CALIFORNIA ENERGY COMMISSION

California Energy Commission

STAFF REPORT

Localized Health Impacts Report

For Selected Projects Awarded Funding Through the Clean Transportation Program Under Solicitation GFO-20-602 Zero-Emission Transit Fleet Infrastructure Deployment

Gavin Newsom, Governor

April 2021 | CEC-600-2021-004

California Energy Commission

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ABSTRACT

Assembly Bill 118 (Núñez, Chapter 750, Statutes of 2007) created the Clean Transportation Program (formerly known as the Alternative and Renewable Fuel and Vehicle Technology Program). This statute, amended by Assembly Bill 109 (Núñez, Chapter 313, Statutes of 2008), authorizes the California Energy Commission to "develop and deploy innovative technologies that transform California's fuel and vehicle types to help attain the state's climate change policies." Assembly Bill 8 (Perea, Chapter 401, Statutes of 2013) reauthorizes the Clean Transportation Program through January 1, 2024.

Assembly Bill 118 also directs the California Air Resources Board (CARB) to develop guidelines to ensure air quality improvements. CARB's Air Quality Improvement Program Guidelines, approved in 2008, are published in the *California Code of Regulations, Title 13, Motor Vehicles, Chapter 8.1, AB 118 Air Quality Guidelines for the Clean Transportation Program*. The guidelines require the California Energy Commission, as the funding agency, to analyze the localized health impacts of Clean Transportation Program funded projects that require a permit (California Code of Regulations Section 2343).

This Localized Health Impacts Report analyzes and reports on the potential health impacts to communities from projects seeking California Energy Commission funding under grant solicitation GFO-20-602. The goal of this initiative is to support the large-scale conversion of transit bus fleets to zero-emission vehicles at multiple transit agencies in California. These projects will accomplish this goal by deploying electric vehicle charging or hydrogen refueling infrastructure. Information submitted by awardees is used in this report to help identify communities at a higher risk of adverse health effects from pollution. As provided by California Code of Regulations Section 2343, this report is available for public comment for 30 days before the approval of projects at a publicly noticed business meeting.

Keywords: Air pollution, air quality improvement program (AQIP), California Air Resources Board (CARB), Assembly Bill (AB) 118, California Environmental Quality Act (CEQA), environmental justice (EJ) indicators, Environmental Justice Screening Method (EJSM), fuel cell electric bus (FCEB), hydrogen, localized health impacts (LHI), zero-emission vehicle (ZEV)

Please use the following citation for this report:

Comiter, Michael. 2021. *Localized Health Impacts Report Under Solicitation GFO-20-602 Zero-Emission Transit Fleet Infrastructure Deployment*. California Energy Commission. Publication Number: CEC-600-2021-004.

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EXECUTIVE SUMMARY

The California Energy Commission's (CEC) Clean Transportation Program (CTP) provides funding to support innovation and accelerate the development and deployment of advanced transportation and fuel technologies. Under the California Code of Regulations Title 13, (California Code of Regulations Section 2343), this Localized Health Impacts Report describes the shared hydrogen fueling infrastructure projects proposed for funding that may require a conditional or discretionary permit or environmental review such as conditional use permits, air-quality permits, wastewater permits, hazardous waste disposal permits, and other land-use entitlements. Since ministerial-level permits do not assess public health-related pollutants, staff does not assess projects requiring only ministerial-level permits in this report.

The CEC required to assess the local health impacts of projects proposed for CTP funding. This report focuses on the potential health impacts to communities from project related emissions or pollution. A project location where communities potentially have a higher risk of adverse health impacts from pollution are identified as "high-risk community project locations." High-risk communities are identified using demographic data with environmental data for air quality from the California Air Resources Board.

Environmental justice communities, low-income communities, and minority communities are considered the most impacted by any project that could result in increased criteria and toxic air pollutants within an area. Preventing or minimizing health-risks from pollution is vital in any community, but it is especially important for communities considered to be at high risk due to preexisting poor air quality and other prevalent factors.

Staff is proposing four projects for CTP grant funding awards under solicitation GFO-20-602, titled "Zero-Emission Transit Fleet Infrastructure Deployment." The goal of this initiative is to support the large-scale conversion of transit bus fleets to zero-emission vehicles at multiple transit agencies in California. These projects will accomplish this goal by deploying electric vehicle charging or hydrogen refueling infrastructure. Staff analyzes localized health impact information submitted by the project awardees. Based on project site information provided by the awardees, the proposed project locations of Anaheim, Los Angeles, and Thousand Palms are all in high-risk communities. Community members near the proposed project sites may be at a higher risk to adverse health impacts from pollution. Staff does not anticipate a net increase in the pollution burden for the communities where these projects are located.

CHAPTER 1:
Project Proposed for Funding

Background

On July 22, 2020, the California Energy Commission (CEC) released a competitive grant solicitation titled "Zero-Emission Transit Fleet Infrastructure Deployment" (GFO-20-602). GFO-20-602 offered Clean Transportation Program grant funding for projects that will deploy electric vehicle (EV) charging or hydrogen refueling infrastructure to support the large-scale conversion of transit bus fleets to zero-emission vehicles (ZEVs) at multiple transit agencies in California. As required by California Code of Regulations (CCR) section 2343, this Localized Health Impacts Report (LHI report) analyzes the potential community health impacts near the Clean Transportation Program (CTP) funded projects 30 days before approval at a publicly noticed meeting.

Projects Selected

On February 22, 2021, the CEC posted a notice of proposed award (NOPA)[1] identifying the projects selected by CEC staff for CTP grant funding awards. This LHI report assesses the project locations chosen by each of the four GFO-20-602 applicants (awardees) identified in the NOPA. Table 1 lists the proposed project location(s) for each of the awardees and their corresponding environmental justice (EJ) indicators.[2] EJ indicator definitions are in Appendix A of this LHI report.

Table 1: Project Details Along With EJ Indicators

Proposed Awardee	Project Title	Project Location	EJ Indicator(s)
Anaheim Transportation Network (ATN)	Electrify Anaheim: ATN Microgrid Project	1213 and 1227 S. Claudina Street, Anaheim, 92805	Poverty and Minority
Anaheim Transportation Network (ATN)	Electrify Anaheim: ATN Microgrid Project	N Manchester Ave & Lincoln Ave, Anaheim, 92801	Poverty and Minority
Los Angeles Department of Transportation (LADOT)	Washington Yard Microgrid Project	1950 E. Washington Blvd, Los Angeles, 90021	Poverty, Minority, and Unemployment
North County Transit District	North County Transit District Next Generation Hydrogen Fueling Infrastructure Project	303 Via Del Norte, Oceanside, CA, 92056	Minority
SunLine Transit	Develop and Deploy Liquid Hydrogen Refueling Infrastructure at SunLine Transit	32505 Harry Oliver Trail, Thousand Palms, CA 92276	Poverty and Minority

Source: California Energy Commission staff

1 See notice of proposed award, https://www.energy.ca.gov/sites/default/files/2021-02/GFO-20-602_NOPA_Cover_Letter_2021-02-25_Amended_ADA.docx.

2 EJ indicators developed by the U.S. EPA, Office of Policy. Available at https://www.epa.gov/ejscreen/environmental-justice-indexes-ejscreen. See Appendix A for staff definitions.

Funding for these projects is contingent upon approval at a publicly noticed CEC business meeting and execution of a grant agreement.

Public Comment

As provided by Title 13 CCR Section 2343, a 30-day public review period applies to this LHI report from the date it is posted on the CEC website. The original posting date for this report is at https://www.energy.ca.gov/altfuels/documents/.

The CEC encourages comments by email. Please include your name or organization's name in the name of the file. Send comments in either Microsoft® Word format (.doc) or Adobe® Acrobat® format (.pdf) to FTD@energy.ca.gov.

The public can email comments to FTD@energy.ca.gov or send them to:

California Energy Commission
Fuels and Transportation Division
1516 Ninth Street, MS-44
Sacramento, CA 95814-5512

All written comments will become part of the public record and may be posted to the internet.

News media should direct inquiries to the Media and Public Communications Office at (916) 654-4989 or by email at mediaoffice@energy.ca.gov.

CHAPTER 2:
Project Description

As part of the GFO-20-602 process for selecting projects, applicants must provide LHI information for their proposed project and location(s). This chapter summarizes the LHI information submitted by the awardees regarding the expected impact of their project on local communities and the outreach efforts they have made to engage disadvantaged communities[3] or other local communities. Disadvantaged communities are identified by the awardee using the CalEnviroScreen[4] screening tool developed by the Office of Environmental Health Hazard Assessment (OEHHA) to identify communities facing the burdens of pollution and socioeconomic disadvantage.

Anaheim Transportation Network (ATN)

Anaheim Transportation Network's (ATN) proposed "Electrify Anaheim: ATN Microgrid Project" will establish new EV charging infrastructure in the form of battery energy storage systems with EV charging stations. This project will support the transition away from compressed natural gas (CNG) buses to a new, scheduled fleet of zero-emission electric buses. ATN anticipates the progressive deployment of 82 electric buses by 2027 and the microgrid to come on-line in 2025. Based on these assumptions, ATN estimates that the microgrid will lead to 70,972,686 kg of carbon dioxide equivalent (CO_2e) GHG reductions over the 20-year life of the equipment.

If awarded funding, ATN will use a combination of digital and physical forms of outreach to notify and collaborate with communities about the project. This outreach includes discussions on electric bus routes, marketing new service, and available transit assistance for the community.

Los Angeles Department of Transportation

Los Angeles Department of Transportation's (LADOT) proposed "*Washington Yard Microgrid Project*" will establish new EV charging infrastructure in the form of battery energy storage systems with EV charging stations. This microgrid project will support the transition away from CNG buses to a new, scheduled fleet of 104 zero-emission electric buses. Based on these assumptions, LADOT estimates that the microgrid will result in a GHG reduction of 167,016,000 kg of CO_2e GHG reductions over the 20-year life of the equipment.

If awarded funding, CALSTART, an organization dedicated to the commercialization and deployment of medium- and heavy-duty ZEV technologies, will lead outreach efforts for the project. It will use a combination of digital and physical forms of outreach to notify and collaborate with communities about the project. This outreach includes virtual and in-person project showcase events, community meetings, and English and Spanish marketing and

3 Disadvantaged communities are identified using the CalEnviroScreen tool, which ranks U.S. Census tracts based on geographic, socioeconomic, public health and environmental hazard criteria.

4 See Office of Environmental Health Hazard Assessment website, https://oehha.ca.gov/calenviroscreen.

outreach material. LADOT also engages in outreach through its transit program, community-based organizations, and local stakeholders.

North County Transit District

North County Transit District's (NCTD) proposed *"North County Transit District Next-Generation Hydrogen Fueling Infrastructure Project"* will establish new hydrogen fueling infrastructure as a replacement to an existing battery storage and maintenance property that provides CNG bus refueling. NCTD will deploy a hydrogen refueling station with either onsite liquid storage or high-capacity gas trailers. The project will support the conversion from eight CNG buses to eight fuel cell electric buses (FCEBs), which the applicant estimates will result in 4,302,000 kg of CO_2e GHG reductions annually.

If awarded funding, NCTD will use a combination of digital and physical forms of outreach to notify and collaborate with communities about the project. This outreach includes public presentations, newsletters, online media, and virtual stakeholder meetings.

SunLine Transit

SunLine Transit's proposed "Develop and Deploy Liquid Hydrogen Refueling Infrastructure at SunLine Transit Project" will establish new hydrogen refueling infrastructure at an existing bus refueling/charging transit station. The station equipment will not generate criteria or toxic air pollution, but there are expected emissions from the delivery of liquid hydrogen to the site. These emissions will be reduced in the long term with the use of zero-emission delivery trucks. The project will support the conversion of 17 CNG buses to FCEBs, resulting in an estimated 512,000 kg CO_2e of GHG reductions annually. SunLine anticipates these net GHG reductions to increase up until 2033, when the station is expected to reach capacity, fueling 45 FCEBs each year. (See Table 2 for criteria.)

SunLine is involved in different outreach initiatives, including a learning center that provides education and engagement through interactive exhibits and showcases on zero-emission transit and will use this venue to promote the project. SunLine also employs a public outreach specialist that attends community events and promotes this zero-emission transit project.

Table 2: SunLine Predicted 2033 Project-Generated Net Emissions Reduction

	Project Net Annual Emissions Reductions (kg/year)
NOx	351.65
VOC	69.3
$PM_{2.5}$	2.1
PM_{10}	2.2
CO	38,488.75
CO2e	1,372,000

Source: SunLine Transit

CHAPTER 3:
Location Analysis

Under CCR Title 13 (CCR section 2343), this LHI report describes projects proposed for CTP funding that may require a conditional use permit, discretionary permit, or California Environmental Quality Act (CEQA) review. The CEC interprets "permits" to suggest discretionary and conditional use permits because they require a review of potential impacts to communities and the environment before issuance. Since ministerial-level permits do not assess public health related pollutants, CEC staff does not assess projects requiring only ministerial-level permits in this report.

This LHI report analyzes the project locations by application of the Environmental Justice Screening Method (EJSM).[5] A proposed project location must meet a two-part environmental and demographic standard for staff to identify it as a high-risk community project location. The environmental standard uses California Air Resources Board (CARB) air quality monitoring data on nonattainment[6] status for areas with a high concentration of air pollutants. The demographic standard uses data from the California Employment Development Department's *Monthly Labor Force Data*[7] and the U.S. Census Bureau's *American Community Survey*[8] data on age, poverty, race, and unemployment.

Environmental Standard

Based on CARB air quality monitoring data,[9] all four project locations are within a nonattainment zone for either ozone, particulate matter[10] 2.5 microns in diameter or less ($PM_{2.5}$), or particulate matter 10 microns in diameter (PM_{10}). This finding indicates that there may be existing poor air quality where the proposed projects are located.

Demographic Standard

Staff finds that the proposed project located in Anaheim meets the criteria for a high-risk community project location as it exceeds the demographic standard threshold for more than one EJ indicator, minority and poverty (Table 3). The projects in Los Angeles and Thousand

5 CARB, *Air Pollution and Environmental Justice, Integrating Indicators of Cumulative Impact and Socio-Economic Vulnerability Into Regulatory Decision-Making*, 2010. (Sacramento, California) Contract authors: Manuel Pastor Jr., Ph.D., Rachel Morello-Frosch, Ph.D., and James Sadd, Ph.D.

6 Nonattainment area is a geographic area identified by the U.S. EPA or CARB or both as not meeting either National Ambient Air Quality Standards (NAAQS) or California Ambient Air Quality Standards CAAQS standards for a given pollutant. See https://ww3.arb.ca.gov/desig/adm/adm.htm.

7 Employment Development Department Labor Force Data, https://www.labormarketinfo.edd.ca.gov/file/lfmonth/countyur-400c.pdf.

8 U.S Census Bureau American Community Survey, https://data.census.gov/cedsci/.

9 See CARB air quality monitoring data, https://ww3.arb.ca.gov/desig/adm/adm.htm.

10 *Particulate matter* is unburned fuel particles that form smoke or soot and stick to lung tissue when inhaled. The number following "PM" represents particle size in micrometers.

Palms also exceed more than one EJ indicator. The project locations also meet the environmental standard due to existing poor air quality.

Table 3: EJ Indicators by Project Location City Demographic

	Below Poverty (2019)	Black or African American (2019)	American Indian and Alaska Native (2019)	Asian and Native Hawaiian and Pacific Islander (2019)	Hispanic or Latino Race (2019)	Persons Under 5 Years of Age (2019)	Persons Over 65 Years of Age (2019)	Unemployment (2020)
California	**11.8%**	**6.5%**	**1.6%**	**16.0%**	**39.4%**	**6.0%**	**14.8%**	**7.9%**
EJ Indicator Threshold	**11.8%**	**30%**	**30%**	**30%**	**30%**	**26.0%**	**34.8%**	**7.9%**
Anaheim	14.8%*	2.7%	0.5%	17.2%	54.3%*	6.5%	11.6%	6.4%
Los Angeles	18.0%*	8.9%	0.7%	11.8%	48.5%*	5.9%	12.4%	10.6%*
Oceanside	10.2%	4.5%	0.9%	8.2%	36.2%*	6.3%	15.9%	6.6%
Thousand Palms	12.8%*	0.4%	1.5%	1.1%	51.3%*	2.5%	19.1%	7.8%

Sources: CEC staff, Employment Development Department, and U.S. Census Bureau. *The city/county names in **bold** indicate a high-risk community, while the asterisk (*) next to the percentages indicate which categories exceed the EJ indicator threshold.

Summary

If funded, the proposed projects would result in expanded EV charging and hydrogen refueling infrastructure. The new infrastructure will support the conversion of transit bus fleets to ZEVs at several transit agencies in California. As more electric buses and FCEBs replace CNG buses, tailpipe pollutants will decrease significantly and reduce related GHG emissions.

Based on EJSM standards, staff has identified the Anaheim, Los Angeles, and Thousand Palms projects as high-risk community locations. This finding indicates that the communities near the proposed project location are at a higher risk of adverse health effects from pollution. However, staff does not anticipate a significant increase in local pollutants, and the project awardees identify no major construction that would generate criteria emissions or pollutants. Staff's analysis found no indication that there would be adverse community health impacts associated with the identified projects in this LHI report as selected for CTP grant funding. Moreover, a net benefit from these proposed projects may be realized for the surrounding communities by reducing harmful criteria pollutants and supporting infrastructure to replace fossil fuel-powered bus fleets.

GLOSSARY

AIR QUALITY IMPROVEMENT PROGRAM — Established by the California Alternative and Renewable Fuel, Vehicle Technology, Clean Air, and Carbon Reduction Act of 2007 (AB 118, Statutes of 2007, Chapter 750), is a voluntary incentive program administered by CARB to fund clean vehicle and equipment projects, research of biofuels production.

CALIFORNIA CODE OF REGULATIONS — The official compilation and publication of the regulations adopted, amended, or repealed by state agencies under the Administrative Procedure Act (APA). Properly adopted regulations that have been filed with the Secretary of State have the force of law.

CALIFORNIA ENVIRONMENTAL QUALITY ACT — A statute that requires state and local agencies to identify the significant environmental impacts of their actions and avoid or reduce those impacts, if feasible.

CALENVIROSCREEN — A screening tool that evaluates and ranks census tracts in California based on potential exposures to pollutants, adverse environmental conditions, socioeconomic factors, and prevalence of certain health conditions.

CRITERIA AIR POLLUTANT — An air pollutant for which acceptable levels of exposure can be determined and for which the U.S. Environmental Protection Agency has set an ambient air quality standard. Examples include ozone (O_3), carbon monoxide (CO), nitrogen oxides (NO_X), sulfur oxides (SO_X), and particulate matter (PM_{10} and $PM_{2.5}$).

DISADVANTAGED COMMUNITIES — A designation by the California Environmental Protection Agency used to identify areas disproportionately affected by environmental pollution or hazards due to geographic, socioeconomic, public health, and environmental hazard present.

ENVIRONMENTAL JUSTICE — The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.

ENVIRONMENTAL JUSTICE SCREENING METHOD — A screening approach for combining environmental and demographic indicators to inform agency outreach and engagement practices regarding environmental justice.

FUEL CELL ELECTRIC BUS (FCEB) — A zero-emission bus that runs on compressed hydrogen fed into a fuel cell "stack" that produces electricity to power the vehicle.

GRANT FUNDING OPPORTUNITY — Where the California Energy Commission offers applicants an opportunity to receive grant funding for projects meeting the solicitation requirements.

LOCALIZED HEALTH IMPACTS — Potential health impacts to communities.

PARTICULATE MATTER — Any material besides pure water that exists in a solid or liquid state in the atmosphere. The size of particulate matter can vary from coarse, wind-blown dust particles to fine particle combustion products.

ZERO-EMISSION VEHICLE — A vehicle that produces no pollutant emissions from the onboard source of power.

LIST OF ACRONYMS

AB	Assembly Bill
AQIP	Air Quality Improvement Program
CalEPA	California Environmental Protection Agency
CARB	California Air Resources Board
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CNG	compressed natural gas
CO	carbon monoxide
CO2	carbon dioxide
EJ	environmental justice
EJSM	Environmental Justice Screening Method
FCEB	fuel cell electric bus
GFO	grant funding opportunity
HC	hydrocarbons
LHI	localized health impact
NOPA	notice of proposed award
NOx	nitrogen oxide
OEHHA	Office of Environmental Health Hazard Assessment
$PM_{2.5}$	particulate matter; 2.5 microns or smaller in diameter
PM_{10}	particulate matter; 10 microns in diameter
SB	Senate Bill
SOx	sulfur oxide
U.S. EPA	United States Environmental Protection Agency
VOC	volatile organic compound
ZEV	zero-emission vehicle

APPENDIX A:
Localized Health Impacts Report Method

This LHI report assesses the potential health impacts on communities from projects proposed to receive Clean Transportation Program funding. This LHI report is prepared under the *California Code of Regulations, Title 13, Motor Vehicles, Chapter 8.1 (CCR Section 2343)*:

"(6) Localized health impacts must be considered when selecting projects for funding. The funding agency must consider EJ consistent with state law and complete the following:

(A) For each fiscal year, the funding agency must publish a staff report for review and comment by the public at least 30 calendar days prior to the approval of projects. The report must analyze the aggregate locations of the funded projects, analyze the impacts in communities with the most significant exposure to air contaminants or localized air contaminants, or both, including, but not limited to, communities of minority populations or low-income populations, and identify agency outreach to community groups and other affected stakeholders.

(B) Projects must be selected and approved for funding in a publicly noticed meeting."

This LHI report is not intended to be a detailed pollution analysis of proposed projects nor is it intended to substitute for the environmental review conducted during CEQA. This LHI report includes staff's application of the EJSM developed by the U.S. EPA to help identify projects in areas where social vulnerability indicators, high exposure to pollution, and greater health risks are present.

CEC staff identifies high-risk community project locations using data from CARB, the U.S. Census Bureau, and other public agencies. The data is analyzed to assign EJ indicators for each project location specified in the LHI report. The proposed project location must meet a two-part standard:

Part 1 – Environmental Standard:

- Communities located within an air quality nonattainment zone for ozone, PM 2.5, or PM 10, as designated by CARB for criteria pollutants.

Part 2 – Demographic Standard:

- Communities having more than one of the following EJ indicators for (1) minority, (2) poverty, (3) unemployment, and (4) age. The EJ indicator thresholds is defined by staff as:

    1) A minority subset represents more than 30 percent of a given city's population.
    2) A city's poverty level exceeds the state average poverty level.
    3) The city (or county if city data is unavailable) unemployment rate exceeds the state average unemployment rate.

4) The percentage of people living in a city who are younger than 5 years of age or older than 65 years of age is 20 percent higher than the state average for persons under 5 years of age or over 65 years of age.