

APPLICATION #: ALX-014

Date Submitted: 09/27/2019

[Clarification Requested](#)

Local Priority: 1

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1: GENERAL PROJECT INFORMATION

1.1: Primary TransAction ID

41 - Alexandria Duke Street Transitway

1.2: Secondary TransAction IDs

42 - West End Transitway

1.3: What is the primary TransAction corridor segment in which this project is physically located?

7-3 I-495 - I-95 to Woodrow Wilson Bridge

1.4: What other TransAction corridor segments is this project physically located in?

1.5: Project Title

Alexandria Duke Street Transitway

1.6: Project Subtitle

1.7: Primary Supported Mode

Bus

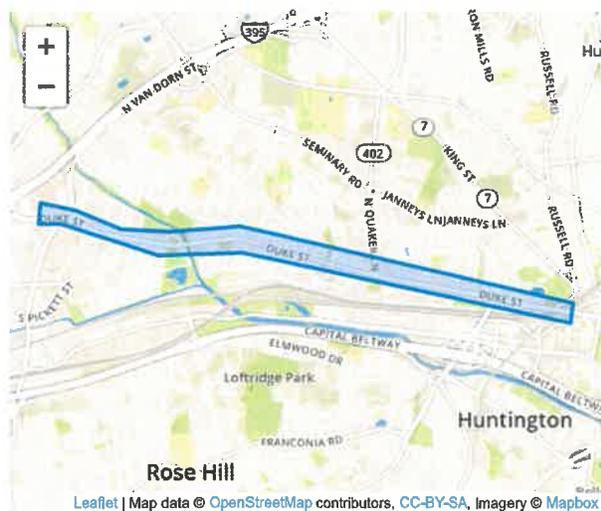
1.8: Secondary Supported Modes

Bike and Pedestrian

1.10: Project Location Text

The project location is along Duke Street (Route 236) between Diagonal Road at the east (King Street Metro Station) and Landmark Mall. The transitway will connect to a future transit hub being developed within a redeveloped Landmark Mall, and also provide a connection to the West End Transitway.

1.11: Project Location Map



1.12: Local Priority

1

1.13: Does this project support Metro or VRE core capacity?

Yes

1.14: Project URL

<https://www.alexandriava.gov/HighCapacityTransit>

1.9: Project Description

This application is for an initial phase of the Alexandria Duke St transitway, located on Duke St. between Diagonal Rd (King St Metro) and Landmark Mall. The transitway is a high priority in the City's Master Plan. The conceptual design, developed as part of the Transitway Corridors Feasibility Study (adopted by City Council in 2012), recommended a phased approach to construction / operation of the transitway. This initial phase is primarily for stations / shelters, buses, limited ROW, and utility relocation. It includes dedicated transit lanes along the corridor where six lanes exist today (between Landmark Mall and Jordan St. and between Roth St. and Diagonal Rd.). In the remaining section of Duke St. (between Jordan St and Roth St., transit will operate in mixed flow, and include queue jump lanes, Transit Signal Priority (TSP) along the entire corridor to improve speed / reliability. The project will include new stations and pedestrian access and safety improvements at transit stations / intersections, and bike facilities as feasible. The Landmark Mall transit station will be on an urban street that the mall owner will convey to the City as public Right-of-Way, and the station would be owned by the City and maintained by the transit operator. Future phases (Not part of this application) would build on the first phase to provide dedicated transit lanes throughout the entire corridor, and additional corridor wide pedestrian and bicycle improvements. Previous NVTA funding for FY 14 (\$60,000), FY 15/16 (\$190,000) was used for the installation of some TSP improvements along the Duke St. corridor to initiate improved transit reliability, the first step toward the development of a BRT facility. FY 18-23 NVTA funding (\$12 million) will be

used toward a project manager, the planning and environmental analysis, and design. The funding request for FY24-25 will be used toward ROW, utilities, vehicles and construction of the first phase of improvements, totaling approximately \$75 million. This request is scalable, and at a minimum, \$25 million would be a reasonable investment for the minimal improvements needed to start this initial phase, allowing for service delivery by FY 2027. This includes fewer buses, and focuses on station improvements, and would not include other components such as pedestrian improvements, additional TSP, ROW and queue jump lanes.

2: PROJECT TIMEFRAMES

2.1: Timeframes by Phase

	START	END
Study	FY2011	FY2013
Design/Engineering/Environmental	FY2020	FY2023
ROW and Utilities	FY2024	FY2025
Construction	FY2025	FY2027
Asset Acquisition	FY2026	FY2027

2.2: Potential Delay Risk Factors

Potential risks include not being able to acquire the necessary right-of-way, issues with utility relocations, and any environmental impacts (ie, Resource Protection Areas) that may slow the construction. Other potential risks may include public opposition during the public outreach period that may slow the project or result in scope changes.

2.3: For Design-Build project, estimated date for funding verification

3: COST AND FUNDING

3.1: Total Cost by Phase and Fiscal Year

Study											
FY2011	\$555,000	FY2012	\$0	FY2013	\$0	FY2014	\$0	FY2015	\$0	FY2016	\$0
FY2017	\$0	FY2018	\$0	FY2019	\$0	FY2020	\$0	FY2021	\$0	FY2022	\$0
FY2023	\$0	FY2024	\$0	FY2025	\$0	FY2026	\$0	FY2027	\$0	Total	\$555,000
Design / Engineering / Environmental											
FY2011	\$0	FY2012	\$0	FY2013	\$0	FY2014	\$0	FY2015	\$0	FY2016	\$0
FY2017	\$0	FY2018	\$0	FY2019	\$0	FY2020	\$1,000,000	FY2021	\$3,000,000	FY2022	\$4,000,000
FY2023	\$4,000,000	FY2024	\$0	FY2025	\$0	FY2026	\$0	FY2027	\$0	Total	\$12,000,000
ROW and Utilities											
FY2011	\$0	FY2012	\$0	FY2013	\$0	FY2014	\$0	FY2015	\$0	FY2016	\$0
FY2017	\$0	FY2018	\$0	FY2019	\$0	FY2020	\$0	FY2021	\$0	FY2022	\$0
FY2023	\$0	FY2024	\$14,200,000	FY2025	\$0	FY2026	\$0	FY2027	\$0	Total	\$14,200,000
Construction											
FY2011	\$0	FY2012	\$0	FY2013	\$0	FY2014	\$0	FY2015	\$0	FY2016	\$0
FY2017	\$0	FY2018	\$0	FY2019	\$0	FY2020	\$0	FY2021	\$0	FY2022	\$0
FY2023	\$0	FY2024	\$0	FY2025	\$20,800,000	FY2026	\$20,800,000	FY2027	\$0	Total	\$41,600,000
Asset Acquisition											
FY2011	\$0	FY2012	\$0	FY2013	\$0	FY2014	\$0	FY2015	\$0	FY2016	\$0
FY2017	\$0	FY2018	\$0	FY2019	\$0	FY2020	\$0	FY2021	\$0	FY2022	\$0
FY2023	\$0	FY2024	\$0	FY2025	\$0	FY2026	\$19,200,000	FY2027	\$0	Total	\$19,200,000
Total											
FY2011	\$555,000	FY2012	\$0	FY2013	\$0	FY2014	\$0	FY2015	\$0	FY2016	\$0
FY2017	\$0	FY2018	\$0	FY2019	\$0	FY2020	\$1,000,000	FY2021	\$3,000,000	FY2022	\$4,000,000
FY2023	\$4,000,000	FY2024	\$14,200,000	FY2025	\$20,800,000	FY2026	\$40,000,000	FY2027	\$0	Total	\$82,555,000

3.2: NVTa Funding Request by Phase and Fiscal Year of Expenditure

<u>Study</u>					
	FY2024 \$0	FY2025 \$0	FY2026 \$0	FY2027 \$0	Total \$0
<u>Design / Engineering / Environmental</u>					
	FY2024 \$0	FY2025 \$0	FY2026 \$0	FY2027 \$0	Total \$0
<u>ROW and Utilities</u>					
FY2024	\$14,200,000	FY2025 \$0	FY2026 \$0	FY2027 \$0	Total \$14,200,000
<u>Construction</u>					
FY2024	\$0	FY2025 \$20,800,000	FY2026 \$20,800,000	FY2027 \$0	Total \$41,600,000
<u>Asset Acquisition</u>					
FY2024	\$0	FY2025 \$0	FY2026 \$19,200,000	FY2027 \$0	Total \$19,200,000
<u>Total</u>					
FY2024	\$14,200,000	FY2025 \$20,800,000	FY2026 \$40,000,000	FY2027 \$0	Total \$75,000,000

3.3: Other Secured Funding Sources

<u>Study</u>				
TOTAL COST	\$555,000	NVTA REQUEST	\$0	TOTAL OTHER \$0 GAP \$555,000
<u>Design/Engineering/Environmental</u>				
TOTAL COST	\$12,000,000	NVTA REQUEST	\$0	TOTAL OTHER \$0 GAP \$12,000,000
<u>ROW and Utilities</u>				
TOTAL COST	\$14,200,000	NVTA REQUEST	\$14,200,000	TOTAL OTHER \$0 GAP \$0
<u>Construction</u>				
TOTAL COST	\$41,600,000	NVTA REQUEST	\$41,600,000	TOTAL OTHER \$0 GAP \$0
<u>Asset Acquisition</u>				
TOTAL COST	\$19,200,000	NVTA REQUEST	\$19,200,000	TOTAL OTHER \$0 GAP \$0
<u>SUMS:</u>				
TOTAL COST	\$87,555,000	NVTA REQUEST	\$75,000,000	TOTAL OTHER \$0 GAP \$12,555,000

3.4: Other Sources Applied for But Not Yet Secured

The City has not applied for any other funding at this time.

3.5: Other Sources under consideration for applying for any gap remaining

The City will also be considering Federal funding through the Federal Transit Administration's (FTA) Small Starts Program for funding gaps.

4: PROJECT IMPACTS

4.1: Which facilities will experience capacity increases and/or how will this result in improved traffic flow/transit services?

This project will improve transit speed, reliability and attractiveness on Duke Street (Route 236) between the King Street Metro station and Landmark Mall, and also increase person throughput along the corridor. Duke Street today is a heavily congested corridor during peak periods, and transit vehicles are mixed with general purpose traffic, often resulting in travel delay. The Duke St corridor has high transit ridership and provides connectivity between Old Town and the City's growing and redeveloping West End. Phase 1 includes frequent bus headways (7.5 minute peak), dedicated transit lanes along portions of Duke Street, TSP, improved stations, near level boarding - which improve travel time and reliability. The Transitway Corridors Feasibility Study (2012) estimated a daily (weekday) ridership of 6,000 to 9,000 riders in the Phase 1 design, and 9,000 to 13,000 riders under the full build, nearly double the existing weekday transit ridership on the corridor. The project will improve capacity and safety of pedestrian facilities, which improves access to transit. It also will improve bicycle facilities along the corridor (which are non-existent today), improving first/last mile connectivity. Safety will also be improved on the corridor through signal improvements, intersection improvements and pedestrian and bicycle improvements.

4.2: What congestion problem does the project address and how will it reduce congestion?

This project will improve transit speed, reliability, person throughput and attractiveness on Duke Street (Route 236) between the King Street Metro station and Landmark Mall. Duke Street today is a heavily congested corridor during peak periods, and transit vehicles are mixed with general purpose traffic, often resulting in travel delay. There are some segments that experience major congestion, such as Duke Street at W. Taylor Run / Telegraph Road. The Duke St corridor has high transit ridership and provides connectivity between Old Town and the City's growing and redeveloping West End. Phase 1 includes elements that will make transit a more competitive option on a congested corridor. This includes frequent service, dedicated transit lanes along portions of Duke Street, TSP, and improved boarding times. Removing buses from general purpose lanes will also help to reduce congestion in those lanes. The project will provide a more competitive mode to single occupant vehicles, improved travel time for transit riders, and improve capacity and safety of pedestrian facilities, which improves access to transit. It also will improve bicycle facilities along the corridor (which are non-existent today), improving first/last mile connectivity. The Duke St. corridor is also a major cut-through road for regional traffic between I-395 and I-495, and the project helps Duke St. to operate more safely and efficiently.

4.3: Provide current and forecasted traffic/ridership data with and without the project.

		COUNT	YEAR	SOURCE/EXPLANATION
Data For: New facility	Current	4600	2019	Average daily ridership (AT8, 29K/N)
Data Type: Ridership	Future Without Project			No data available
Data Frequency: Daily	Future With Project	9000	2027	Transitway Corridors Feasibility Study

4.4: How will the project improve regional connectivity between/within regional activity centers and jurisdictions?

The project will provide frequent, reliable and dedicated transit service along the Duke St. corridor which connects major activity centers, including Old Town Alexandria, King Street Metrorail Station, Alexandria Union Station (Amtrak/VRE service), Carlyle/Eisenhower East and the Landmark Mall transit station. The Eisenhower East area is undergoing significant expansion in density, consistent with a Small Area Plan update. Landmark Mall is planned for redevelopment of a major mixed use activity center, and a planning study is currently underway. It includes approximately 300,000 s.f. of commercial, and up to 400 residential units, replacing the existing mall. A transit station will be constructed within the mall site on a future urban street to be conveyed to the City as public right-of-way. The City will also be starting a Small Area Planning effort in 2019 for the eastern end of Duke St. between Diagonal Rd. and Quaker Lane. This plan will identify new road connections and land use changes. In addition, there is an opportunity to extend the transitway to the west into Fairfax County, where the Lincolnia planning effort is underway. Fairfax County has expressed interest in developing a BRT service along Route 236 connecting from Landmark Mall to the Lincolnia area of the County. This would be a natural extension of the Duke St. transitway.

4.5: How will the project improve integration between modes & systems?

The project will include the construction of improved pedestrian facilities, and a bicycle facility which is currently lacking, and these will improve overall mobility, providing improved access of pedestrians and bicyclists to transit and transit stations. The transitway will also connect to local and regional transit routes, and other first-last mile connection options including capital bikeshare. The transitway connects to other transit modes including Metrorail, VRE and Amtrak at King St Station and nearby Union Station. The transitway will also include transit signal priority, which will enable reduced delay of transit vehicles through intersections. Transit stations will be designed to provide room for more patrons than a typical transit shelter, and would include enhanced technology such as near level boarding, real time transit information, and potentially pre-board payment kiosks. The City's Transit Vision Plan, currently underway, is looking at a future transit network that is both data-driven and based on community priorities, that re-imagines how transit better serves existing and future growth areas, and travel patterns. The transitway is a key assumption for improving east-west transit connectivity within the city and region.

4.6: Is safety the primary purpose of this project?

No

4.7: How will the project improve safety?

N/A

4.8: What synergies exist between this project and other projects your jurisdiction/agency is applying for this SYP update cycle?

There are no other projects the City is submitting for this SYP Update.

4.9: What synergies exist between this project and other projects other jurisdictions/agencies is applying for this SYP update cycle?

We are not aware of any other jurisdictions applying for this SYP with project synergies, however, Fairfax County has expressed interest in potentially expanding the Duke Street Transitway further to the west as part of future planning efforts. In addition, Fairfax County is moving forward with the Route 1 Bus Rapid Transit project, south of Alexandria. This project will be very important in providing synergy to the City of Alexandria's Bus Rapid Transit corridors, including the Duke Street Transitway.

4.10: What synergies exist between this project and other projects previously approved for NVTAR regional revenues?

There are synergies with projects from the FY2018-2023 SYP including the Duke Street Transitway environmental/design (same project ID 41). This is needed prior to final design and construction; the Route 7 and 236 TSP project (which funds Transit signal priority along the corridor) (ID 113) will fund TSP in the near term to improve travel times along the corridor, the West End Transitway (which will connect to the Duke St Transitway)(ID 42), and both the DASH Fleet / facility expansion (ID 85) and DASH technology needs (ID 194) if the Duke Street Transitway is ultimately operated by DASH. There are also synergies with the FY2015 and FY 2016 SYP (Duke St Transit Signal Priority)

4.11: If this project includes traffic signal enhancements, please explain what signal timing philosophy will be used, and how this will be coordinated with neighboring signals (including in adjacent jurisdictions).

The signal timing philosophy to be used is traffic adaptive signal control. Adaptive control continually monitors traffic and adjusts traffic signal operation to optimize conditions depending on the parameters entered. Adaptive control does not use fixed coordination timing plans as most traditional forms of signal control use. The City has a separate Smart Scale project for adaptive control. The adaptive control will incorporate transit vehicle signal priority (TSP) to ensure the new transitway operates at peak efficiency. Coordinating with neighboring signals in adjacent jurisdictions is not necessary. The east end of Duke Street terminates at the Potomac River and the last traffic signal to the west is at Duke Street and Walker Street. The closest neighboring signal to the west in Fairfax is at Oasis Drive which is half a mile to the west of the I-395 interchange in between the West Street and Oasis Drive intersection. Coordinating the West Street and Oasis Drive traffic signals is of little benefit because a large portion of the traffic between these signals is exiting or entering at the I-395 interchange.

4.12: If this project includes transit signal priority, please explain how signal timing changes will be coordinated with the jurisdiction/agency responsible for signal timing.

The City of Alexandria owns, manages and maintains all of the traffic signals associated with this project. Since the City of Alexandria is managing this project, there will be close coordination between the project design team and City staff to ensure that all signal timing changes are well coordinated and acceptable to all parties. The City of Alexandria has successfully completed several TSP projects and has the experience to incorporate any needed signal timing changes required by the Duke Street Transitway project.

5: OTHER INFORMATION

5.1: Is this project included in the current CLRP?

Yes

5.6: Is this project included in the current TIP?

No

5.2: Title of the project in CLRP

Duke Street BRT

5.7: Title of the project in TIP?

5.8: TIP ID

5.3: CLRP ID

2932

5.9: List internet links to any additional information in support of this project

<https://www.alexandriava.gov/uploadedFiles/tes/info/Final%20TMP%202018.pdf>

5.4: Project VDOT UPC Number, if existing

NA

<https://www.alexandriava.gov/HighCapacityTransit>

5.5: Project DRPT Number, if existing

NA

<https://www.alexandriava.gov/104193>

<https://www.alexandriava.gov/uploadedFiles/budget/info/bu%20Transportaion%20and%20Transit.pdf>
<https://www.alexandriava.gov/LandmarkVanDorn>

6: ATTACHMENTS

Attachments

File Name: Attach 1 - Duke St BRT Graphics-CZ.pdf

Attachment Type: Project sketch

Date Added: 09/24/2019

[View Attachment](#)

File Name: Attach 2 Duke St BRT Costs_FY24-25 NVTA.pdf

Attachment Type: Detailed cost estimates

Date Added: 09/27/2019

[View Attachment](#)

7: CERTIFICATIONS

7.1: Submitter Agreed to all Terms if project is approved for funding:

- ✓ Commit all necessary operations/maintenance funds
- ✓ Adhere closely to approved SPA Appendix A and B, or provide timely updates on a regular basis and as needed in the event of schedule changes, scope changes, etc.
- ✓ Provide a monthly status report on project progress to NVTA staff
- ✓ Provide NVTA staff with timely notice of project-related public events such as information meetings and hearings, allowing NVTA members and staff to attend, track, occasionally participate in, and publicize such events. Timely notice means providing schedule and location information to NVTA staff when such events are in the early planning stage;
- ✓ Include NVTA logo and a partnership statement as appropriate on all public-facing materials such as websites, media releases/advisories, presentations, reports, handouts, display boards, and construction signage. An example of the partnership statement is 'project is (jointly) funded by the Northern Virginia Transportation Authority'. If the public-facing materials include detailed information regarding funding sources and amounts, the NVTA funding amount shall be explicitly included
- ✓ Provide NVTA with appropriate insurance certification and keep the certificates up to date
- ✓ Coordinate with NVTA staff to ensure accurate and complete reimbursement requests for timely processing
- ✓ Coordinate with NVTA staff before finalizing any third party administration agreement with another agency for project administration (NVTA may not recognize or be able to participate in such agreements);
- ✓ Adhere to all relevant NVTA Policies.

7.2: Staff Point of Contact

Name: Steve Sindiong
Title: Capital Projects Program Manager
Email: steve.sindiong@alexandriava.gov
Phone: 703-746-4047

7.3: PIO Point of Contact

7.4: Digital Signature

Steven Randall Sindiong

7.5: Date

09/27/2019

Name: Sarah Godfrey
Title: PIO
Email: sarah.godfrey@alexandriava.gov
Phone: 703-746-4027

RESOLUTIONS

Primary - Certified Copy of your Board/Council resolution in support of the application

File Name: Res 2905_Duke St_NVTA.pdf

[View Attachment](#)

Supporting - Signed copy of Board/Council resolution in support of the application

File Name: TC Endorsement Letter.pdf

Date Added: 09/24/2019

[View Attachment](#)

File Name: ATC Board_NVTA 70% Funding - 09_11_2019.pdf

Date Added: 09/27/2019

[View Attachment](#)