

Zero-Emission Buses in Northern Virginia

Transit providers in Northern Virginia are in various stages of their transition to zero-emission buses (ZEBs). Converting to ZEBs requires significant investment in vehicles and supporting infrastructure, so it is important to share lessons learned from early adopters and to identify opportunities for interoperability of infrastructure.

NVTC coordinates among agencies to help Northern Virginia's transit fleets reach sustainability goals while providing safe, reliable and cost-effective transit service to riders.



What are ZEBs and why are they challenging to implement?

ZEBs produce zero tailpipe emissions and can be either battery electric buses (BEBs) or hydrogen-powered fuel cell electric buses (FCEBs).

1

Cost and Funding

ZEBs typically cost more than \$1 million per bus and require new charging or fueling infrastructure.

2

Operational Differences

Current BEBs cannot replace diesel buses on a 1:1 basis for all routes due to their shorter range.

3

Availability

Grid capacity for BEBs and hydrogen supply for FCEBs remain critical pathways to successfully implementing ZEBs.
















4

Workforce Development

Whether a BEB or a FCEB, ZEBs require new skills for the transit workforce.



Northern Virginia ZEB Strategic Plan

<p>NVTC has identified six strategies in support of Northern Virginia transit agencies' zero-emission bus transitions.</p>	<p>Quick Wins (Year One)</p>	<p>Short Term (2-3 Years)</p>	<p>Long Term (3+ Years)</p>
<p>Strategy 1 - Serve as a Regional ZEB Forum</p>			
<p>1A - Continue to Facilitate ZEB Working Group</p>		<p>-----></p>	<p>-----></p>
<p>1B - Share Operational Data and Findings</p>			<p>-----></p>
<p>Strategy 2 - Advocate for Consistent and Supportive ZEB Standards and Policies</p>			
<p>2A - Educate Staff and Local Elected Officials</p>		<p>-----></p>	<p>-----></p>
<p>2B - Advocate for Legislative Support</p>		<p>-----></p>	<p>-----></p>
<p>2C - Encourage Interoperability</p>			
<p>Strategy 3 - Provide Regional ZEB Funding Coordination</p>			
<p>3A - Create a ZEB Funding Strategy</p>			
<p>3B - Develop Multi-Agency ZEB Grant Applications</p>			
<p>3C - Identify Joint ZEB Procurement Opportunities</p>			
<p>Strategy 4 - Support Development of Shared BEB Charging Infrastructure</p>			
<p>4A - Conduct a Shared Charging Feasibility Study</p>			
<p>4B - Pilot Shared On-Route Charging Station</p>			
<p>Strategy 5 - Evaluate Opportunities for Private Partnerships Related to ZEBs</p>			
<p>5A - Host Industry Listening Sessions</p>			
<p>5B - Create Transit Technology Proposal Process</p>			
<p>5C - Develop ZEB Request for Information</p>			
<p>Strategy 6 - Support ZEB Workforce Training and Education</p>			
<p>6A - Identify and Share ZEB Training Resources</p>		<p>-----></p>	<p>-----></p>
<p>6B - Engage with Educational Institutions, Regional Partners and DRPT about ZEB Training Opportunities</p>			<p>-----></p>