VMT REDUCTION IN PROP 30

Prop 30's primary focus is on cleaning our transportation fleet – both light duty as well as medium and heavy duty. As mentioned in the below section, this is critical for meeting our climate and clean air goals. But Prop 30 focuses on far more than just electrifying privately owned cars. Prop 30 also focuses on making investments in reducing VMT to make it easier to meet our clean transportation goals, and to deliver on shared goals of safety, prosperity and equity.

More specifically, one of the key goals of the measure is "increasing access to zero-emission clean mobility options that do not require car ownership" (PRC.1.47.80217(h)), which CARB is directed to invest the funds in such a way the goals of the measure. This is given further substance in the measure making possible investments in[i]:

(a) The purchase of zero-emission public transit buses, trains and ferries, and the associated charging and fueling infrastructure. By way of example, in San Francisco alone the investment need to transition to zero-emission transit vehicles estimated at $1.1bn over the coming 12 years.
(b) Transit passes, especially for low income and disadvantaged communities.
(c) The purchase of zero-emission school buses and the associated charging and fueling infrastructure.
(d) Support for zero-emission vanpools, as well as zero-emission car share and carpooling.
(e) The purchase of electric bikes, as well as investments in bike sharing and protected bike lanes.

This focus on accessing clean mobility options is in stark contrast to measures like the IRA that only helps Americans purchase zero emission vehicles (although not e-bikes) and install the associated charging and fueling infrastructure. Unlike the Bipartisan Infrastructure Act, Prop 30 also does not invest in any new highway or road capacity which has the potential to massively and counterproductively increase VMT.

THE NEED TO ELECTRIFY CARS, TRUCKS, AND BUSES

Numerous independent studies have come to the same conclusion: reducing global warming pollution to the levels required to avoid the worst impacts of climate change will require a dramatic shift to electric vehicles powered by renewable and other zero-carbon energy sources.[ii] Other strategies, such as reducing the need to driver are also critical and achieve other important social goals, but there simply is no feasibly path to meeting our climate, air quality and equity goals that does not involve electrifying the transportation sector

Electric vehicles are also needed to meet air quality standards and address pollution in communities located next to freeways and major roads, who bear the brunt of tailpipe pollution. It is estimated that traffic pollution causes more than 50,000 premature deaths annually in the

lower 48 states, which is more than 1.5 times the deaths from traffic accidents on an annual basis.[iii]

The combustion of fossil fuels by vehicles emit large quantities of nitrogen oxide (NOx) pollution, which contributes to the formation of both particulate matter pollution and ozone (i.e., smog).[iv] Diesel emissions, largely from medium and heavy-duty vehicles, are toxic and dangerous to those breathing closest to the source of pollution; exposure to significant amounts of diesel exhaust can lead to premature death and other devastating health impacts including asthma and respiratory impacts,[v] pregnancy complications and adverse reproductive outcomes,[vi] cardiac and vascular impairments,[vii] and heightened cancer risk.[viii] Finally, vehicles generate GHG emissions that contribute to global climate change, which exacerbates local air quality issues through various means; climate-driven increases in ozone are predicted to cause premature deaths, hospital visits, lost school days, and acute respiratory symptoms, and wildfires made more frequent and more severe by climate change further increase emissions of particulate matter and ozone precursors resulting in additional adverse local health outcomes.[ix] This "triple threat" disproportionately impacts low-income communities and communities of color that often live near freeways, ports, railyards, warehouses and other facilities that generate significant levels of localized diesel exhaust.[x]

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[i] Statutory language from Prop 30: "Programs eligible for funding pursuant to this chapter may include, but are not limited to, those that:

> (a) Provide block grants, grants, loans, or other incentives for zero-emission school buses so pupils ride to school in ZEVs.
> (b) Provide block grants, grants, loans, or other incentives for zero-emission transit buses so people get to where they need to go in ZEVs.
> (c) Provide incentives, grants, and block grants for governments and businesses to buy medium-, heavy-duty, and off-road agricultural and construction ZEVs.
> (d) Provide financing assistance to help those without access to capital or high credit acquire new and used ZEVs.
> (e) Help people retire old polluting vehicles and replace them with new and used ZEVs or other zero-emission mobility options.
> (f) Help agricultural workers and others utilize zero-emission vanpools.
> (g) Provide local air quality benefits in communities overburdened by diesel pollution, in addition to reducing GHG emissions.
> (h) Increase access to clean mobility options, including but not limited to:
> (1) Electric bikes.
> (2) Bike-sharing.
> (3) Protected bike lanes.
> (4) Transit passes."

[ii] *See, e.g.*, Williams, J.H. *et al*, *Pathways to Deep Decarbonization in the United States*, ENERGY AND ENVIRONMENTAL ECONOMICS, INC. (E3) (Nov. 2014); California Council on Science and Technology, *California's Energy Future*: *The View to 2050* (May 2011); Williams, J.H. *et al*, *The Technology Path to Deep Greenhouse Gas Emissions Cuts by 2050: The Pivotal Role of Electricity*, SCIENCE 335, No. 6064,

pp. 53-59 (Jan. 2012); Cunningham, Joshua, *Achieving an 80% GHG Reduction by 2050 in California's Passenger Vehicle Fleet*, SAE INTERNATIONAL JOURNAL OF PASSENGER CARS—ELECTRONIC AND ELECTRICAL SYSTEMS 3, No. 2, pp. 19-36 (Dec. 2010); Wei, Max *et al*, *Deep Carbon Reductions in California Require Electrification and Integration across Economic Sectors*, ENVIRONMENTAL RESEARCH LETTERS 8, No. 1 (2013); Melaina, M. and K. Webster, *Role of Fuel Carbon Intensity in Achieving 2050 Greenhouse Gas Reductions within the Light-Duty Vehicle Sector*, ENVIRON. SCI. TECHNOL. 45, No. 9, pp. 3865-3871 (2011); International Energy Agency, *Transport, Energy, and CO2: Moving Towards Sustainability*, OECD/IEA (2009); National Research Council, *Transitions to Alternative Vehicles and Fuels,* THE NATIONAL ACADEMIES PRESS (2013).

[iii] *See* Caiazzo, Fabio *et al*, *Air Pollution and Early Deaths in the United States*, ATMOSPHERIC ENVIRONMENT 79, pp. 198-208 (Nov. 2013); National Highway Traffic Safety Administration, *Fatality Analysis Reporting System (FARS) Encyclopedia*.

[iv] EPA, *Nitrogen Dioxide (NO_2) Pollution*, available at https://www.epa.gov/no2-pollution, last checked June 21, 2021.

[v] Stephanie Lovinsky-Desir et al., *Air pollution, urgent asthma medical visits and the modifying effect of neighborhood asthma prevalence*, 85 PEDIATRIC RESEARCH, pp. 36-42 (2019), available at https://doi.org/10.1038/s41390-018-0189-3, last checked June 21, 2021; Gayan Bowatte et al., *Traffic related air pollution and development and persistence of asthma and low lung function*, 113 ENVIRONMENT INTERNATIONAL 170, pp. 170–176 (2018), available at https://www.sciencedirect.com/science/article/pii/S0160412017319037, last checked June 21, 2021.

[vi] Jun Wu *et al*, *Association Between Local Traffic-Generated Air Pollution and Preeclampsia and Preterm Delivery in the South Coast Air Basin*, 117 ENVTL. HEALTH PERSP. 1773, pp. 1773-1779 (2009), available at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2801174/, last checked June 21, 2021; Qi Yan *et al*, *Maternal serum metabolome and traffic-related air pollution exposure in pregnancy*, 130 ENVIRONMENT INTERNATIONAL 104872 (2019), available at https://doi.org/10.1016/j.envint.2019.05.066, last checked June 21, 2021; Li Fu *et al*, *The associations of air pollution exposure during pregnancy with fetal growth and anthropometric measurements at birth: a systematic review and meta-analysis*, 26 ENVIRONMENTAL SCIENCE AND POLLUTION RESEARCH 20137 (2019), available at https://doi.org/10.1007/s11356-019-05338-0, last checked June 21, 2021.

[vii] Kimberly Berger et al., *Associations of Source-apportioned Fine Particles with Cause-specific Mortality in California*, 29 EPIDEMIOLOGY 639 (2018), available at https://pubmed.ncbi.nlm.nih.gov/29889687/, last checked June 21, 2021; Stacey Alexeef *et al*, *High-resolution mapping of traffic related air pollution with Google street view cars and incidence of cardiovascular events within neighborhoods in Oakland, CA*, 17 ENVIRONMENTAL HEALTH 38 (2018), available at https://doi.org/10.1186/s12940-018-0382-1, last checked June 21, 2021; J.E. Hart *et al*, *Ischaemic Heart Disease Mortality and Years of Work in Trucking Industry Workers*, 70 OCCUPATIONAL AND ENVTL. MEDICINE 523–528 (2013).

[viii] Cal. EPA. Air Res. Bd., *Supplement to the June 2010 Staff Report on Proposed Actions to Further Reduce Diesel Particulate Matter at High-Priority California Railyards* (July 5, 2011), available at http://www.arb.ca.gov/railyard/commitments/suppcomceqa070511.pdf, last checked June 21, 2021; International Agency for Research on Cancer, *Diesel Engine Exhaust Carcinogenic,* 20 CENT. EUR. J. PUBLIC HEALTH 120, p. 138 (2012); L. Benbrahim-Tallaa *et al*, *Carcinogenicity of Diesel-Engine and*

Gasoline-Engine Exhausts and Some Nitroarenes, 13 THE LANCET ONCOLOGY, pp. 663–664 (2012), available at http://doi.org/10.1016/S1470-2045(12)70280-2, last checked June 16, 2021.

[ix] U.S. Global Change Research Program, *The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment*, Ch. 3, "Air Quality Impacts" (2016), available at https://health2016.globalchange.gov/air-quality-impacts, last checked June 21, 2021; EPA, *Quantitative Health Risk Assessment for Particulate Matter,* (2010), available at

https://www3.epa.gov/ttn/naaqs/standards/pm/data/PM_RA_FINAL_June_2010.pdf, last checked June 21, 2021.

[x] Arlene Rosenbaum *et al*, *Analysis of Diesel Particulate Matter Health Risk Disparities in Selected US Harbor Areas*, AM. J. PUB. HEALTH S217, S221 (2011), available at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3222501/, last checked June 21, 2021; Michelle Bell, and Keita Ebisu, *Environmental inequality in exposures to airborne particulate matter components in the United States,* ENVIRONMENTAL HEALTH PERSPECTIVES 120.12, pp. 1699-1704 (2012).