

2018 American Zero Emission Bus Conference

INNOVATIVE CLEAN TRANSIT PROPOSED REGULATION

Los Angeles

September 10th & 11th



General Considerations of Staff Proposal

- ❑ Achieve zero emission transit system by 2040
- ❑ Partner with transit agencies on long-term strategy
- ❑ Encourage early action with opportunities for funding
- ❑ Maintain consistency with existing purchase patterns
- ❑ Enhance transit services and encourage innovative mobility options
- ❑ Provide environmental benefits, especially in disadvantaged communities
- ❑ Ensure requirements are technologically and financially feasible



Summary of Current Proposal

- ❑ Regulatory documents are available for public review
 - <https://www.arb.ca.gov/regact/2018/ict2018/ict2018.htm>
- ❑ Applicability
- ❑ Zero emission bus (ZEB) rollout plan
- ❑ ZEB purchase requirement
 - Waiver of initial requirements if early ZEB purchases
 - Zero emission mobility option
 - Bonus credits for early action
 - Provisions for deferral of ZEB purchases
 - Zero emission bus joint group option
- ❑ Use of low NOx engines and renewable fuels
- ❑ Annual Reporting



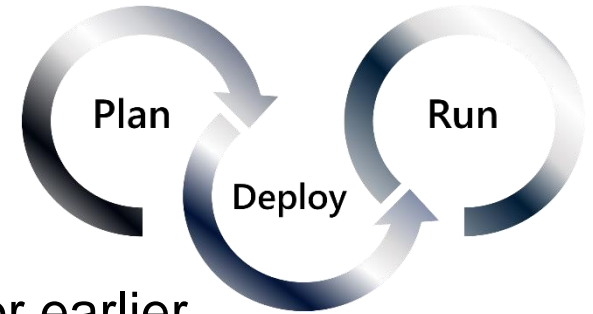
Applicability and Fleet Size

- ❑ The proposed ICT would apply to
 - A California public transit agency that owns, operates, leases, rents, or contracts with another entity to operate affected buses in California
 - A bus with a GVWR of over 14,000 lbs., but does not include trolleybuses
- ❑ Does not include
 - School buses, trolleybuses, and vehicles operates on rail
 - Caltrans, Caltrain, Amtrak
 - Airports, colleges or universities, national parks, private entities
- ❑ Requirements differ based on fleet size
 - Fleet size is total active & affected buses in the fleet on December 31, 2017
 - Large fleet has 100 or more active buses
 - Small fleet has less than 100 buses



ZEB Rollout Plan

- ❑ Each transit agency would submit a transit board approved ZEB purchase and deployment plan
 - June 30, 2020 for large transit agencies
 - June 30, 2023 for a small transit agencies
- ❑ Key plan elements
 - Goal of full transition to zero-emission technologies by 2040 or earlier
 - Identify the type of zero-emission technology
 - Identify the planned schedule for bus purchases & buildout of required infrastructure
 - Describe the training schedule for zero-emission bus operators and technicians
 - How to deploy ZEB in Disadvantaged Communities (DAC)
 - Identify potential funding sources



ZEB Purchase Requirements

- ❑ Applies to annual purchase of new buses
 - Purchase begins with the date a Notice to Proceed (NTP) is issued to the bus manufacturer to begin production and is completed upon delivery of the bus
 - All buses must be delivered within 2 years after the issuance of NTP

- ❑ Cutaway buses, double decker, motor coaches, and articulated buses will be excluded until January 1, 2026 and will continue to be excluded until
 - The applicable bus type has passed and obtained a Altoona bus testing report
 - If purchased before the requirements kick in, ZEB will still be counted towards compliance



Calendar Year	ZEB Percentage of New Bus Purchases	
	Large Transit Agency	Small Transit Agency
2023*	25%	-
2024*	25%	-
2025	25%	-
2026	50%	25%
2027	50%	25%
2028	50%	25%
2029 and after	100%	100%

* Potential waiver for early compliance

Waiver for Early Compliance

- ❑ Encourage early compliance and utilization of funding
- ❑ Waive 2023 ZEB purchase requirement if transit agencies collectively purchase 1000 or more ZEBs by December 31, 2020
- ❑ Waive 2024 ZEB purchase requirement for a second time if transit agencies collectively purchase 1,150 or more ZEBs by December 31, 2021
- ❑ Gathering additional information from transit agencies and negotiating with CTA
- ❑ Number of ZEBs in California as of August 2018
 - 153 in service
 - 433 on order
 - 729 awarded or planned
 - New purchases expected with available funding



Zero Emission Mobility Program Option

- ❑ May be used in lieu of ZEB purchases
- ❑ Bicycles or other zero emission vehicles with GVWR of 14,000 lbs. or less
 - Bike sharing, car sharing, vanpool or micro transit
 - Must be operated directly or through a contractor with the transit
 - Transit must track and record the annual zero-emission passenger miles for each vehicle
- ❑ Zero emission passenger miles equivalent to having one ZEB in the fleet
 - 320,000 zero emission passenger miles/year for a large transit
 - 180,000 zero emission passenger miles/year for a small transit



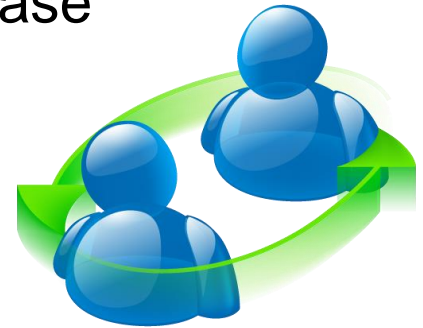
ZEB Bonus Credits

- ❑ Recognize pioneers that took risks with deploying early technologies, worked with manufacturer, State, utilities to overcome barriers
- ❑ Counted towards compliance

Technology	Placed in Service	Bonus ZEB Credit
FCEB	January 1, 2018 to January 1, 2023	+1
FCEB	Before January 1, 2018	+2
BEB	Before January 1, 2018	+1

Optional Joint Zero Emission Bus Group

- ❑ Transit agencies may pool resources to comply with ZEB purchase requirement collectively
 - Share infrastructure
 - Share the same MPO, Transportation Planning Agency, or Air District
 - Located within the same Air Basin
- ❑ The total annual ZEB purchased collectively must equal the sum of the total annual ZEBs required to be purchased by each participating transit agency
- ❑ If the largest transit agency in a group is large, it must meet the same individual requirement
- ❑ Provides more flexibility, better land use, air quality benefit, and reduces costs



Deferral of ZEB Purchase

- ❑ To ensure transit's individual circumstances are considered
- ❑ Extension
 - Delay in the bus delivery caused by the bus manufacturer
 - Delay due to setback of infrastructure construction
 - When an available ZEB at the end of battery or fuel cell stack warranty period cannot meet a transit agency's daily mileage needs
- ❑ Exemption
 - If a ZEB type is not available
 - Has not passed Altoona bus testing;
 - Cannot meet Americans with Disabilities Act (ADA) requirements; or
 - Physical characteristic of ZEB would result in transit violating a federal, state, or local law
 - Financial hardship



Low NOx Engines & Renewable Fuels

- ❑ Both requirements starts January 1, 2020
- ❑ Low NOx engine
 - Applies to all transit agencies when new conventional bus purchases are made
 - Buses dispatched from NOx exempt areas are exempt
 - Engine certified to the lowest level of NOx and commercially available for at least 2 years
 - Switching fuel types not required
- ❑ Purchase renewable diesel or renewable natural gas
 - Would apply to large transit agencies only
 - When fuel contracts are renewed
 - Renewable fuels are commercially available due to
 - Federal renewable fuel standard program
 - California low carbon fuel standard program (LCFS)
 - No additional emission reduction outside of LCFS



Comprehensive Review

- ❑ Continue coordination with transit agencies, manufacturers, utilities, and other state agencies for successful implementation
- ❑ Board update one year prior to first purchase requirements
 - Help formulate appropriate policies and funding strategies
- ❑ Review conclude
 - ZEB capital and operational costs, performance, daily operational range, and reliability
 - Status of technology for cutaway buses and other types of buses
 - Evaluate transit agencies experience



Funding Availability

- ❑ **HVIP**— \$180M for FY 17-18, \$125M for FY 18-19 for bus and infrastructure
- ❑ **LCTOP & TIRCP**— 5% & 10% of the annual Cap-and-Trade auction proceeds, respectively
- ❑ **VW**— \$130M allocated for zero-emission transit, school, and shuttle bus replacements and infrastructure, transit may be eligible for up to \$65 M
- ❑ **Moyer & AB 923**— \$80,000 cap for a ZEB replacement or conversion
- ❑ **AB 617**— \$250M for FY 17-18 for engine replacement, repower and infrastructure in DAC; \$245 additional fund for FY 18-19
- ❑ **SB350**— CPUC approved medium- & heavy-duty infrastructure investments
 - \$236 million for PG&E
 - \$343 million for SCE and new transitional rate schedule
 - Rebates up to 50% of the EVSE costs for transit and school buses
 - \$151 million SDG&E proposal to be considered separately



Timeline & Contact Information

- ❑ 45-Day Comment Period closes September 24, 2018
 - <https://www.arb.ca.gov/lispub/comm/bccommlog.php?listname=ict2018>
 - First hearing: September 27, 2018
 - Second hearing: Winter 2018/2019
 - Anticipated rule effective date: January 1, 2020

- ❑ Innovative Clean Transit <https://arb.ca.gov/msprog/ict/ict.htm>
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