ALEXANDRIA TRANSIT COMPANY

ZERO EMISSIONS ELECTRIC BUS PROGRAM CHARGED UP

ZERO EMISSIONS / ECO-CITY ALEXANDRIA

Alexandria Transit Company

Alexandria Transit

10.00

Blue Item #4A

ZEROEMISSIONS

ZEB PROGRAM GOALS

• Environmental:

- Eco-City Alexandria: 2040 goals of 50% emissions reduction by 2030 and 100% reduction by 2050
- Non-attainment zone, highly polluted region of the US
- Significant regional and local support for zero emission vehicles
- Purchase only Zero Emissions Buses by 2027
- Full fleet transition to 100% Zero Emissions Buses by 2035
- Fiscal:
 - Desire to reduce operating cost, recognition of unpredictable fuel costs
 - Excessive expense of maintaining clean diesel technology/unreliability
 - Operating environment is low mileage stop and go, ideal for Electric



STUDIES AND RESEARCH

€ 100% ELECTRIC

Alexandria Transit Company

216-922L

703.746.DASH

DASHBUS.COM

ZERO EMISSIONS // ECO-CITY ALEXANDRIA

- ZEB Feasibility Study (Completed 2019) – CTE
- ZEB Implementation Study Phase 1 (Completed 2021) - WSP
- ZEB Implementation Study Phase 2 (In Progress)
- Future studies to evaluate performance of vehicles, driver habits, and other metrics from the fleet

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SUCCESSES & CHALLENGES



- Early buses showing more reliable than diesel counterparts
- In good weather/operating conditions, range has been adequate
- Drivers and Passengers happy with vehicles
- Initial observations (Maintenance cost per Mile)
 - Electric: \$.33-.47/mi
 - Diesel: \$1.00-1.20/mi





CHALLENGES

- Early adopter challenges: quality, range expectations, build process.
- Heating significantly reduces range.
- Despite standards, interoperability between buses and chargers continue to be an issue.
- Timeframes:
 - Bus build: 9 20 months
 - Revenue service: 2-3 months after delivery
 - Chargers can take even longer



FACILITY PROGRAM





NEXT STEPS

- Service design that elevates ZEB productivity
- Sustainable contract sources and joint procurements
- Ongoing training for rapidly changing ZEB technologies
- Data collection and analysis
- Pursuing ongoing technical assistance
- Identifying sustainable funding sources for fleet electrification
- Seeking alternative sources of electricity (i.e. solar/renewable sources)
- Driving partnerships with utility providers





ALEXANDRIA TRANSIT COMPANY

ZERO EMISSION BUS PROGRAM





Zero-Emission Bus Symposium



- **50 Participants** including jurisdictional and regional partner staff members
- Provided a platform to highlight, learn, and discuss zero-emission bus planning, implementation and procurement
- Designed to better understand regional zero-emission bus vision and goals
- Increased regional expertise through collaborative discussion

First look: What we learned

- Start early and strategize for long-term: engage leaders, partner with utilities, and identify funding
- Plan for bus performance and range, charging infrastructure and strategy
- Workforce, procurement, and resiliency planning is key
- Focus on regional coordination with local flexibility



DOT Funding and Financing Programs with EV Eligibilities*

utilities infrastructure.	or trucks.	and related projects.		county, environmental, and ommunity goals for freight sansportation.		chapter 53 of title 49, Uni States Code.	
	FY 2021 AMOUNT	1.	99		勴	F	(
FORMULA PROGRAMS							
National Highway Performance Program (NHPP)	\$23.1 B	10					
Surface Transportation Block Grant Program (STBG)	\$10.28	10			勴	F	
Congestion Mitigation & Air Quality Improvement Program (CMAQ)	\$2.48	1		-		R	
National Highway Freight Program (NHEP)	\$1.5 B				戲	F	
State Planning and Research (SPR)	\$641.5 M				BA		
Metropolitan Planning (PL)	\$357.9 M				BA		
DISCRETIONARY PROGRAMS							
Rebuilding American Infrastructure with Sustainability and Equity (RAISE) (formerly known as BUILD)	\$1.0B	垣			da	A	
Infrastructure for Rebuilding America (INFRA) Grant Program	\$889.0 M	10			da	(i)	
Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD)	\$53.3 M	10					
OTHER ALLOCATED PROGRAMS							
Federal Lands and Tribal Transportation Program (FLTTP)	\$1.08	10		-	da	R	
Highway Infrastructure Program (HIP) (other than for bridges)	\$644.0 M	10			da	F	
Puerto Rico Highway Program (PRHP)	\$74.9 M	1			effa	R	
Territorial Highway Program (THP)	\$37.3 M	10			ets.	R	
INNOVATIVE FINANCE PROGRAMS							
State Infrastructure Banks (SIBs)	Varies	10			els.	R	
Transportation Infrastructure Financing and Innovation Act (TIFIA)	Varies	10		G	din .	R	



ROUP FLEET ELECTRIFICATION: MORE THAN JUST BUSES



Regional Partner Status



Future Implementation Partners



Zero-Emission Bus Studies or Pilots



Charging Infrastructure



Buses











Options for NVTC's Role in Zero/Low-Emission Buses

- **Continue to engage with transit providers** in NoVA and DC area regarding plans to transition to zero/low-emission buses
- Identify resources to support and coordinate planning and implementation of zero/low-emission buses in NoVA
 - Ex. DRPT Technical Assistance Grant (FY 2023) for a Northern Virginia Zero/Low-Emission Bus Strategic Plan
- Provide regular updates to Committees and Commission
- **Identify changes** to Commuter Choice program at the appropriate time