



CALIFORNIA RURAL LEGAL ASSISTANCE, INC.

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May 12, 2021

Via Electronic Mail to: CalEnviroScreen@oehha.ca.gov

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Re: Draft CalEnviroScreen 4.0

Dear Ms. Mitchell and CalEnviroScreen Staff,

California Rural Legal Assistance, Inc. (CRLA) submits these comments on the draft CalEnviroScreen (CES) 4.0 released on February 22, 2021. CRLA is a non-profit law firm that has served disadvantaged rural communities throughout California for over fifty years. CRLA works side-by-side with the low-income communities facing the most severe impacts from environmental pollution in California. We commend the Office of Environmental Health Hazard Assessment (OEHHA) and the California Environmental Protection Agency (CalEPA) for its ongoing commitment to improving the accuracy and scope of CES to reflect the numerous overlapping burdens and vulnerabilities facing disadvantaged communities in our State.

CRLA submitted comments on CES 2.0 and 3.0 in which we identified data gaps in several CES indicators that may result in highly burdened rural and low-income communities being excluded from consideration as “environmental justice communities” or “disadvantaged communities.” While improvements have been made to several CES indicators, significant data gaps persist in CES 4.0. We renew our concerns here and offer the following comments.

I. OHEAA Should Create Solutions to Fill Data Gaps and Provide Disclaimers to Users

California agencies and other entities continue to rely on CES scores to determine eligibility or preferential treatment in access to benefits or when administering grant programs. However, the scores assigned to some of the most highly burdened communities, may not fully represent the actual level of vulnerability or burden. This is due to factors such as undercount and marginalization from the American Community Survey (ACS) and Census enumeration, lack of monitoring programs within rural and low-income communities, unique local environmental burdens or population characteristics, or because issues that have the most severe impact on disadvantaged communities, such as substandard housing and inadequate infrastructure, are not monitored by state agencies.

OEHHA should continue to explore statistical solutions to fill data gaps and provide apparent



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disclaimers to CES users of such gaps. OEHHA should add an indicator that would assign a “data reliability” score to a census tract representing the extent to which significant data gaps exist in a given census tract. The 2020 Census demonstrated how easily the enumeration process can be influenced based on the current political environment. Anti-immigrant rhetoric and policies are anticipated to result in a severe undercount of undocumented individuals and families with mixed immigration status. A “reliability indicator” could weigh CES’s existing population indicators that experts have identified statistically lead to Census undercounts.

II. CES 4.0 Should Utilize Available Data to Identify Disadvantaged Unincorporated Communities

Because CES 4.0 uses large census tracts, small rural communities are difficult to identify and distinguish from the larger geographic area. Small rural communities, in particular disadvantaged unincorporated communities (DUCs), are especially vulnerable to pollution. OHEAA should include an option to narrow a search to a specific census block and census designated places to get a more accurate representation of environmental and socio-economic conditions.

SB 244 creates local data that can be used to identify DUCs. SB 244 requires local governments to identify DUCs within their sphere of influence or jurisdictional boundaries and analyze infrastructure deficiencies and inequalities in its general plan’s land use element.¹ DUCs are majority low- and extremely low-income and are disproportionately overburdened by environmental pollutants. The impacts are most acute for DUCs because unlike cities and townships, DUCs are governed by under-resourced counties without means to address the underlying infrastructure needs. CES 4.0 must identify DUCs to ensure resources are targeted to these communities.

OEHHA could review local planning documents for these data and include it in datasets for rural communities. In addition, University of California Davis researchers recently released a General Plan database mapping tool that enables the user to search general plans state-wide for any key term.² A simple term search such as “disadvantaged unincorporated community” and “SB 244” will generate a list of all general plans that include those terms. Another resource, developed by PolicyLink in partnership with CRLA in 2013, is a report and technical guide that provides a comprehensive, multi-factor analytical process to identify DUCs.³ OHEAA can contact PolicyLink directly for the most updated version of the report.

¹ Gov. Code § 65302.10(b).

² Dexter Antonio, Mirthala Lopez, Lindsay Poirier, Sujoy Ghosh, Makena Dettmann, & Catherine Brinkley. (2021, February 24). General Plan Database Mapping Tool (Version 2.1.2). Zenodo. Available at <http://doi.org/10.5281/zenodo.4566234>; <https://critical-data-analysis.org/general-plan-map/>

³ “California Unincorporated: Mapping Disadvantaged Communities in the San Joaquin Valley, Technical Guide” PolicyLink, 2013. Available at https://www.policylink.org/sites/default/files/CA%20UNINCORPORATED_TECHNICAL.pdf



III. Hazardous Waste Generators and Facilities Indicator

The draft report of CES 4.0 states that 97% of toxic chemicals released nationwide originated from small hazardous waste generators and facilities, yet the tool only includes data from large quantity generators and facilities.⁴ Excluding data from small generators and facilities excludes those facilities causing the majority of hazardous waste pollution, which will result in underestimating the pollution burden on impacted communities. This issue remains unchanged from CES 3.0. OEHHA should include all available data from small and large hazardous waste generators and facilities in its calculations to ensure that the pollution burden is accurately reflected.

The existing Hazardous Waste Generators and Facilities indicator in CES 4.0 also excludes facilities located farther than 1,000 meters from any populated census block.⁵ This is another issue that remains unchanged from CES 3.0. Limiting the data set in this manner assumes that hazardous waste generators and facilities located more than 1000 meters from a populated census block will not have an impact on that community. Hazardous waste facilities can have an adverse impact on communities located more than 1000 meters away. Anxiety about potential exposure to hazardous materials via accidental releases, as well as the stigma associated with living near a hazardous waste facility, create chronic stress that leaves residents more vulnerable to other health risks. Residents are also exposed to increased actual and potential health risks resulting from the transport of hazardous wastes to waste facilities located more than 1000 meters away if transport routes run near or through their community.

Rural communities also experience adverse health impact from hazardous waste facilities located nearby despite a 1000-meter buffer. Wind patterns can carry air pollution generated at these facilities and contaminated dust far beyond 1000 meters.

We described in our comments on CES 3.0 the conditions facing Kettleman City, a low-income, majority-Latino, unincorporated community in Kings County located 3.5 miles from the Kettleman Hills Facility, the largest hazardous waste treatment, storage and disposal facility in North America. The Kettleman Hills facility was operating at its normal capacity in 2007 when Kettleman City residents experienced a sudden and unexpected increase in birth defects and related infant deaths that affected nearly a quarter of Kettleman City births. Residents also experience significant respiratory health problems. Residents believe these are associated with the waste facility, although a specific cause has not been determined.

CES 4.0 rates Kettleman City as a 16 for the Hazardous Waste Generators and Facilities indicator – only a slight increase from CES 3.0’s zero rating – despite its close proximity to the 1600-acre hazardous waste facility. The consistent low score presumably is due to the facility’s location being more than 1000 meters from the city and due to CES 4.0’s newly incorporated Department of

⁴ Draft CES 4.0 at 120-121.

⁵ Draft CES 4.0 at 121.



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Toxic Substances Control Violations Scoring Procedure (“DTSC VSP”) that assigned Kettleman Hills facility to the “acceptable” tier in the final compliance tier assignment.⁶ As with CES 3.0, CES 4.0 does not accurately reflect the pollution burden that this rural disadvantaged community bears as a result of this facility.

We again urge OEHHA to reevaluate the 1000-meter limitation and consider expanding the hazardous waste data to include facilities located more than 1000 meters from populated census tracts, communities close to or within hazardous waste transportation routes, and communities that might be affected due to wind patterns. Inclusion of this data would more accurately reflect the additional physical and emotional stressors, and environmental risks that communities face living near hazardous waste disposal facilities.

The CES 4.0 Hazardous Waste Indicator incorporates the DTSC VSP scoring matrix as a data source. A difference between CES 3.0 and CES 4.0 is a significant reduction in the number of hazardous waste sites across the San Joaquin Valley, despite many remaining operational to date. Several large quantity generators currently operational in Stanislaus County are no longer identified, including one of only two incinerators in the state, Stanislaus Resource Recovery Facility. The 16.5-acre facility is located in the southwest corner of the county in the unincorporated community of Crows Landing, about 25 miles from Modesto and burns over 800 tons of waste each day. It is unclear why it was removed.

In addition, we noticed several deltas between CES 3.0 and CES 4.0 indicator scores despite no significant on-the-ground changes. For example, in western Stanislaus County, the City of Patterson and the unincorporated communities Crows Landing and Westley are each located along a 20 mile stretch of Highway 33, running parallel to Interstate 5. No significant environmental changes have occurred in these communities between CES 3.0 and 4.0. However, each experienced dramatic score changes. Patterson’s and Crows Landing’s scores between CES 3.0 and 4.0 dropped from 43 to zero, while Westley’s rose from 43 to an alarming 91. Also unclear, West Patterson, located *immediately* adjacent to the City of Patterson, dropped from 49 to only 29.

Given that no on-the-ground changes have occurred since CES 3.0 to alleviate these communities’ exposure to Hazardous Waste, the difference may be due to the incorporation of the DTSC VSP scoring matrix. OHEAA should re-evaluate the hazardous waste indicator to resolve inaccuracies.

IV. Groundwater Threats

We acknowledge OEHHA’s incorporation of data on existing dairies and Concentrated Animal Feeding Operations (CAFOs) into the groundwater threats indicator. This will help to fully represent the burden these facilities pose on disadvantaged communities and yield a far more

⁶ Violations Scoring Procedure, Managing Hazardous Waste, Department of Toxic Substances Control. Available at <https://dtsc.ca.gov/violations-scoring-procedure/>



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comprehensive picture of environmental risk in areas with a significant numbers of dairies. To further fine tune this data, OEHHA should also consider including information about whether dairy lagoons are unlined, single, or double lined. Double lined lagoons have less risk to groundwater than older ones that may be unlined.

V. Drinking Water Threats

As CES 4.0 describes, rural residents of the San Joaquin Valley rely primarily on shallow domestic wells for water.⁷ For decades, many of the poorest Central Valley communities have relied on these groundwater supplies that have been found to contain contaminants associated with lasting negative health outcomes, contributing to serious generational health impacts. For example, high levels of nitrates, such as those found throughout the agricultural regions of the Central Valley, is a leading cause of “blue baby syndrome”, and associated with elevated risks of cancer, thyroid disease, and diabetes. As the CES 4.0 draft states, studies have shown that “small community water systems serving Latinos and renters supplied drinking water with higher levels of nitrate than systems serving fewer Latinos and a higher proportion of homeowners.”⁸

We recognize that the available data on the geographical location and contamination levels of domestic wells are limited. However, aside from GAMA, CES 4.0 does not utilize many readily available datasets, including the following:

- DWR Bulletin 118 overview of basin/subbasin conditions (groundwater levels and groundwater quality)⁹
- DWR’s Groundwater Sustainability Basin Prioritization¹⁰

⁷ CES 4.0 at 53.

⁸ CES 4.0 at 54 (citing Balazs CL, Morello-Frosch R, Hubbard AE, Ray I (2012). Environmental justice implications of arsenic contamination in California's San Joaquin Valley: a cross-sectional, cluster-design examining exposure and compliance in community drinking water systems. *Environ Health* 11:84.); *See also* “The Struggle for Water Justice in California’s San Joaquin Valley: A Focus on Disadvantaged Unincorporated Communities”, UC Davis Center for Regional Change (Feb. 2018). Available at https://regionalchange.ucdavis.edu/sites/g/files/dgvnsk986/files/inline-files/The%20Struggle%20for%20Water%20Justice%20FULL%20REPORT_0.pdf (analyzing drinking water disparities between DUCs and other communities. The report revealed patterns of racial and ethnic disparities when researchers compared DUCs, Other Unincorporated Communities (UCs) not “disadvantaged”, and Incorporated Communities (ICs). The demographics of DUCs compared to those of UCs, as well as those of ICs, track closely along racial and ethnic lines. For example, although Hispanics constitute 48.9% of the San Joaquin Valley’s total population, they represent over 67.9% of DUC residents, and only 37% of residents in non-disadvantaged UCs. Compared to whites, that population constitutes 36.5 % of San Joaquin Valley residents, while only constituting 24.6% of DUC residents, and 53.9% of non-disadvantaged UCs).

⁹ California’s Groundwater (Bulletin 118), California Department of Water Resources. Available at <https://water.ca.gov/Programs/Groundwater-Management/Bulletin-118>

¹⁰ Basin Prioritization, California Department of Water Resources. Available at <https://water.ca.gov/Programs/Groundwater-Management/Basin-Prioritization>



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- Individual GSA's Hydrogeologic Conceptual Model¹¹
- DWR Water Data Library¹²
- US Geological Survey National Water Information System¹³

CES 4.0 should draw on these readily available datasets to ensure scores more accurately reflect the realities on the ground.¹⁴

At present, CES 4.0's drinking water indicator averages several contaminant concentrations over one compliance cycle from 2011-2019¹⁵ and averages yearly concentrations to create a source concentration. In the case of nitrate contamination, contamination levels can vary significantly depending on the time of year.¹⁶ For example, during the summer growing season, more nitrate might be applied to certain crops and can be transported into the subsurface with irrigation water. Depending on the aquifer materials, this nitrate might travel various distances. A once-a-year sample might capture nitrate contamination when it is at a low point, even though it is higher during other times of the year. Given the complexity and variant nature of drinking water contaminants, sampling limitations, and limited available data, OHEAA should disclose each of these gaps and flesh out potential margins of errors in the report and on the CES 4.0 mapping tool. In the meantime, CES 4.0 should include an apparent disclaimer in the report and map dropdown tab stating that the assigned drinking score is likely an underestimation.

VI. Low birth weight indicator

As was the case with CES 2.0 and 3.0, the draft CES 4.0 excludes from its dataset live births that are not correlated with a known residential address, and excludes births associated with a P.O. Box. We renew our concern that this method will result in the exclusion of data from marginalized rural areas, as a significant proportion of rural residents rely on post office boxes due to factors such as housing instability and housing that lacks secure, private mailboxes. This is particularly true in mobile home parks and agricultural labor camps. Exclusion of P.O. Box data will disproportionately exclude data on farmworkers and other disadvantaged rural populations. OEHHA should include data linked to P.O. boxes to ensure fairness and accuracy.

¹¹ SGMA Portal, California Department of Water Resources. Available at <https://sgma.water.ca.gov/portal/gsp/all>

¹² Water Data Library (WDL) Station Map, California Department of Water Resources. Available at <https://wdl.water.ca.gov/>

¹³ USGS Water-Quality Data for the Nation, National Water Information System: Web Interface. Available at <https://waterdata.usgs.gov/nwis/qw>

¹⁴ The Central Valley Salinity Alternatives for Long-term Sustainability (CV-SALTS) salt and nitrate database is an additional resource, although limited to the Central Valley. Available at <https://www.cvsalinity.org/committees/technical-advisory/conceptual-model-developments/171-updated-groundwater-quality-analysis-for-central-valley.html>

¹⁵ Draft CES 4.0 Report at 51.

¹⁶ "The Importance of Private Well Water Testing." *The Groundwater Foundation*, 2021. Available at www.groundwater.org/get-informed/basics/testing.html (seasonal testing recommended in shallow environments).



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The current Low Birth Weight Indicator data set also excludes census tracts with fewer than 100 live births during a seven-year period. It is understandable that OEHHA prioritizes the use of accurate data, yet exclusion of census tracts with fewer than 100 live births during a seven-year period will primarily exclude data from the most rural and disadvantaged parts of California. OEHHA must continue exploring options that would allow data from the most sparsely-populated rural areas to be included in the low birth weight indicator without compromising its accuracy, such as by lowering the number of live births used for this indicator.

VII. Traffic Impacts and Diesel Indicators

Based on our direct work with rural communities in the San Joaquin Valley, the Traffic Impacts and Diesel Indicators do not appear to accurately reflect conditions on the ground. For example, Beachwood-Franklin is an unincorporated community approximately three miles northeast of the City of Merced.¹⁷ Despite being surrounded by Interstate 99, Santa Fe Drive (a five-lane thoroughfare), and rail yards, it ranks at only at 34% for traffic impact. However, it ranks 86% for rates of asthma and 94% for cardiovascular disease. This demonstrates that the indicator measurements do not accurately reflect the conditions. Further, measuring traffic volumes within only 150 meters of the census tract is insufficient as pollution generated from traffic can have significant health impacts on children within areas of 0.2 to 0.3 miles (300 to 500 meters).¹⁸ Adults living closer to the road, within 300 meters, may also be at risk of developing dementia.

VIII. PM2.5 Indicator

We recognize that OEHHA has taken steps to improve the accuracy of the air quality indicators in CES 4.0 by including data from additional air monitors and by further refining satellite data to improve coverage of the PM2.5 indicator. However, with respect to monitors, we remain concerned that, like the CES version 3.0, draft 4.0 relies on a methodological assumption that existing air quality monitors are reliable up to a radius of 50 kilometers. This methodological assumption can lead to inaccurate readings in the most rural and disadvantaged communities and, consequently, inaccurate overall scores for some of the most pollution-burdened areas.

As explained in our comments on CES 3.0, not all air quality monitors in the network maintained by the California Air Resources Board (CARB) are designed to monitor air quality effectively on a large spatial scale. Federal regulations designate monitors as operative at one of seven scales: microscale (measuring up to 100 meters), middle scale (measuring 100 meters to 0.5 kilometer), neighborhood scale (measuring 0.5 to 4.0 kilometers), urban scale (measuring 4-50 kilometers), regional scale (measuring tens to hundreds of kilometers) and national and global scales. Only

¹⁷ Census Tract 6047000902

¹⁸ “Traffic-Related Air Pollution: A Critical Review of the Literature on Emissions, Exposure, and Health Effects”, Health Effects Institute (2010) at 7-20. Available at <https://www.healtheffects.org/system/files/SR17TrafficReview.pdf>



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monitors ranked as regional are designed to measure rural areas beyond 50 kilometers, and then only when the geography is reasonably homogenous. In addition, the indicators include additional data to account for variations in topography which can greatly influence PM2.5 levels.

As described in Section III above, Patterson, Crows Landing, and Westley neighbor each other along a 20-mile stretch of Highway 33, parallel to Interstate 5. Despite no on-the-ground changes and being only four miles from Interstate 5, Crows Landing's PM2.5 score dropped from 66 to 28, a 38-point decrease. Similarly, West Patterson and the City of Patterson's scores dropped 41 points from 93 to 52. Given these drastic changes, OHEAA should re-evaluate the PM2.5 indicators to ensure accuracy.

IX. Climate Change Threats Indicator

The purpose of CES is to help identify communities most affected by pollution and where people are often especially vulnerable to its effects. However, among the 21 indicators, CES 4.0 does not have a climate change threats indicator, particularly to assess the impacts of extreme heat brought on by the warming climate.

Extreme heat is the number one cause of weather-related fatalities in the United States, and climate change will only worsen heat-related public health emergencies.¹⁹ Further, one's vulnerability depends on a person's exposure, sensitivity, and capacity to adapt. Socio-economic factors that affect one's ability to adapt to extreme heat include financial resources, access to health care and healthy food, and his/her local social capital.²⁰ Studies have shown that average temperatures are hotter in low-income disadvantaged communities that often suffer from extensive pavement and a lack of shade and green space, leading to an effect called "thermal inequity."²¹

Adaptive measures in the built environment, such as parks, green space, tree canopies, reducing impervious surfaces²², and lighter colored paving and roofs can mitigate rising temperatures, and avoid the "urban heat island effect." But disadvantaged communities often do not have the resources to adopt such measures and are therefore more vulnerable to the effects of climate change. Further, on an individual household level, air conditioning is an important mitigation measure but is often too cost prohibitive for low-income residents. Given that people of color are more likely to reside in disadvantaged communities and have lower incomes, they will

¹⁹ National Weather Service, 2018; U.S. EPA, & CDC, 2016.

²⁰ Anderson & Bell, 2009; Semenza et al., 1996.

²¹ C. J. Gabbe & Gregory Pierce (2020) Extreme Heat Vulnerability of Subsidized Housing Residents in California, Housing Policy Debate, 30:5, 843-860, DOI: [10.1080/10511482.2020.1768574](https://doi.org/10.1080/10511482.2020.1768574) (citing (Mitchell & Chakraborty, 2014, 2015)).

²² California Building Resilience Against Climate Effects (CalBRACE) Project, California Department of Public Health, University of California Davis (December 2, 2016). Available at https://healthyplacesindex.org/wp-content/uploads/2018/02/cdph_impervious_surfaces.pdf



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disproportionately experience the effects of heat and will face the greatest health challenges, making policy advancement for adaptation measures critical.

In addition, a recent Housing Policy Debate Journal article examined the intersections of housing choice, land use, and climate change.²³ For example, the rising cost of housing forces low-income families to relocate to the fringes of cities and counties increasing their risk of being impacted by wildfires.

These are some of the many justifications why OHEAA should add a climate change threats indicator. The climate change threats indicator can include thermal heat mapping overlay to visualize “heat islands” and areas most impacted by extreme heat. The Governor’s Office of Planning and Research’s Resilient CA Adaptation Planning Map (RAP-Map) launched in March 2021 and offers comprehensive, readily available data which OHEAA can utilize.

X. Socioeconomic Indicator Should Include Unsheltered People Experiencing Homelessness

Unsheltered people experiencing homelessness (PEH) are at greater risk of exposure to environmental hazards and climate change than the general population. Often lacking access to health care, unsheltered PEH are at heightened risk of developing serious health problems. Without access to safe drinking water, heat, or air conditioning, those residing in extreme weather conditions are more susceptible to heatstroke and exhaustion in high temperatures, and hypothermia in low temperatures. In areas with poor air quality, unsheltered individuals are more likely to develop asthma and other lung-related issues. Hot weather also increases the insect populations that carry diseases.

OHEAA should add an unsheltered people experiencing homelessness socioeconomic indicator. OHEAA should collaborate with the State’s Homeless Coordinating and Finance Council (HCFC) that recently launched its Homeless Data Integration System (HDIS), a statewide homeless data warehouse, to obtain unsheltered population counts.

XI. Housing-Burdened Low-Income Households Indicator

The inclusion of Housing-Burdened Low-Income Households Indicator in the 4.0 draft is critical as it can help better represent the overlapping vulnerabilities many pollution-burdened communities experience. CES 4.0’s uses CHAS data which can help demonstrate the extent of housing problems and housing needs, particularly for low-income households, as it weighs affordability with housing conditions like lead paint risks, the age of homes, number of bedrooms, and type of building. These are helpful but as the CES 3.0 draft had clearly explained, housing-cost burden measures of affordability do not consider the income remaining after housing

²³ C. J. Gabbe & Gregory Pierce (2020) Extreme Heat Vulnerability of Subsidized Housing Residents in California, Housing Policy Debate, 30:5, 843-860, DOI: [10.1080/10511482.2020.1768574](https://doi.org/10.1080/10511482.2020.1768574).



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expenditures and whether it is adequate to meet non-housing needs, such as food, transportation, health care, childcare, and taxes.²⁴ We agree with the draft 3.0's point here and it should be incorporated into version 4.0. The residual income approach, in conjunction with the CHAS data, can offer a more comprehensive understanding of housing burdens across different areas of the State. Further, CHAS data offers more granular data at the city, minor civil division, or Census Designated Place (CDP) level which CES should utilize to achieve greater accuracy.

XII. Other Indicators Not Currently Considered in CalEnviroScreen

Gathering data to represent these burdens will require supplementary investigation at the local level, but much of the information needed to measure these burdens is available. Including more localized data will provide a more thorough snapshot of California's most marginalized communities. Some types of data may not be immediately apparent as pollution burden data, but taken together with the data already utilized in CES, represent a fuller, more accurate understanding of environmental justice.

Useful additional indicators should include:

1. Lack of access to healthy and sustainable transportation infrastructure, including safe walking and biking routes. Possible datasets could include traffic-related pedestrian and bicycle fatalities or injuries, or data used in local government Active Transportation Plans.
2. Exposure to untreated wastewater due to failing septic systems. Possible datasets could include the number and location of households not served by municipal sewer systems, particularly when multiple households reside on a single parcel such as in mobile home parks.
3. Disadvantaged Unincorporated Community infrastructure needs. SB244 requires that local governments, as part of their development planning process, gather data on the presence of disadvantaged unincorporated communities (DUCs) within their sphere of influence and determine what critical infrastructure is lacking in those communities. These data are included in general plan documents. OEHHA could review local planning documents for these data and include it in datasets for rural communities.
4. Lack of access to medical care, which increases the vulnerability of rural and low-income populations to existing pollution burdens. Possible data sources could include the OHSPD Medically Underserved Area Atlas.

²⁴ Update to the California Communities Environmental Health Screening Tool, Proposed CalEnviroScreen 3.0 (Sept. 6, 2016), Office of Environmental Health Hazard Assessment, California Environmental Protection Agency, at 136 (citing Kutty NK (2005). A New Measure of Housing Affordability: Estimates and Analytical Results. Housing Policy Debate 16(1):113-42.)). Available at <https://oehha.ca.gov/media/downloads/calenviroscreen/report/ces3draftreportfinal.pdf>



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5. Lack of access to public transit, as transportation equity is inherently related to access to opportunity, access to medical care, healthy food, safe housing, and employment opportunities for rural and low-income communities. Potential data sources include local and regional transportation plans that show the number of public transit lines or stops within a census tract and transportation equity analyses required for transportation funding.

6. Location of food deserts. Lack of access to healthy and fresh food increases the vulnerability of communities to other pollution burdens. Most low-income and rural communities lack sufficient numbers of grocery stores with fresh produce and healthy food options, and instead feature fast-food restaurants, liquor stores, and convenience stores with a dearth of healthy options. Lack of local grocery stores combined with transportation inequity obstacles means that many low-income people do not have access to food that supports overall wellness and decreases vulnerability to pollution exposure. Potential data sources could include generalized searches on mapping software such as Google Maps to locate and track the presence of grocery stores within accessible distance to census tracts.

We thank you for the time and effort that your staff has invested in creating the CalEnviroScreen tool. It is a unique and essential instrument for environmental justice organizations, and one that we utilize regularly in our work. We also thank you for seeking our comments on ways the tool can be improved to better serve disadvantaged and rural communities and hope that our comments will be helpful to achieve this goal.

Sincerely,

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