



LAVTA ZEB Transition Study: ICT Rollout Plan Overview

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Meeting Goal & Overview

Goal: To approve the LAVTA ICT Rollout Plan for submittal to CARB for ICT Regulation Compliance

Meeting Contents:

- Selection Process Review
- FCEB Fleet Transition Overview
- ICT Rollout Plan Content Overview



Selection Process Review



Transition Master Plan vs ICT Rollout Plan

	Transition Master Plan	ICT Rollout Plan
Purpose	<ul style="list-style-type: none">• Detailed comprehensive plan• Typically for internal use & as a living document (i.e. expected to change over time)• May advance purchases based on agency ZEB goals	<ul style="list-style-type: none">• High-level plan• Developed based on one scenario selected from Transition Plan• Public plan
Methodology	CTE's ZEB Transition Methodology of six key assessments	<ul style="list-style-type: none">• Summary of Master Plan analyses• Added sections describing disadvantaged communities, workforce training, and potential funding sources
Update Frequency	Recommended every 2-5 years	Submitted once to comply with CARB regulation

Considerations for ZEB Transition Selection

1. BEB Fleet, Depot & On-Route Charge	2. Mixed Fleet, Depot Charged BEBs & FCEBs	3. FCEB Only Fleet
<ul style="list-style-type: none"> - Operationally challenging, may require schedule and/or service changes due to on-route charging requirement 	<ul style="list-style-type: none"> + Two technologies provide greater redundancy and resilience benefits; less reliant on the grid 	<ul style="list-style-type: none"> + Operationally similar to current fleet. No service or schedule changes are required due to the technology
<ul style="list-style-type: none"> - Acquisition costs for on-route charger location is unaccounted for in scenario costs 	<ul style="list-style-type: none"> - Operationally challenging due to the creation of sub fleets by technology 	<ul style="list-style-type: none"> + Anticipated fuel price reduction due to regional renewable H₂ supply developments
<ul style="list-style-type: none"> - Requires major infrastructure and operations restructuring in the depot 	<ul style="list-style-type: none"> - Two different fueling infrastructures will be required at depot 	<ul style="list-style-type: none"> + Potential to leverage local station development and fueling access to significantly reduce initial capital infrastructure investment for LAVTA for early FCEB adoption



LAVTA Staff Recommendation: FCEB

- FCEBs provide greater flexibility in deployment planning due to greater comparable range than BEBs.
- General expectation that H₂ fuel prices will trend lower in next decade, with growing opportunities for green hydrogen.
- Opportunities to leverage economy of scale with Valley Link project.
- Stronger service resilience following a major disaster.
- Less infrastructure needed at Atlantis and transit centers.
- Higher reported availability than BEB*

* AC Transit ZETBTA report (Part 1)



FCEB Fleet Transition Overview



Fleet Composition

Annual Fleet Composition, FCEB Purchase Scenario

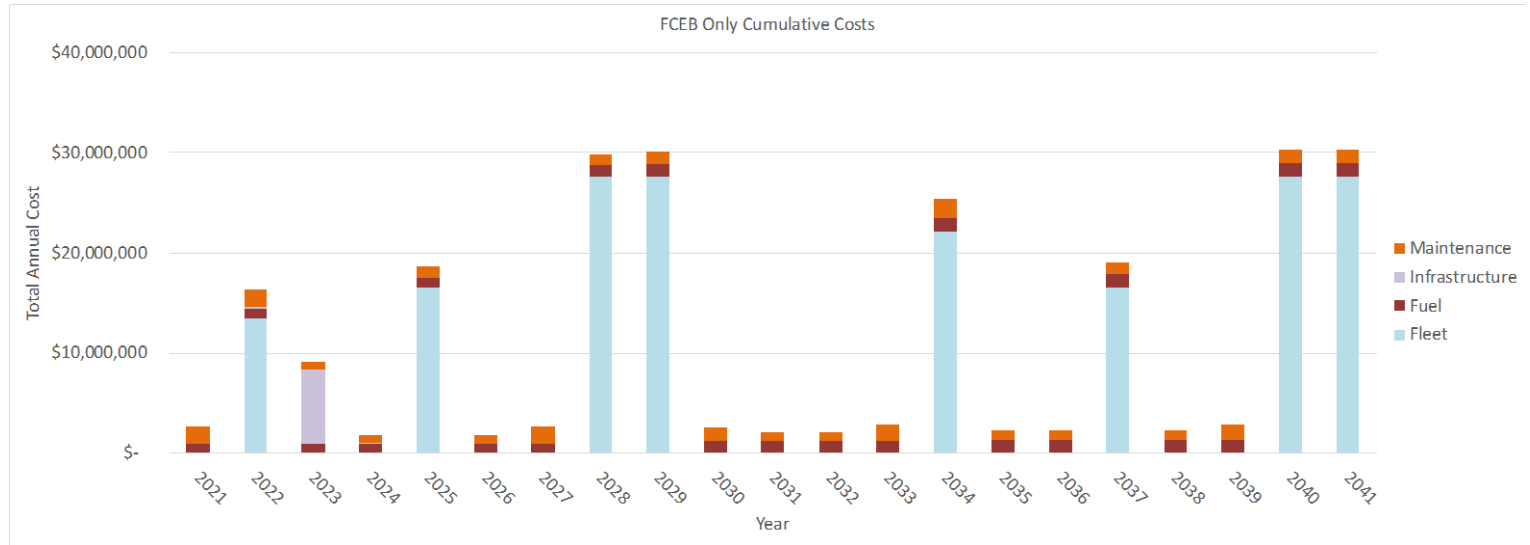




Fleet Procurement Timeline



Total Annual Costs



Incremental cost of ZEB Transition			
	Diesel-hybrid Baseline	FCEB Incremental Costs	FCEB Transition Scenario Costs
Bus Capital Expense	\$97.7M	\$53.9M	\$151.6M
Fueling Infrastructure	\$0	\$7.9M	\$7.9M
Total	\$97.7M	\$61.8M	\$159.5M



ICT Rollout Plan Content Overview

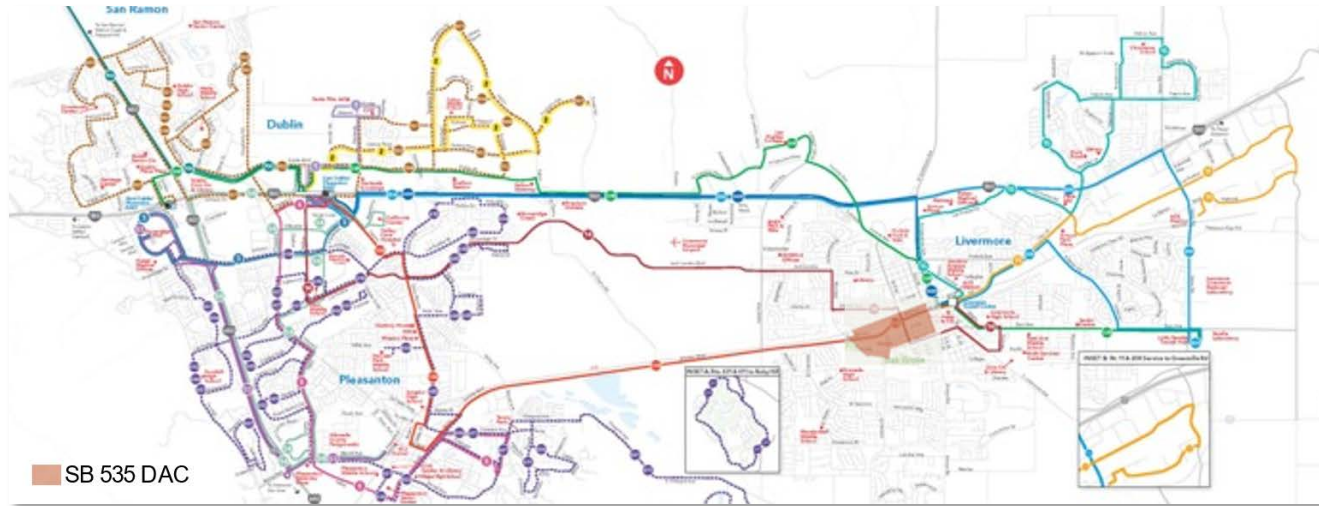


ICT Rollout Plan Requirements

- Zero-Emission Technology Approach
- Bus procurement schedule
- Facilities and infrastructure modifications descriptions
- Disadvantaged communities to be served
- Workforce training requirements
- Funding opportunities
- Challenges and mitigation efforts

Environmental Justice

- LAVTA's routes 10 and 14 provide service to the SB 535 DAC community identified below
- Routes 10 and 14 will be fully zero-emission by 2034





Training and Workforce Development

- LAVTA requires both classroom and practical training for operators and maintenance staff
- LAVTA plans to take advantage of trainings offered by agencies with FCEB experience
 - Sunline Transit: West Coast Center of Excellence in Zero Emission Technology (CoEZET)
 - AC Transit: ZEB University program
- LAVTA also plans to receive FCEB operation and maintenance training from the bus OEMs



Today's Funding Pursuits

- **TIRCP - \$500-\$600m Available**
 - LAVTA has applied for H2 fueling and maintenance facility funding
- **Bus & Bus Facilities - \$3.72m Available**
 - LAVTA plans to apply for H2 fueling and maintenance facility funding
- **Low or No Emission \$1.1B Available**
 - LAVTA plans to apply for 12 FCEB purchase funding

Questions?

