	5:00am - 12:30am	10	15-30	30-60	5:45am - 12:30am	15-30	5:45am - 12:30am	15-30
32	Landmark Mall to King Street Metro via Pickett Street, Van Dorn Metro & Eisenhower Metro	5:00am - 10:00pm	30	60	60	7:00am - 10:00pm	60	7:00am - 10:00pm	60
33	King Street Metro to Potomac Yard via Commonwealth, Monroe, Mt. Vernon, & Reed	6:00am - 10:00pm	30	30	60	7:00am - 10:00pm	30	7:30am - 9:30pm	60
34	Lee Center to Braddock Street Metro via S Royal & N Fairfax	5:00am - 10:00pm	30	30	30	7:00am - 10:30pm	30	7:00am - 10:30pm	60
35	Van Dorn Metro to Pentagon Metro via Landmark Mall, Mark Center, and I-395	4:45am - 12:30am	10	10	15-30	5:45am - 3:00am	15	5:45am - 2am	15
36A/B	Mark Center Station to Potomac Yard via Southern Towers, Bradlee Shopping Center, & Glebe	6:00am - 11:00pm	15	15	15	7:00am - 10:45pm	15	7:00am - 10:45pm	15
102	Mark Center Station to King Street Metro via Seminary & King	5:00am-8:00pm	30	60	-	-	-	-	-
103	Braddock Road Metro to Pentagon Metro via Russel, Glebe, & Parkfairfax	6:00am - 8:00pm	30	-	-	-	-	-	-
104	Braddock Road Metro to Pentagon Metro via Cameron Mills Drive and Parkfairfax	6:15am - 8:15pm	30	-	-	-	-	-	-
KST	King Street Trolley	11:00am-11:00pm	15	15	15	11:00am-11:00pm	15	11:00am-11:00pm	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 in Arlington County. The new Potomac Yard Metrorail Station – an in-fill station in northern Alexandria on Potomac Avenue – is slated to open in mid-2023.
- **Metrobus (WMATA).** In addition to Metrorail, WMATA also operates a regional bus network that typically carries over 130 million passengers per year. Metrobus runs 24 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 up to 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 currently provide service to five Metrorail Stations (Braddock Road, King Street, Eisenhower Avenue, Van Dorn Avenue and Pentagon), five non-Metrorail transit centers (Landmark Mall, Mark Center, Southern Towers, NVCC-Alexandria and Potomac Yard) and a total of 548 bus stops. Roughly 29% of these stops are shared by Metrobus or another provider.

Stop Amenities. The City of Alexandria is responsible for maintaining all bus stop within the city. Staff recently conducted a bus stop inventory and reported the following distribution of amenities:

- 158 of the 714 bus stops in the City have bus shelters (22%).
- 386 of the 714 bus stops in the City have benches (54%).
- 475 of the 714 bus stops in the City are near a streetlight (67%)
- 313 stops (44%) have trash cans, while 65 stops (9%) have recycling cans.
- 71 stops (10%) have a digital sign that displays real-time bus arrival information.

Figure 3-3
Bus Stops by Tenant

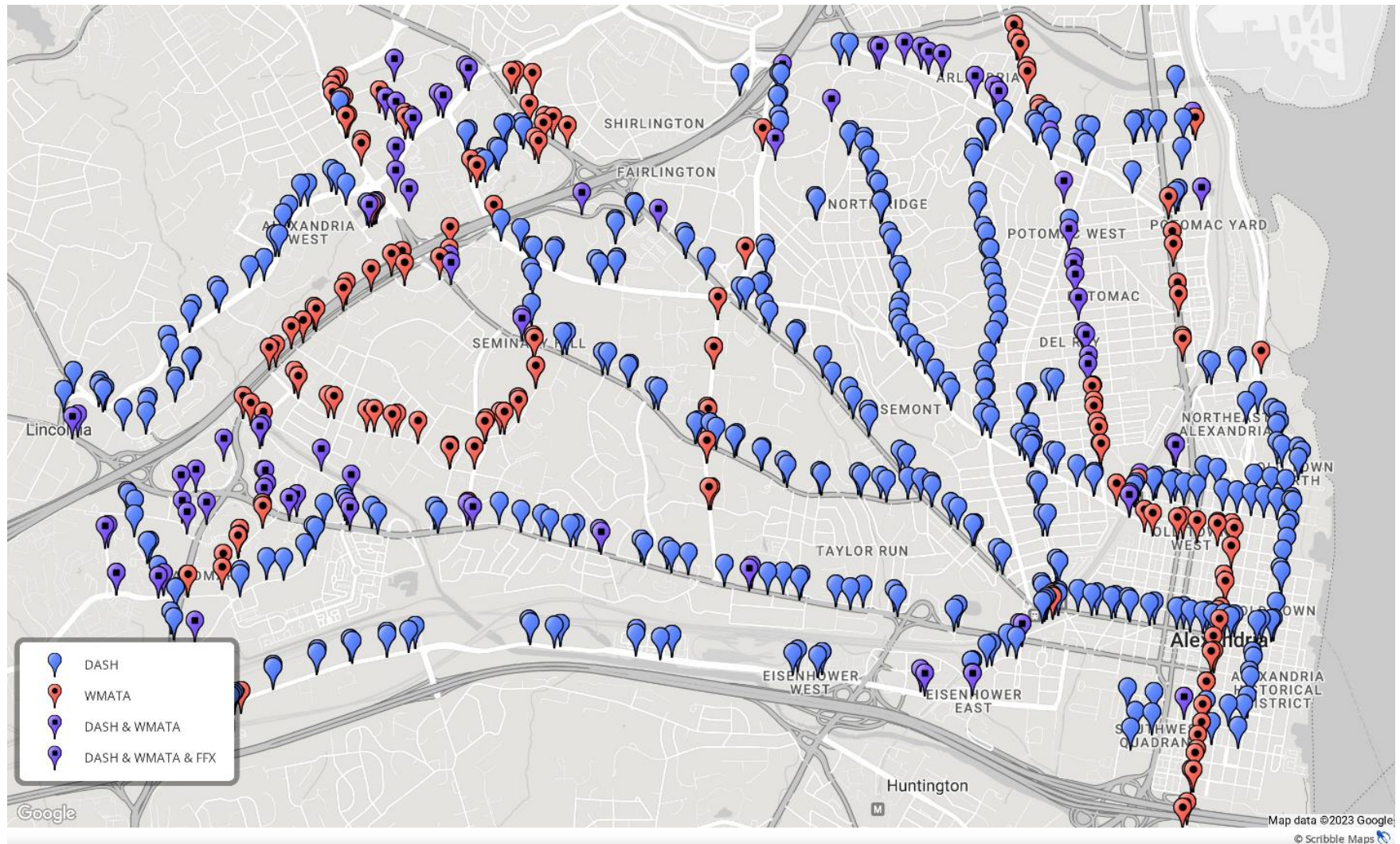


Figure 3-4
Bus Stops by Seating Provided

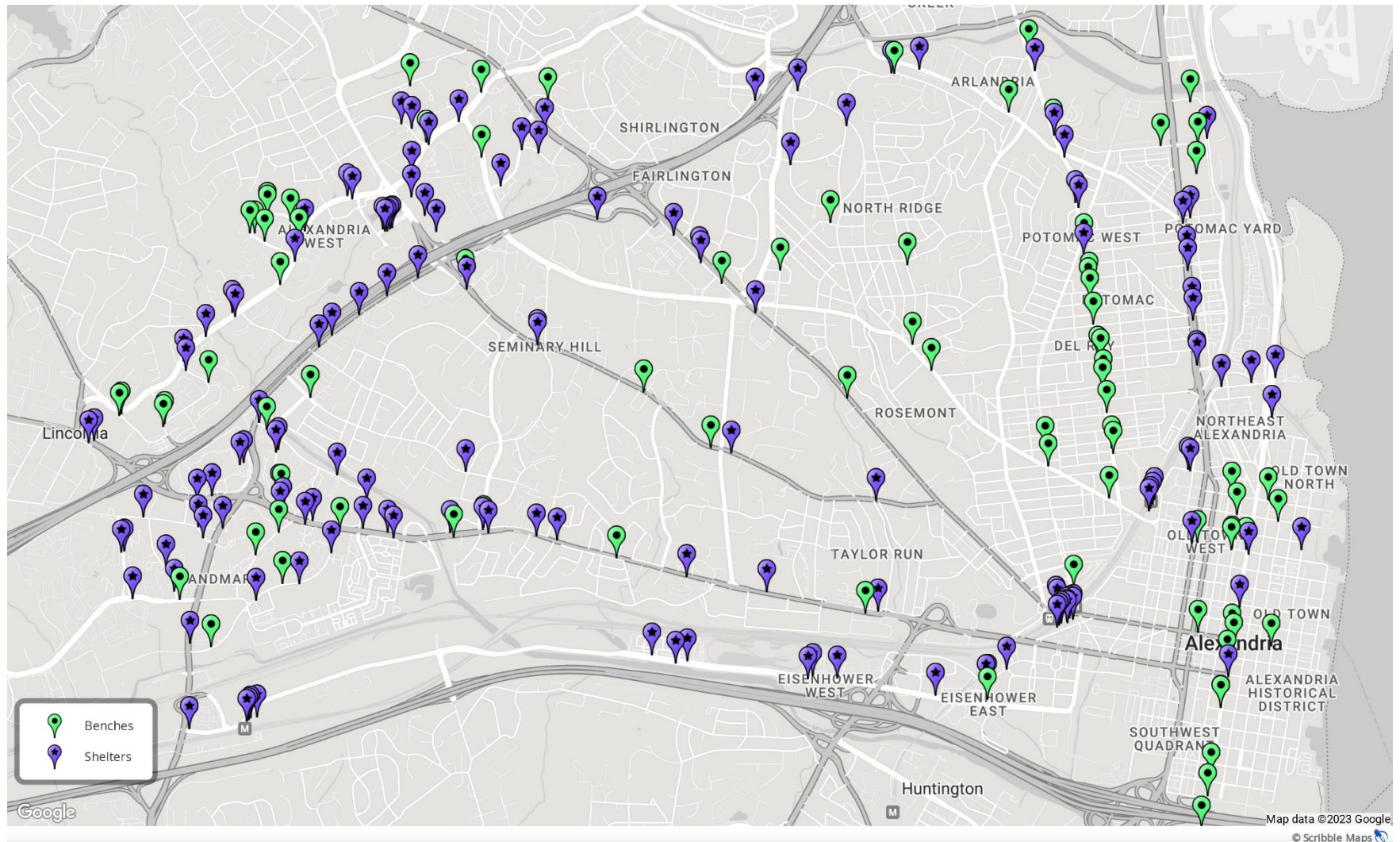


Figure 3-5
ADA Compliant Bus Stops

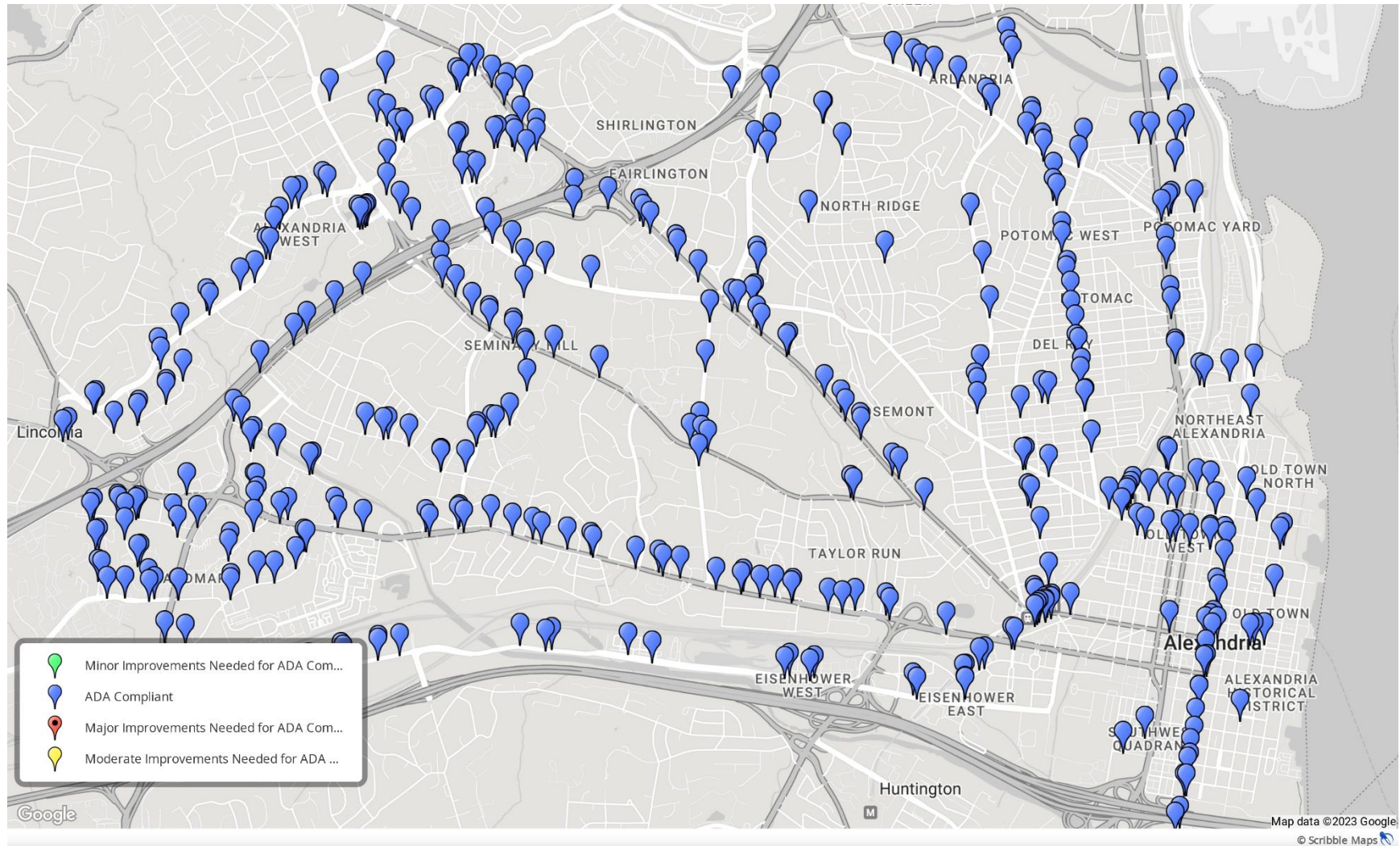


Figure 3-6
ADA Non-Compliant Bus Stops by Improvement Required

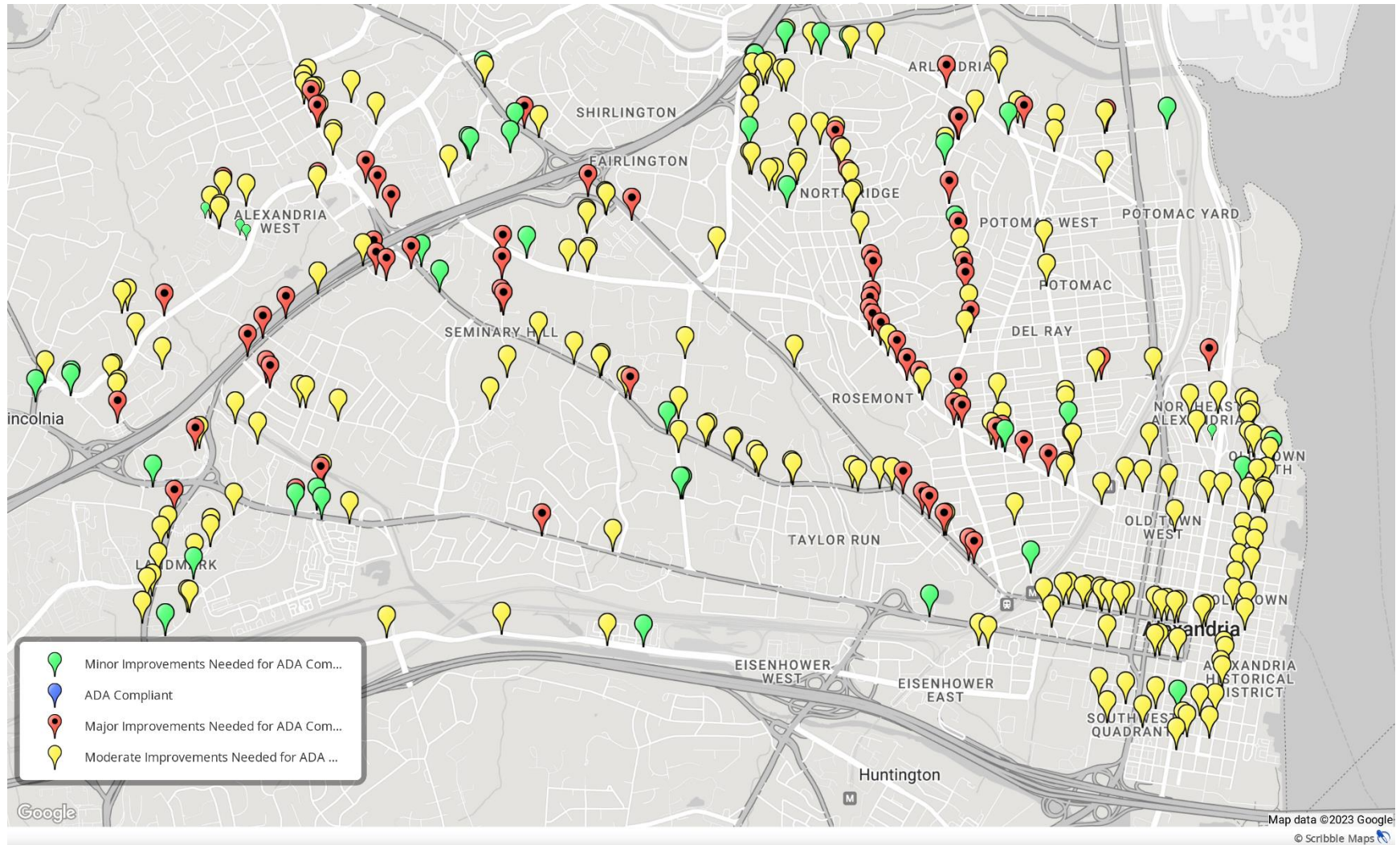
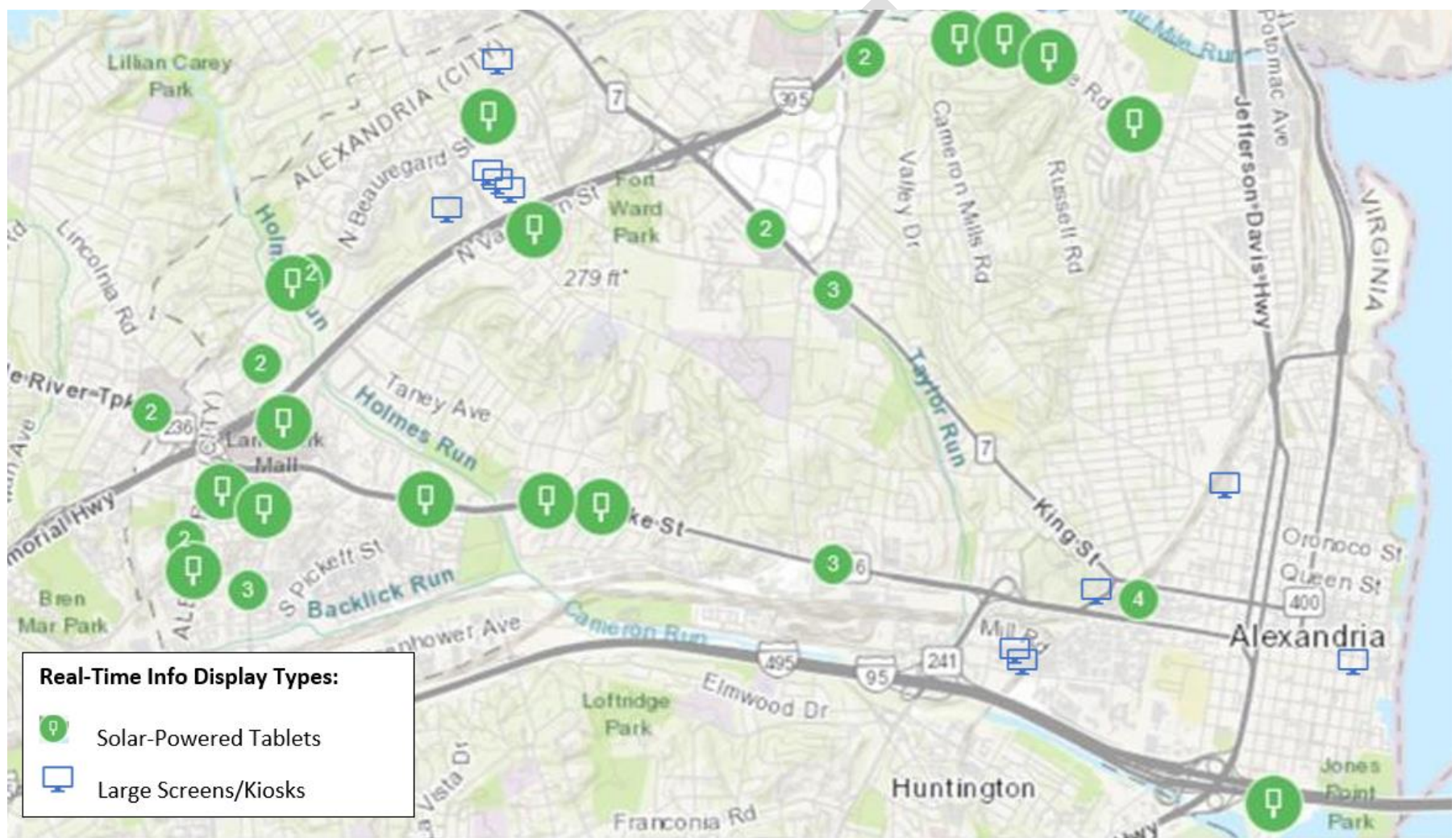


Figure 3-7
Real-Time Information Display Locations (2023)



Bus Stop Accessibility. The survey also determined which stops meet accessibility standards set by the Americans with Disabilities Act (ADA) of 1990:

- 419 stops (57%) are accessible and considered to be “ADA Compliant”
- 295 stops (43%) were identified as potentially non-compliant with ADA accessibility requirements, mostly due to a lack of an ADA-compliant boarding area.
- Of the 295 stops that may not be ADA accessible, city staff assessed that 46 stops (16%) could be fixed relatively easily, 179 (60%) could be fixed with moderate difficulty or cost, and the remaining 70 (24%) would be very difficult or costly to fix due to various site characteristics.
- 131 stops (18%) are in a location where parked cars are permitted to block the bus stop area; approximately 30 of these “parking space” stops are located on King Street, Fairfax Street or Madison/Montgomery Streets in Old Town, which is served by buses every 5-15 minutes all day, seven days per week
- 47 stops (7%) have a bus bulb out or curb extension for easier boarding.
- 677 stops (95%) have an ADA accessible path to the nearest crosswalk.

NOTE: 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 and the City of Alexandria are identifying projects and funding that can be used to address these gaps in stop accessibility and amenity distributions. More information on stop improvements is provided in Section 5-1.

Real-Time Information Displays. 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, King Street Metro, and NSF and other key stop locations. By the end of FY 2023, DASH will have real-time information displays at over 60 stop locations, which combined account for nearly 50 percent of DASH average weekday ridership. A map of real-time information display locations across the City of Alexandria is included as Figure 3-7.

3.5 / Bus Fleet

The DASH bus fleet is currently comprised of 101 buses for use in daily revenue service. The FY 2023 peak service requirement for weekdays is 77 vehicles, so the spare ratio is roughly 31%, or 28% if Trolleys are excluded. DASH also has six emergency contingency spare buses, which are not included in the spare ratio calculation. A summary of the active and contingency bus fleets are shown in Table 3-2.

The bus fleet is comprised of mostly 35-foot buses (63%), but also includes 40-foot buses (27%) and several articulated 60-foot buses (4%). The DASH fleet includes a mix of clean diesel (35%), hybrid electric (51%), and battery electric buses (14%). DASH also operates six hybrid electric trolleys.

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.

Table 3-2 / FY 2024 DASH Bus Fleet Summary

DASH REVENUE BUS FLEET - ACTIVE

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
807-810	2021	Proterra	Electric	40'	4
901-904	2021	New Flyer	Electric	60'	4
TOTAL ACTIVE FLEET					101

CONTINGENCY BUS FLEET

Vehicle ID's	Year	Make	Type	Length	# of Vehicles
101-102	2007	Gillig	Diesel	35'	2
103-105, 326	2002	MCI	Diesel	40'	4
TOTAL CONTINGENCY FLEET					6
TOTAL FLEET SIZE (ACTIVE + CONTINGENCY)					107

3.6 / Fares

In September 2021, DASH transitioned to 100% fare-free operations on all DASH buses. This change was funded by an increase in the DASH subsidy from the City of Alexandria, and a grant award from the Transit Ridership Incentive Program (TRIP) through the Virginia Department of Rail and Public Transportation (DRPT). DASH continues to maintain fareboxes on all vehicles in its active revenue fleet for ridership data collection purposes but is planning to remove fareboxes by July 2023 once automated passenger counters (APC's) have been installed on the entire fleet.

More information about the DASH Free Fares program can be found at www.dashbus.com/free.

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 and the City of Alexandria are also in the process of establishing compliance with Federal Transit Administration (FTA) regulations which would provide opportunities for additional federal discretionary funding programs.

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

Passenger fare revenues previously covered between 15 and 20 percent of the annual DASH operating costs and are used to reduce the DASH operating subsidy from the city. Since DASH is no longer collecting fares, lost passenger revenues are offset by TRIP grant program funding from DRPT and an increase in the annual city subsidy. A small amount of additional revenues are also generated from external advertisements placed on DASH buses.

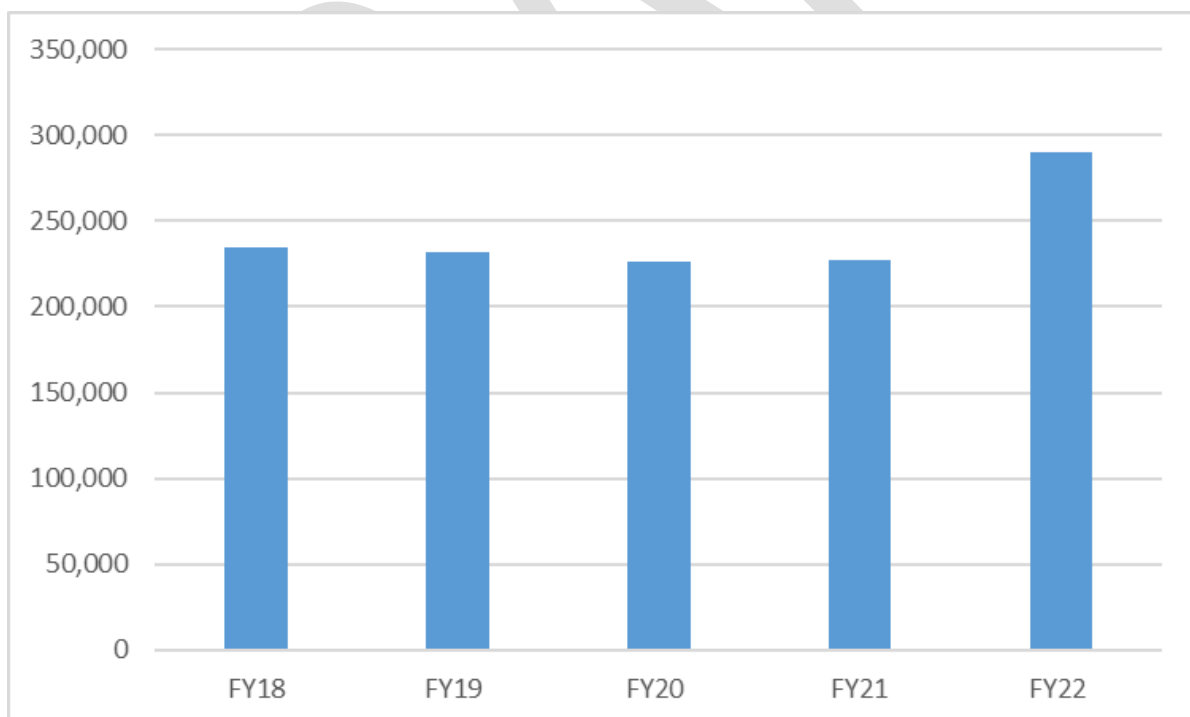
4.0 / System Performance

The following section uses FY 2022 system performance data to review DASH service with several key metrics. 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), 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.

4.1 / Service Levels

In FY 2022, DASH operated roughly 290,000 platform hours of bus service, which was an improvement over FY 2021 as ridership rose after the initial impact of the COVID-19 pandemic. Platform hours reflect the total time that DASH buses are running, including revenue service when they are carrying passengers, layover periods, and deadheads between trips or to/from the DASH garage. This service total represents a 2% increase as compared to FY 2021 service levels. A graph showing the historic trend in DASH annual platform hours for the last five years is shown in Figure 4-1. It should be noted that the COVID “Omicron” surge from December 2021 to March 2022 resulted in reduced service levels during FY 2022 due to staffing shortages.

Figure 4-1 / DASH Annual Platform Hours (FY 2018 - FY 2022)

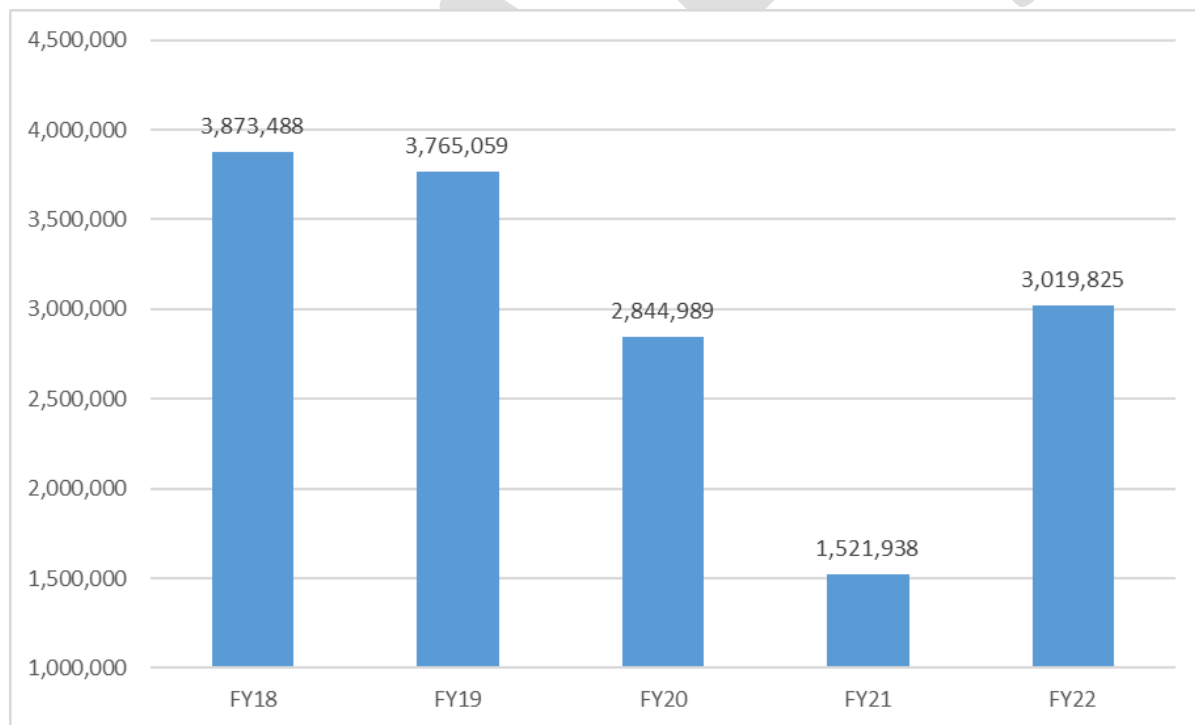


4.2 / System Ridership

As shown in Figure 4-2, annual ridership has decreased over the last five years, with more significant drops in the last two years with the onset of the COVID pandemic. In FY 2022, DASH recorded just over 3 million passenger boardings, which was up roughly 98% from FY 2021, but was still down by 20% from before the pandemic (FY 2019). The ridership decrease in FY 2020 and FY 2021 can be largely attributed to the COVID-19 pandemic; however, the sharp increase from FY2021 to FY2022 is largely due to the effects of the New DASH Network and the DASH free fare program that was implemented in September 2021 as well as the ongoing recovery from the COVID-19 pandemic. It should be noted that the COVID “Omicron” surge from December 2021 to March 2022 resulted in reduced service levels and ridership during FY 2022.

In terms of average daily boardings in FY 2022, DASH drew an average of 10,000 boardings on weekdays, nearly 6,700 boardings on Saturdays, and approximately 5,150 boardings on Sundays. This translates to an approximately 100% increase in weekday boardings from FY 2021. Average Saturday and Sunday boardings were also up by 135% and 178%, respectively.

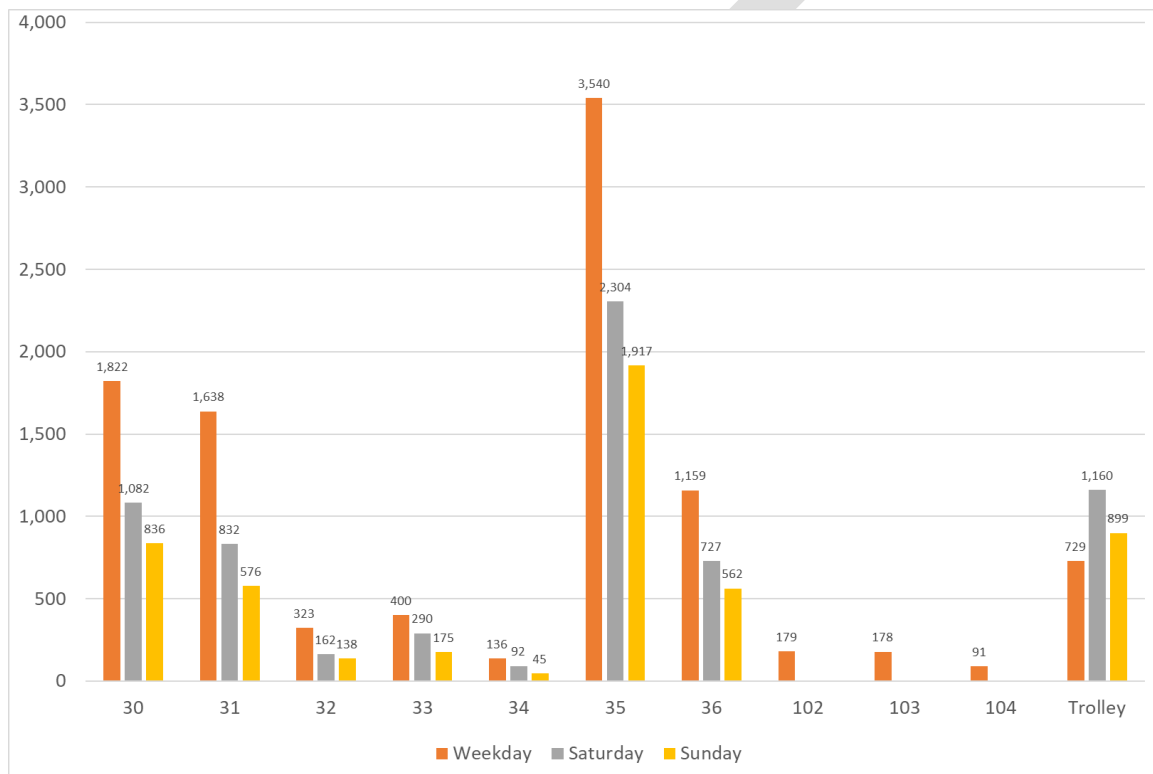
Figure 4 -2 / DASH Annual Ridership (FY 2018 - FY 2022)



4.3 / Ridership by Route

At the route level, the New DASH Network routes show an overall productive ridership performance. According to Figure 4-3, Line 35 has the highest daily ridership throughout the week with Lines 30, and 31 as the two next highest routes on both weekdays and weekends. The lowest weekday ridership is seen on Lines 34, 102, 103, and 104. The lowest weekend ridership levels are found on Lines 32, 33 and 34.

Figure 4-3 / Average Ridership by Route (FY 2022)



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 in 2019 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 with a target increase of 20% over the following five years to ensure that the service was being sufficiently utilized to warrant its continued operation.

Based on staff analyses, DASH estimates that Line 102 averaged roughly 20 boardings along this segment in FY 2022. A more detailed analysis was conducted in Fall 2022 (FY 2023), which suggests that an average of 23 boardings per weekday are taking place on Seminary Road/Janneys Lane between Howard Street and King Street.

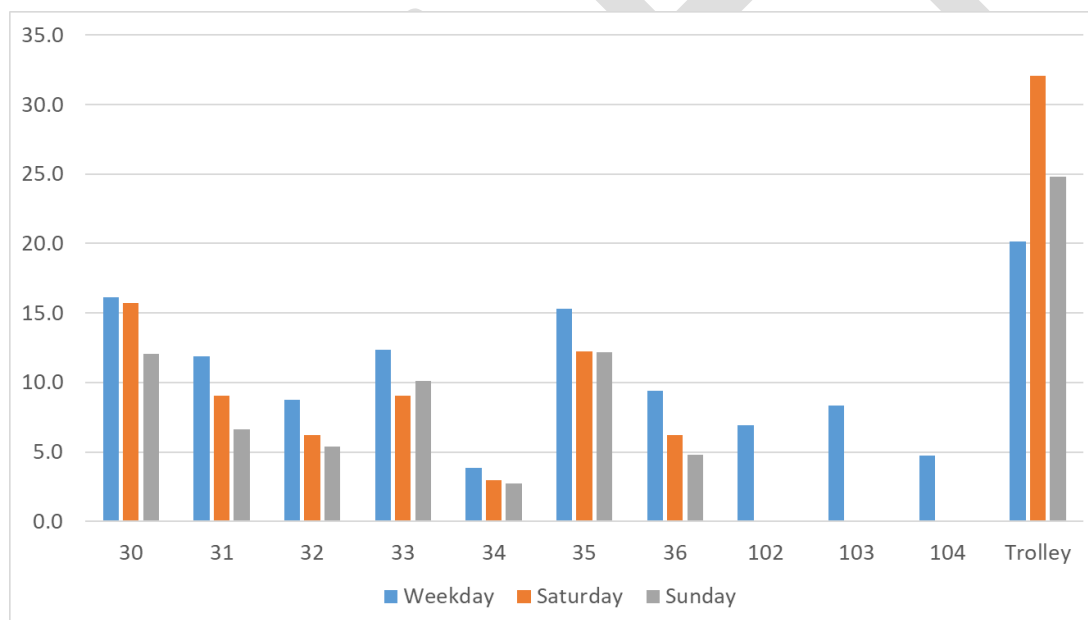
Line 30 Ridership Improvement Analysis

More recently, DASH was able to implement service improvements on Line 30 in October 2022 based on supplemental funding provided by Alexandria City Council. Preliminary ridership analysis from January 2023 indicates that the affected trips, which now operate between King Street Metro and Braddock Road Metro during weekday peaks are carrying nearly 400 passengers on a typical weekday. Staff anticipates that the ridership impact from these improvements will continue to increase in Spring 2023 when ridership tends to trend upward due to seasonal patterns.

4.4 / Cost Efficiency

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 2022, the DASH bus system drew approximately 10.7 boardings per revenue hour. This was an increase of over 47% from the 73 boardings per revenue hours that were recorded in FY 2021.

Figure 4-4 / Average Boardings per Revenue Hour by Route and Day (FY 2022)



Route-by-route boardings per revenue hour for weekdays, Saturdays, and Sundays in FY 2022 are shown in Figure 4-4. Routes with the highest weekday productivity are Lines 30 and 35. The least productive weekday routes are Lines 34 and 102 which each drew less than five boardings per revenue hour. On weekends, Lines 35, 30, and 33 maintain the highest ridership productivity while Line 34 is the lowest.

Despite its post-pandemic ridership decreases, the King Street Trolley remains the most productive route with more than 20 boardings per revenue hour on weekdays and Sundays and more than 30 boardings per revenue hour on Saturdays.

4.5 / Service Reliability

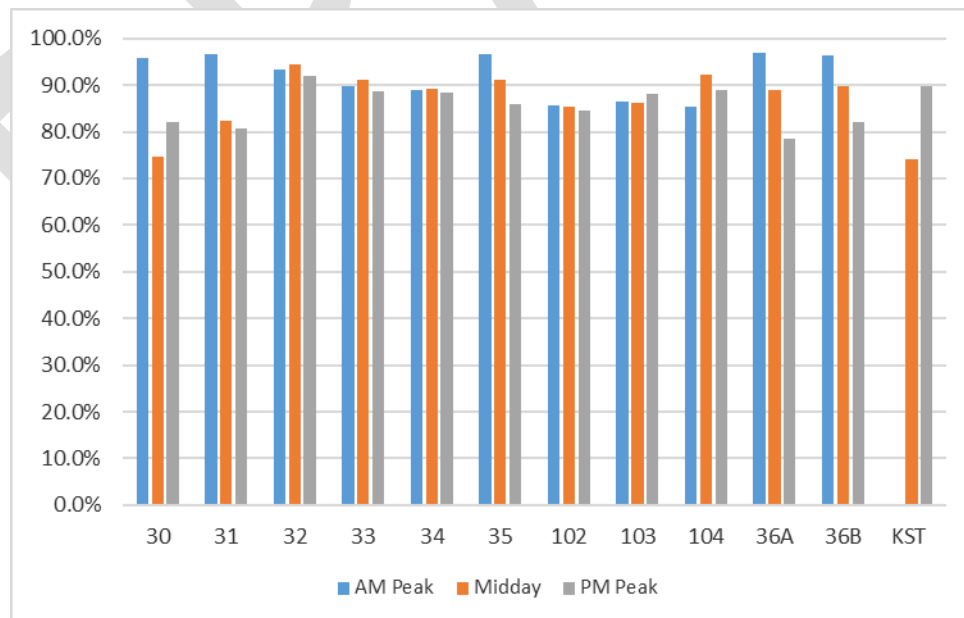
Service reliability can be measured by on-time performance, missed trip percentage, average miles per road call, and customer feedback. It is important to note that service reliability is invariably tied to service frequency since the consequences of a missed trip are far less significant if the next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

On-Time Performance. The most common indicator for service reliability is on-time performance (OTP), which measures the percentage of trips that are arriving at each time point within five minutes of their scheduled arrival time. In FY 2022, approximately 86% of all DASH weekday trips arrived on time. This is a slight decrease from the weekday on-time percentage for FY 2021, but it is still above the industry standard of 85%. On weekends, DASH trips arrived on time 89% of the time on Saturdays and 90% of the time on Sundays.

A chart showing FY 2022 weekday on-time performance by route is included in Figure 4-5. Most DASH routes are shown to operate at or above the industry standard of 85% for most weekday time periods. The most reliable routes in the system on weekdays are Lines 32 (92%), 35 (89%), and 104 (89%). The On-Time performance appears to have decreased slightly across the board on weekdays due to the resumption of normal day-to-day activities in the city after a recovery pattern from the 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 due to heavy traffic congestion. In previous years, systemwide on-time performance during the weekday PM peak periods has been less than 80%, however, in FY 2022, DASH service was on-time 85% of the time during the afternoon peak, which was the same as it was in FY 2021.

Figure 4-5 / Weekday On-Time Performance by Route and Time Period (FY 2022)



Miles Between Road Calls. 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 2022, DASH averaged over 20,000 miles between road calls, which was an 11% improvement from the previous year and is well above the industry average of 11,500 miles per road call.

Missed Trips. In terms of missed trips, DASH recorded just 0.042% missed trips in FY 2022, which was a 600% increase from the previous year. This significant change is likely due to staffing shortages that led to missed work assignments and increased disruptions due to traffic that reflects a city recovering from the pandemic and a resumption of normal day-day activities. Missed trips typically occur due to manpower shortages, equipment failures, or traffic congestion.

Schedule Adherence Complaints. 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 2022, DASH received 46 valid complaints related to “Schedule Adherence”. This was a major increase from the 17 schedule adherence complaints that were received in FY 2021 and the 34 similar complaints that had been submitted in FY 2020. This uptick in complaints is like due to the increase in traffic due to the COVID recovery, and the New DASH Network which included new routes on new segments that required adjustments in running time after the first few months of operation.

4.6 / 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).

Transit Access. 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. Figures 4-11 and 4-12 provide a summary of access to the current DASH bus network for all residents, non-white residents, residents living in households below the poverty threshold, 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 in the figures below, both networks provide access to basic transit for the vast majority of each of the groups identified below, however, the access to frequent all-day transit among these groups was relatively low with the old DASH Network. Figure 4-12 shows the major increases in access to frequent, all-day transit service that are now provided with the New DASH Network.

Figure 4-6 – Public Transit Access in Alexandria

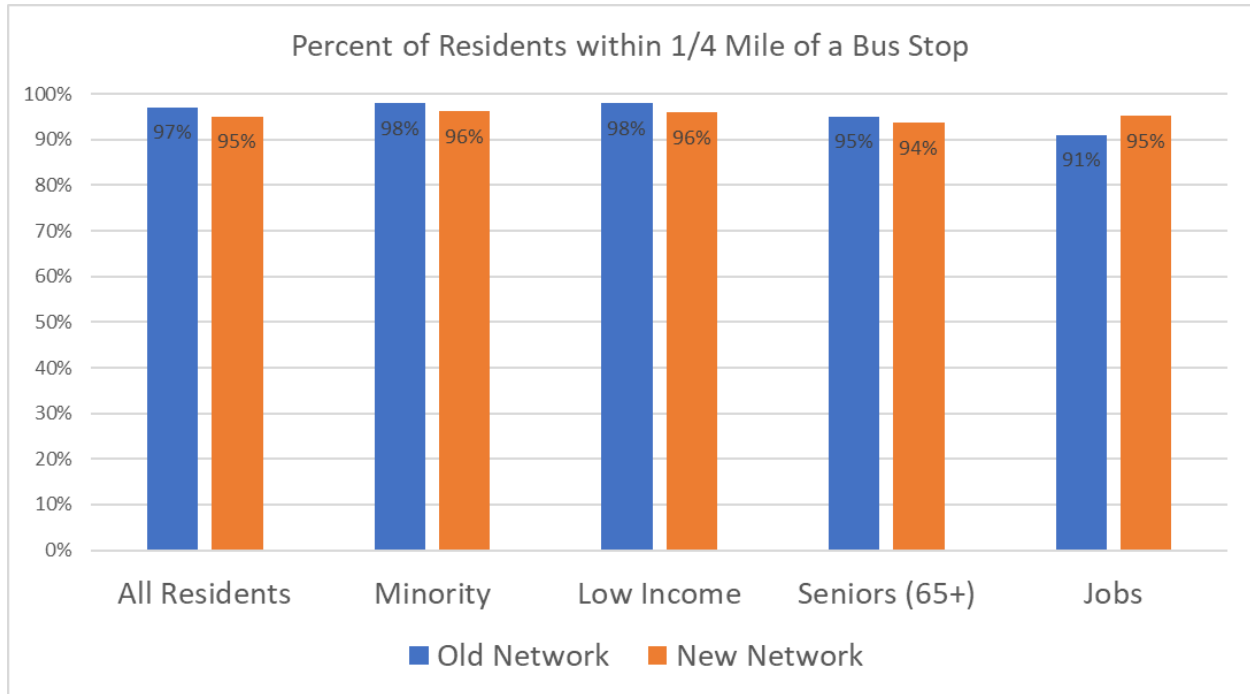
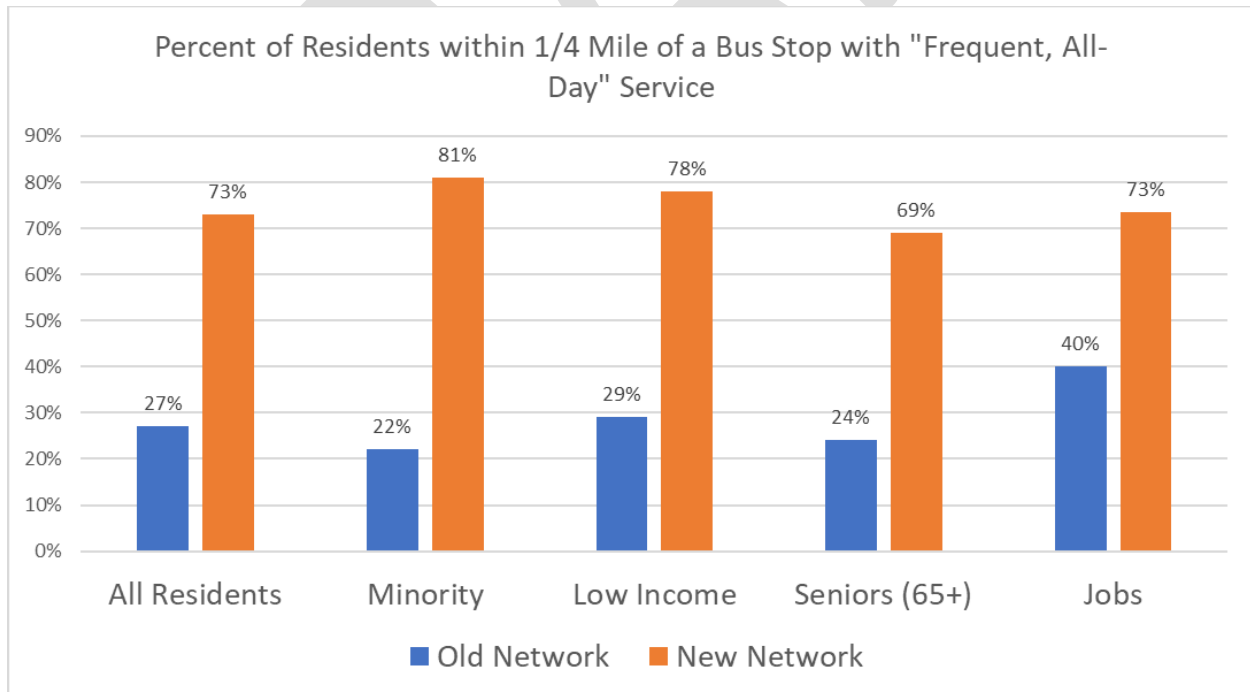


Figure 4-7 – Access to FREQUENT, ALL-DAY Transit Service in Alexandria



Mobility. The second metric, mobility, can be derived from the isochrone maps that are included as Figures 4-8, through 4-13. 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 approximate area that can be reached from that specified location on the specified day and time using transit or walking based trip times of 15 minutes (dark blue), 30 minutes (medium blue), 45 minutes (light blue), and 60 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 4-8 shows the mobility of a transit user in Old Town at the intersection of King Street and Washington Street on weekdays during the PM peak period (5:00 PM), while Figure 4-14 shows the mobility from that same location at 12:00 PM on a Sunday. Since the service levels and frequencies are increased during the peak period, passengers at this location can travel further within the 30-minute window during the peak period, and the size of the isochrone shapes in the peak map are larger. In other words, a passenger starting in Old Town could travel to Crystal City within 45 minutes during peak periods, but it would take 60 minutes on a Sunday. 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 15, 30, 45 and 60 minutes using transit.

While the size of the isochrone shapes illustrates 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.

4.7 / System Performance Summary

DASH system performance in FY 2022 was highlighted by major ridership gains that resulted from the transition to free fares, the implementation of the New DASH Network and the ongoing recovery from the COVID-19 pandemic. The increase in access to frequent, all-day bus service for 60,000 additional city residents from the implementation of the New DASH Network remains particularly significant.

Service reliability metrics reflected a slight decrease in on-time performance and a sharper increase in the number of missed trips due to operator staffing shortages. This was likely due to the return of normal traffic congestion and ridership levels.

Figure 4-8 / Transit Mobility to/from Old Town Alexandria (Weekday, 5:00 PM)

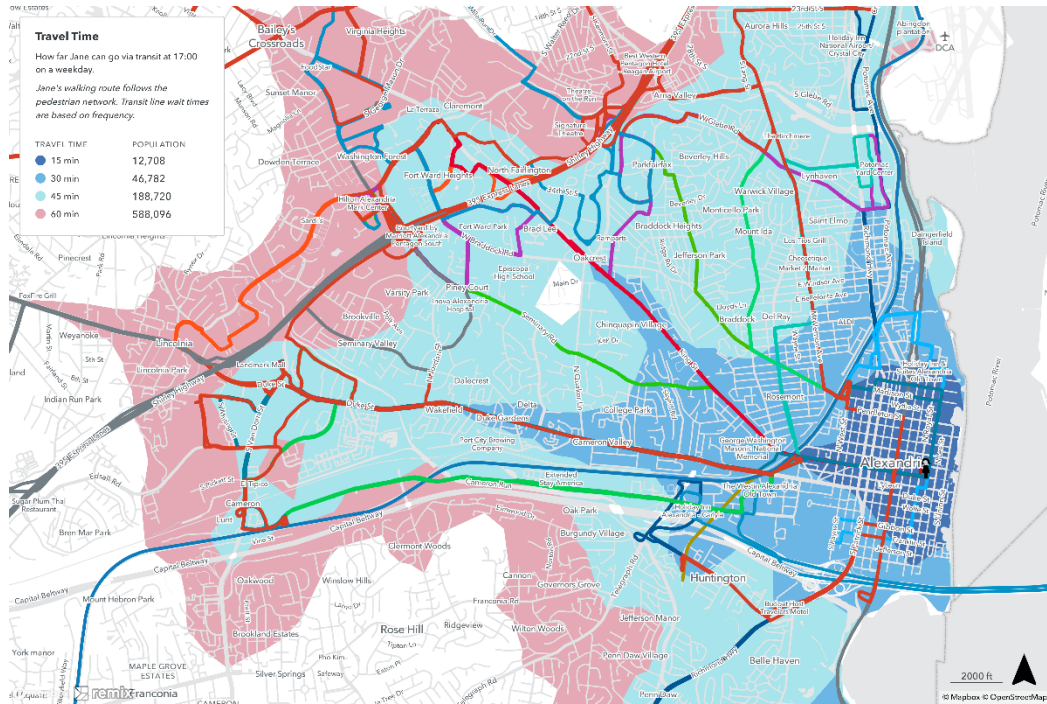
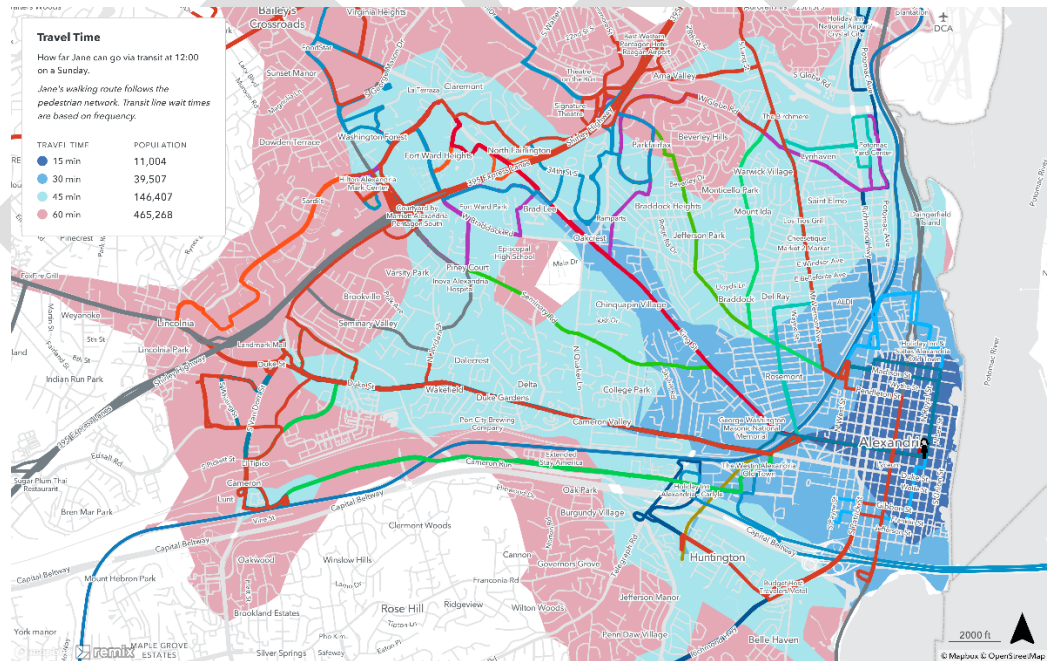


Figure 4-9 / Transit Mobility to/from Old Town Alexandria (Sunday, 12:00 PM)



Travel Time

How far Jane can go via transit at 17:00 on a weekday.

Walking distance is based on how far Jane can go using the pedestrian network. Uses average wait times based on the frequency of routes.

TRAVEL TIME	POPULATION
15 min	20,897
30 min	123,668
45 min	296,421
60 min	440,707

Travel Time

How far Jane can go via transit at 12:00 on a Sunday.

Walking distance is based on how far Jane can go using the pedestrian network. Uses average wait times based on the frequency of routes.

TRAVEL TIME	POPULATION
15 min	21,877
30 min	126,074
45 min	275,419
60 min	421,247

Figure 4-12 / Transit Mobility to/from Arlandria (Weekday, 5:00 PM)

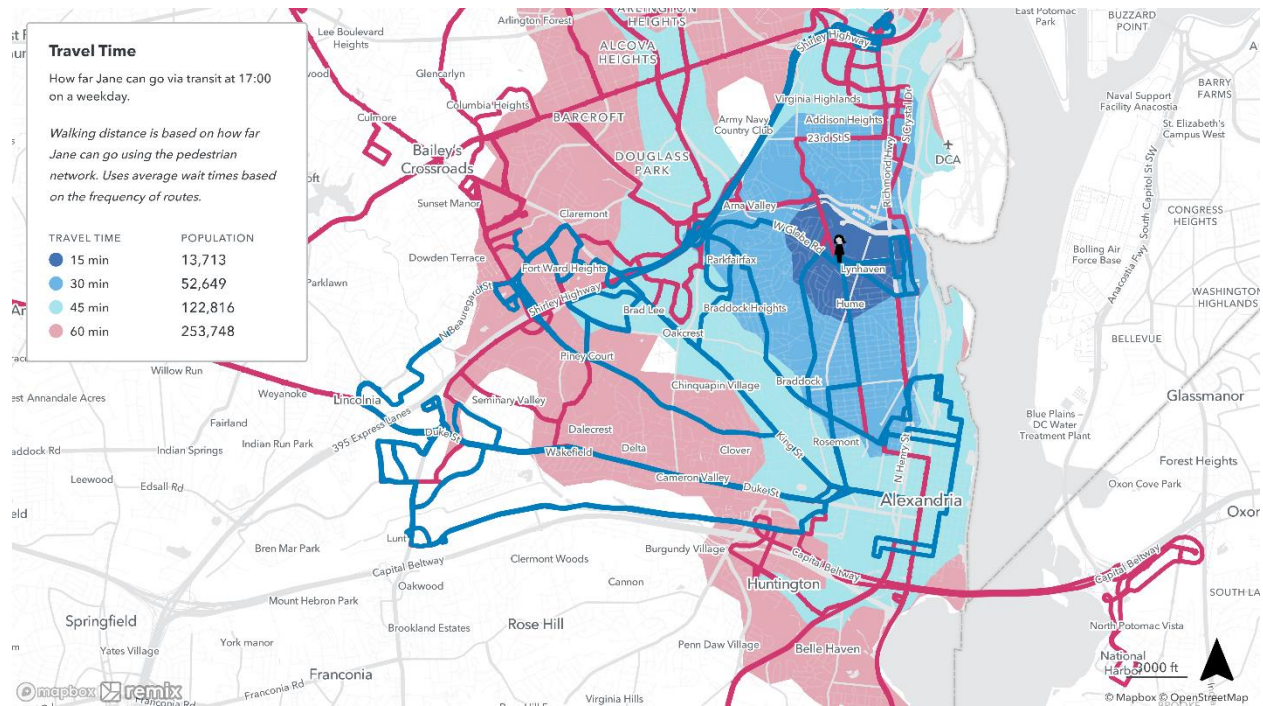
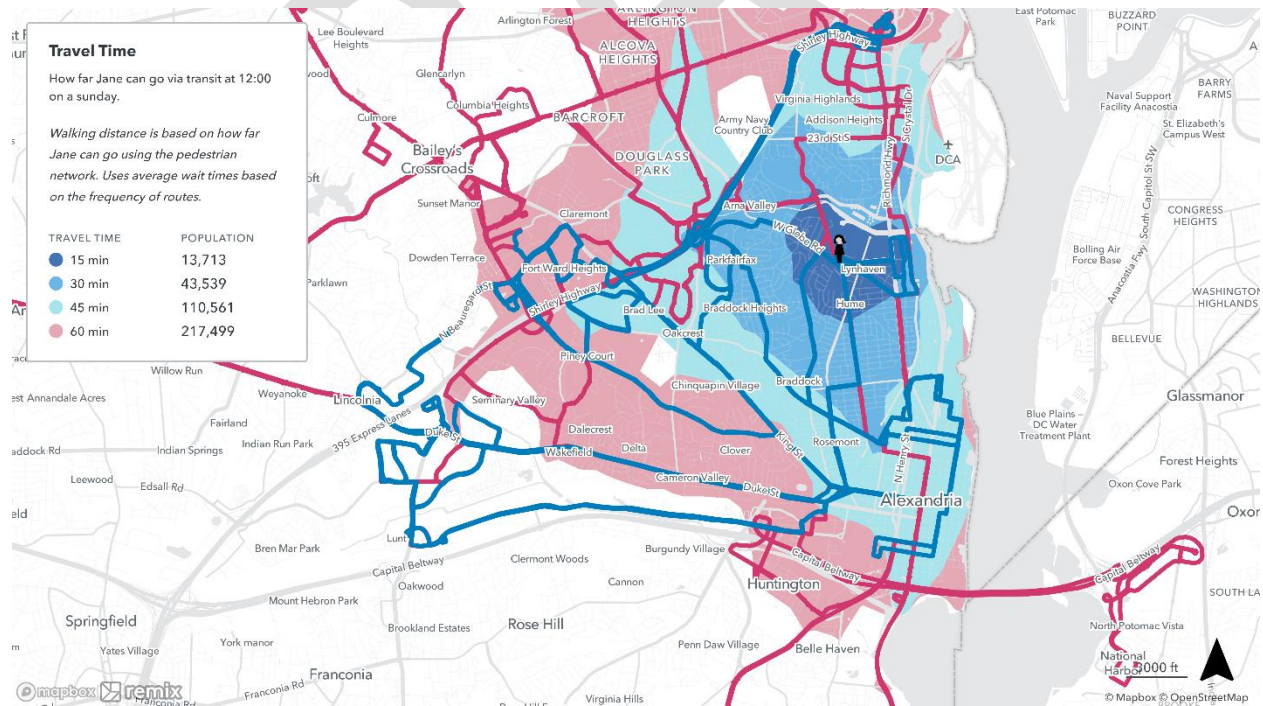


Figure 4-13 / Transit Mobility to/from Arlandria (Sunday, 12:00 PM)



5.0 / Service & Fare Recommendations

The following section provides recommendations for future DASH service changes and fare adjustments over the next six years. 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 FY 2024. Service and fare recommendations for the rest of the six-year plan cycle (FY 2025 – FY 2029) are also included later in the section.

5.1 / Service Recommendations (FY 2024)

For its FY 2024 service recommendations, this document outlines two scenarios: (1) a “Baseline” or “Current Services” scenario which includes no increases or reductions to DASH service and is based on the preliminary FY 2024 budget; and (2) an “Unfunded ATV Improvements” scenario which essentially includes all the remaining service improvements that were recommended by the 2022 ATV Plan but have not yet been implemented.

Both scenarios include the existing enhanced service on Lines 35 and 36A/B, which are currently funded via the FY 2022 – FY 2023 NVTC I-95/395 Commuter Choice Program. This program requires that agencies who are receiving funding must reapply every two years through a competitive award process. DASH has resubmitted both projects and award decisions will be made in the spring. If DASH does not receive funding for one or both projects, major service reductions on these routes could be required.

Both scenarios also assume bus stop consolidations and improvements which are also summarized below.

FY 2024 “Baseline” Current Services Scenario

The FY 2024 Baseline/Current Services Scenario assumes no changes from current FY 2023 service levels. Under this scenario, DASH projects to operate approximately 325,000 platform hours and 3.05 million platform miles in FY 2024. This represents a 1% increase from the annualized amount for FY 2023.

These baseline service totals include the Line 35 and 36A/B service enhancements from the I-395 Commuter Choice program that were implemented with the launch of the New DASH Network. As noted previously, the continuation of enhanced service on each of these routes is contingent upon the receipt of funding through the FY 2024 – FY 2025 NVTC I-95/395 Commuter Choice program.

DASH is also applying for a third project through the I-395 Commuter Choice program that would fund the purchase of five (5) 60-foot articulated buses that would be deployed to Line 35 to provide additional passenger capacity along the busiest corridor in the DASH system. If not awarded, DASH will need to look for other ways to address the overcrowding on Line 35, which could potentially include additional trips

FY 2024 “Unfunded ATV Improvements” Scenario

DASH launched the New DASH Network and transitioned to fare-free operations in September 2021. This transition represented the first phase of the 2022 Alexandria Transit Vision Plan but did not include all of the service improvements that were identified by the 2022 ATV Plan due to budget constraints.

The Unfunded FY 2023 ATV Improvements Scenario includes a series of service increases that were recommended as part of the 2022 Alexandria Transit Vision Plan but could not be implemented in FY 2022 or FY 2023 due to funding constraints. These unfunded improvements would represent approximately 13,000 additional annual platform hours and would require an additional \$1.61m of annual operating funding that is not included in the preliminary FY 2024 DASH budget.

Under the FY 2024 Unfunded ATV Improvements scenario, DASH would operate approximately 338,000 platform hours and 3.17 million platform miles. These totals represent a four (4) percent increase from the baseline FY 2024 scenario. These service totals also include the Line 35 and 36A/B service enhancements from the I-395 Commuter Choice program that were discussed in previous sections

FY 2024 Unfunded ATV Improvements

The following unfunded service improvements are included in the 2022 Alexandria Transit Vision Plan that was adopted by the ATC Board of Directors in 2019 but have not yet been implemented. DASH is proposing to implement the following service improvements in FY 2024 if supplemental funding is identified by City Council and made available to DASH.

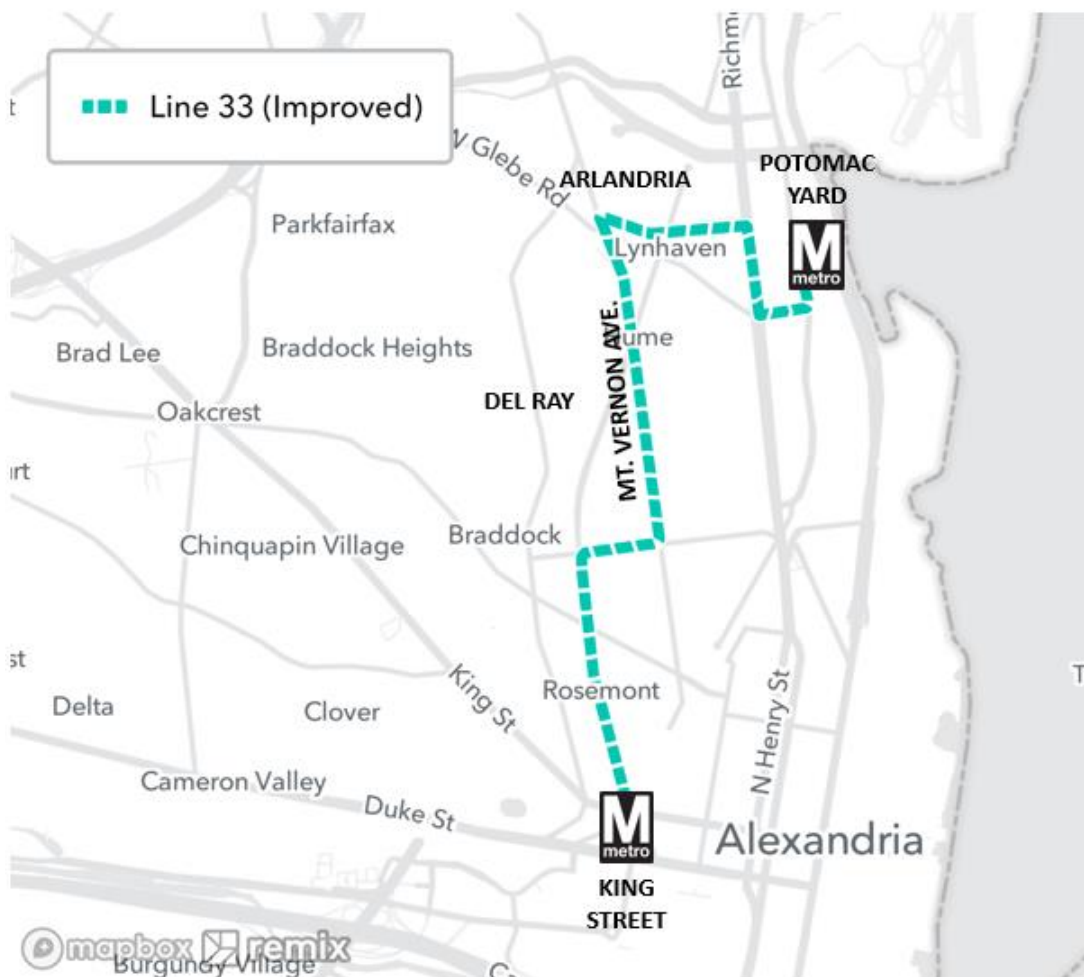
The following improvements are shown in order of priority in Table 5-1A/B and as maps in Figures 5-1 through 5-4.

1. Line 33 – Improve Sunday headways from every 60 minutes to every 30 minutes to provide better weekend service to the new Potomac Yard Metro from Arlandria and Del Ray.
2. Line 34 – Improve Sunday headways from every 60 minutes to every 30 minutes to provide better weekend service to the new Potomac Yard Metro from Old Town Alexandria.
3. Line 31 - Extend weekend and off-peak short trips from King Street Metro to Braddock Road Metro to provide service into Old Town every 15 minutes instead of every 30 minutes. for 15 min headways in Old Town.
4. Line 32 - Improve midday, evening, and weekend service to run every 30 minutes instead of every 60 minutes for more convenient service between Landmark Mall and King Street Metro via Eisenhower Avenue.

Each of the above “unfunded” improvements are summarized in the following section and maps.

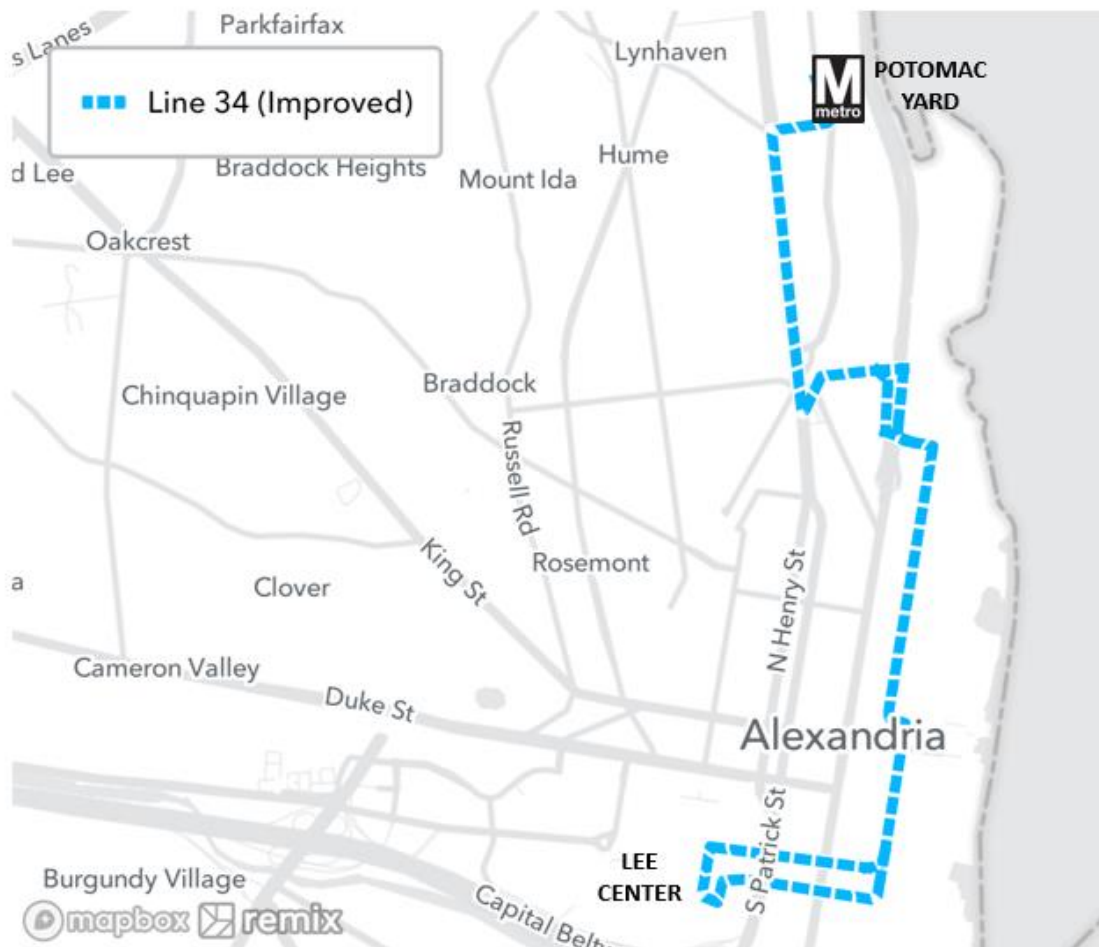
1. **Increase Sunday service on Line 33 to every 30 minutes.** Line 33 runs every 30 minutes between King Street Metro and Potomac Yard via Del Ray and Arlandria all day on weekdays and Saturdays. As shown in Figure 5-1, DASH is proposing to increase Sunday service on Line 33 to run every 30 minutes instead of the current schedule that runs once per hour. This improvement would provide a more consistent schedule, seven days per week, and would provide a more useful connection from Del Ray and Arlandria to the new Potomac Yard Metrorail station on Sundays.

Figure 5-1 / Proposed Line 33 Improvements (UNFUNDED)



2. **Increase Sunday service on Line 34 to every 30 minutes.** In addition the alignment changes that are planned for Line 34 to provide better service to the new Potomac Yard Metrorail station, DASH also proposes that Line 34 should run every 30 minutes on Sundays instead of the current hourly schedule. This improvement would provide a more consistent schedule, seven days per week, and would provide a more useful connection from Old Town and Old Town North to the new Potomac Yard Metrorail station on Sundays. A map of this improvement is included as Figure 5-2.

Figure 5-2 / Proposed Line 34 Improvements (UNFUNDED)



4. **Increase weekday midday, evening, and Sunday service on Line 32.** Line 32 runs east-west from Landmark Mall to King Street Metro via Eisenhower Avenue, as shown in Figure 5-4. The current service runs every 30 minutes during weekday peaks, but only once per hour during weekday middays, evenings, and weekends. DASH proposes to add more trips on Line 32 so that it runs every 30 minutes, all-day, seven days per week. These improvements will provide more useful, consistent DASH service for communities along North Ripley Street, Holmes Run Parkway, South Pickett Street, and many of the new developments in the Eisenhower Valley and near the Eisenhower Metrorail Station.

Figure 5-4 / Proposed Line 32 Improvements (UNFUNDED)



A summary table of the proposed improvements that would be included in the FY 2023 Unfunded ATV Improvements scenario is included as Tables 5-1A and 5-1B. These improvements are listed in priority order in the event that some additional funding is available but not enough for all the service increases to be implemented.

Table 5-1A / Unfunded ATV Improvements Scenario (Overview)

Priority Order (1 = top priority)	Line #	Areas Served	Proposed Improvement	Net Annual Platform Hours	Net Annual Cost
FY 2024 DASH Supplemental Requests					
1	Line 33	Del Ray, Arlandria, Potomac Yard	Sunday service improved to run every 30 minutes instead of every 60 minutes to provide better connectivity to new Potomac Yard Metro	945	\$120,000
2	Line 34	Potomac Yard, Old Town North, City Hall, Lee Center	Sunday service improved to run every 30 minutes instead of every 60 minutes to provide better connectivity to new Potomac Yard Metro	963	\$120,000
3	Line 31	NVCC, King Street, Old Town	Extend offpeak/weekend short trips from King Street Metro to Braddock Road Metro for 15 minute service in Old Town; extend weekday evening hours.	7,196	\$880,000
4	Line 32	Eisenhower Valley, Landmark Mall, Van Dorn Metro, Carlyle	Improve midday, evening and weekend service from every 60 minutes to every 30 minutes.	<u>3,989</u>	<u>\$490,000</u>
FY 2024 DASH Supplemental Requests				13,093	\$1,610,000

Table 5-1B / Unfunded ATV Improvements Scenario (Details)

DASH FY 2024 UNFUNDED ATV IMPROVEMENTS				DASH Service Planning Decision Framework (1)				
				Ridership	Equity (2)		Impact/Alternatives	Cost Efficiency
Priority Order (1 = top priority)	Line #	Areas Served	Proposed Improvement	Net Change in Annual Boardings (Projected)	Low Income Residents within 1/4 mile (City Avg = 10.3%)	Minority Residents within 1/4 mile (City Avg = 48.1%)	Description of Benefit / Cost of Not Improving	Annual Cost Per Add'l Boarding (Lower = More Cost Efficient)
FY 2024 DASH Supplemental Requests								
1	Line 33	Del Ray, Arlandria, Potomac Yard	Sunday service improved to run every 30 minutes instead of every 60 minutes to provide better connectivity to new Potomac Yard Metro	11,000	7%	38%	Shorter waits for buses on Sundays in Del Ray, Arlandria; better Sunday service to new PY Metro	\$10.91
2	Line 34	Potomac Yard, Old Town North, City Hall, Lee Center	Sunday service improved to run every 30 minutes instead of every 60 minutes to provide better connectivity to new Potomac Yard Metro	7,000	7%	39%	Shorter waits for buses on Sundays in Old Town; better Sunday service to new PY Metro	\$17.14
3	Line 31	NVCC, King Street, Old Town	Extend offpeak/weekend short trips from King Street Metro to Braddock Road Metro for 15 minute service in Old Town; extend weekday evening hours.	47,000	11%	31%	More one-seat trips from King St to Old Town; better connections to West End; more frequent OTC	\$18.72
4	Line 32	Eisenhower Valley, Landmark Mall, Van Dorn Metro, Carlyle	Improve midday, evening and weekend service from every 60 minutes to every 30 minutes.	26,000	10%	56%	Shorter waits for buses on Eisenhower Avenue during middays, evenings and weekends.	\$18.85
FY 2024 DASH Supplemental Requests				91,000	10%	45%		\$17.69

FY 2024 Bus Stop Consolidations & Improvements

DASH is working with City staff to inventory, assess, and consolidate bus stops in numerous locations throughout the service area and to improve access and passenger amenities for the remaining stops. In many locations in Old Town and throughout the City, DASH bus stops are currently spaced extremely close together – often within one block or less – which can increase overall travel times and make the service less useful to the average rider. DASH will review ridership data collected since the launch of the New DASH Network to identify potential stops for potential consolidation. If a bus stop is identified for potential consolidation or removal, any affected passengers will be notified at least two weeks in advance and will be provided an opportunity to provide feedback.

In conjunction with the bus stop consolidation project, DASH will work with the City of Alexandria to identify bus stop improvements at consolidated stops, high ridership stops, stops with poor pedestrian accessibility, and stops that lack amenities. Potential improvements include shelter/bench installations, parking space removals, and passenger pad or “bulb out” construction. Bus “bulb-outs” or curb extensions can be particularly useful in congested urban areas like Old Town because they provide safe, accessible bus stops with minimal impact on parking spaces. Based on a recent survey, DASH and the City of Alexandria have prioritized bus stop accessibility and the provision of basic amenities like shelters, benches, and lighting in the coming year.

5.2 / Fare Recommendations (FY 2024)

As part of the FY 2024 budget, DASH will continue as a 100% fare-free operation, as was first introduced in September 2021 with the New DASH Network. The fare-free program will continue at least through FY 2025 as funded by the Transit Ridership Incentive Program (TRIP) from the Virginia Department of Rail and Public Transportation (DRPT) with local support from the City of Alexandria.

No additional fare adjustments are proposed for FY 2024.

5.3 / Service Recommendations (FY 2025 – FY 2029)

For FY 2025 – FY 2029, DASH will continue working to implement the recommendations of the Alexandria Transit Vision Plan, including any “Unfunded ATV Improvements” from the 2022 ATV Plan that could not be implemented in earlier years. Ultimately, DASH will be seeking to fully realize the 2030 ATV Plan that was approved by the ATC Board of Directors in 2019. Additional information on the Alexandria Transit Vision Plan project, process, outcomes, and final report can be found at the ATV project website: www.dashbus.com/transitvision.

The full list of proposed FY 2025 DASH service 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 2025, DASH is planning to 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. This will also be a critical improvement to help build ridership in the future Duke Street BRT corridor.
- **Line 32.** In the New DASH Network, DASH introduced Line 32 service along Eisenhower Avenue, but due to budget constraints, it was only able to operate from Landmark Mall to King Street Metro. In FY 2025, 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. Along with the previous Line 32 service improvements proposed in FY 2023, these changes will provide better service to the new developments in Eisenhower East and Carlyle.
- **Line 103.** Line 103 is a weekday peak service running every 30 minutes between Braddock Road Metro and the Pentagon Metro via Arlandria. In FY 2025, the service headways are proposed to be improved to run every 20 minutes, similar to AT-3 peak service prior to the COVID pandemic.
- **Line 104.** Line 104 is a weekday peak service running every 30 minutes between Braddock Road Metro and the Pentagon Metro. In FY 2025, the headways are proposed to be improved to run every 20 minutes, similar to AT-4 peak service prior to the COVID pandemic.
- **WMATA Better Bus Network Project.** DASH will also continue to work closely with WMATA and other regional partners in the ongoing development of the “Better Bus Network” regional bus network redesign project, which could have major impacts for future bus service in Alexandria and the greater Washington D.C. region. The first phase of route changes resulting from this project could be implemented as early as FY 2025. More information about WMATA’s “Bus Transformation Project” can be found at: <https://bustransformationproject.com/>.

For FY 2026, DASH proposes the following additional service changes, which begin to incorporate parts of the 2030 Alexandria Transit Vision Plan:

- **Line 32.** In FY 2026, 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 2026, DASH proposes to extend the King Street Trolley from the King Street Metro to the Eisenhower Metro. This route extension will require up to three additional Trolley vehicles, which will be 100% electric as part of the 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 will require additional funding, further coordination with city leadership, and approval by City Council.

For FY 2027, FY 2028, and FY 2029, 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. Additional potential service improvements related to the West End Transitway and Duke Street BRT are also described at the end of this section.

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 New DASH Network, but with additional frequency improvements. Figures 5-5 and 5-6 show the new 2030 network during peak and midday time periods, respectively, while Figure 5-7 shows the service frequencies and hours of operations for all DASH and WMATA routes.

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 2024 – FY 2029 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 that time, as well as the corresponding changes to the “N8”, “N10” and “N11” routes.

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:

- **West End Transitway.** The City of Alexandria is actively 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. The West End Transitway would replace portions of the DASH Line 35 with a modified routing pattern, more service during weekday peak periods, and more investment in bus prioritization and stop amenities. Additional route adjustments to the New DASH Network structure along Beauregard Street near Lincolnia and King Street will be required in conjunction with the start of West End Transitway service, which is expected to begin in FY 2027.

Although a specific transit provider has not been identified to operate this service, DASH is well-positioned for this opportunity 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 2027. 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. These improvements could greatly benefit the future operations of the DASH and Metrobus service along this corridor.

DASH and City staff are currently working on developing a service plan and timeline for how future bus service along this corridor will be designed and what the timeline for the service improvements will be.

5.4 / Future Fare Change Recommendations (FY 2025 – FY 2029)

No future changes are proposed or planned for FY 2024 to FY 2028 at this time.

Per the terms of the DRPT Transit Ridership Incentive Program (TRIP), DASH must operate with free fares through FY 2025. The decision process for the free fares program and relevant criteria and considerations are outlined in the DASH Free Fares Framework policy that was adopted by the ATC Board of Directors in 2021.

The full “DASH Free Fares Framework” policy document can be reviewed at www.dashbus.com/free.

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

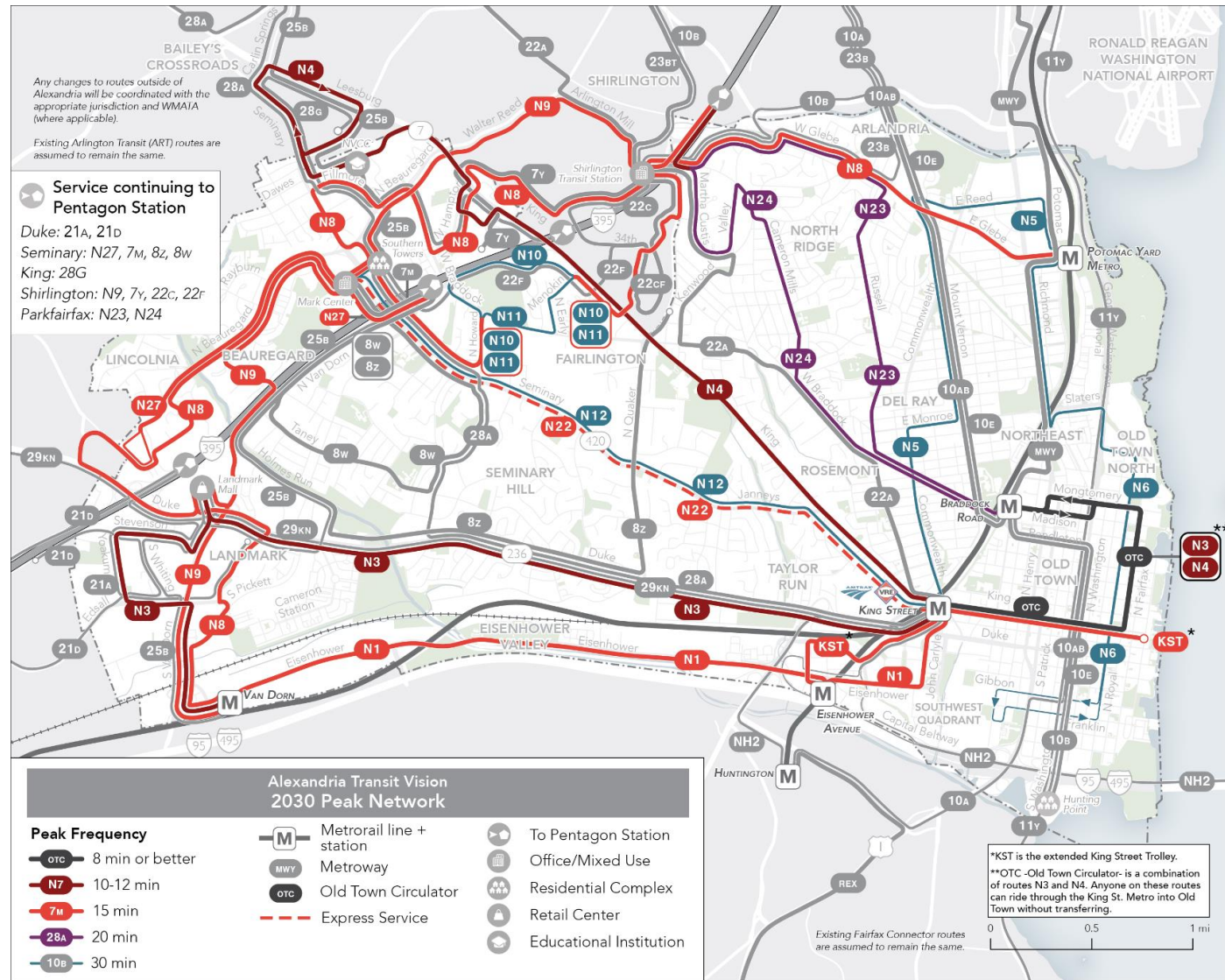


Figure 5-6 / 2030 Alexandria Transit Vision Network – Midday Service

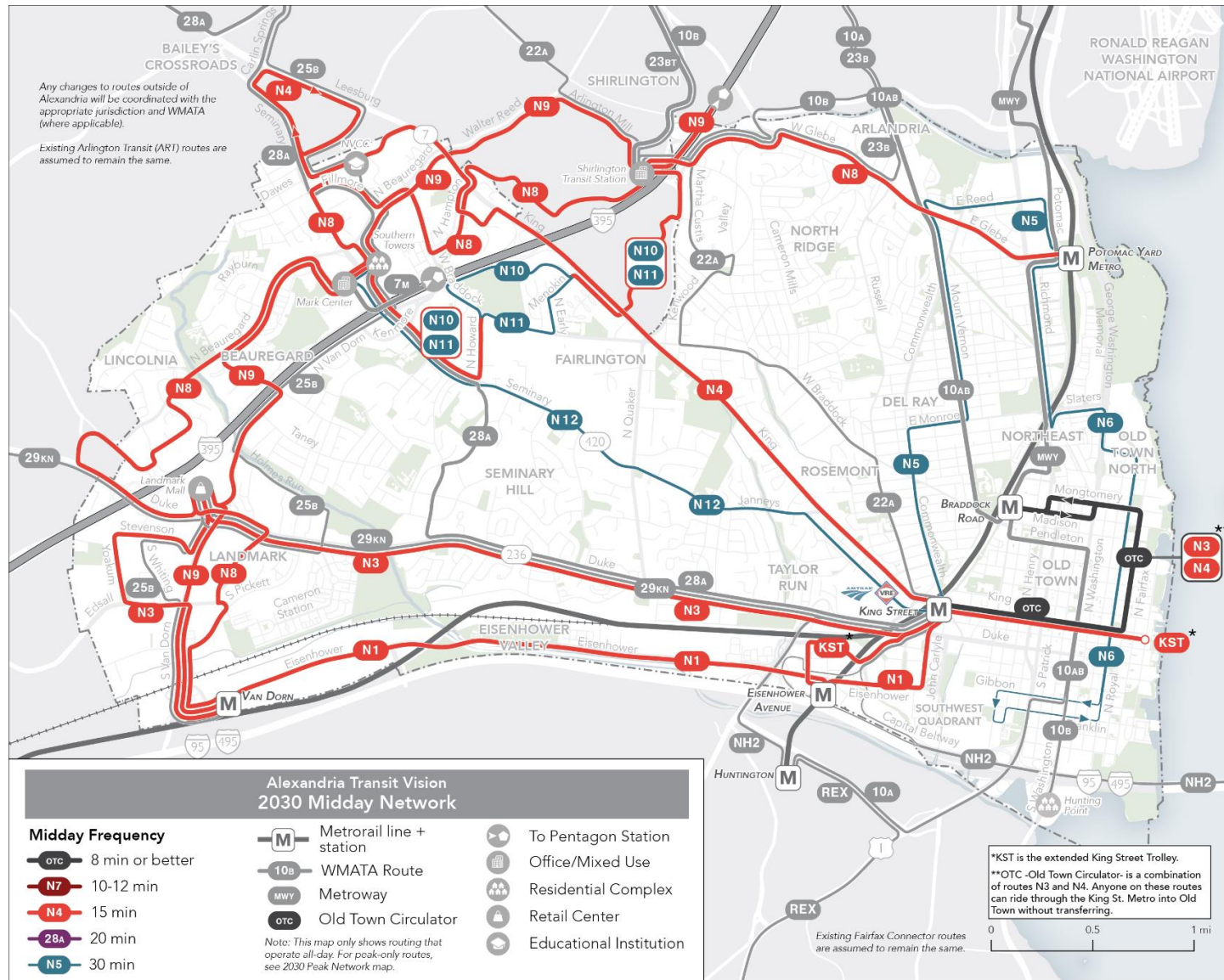
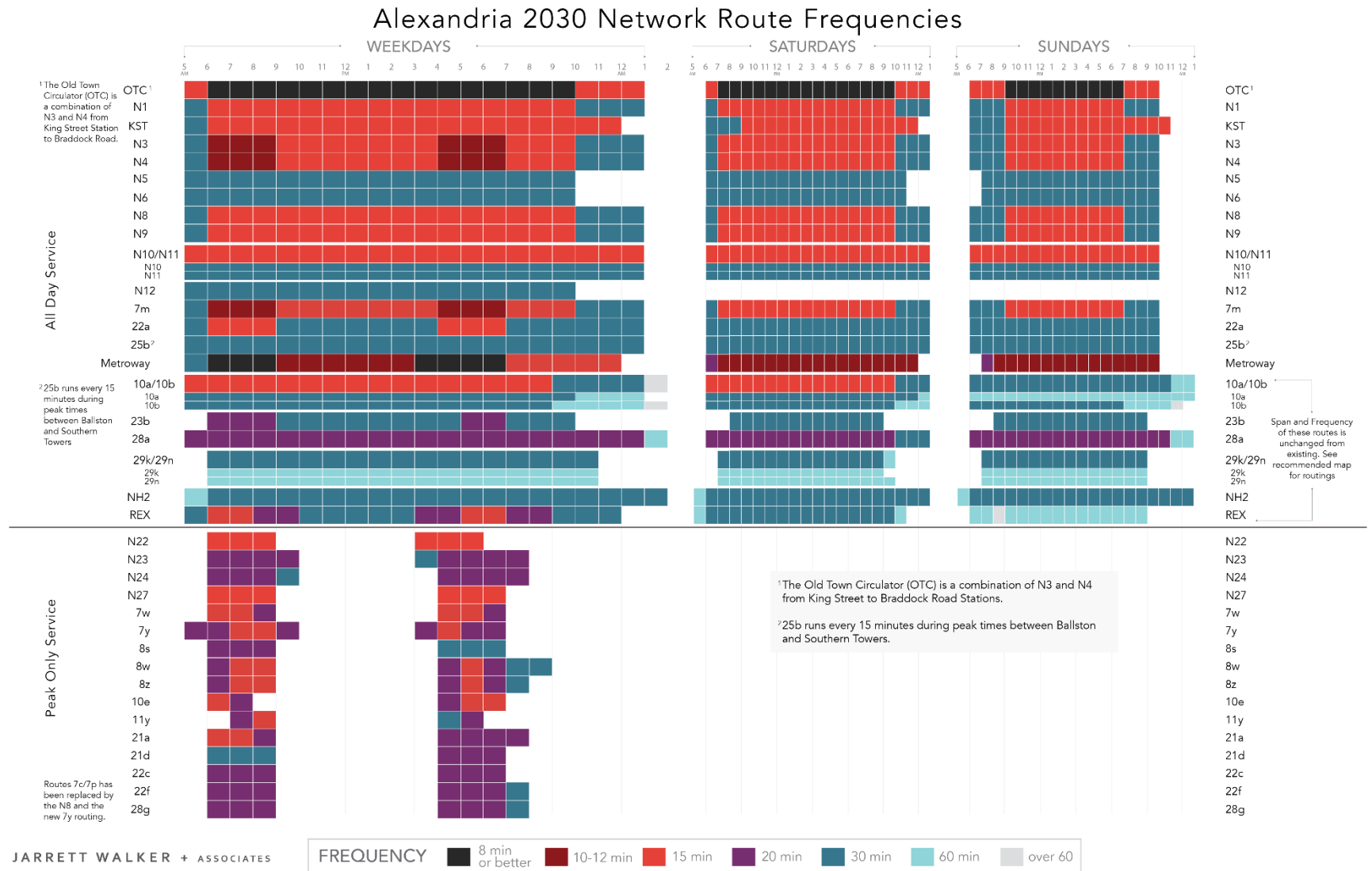


Figure 5-7 / 2030 Alexandria Transit Vision Network – Frequency Table



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). DASH and the City of Alexandria are also in the process of establishing compliant status as an eligible FTA direct recipient, which would provide opportunities for additional federal funding programs.

6.1 / FY 2024 – FY 2033 Capital Improvement Plan (CIP)

DASH relies upon capital funding from the City of Alexandria and regional funds from NVTA to fund replacement buses, facility improvements, technology systems, and a wide range of other capital projects. The City of Alexandria's Capital Improvement Program (CIP) covers a ten-year period and operates on two-year update cycles with the current FY 2024 cycle representing a minor update. The next full update for the city's CIP is scheduled to occur in advance of FY 2025.

Based on the proposed FY 2024 – FY 2033 CIP, DASH is projecting \$14.2 million in FY 2024 for fleet replacements, fleet expansion/electrification, facility expansion, and DASH technology projects. Over the full 10-year plan cycle, DASH is requesting a total of \$146.2 million for the five capital projects.

Table 6-1 depicts a summary of the proposed FY 2024 CIP project funding requests and overall funding levels for the entire FY 2024 – FY 2033 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 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.

DASH purchased ten (10) clean diesel replacement buses in 2022 which are set to be delivered in late Summer 2023. These 10 buses will replace the next 10 buses due for retirement, which have reached the end of their useful lifespan.

As outlined in Figure 6-1, DASH requesting \$4.7 million in CIP funding for FY 2024 to help fund 15 bus replacements, which include the replacement of ten Gillig hybrid electric buses that were purchased in 2012, and five trolleys that were purchased in 2011 and are due for retirement. DASH and the City are applying for additional federal funding through the FY 2024 FTA Low/No Emissions Vehicle and Bus & Bus Facilities grant programs, which could upgrade some of these replacement buses and trolleys from clean diesel to 100% electric.

Table 6-1 / FY 2024 – FY 2033 Capital Improvement Plan (CIP) Summary

Item	Project Description	FY 2024 CIP Funding Request	FY 2024-2033 Total CIP Funding Request
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. It also includes funding for repairs and replacements related to vehicle batteries, and powertrain components. 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.	\$4,798,900	\$105,115,700
2	DASH Fleet Expansion & Electrification. This project provides for additional buses that are needed to maintain and expand bus service levels, consistent with the Alexandria Transit Vision Plan and the Alexandria Mobility Plan. This project will also facilitate the transition of the entire DASH fleet to 100% electric buses by 2037.	\$4,960,000	\$29,190,300
3	DASH 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. (Note: Most of the funding appropriated for this project is from prior years).	\$4,209,000	\$4,209,000
4	DASH Electric Bus On-Route Charging. This project will provide funding for "on-route" bus charging stations that will support the DASH electric bus fleet. On-route charging stations are installed at strategic bus terminals across the service area for shorter charging sessions that can be performed between trips during layover periods without returning to the garage. These stations are critical for extending the battery range of electric buses so that they can operate for longer periods of timewithout returning to the garage depot.	\$0	\$4,849,600
5	DASH Technologies. This project funds future technology initiatives 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, transit signal prioritization, 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.	\$255,745	\$2,879,045
	TOTALS	\$14,223,645	\$146,243,645

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 101 active vehicles. With a planned peak pull-out requirement of 77 buses in FY 2024, DASH will be able to maintain its spare ratio at 31%, which is above the industry standard of 20%. Excluding trolleys, the DASH fleet spare ratio is currently 28%.

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

- **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 expansion buses to be used towards improved DASH bus service in major development corridors throughout the city. Though these buses are currently scoped as clean diesel buses, DASH may apply for additional funding through the FTA Low/No Emission Vehicles grant program to upgrade some or all of these buses to 100% electric propulsion. These six expansion buses are scheduled for FY 2025 delivery and will support the service expansions described in Section 5.3.
- **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. Due to unit cost increases for buses, DASH will be working with DRPT staff to determine if additional funding will be needed to purchase these buses or if the number of buses will need to be reduced.

With these planned expansions, DASH will be increasing its active fleet size from 101 buses to roughly 119 buses over the next five years. Though currently unfunded, DASH is also seeking to increase its fleet size by 11 buses over the next three years through the City's Capital Improvement Program (CIP) to increase service levels and maintain service reliability as more and more of the fleet transitions to 100% electric propulsion.

The corresponding facility expansion that is needed to accommodate the growing DASH bus fleet is summarized in Section 6.6.

Table 6-2 / Fleet Replacement Schedule.

DASH BUS FLEET REPLACEMENT SCHEDULE (FY 2024 - FY 2034)													
Funding Year	Type	Qty	Retire Date	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33
Delivery Year				FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
2011 Gilligs	Hybrid	10	2023	5									
2011 Gilligs (Trolley)	Hybrid	5	2022										
2012 Gilligs	Hybrid	10	2024										
2014 Gilligs	Hybrid	7	2026										
2015 Gilligs	Hybrid	13	2027										
2015 Gillig (Trolley)	Hybrid	1	2027				13						
2017 Gilligs	Hybrid	6	2029				1						
2018 Gilligs	Clean Diesel	14	2030						6				
2019 New Flyers	Clean Diesel	13	2031							14			
2019 New Flyers	Clean Diesel	8	2031								13		
2020 Electric Buses (NF/Proterra)	Electric	6	2032								8		
2021 Electric Buses (NF/Proterra)	Electric	8	2033										6
2023 Replacement Buses	Clean Diesel	10	2035										
Total Bus Retirements				15	0	7	14	0	6	14	21	0	6
Replacement Buses (Clean Diesel)				10	0	0	0	0	0	0	0	0	0
Replacement Buses (Electric)				5	0	7	14	0	6	14	21	0	6
Total Replacement Buses				15	0	7	14	0	6	14	21	0	6
Expansion Buses (Clean Diesel)				0	4	0	0	0	0	0	0	0	0
Expansion Buses (Electric)				6	12	7	0	0	0	0	0	0	0
Total Expansion Buses				6	16	7	0	0	0	0	0	0	0
Total Bus Purchase				21	16	14	14	0	6	14	21	0	6
Total Active Fleet Size				107	123	130	130	130	130	130	130	130	130

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.

6.4 / DASH Electric Bus Program

In 2018, the City and the ATC Board of Directors adopted a new fleet goal to transition to a 100% zero-emission fleet by the year 2037. In 2020, 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. The transition continued in 2021 with the arrival of three Proterra electric buses in January, and eight more electric buses through the NVTAG grant. These recent additions bring the total DASH electric bus fleet size to 14 buses, which represents 14% of the active bus fleet. With additional plans to increase the electric bus fleet, DASH expects that more than one-third of its bus fleet will be 100% electric by FY 2025.

This movement towards zero-emission buses is supported by the City of Alexandria's 2021 Alexandria Mobility Plan, and Eco-City Alexandria, which both seek to improve the 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 2024. 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 secured multiple regional and state grant funding opportunities through Virginia Smart Scale and NVTAG (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 Study in 2020 that determined that DASH and the City of Alexandria were well-suited for electric bus technology; and
- In 2021, DASH completed the first phase of a consultant-led 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 the fleet transition is expected to be completed by Spring 2023 with support from consultants at WSP, Inc.
- DASH is working with the City of Alexandria, local developers, and other local entities to identify future locations for on-route bus charging stations that will allow DASH to operate a 100% electric bus fleet in the future. Potential locations include Landmark Mall, Potomac Yard Metro, Eisenhower Avenue Metro, Braddock Road Metro, Van Dorn Metro, Mark Center and NVCC Alexandria.
- In 2022, DASH and the City of Alexandria were able to develop policies and programs that established the City of Alexandria as an eligible Federal Transit Administration (FTA) recipient for discretionary federal grant programs like "Low/No Emission Vehicles" and "Bus & Bus Facilities". These programs provide funding opportunities for transit agencies like DASH that are seeking to transition to electric buses and could help to accelerate the transformation.

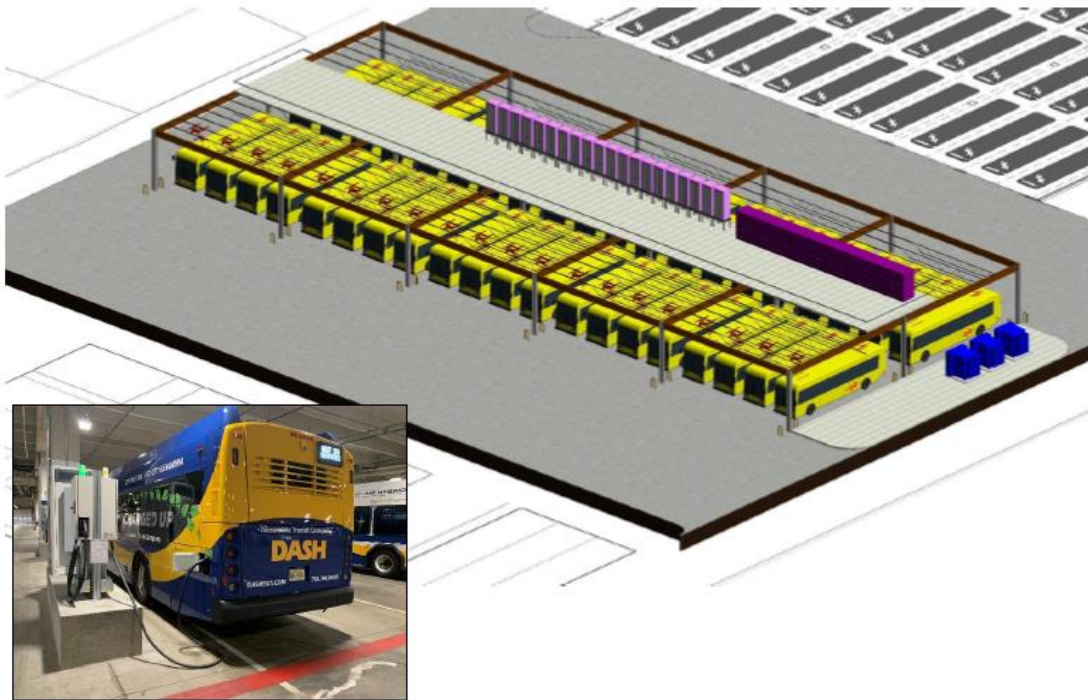
The above programs will allow DASH to continue to work towards its goal of a 100% fleet transition to battery electric buses by 2037.

6.5 / 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 96 buses to 134 buses to meet anticipated service demand in the coming decades. The existing William B. Hurd Transit Facility was opened in 2009 but has since exceeded its maximum bus capacity.

Upon completion of the current William B. Hurd Transit Facility, the land located directly adjacent to the west of the facility was identified and committed for DASH to expand onto for future growth as needed. This parcel, which is currently occupied by a temporary impound lot, will be regraded and integrated into the existing facility. The design process for the facility expansion began in late 2021 and is expected to be completed by Spring 2023. As outlined by the Zero-Emission Bus Implementation Plan (Phase 1), the facility expansion is expected to include up to 40 electric bus chargers.

Construction is scheduled to begin as early as late FY 2024, and the new expanded facility would likely open by FY 2026.



Source: DASH Zero Emission Fleet Implementation Phase I – June 2021.

6.6 / Technology Improvements

Over the last few years, DASH has continued to leverage various technologies to improve its customer experience, enhance passenger safety, collect better performance data and gain internal efficiencies. Recent projects have included Automated Passenger Counter (APC) retrofits, a web-based ridership data analysis tool (Hopthru) and a web-based dashboard tool for better performance data reporting (Geckoboard).

Additional technology projects that are either ongoing or will be started in FY 2024 are listed below:

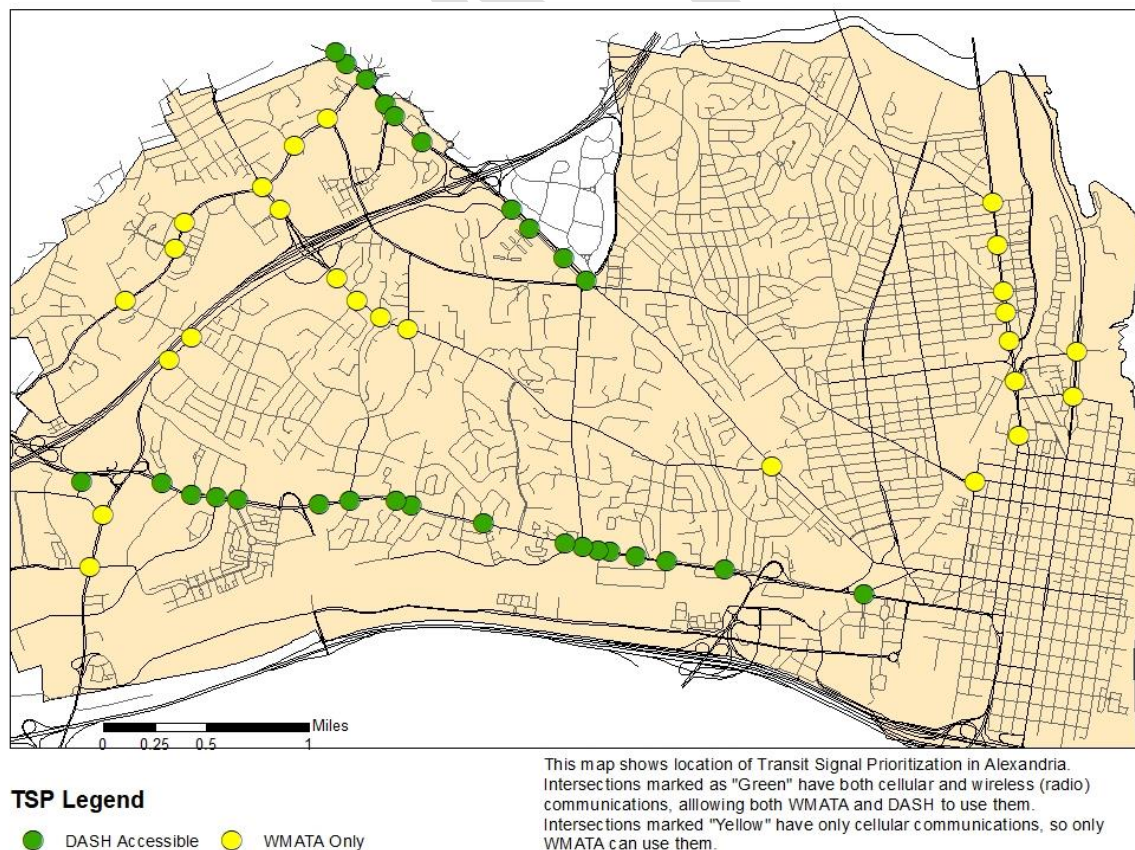
- **Scheduling Software.** DASH has identified a major need for new, upgraded scheduling software. The current system that we are using is designed for smaller agencies with less complexity to their route networks and labor rules. With the launch of the new Alexandria Transit Vision (ATV) Network in 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. Procurement and implementation efforts for this project are ongoing and the new platform is expected to be implemented by mid-2023.
- **Electric Bus Charge Management Pilot.** DASH is requesting FY 2024 DRPT “Demonstration Project” grant funding to implement a Charge Management System Pilot project that would allow DASH to monitor electric bus charging status of individual buses and actively manage the distributing of electrical charging across multiple charging stations to better align with real-time service needs. The system would include the installation of hardware equipment on the charging dispensers as well as software that would be used by DASH staff in the Operations, Maintenance and Planning Departments to better understand bus charging profiles and to deploy the electric buses more efficiently. DASH would be the first transit agency in the state to deploy this type of platform, which will improve reliability, and reduce charging costs by decreasing the number of buses charging during peak utility pricing periods. Furthermore, this technology will enable the DASH team to support the most number of battery electric buses with the least amount of charging infrastructure, to minimize capital needs and achieve full fleet conversion.
- **Automated Wheelchair Securement Pilot.** DASH is applying for an FY 2024 DRPT “Demonstration Project” grant to install a state-of-the-art automated wheelchair securement system on up to five DASH buses. This system is designed to allow passengers with mobility devices to safely secure themselves in the designated ADA seating area without operator involvement. When compared with current manual securement practices, this system would reduce potential liability for accidents due to operators incorrectly securing mobility devices and speed up the boarding process to reduce overall travel times and improve overall service reliability. Lastly, this system will also eliminate the need for close contact between operators and passengers which greatly reduces the risk of viral transmission or other conflicts. If this pilot is successful, DASH would potentially begin ordering this system on future bus orders.
- **Bus Speed & Reliability Data Improvements.** DASH is exploring technology platforms that will provide better visibility into bus speeds and reliability metrics. This will allow DASH and City staff to better understand where schedule adjustments and street or stop improvements could be implemented to prioritize buses over other modes and improve speeds and reliability.

- **Transit Signal Prioritization.** DASH and the City of Alexandria T&ES staff have been working over the last five 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 of Alexandria 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 FY 2023, several 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 (61 buses) are currently equipped with TSP, including all new DASH buses purchased since 2018, and all 40- and 60-foot buses. All new bus builds will include TSP equipment, and additional retrofits will be completed as funding becomes available.

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



6.7 / Other Capital Outlay Items

The FY 2024 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/non-revenue vehicles, building security and surveillance systems, and network equipment.

DRAFT

7.0 / Public Outreach & Feedback

The public comment period for the FY 2024 ATC Transit Development Plan will be conducted from March 8 to April 14, 2023. All public feedback received during the comment period will be reviewed and considered by staff. All written comments and letters will be included in the appendices of the final plan document that is presented to the ATC Board of Directors as they consider final plan adoption.

A summary of the public outreach efforts and activities that will be conducted is outlined below:

- **TDP Community Meetings.** DASH will conduct two virtual community meetings on March 28 and April 6 to provide information on the proposed changes and receive any questions or feedback. The recordings of these meetings will be posted on the DASH Facebook and YouTube pages for later viewing.
- **TDP Public Hearing.** DASH will conduct a special TDP Public Hearing before its April 12th Board of Directors meeting.
- **Pop-Up Events at Key Transit Centers.** DASH staff will conduct a series of nine “pop-up” events at key transit locations around the city, designed to solicit additional awareness, engagement and feedback related to the plan. These pop-ups will be scheduled in the days leading up to the community meetings so that any interested customers can attend the meetings to learn more or provide more detailed feedback.
- **On-Board Posters.** Posters will be installed on all DASH buses in English, Spanish, and Amharic to alert riders of the proposed service changes and the opportunities to provide feedback.
- **DASH Website Updates.** The DASH website includes extensive information on the FY 2024 TDP, including the full TDP document at www.dashbus.com/tdp. The page will also include information on how community feedback can be provided.
- **E-Blast Announcements.** DASH will send several emails to the DASH e-mail update list about the proposed FY 2024 TDP outreach efforts. This list currently includes over 8,500 subscribers.
- **Social Media.** DASH staff will create social media posts related to the FY 2024 TDP process and proposed changes on Facebook, Twitter, Instagram, and LinkedIn.

All public comments that were provided during the outreach process are included as Appendix A.

APPENDIX A

Public Comments & Letters for FY 2024 ATC Transit Development Plan

(PUBLIC COMMENTS TO BE ADDED TO THIS SECTION UPON COMPLETION OF OUTREACH)