

Countywide Zero-Emission Bus Initiative



Battery Electric
Hydrogen Fuel-Cell

Innovative Clean Transit Regulation

In December 2018, the California Air Resources Board (CARB) adopted their Innovative Clean Transit (ICT) regulation, which requires all public transit agencies in the state to gradually transition to a 100-percent zero-emission bus fleet by 2040. This regulation aims to improve air quality and climate protection goals across the state by addressing the public transportation sector, which is responsible for approximately 40% of greenhouse gas (GHG) emissions, 80% of Nitrogen Oxides (NOx), and 90% of diesel particulate matter emissions in California. This regulation aligns with other State policies, such as the Sustainable Communities and Climate Protection Program (SB 375), and SB 350, which provides an opportunity for transportation electrification including wide use of zero-emission buses.

Through the deployment of zero-emission technologies, the ICT regulation will provide significant benefits across the state, including:

- Reduce NOx and GHG emissions for all Californians, especially transit-dependent and disadvantaged communities. The majority of these benefits will be in the State's most populated and impacted areas where transit buses are most prevalent
- Increase penetration of the first wave of zero-emission heavy-duty technologies into applications that are well suited to their use to further achieve emission reduction benefits
- Save energy and reduce dependency on petroleum and other fossil fuels
- Expand zero-emission vehicle industry to bring high quality green jobs to local communities and trained workforce to California
- Provide other societal benefits by encouraging improved mobility and connectivity with zero-emission transportation modes and reduced growth in light-duty vehicle miles traveled

SBCTA's Action to Meet Mandate

In April 2019, SBCTA issued a Contract Task Order to WSP USA, Inc. to conduct a countywide analysis comparing the current fleet of buses in San Bernardino County to zero-emission buses (ZEB). The study focuses on fleet conversion using a collaborative procurement towards compliance that involves all Transit Operators within the County; this includes Omnitrans, Victor Valley Transit Authority, Mountain Transit, Morongo Basin Transit Authority and City of Needles.

The analysis considers the economics and financials of full fleet conversion; examines the difference in costs between Battery-Electric Bus (BEB) and Hydrogen Full Cell (HFC) buses versus a Compressed Natural Gas (CNG) bus; as well as the cost of new capital, rehabilitation and overall operations; including power/fuel and maintenance costs.

The goals of the analysis are three-fold:

1. Determine the most cost-effective approach to a 100% bus fleet with zero-emission population;
2. Determine the capital improvements required to achieve ZEB fleets for all of the county's transit operations
3. Provide a financing and purchasing strategy that allows local Transit Operators to meet CARB deadlines.



Study Timeline

April 2019

SBCTA awards CTO to WSP USA, Inc.

May 2019

Study commences - Stakeholder meetings with Operators to determine individual needs and preliminary challenges

May - October 2019

Data collection (fleet inventory, purchasing cycles, site visits, etc.)

September 2019

Develop financial model methodology & Operations and maintenance + Capital cost estimates development

September - October 2019

Research potential funding alternatives

September - December 2019 -

Operations modeling runs and results

February 2020

Existing Facilities Report
Existing Schedule and Operations Analysis

March 2020

Energy Report
Modeling Analysis and Technical Memo
Draft Roll-Out Plan
Draft Master Plan

April 2020

Final Roll-Out Plan

Omnitrans: <https://www.gosbcta.com/wp-content/uploads/2020/05/Final-Omnitrans-Rollout-Plan.pdf>

Countywide (all other Transit Operators): https://www.gosbcta.com/wp-content/uploads/2020/04/FINAL_SBCTA-Rollout-Plan_4.17.20.pdf

Final Master Plan

https://www.gosbcta.com/wp-content/uploads/2020/05/SBCTA-ZEB-Final-Master-Plan_04.24.20.pdf



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Transportation Authority

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