



September 14, 2026

Matthew O'Donnell
Branch Chief, Risk Reduction Branch
Transportation & Toxics Division
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: CRTA Comments on Draft Roadmap to Reduce Air Toxics

Dear Branch Chief O'Donnell,

The California Renewable Transportation Alliance (CRTA) appreciates the opportunity to comment on CARB's *Draft Roadmap to Reduce Air Toxics* (Roadmap).

CRTA is a coalition of renewable fuel producers, fleet operators, engine manufacturers, and other stakeholders that have worked alongside California policymakers for decades to advance cleaner transportation technologies and improve air quality. Our members invest in and deploy solutions that are reducing criteria pollutants, toxic emissions, and greenhouse gas emissions (GHG) today, particularly in the freight and goods movement sectors, which have a disproportionate impact on many of California's most heavily burdened communities.

With that in mind:

- We strongly support the Roadmap's focus on reducing toxic air pollution and protecting public health.
- We fully support efforts to reduce exposure to diesel particulate matter (DPM), long recognized by CARB as a Toxic Air Contaminant (TAC).
- We greatly value solutions that achieve measurable, real-world emissions reductions.

While the Roadmap serves as a high-level statement of ambition, we are concerned that as currently framed, it reinforces an exclusive technology approach that discounts the air quality benefits that low NOx trucks operating on renewable natural gas (RNG) are achieving today and will continue to deliver well into the transition. Unless the final Roadmap draft specifically recognizes the meaningful, measurable reductions that a technology-neutral approach can produce, it risks limiting consideration of available and effective solutions like low NOx emission trucks.

Therefore, we urge CARB staff to update the Roadmap to ensure the final draft reflects a balanced, technology-neutral approach by including specifics on the capabilities and contributions of low NOx trucks and recognizing that zero-emission and low NOx

technologies play complementary roles in achieving meaningful and timely air quality improvements.

The Importance of a Technology-Neutral Approach

California's persistent air quality challenges necessitate a technology-neutral approach that leverages the broadest range of effective emissions reduction solutions. Such an approach values emissions outcomes over technology preferences and focuses on deployment strategies that maximize real-world reductions across a wide range of vehicle applications.

The urgency of reducing toxic exposure is particularly acute in communities located near heavily traveled truck corridors, where diesel exhaust remains a dominant source of localized air pollution. Reducing actual exposure to diesel exhaust and DPM in these communities should remain a central measure of success.

Focusing on outcomes rather than a prescribed technology pathway will ensure policy directives prioritize measurable air quality improvements, support operational realities, and encourage innovation. Given varying levels of technology and infrastructure readiness across vehicle applications, California cannot afford to overlook commercially available solutions capable of delivering significant emissions reductions today. Deploying both zero-emission and low NOx trucks will maximize near-term air quality benefits, accelerate the replacement of higher-emitting trucks, and support a practical and cost-effective transition to a fully zero-emission future.

A technology-neutral framework is especially important because every older diesel truck replaced with a cleaner alternative can immediately reduce community DPM exposure, ensuring direct and measurable public health improvements long before a full transition to zero-emission transportation is achieved.

Adopt an Outcomes Based Approach to Air Quality Improvement

California's air quality goals are best served by deploying technologies whenever and wherever they can deliver the greatest emissions reductions in the shortest amount of time. For communities located near freight activity, the speed of improvement matters. Residents suffering from disproportionate exposure to TACs, like DPM, benefit from real emissions reductions, not simply the promise of future technology deployment.

The Roadmap should therefore prioritize actions that achieve the fastest reductions in toxic exposure. Since older diesel vehicles can remain in operation for many years, accelerated replacement with cleaner technologies, like low NOx trucks operating on RNG, can substantially reduce both DPM as well as NOx emissions in the near term.

Accordingly, the Roadmap should expressly state that CARB will pursue the "cleanest available technologies" capable of achieving significant and verifiable reductions in toxic pollutants, criteria pollutants, and community exposure. Such an approach is particularly important at a time when federal constraints have altered our anticipated course, requiring more adaptable policies that retain the full range of proven solutions capable of delivering meaningful emissions reductions. Maintaining a broad portfolio of proven clean transportation solutions will help ensure the state can continue making real progress towards

air quality goals without delaying regulatory attainment and urgently needed emission reductions.

Recognize the TAC Reduction Opportunities of Low NOx Trucks

While much of the discussion surrounding truck emissions focuses on NOx, the Roadmap must recognize the significant public health benefits associated with reducing DPM exposure. DPM is composed of ultrafine particles capable of penetrating deep into the lungs and entering the bloodstream, where they contribute to respiratory illnesses, cancer risk, cardiovascular disease, asthma exacerbation, hospital admissions, and premature mortality^{1 2}. Because of these adverse health outcomes, reducing diesel exhaust exposure remains one of the most important opportunities to lower toxic air pollution in freight-impacted communities.

Specifically concerning to CRTA is the failure of the draft Roadmap to acknowledge the role RNG-powered low NOx trucks can play in reducing DPM. The rapid replacement of diesel trucks in communities with elevated truck-related pollution exposure is the only way to realize immediate and measurable air quality improvements. As a direct one-to-one replacement for conventional diesel vehicles, low NOx trucks can reduce emissions today while supporting the state's broader transition to zero.

The public health implications are substantial. CARB has estimated that DPM contributes to approximately 1,400 premature cardiovascular deaths annually in California and is responsible for a large share of the state's estimated TAC cancer risk³. Every replacement of an older diesel truck with a low NOx truck represents an elimination of DPM as well as a reduction in NOx emissions. Accelerated fleet turnover should be viewed as a core public health strategy. Any strategy capable of rapidly reducing diesel exhaust exposure therefore warrants explicit recognition within the Roadmap.

Recognize the Air Quality Benefits of Low NOx Trucks and RNG

Accelerated turnover of legacy diesel trucks can produce significant reductions in NOx, DPM and other pollutants that contribute to poor air quality and adverse health outcomes. While not a substitute for the Roadmap's overall objectives, acknowledging the role RNG-powered low NOx trucks can play in achieving this objective would provide a more complete picture of all the tools currently available to reduce community exposure to transportation-related pollution.

Heavy-duty trucks account for more than 35 percent of transportation-related NOx emissions in California while representing only about 6 percent of vehicles on the state's roadways, so the value of this approach is not theoretical.

As discussed below, recent analyses from Energy Vision and the University of California Riverside (UCR) Center for Environmental Research and Technology confirm that RNG-

¹ California Air Resources Board (CARB), *Summary: Diesel Particulate Matter Health Impacts*, available at <https://ww2.arb.ca.gov/resources/summary-diesel-particulate-matter-health-impacts>.

² California Air Resources Board (CARB), *Overview: Diesel Exhaust & Health*, available at <https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health>.

³ Id.

powered low NOx trucks offer one of the most effective near-term pathways for reducing transportation-related emissions and improving public health in communities suffering from localized truck pollution.

Energy Vision's 2025 report "*A Path to a Healthier America: Ditching Old Diesel Trucks*"⁴ highlights RNG trucks as the most effective near-term solution for replacing older diesel trucks and improving air quality.

According to their analysis using U.S. EPA's COBRA model, RNG trucks deliver approximately **88% of the health benefits** associated with zero-emission trucks (ZET) while being significantly more affordable, widely available, and operationally proven, as shown in Figure 6.

Figure 6: Key Avoided Annual Healthcare Cases Nationwide from Switching the Oldest 20% of Heavy-Duty Diesel Vehicles in the 31 Counties to New RD, RNG, or Electric Models

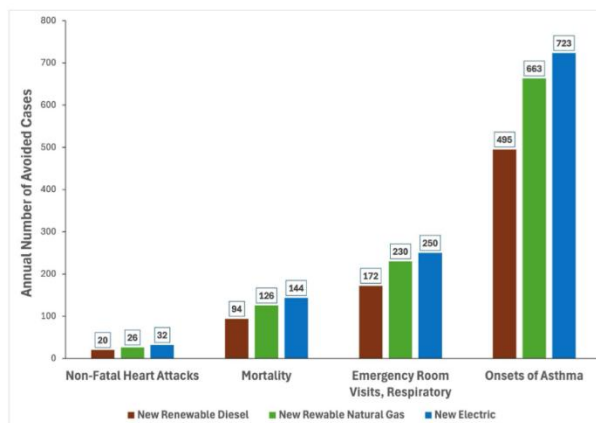


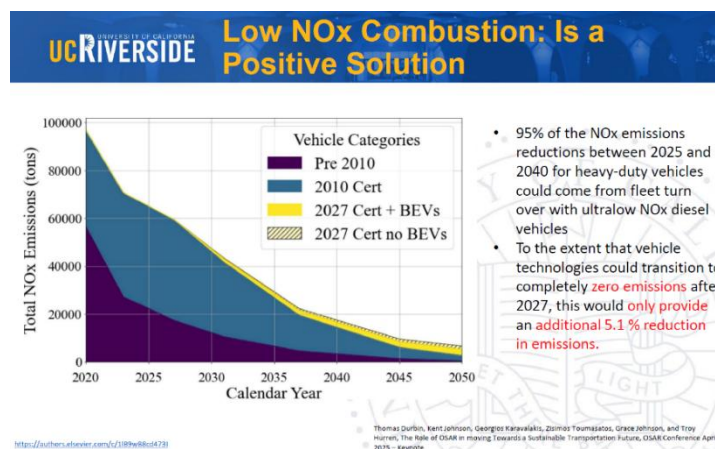
Figure 3: Air Pollutant Emissions Reductions for This Report's Hypothesized Fleet of 130,000 Pre-2013 Heavy-Duty Diesel Vehicles Being Replaced By New Diesel Trucks Burning RD, New CNG Trucks Burning RNG, and New Electric Models

New Truck and Fuel Type	Total NOx reduction	Total PM2.5 reduction	Total SOx reduction	Total VOC reduction
New Diesel	70.38%	33.00%	10.06%	54.36%
New CNG	94.21%	42.82%	100.00%	77.54%
New Electric	100.00%	67.87%	100.00%	100.00%

Source: Energy Vision calculations using emissions data from CARB EMFAC2021v.1.0.2.²⁶

The report also concluded that RNG trucks also achieve over **94% NOx reduction**, making them a powerful near-term tool for improving public health (Figure 3).

The UCR Center for Environmental Research and Technology's findings affirm these conclusions by demonstrating in the slide below that the benefits of a complete transition to zero emissions after 2027 **would only provide an additional 5.1% reduction in emissions.**



⁴ Energy Vision, *A Path to a Healthier America: Ditching Old Diesel Trucks* (March 2025), available at <https://energy-vision.org/wp-content/uploads/2025/03/ditching-diesel.pdf>.

Collectively, these results underscore the significant air quality and health benefits associated with replacing older diesel trucks with RNG-powered low NOx trucks.

To be clear, recognizing these benefits does not diminish California's commitment to zero-emission technologies. Rather, it reflects the reality that complimentary pathways can deliver the greatest and fastest reductions in toxic emissions and community exposure in the communities the Roadmap seeks to protect.

Evaluate Strategies Based on Real-World Outcomes and Preserve Access to Effective Solutions

As CARB develops future policies, regulations, and incentive programs, the Roadmap should encourage evaluation of technologies and strategies based on their actual environmental performance and public health benefits rather than technology classifications alone.

Evaluation criteria should explicitly include reductions in DPM exposure and associated toxic health impacts. Such measures align directly with the stated objectives of the Roadmap and provide a clearer picture of how individual strategies affect the health of residents living near freight operations and transportation corridors.

In recognizing that multiple technology pathways can contribute to California's air quality objectives, CARB should avoid recommendations that automatically exclude low NOx combustion technologies from grants, incentives, or deployment programs when measurable and verifiable air quality benefits can be demonstrated. Preserving access to all proven clean transportation solutions will help accelerate emissions reductions, support regulatory attainment, and maintain progress toward the state's long-term transportation goals.

Conclusion

CRTA supports CARB's efforts to reduce toxic air pollution and improve public health. We encourage CARB staff to revise the Roadmap draft to do the following:

- Explicitly recognize that meaningful air quality improvements can be achieved through multiple technology pathways.
- Declare that California's air toxics strategy should be outcome based rather than technology prescriptive.
- Recognize DPM reduction as a core public health objective and expressly acknowledge the importance of accelerating the replacement of older diesel vehicles.
- Promote technologies that deliver substantial reductions in toxic emissions, DPM, NOx, and community exposure.
- Ensure future policies, regulations, and incentive programs evaluate and support technologies based on measurable emissions reductions, toxic exposure reductions, public health benefits, and real-world deployment outcomes.

With this focus, the Roadmap can influence action-oriented policies that maximize progress toward cleaner air while maintaining the flexibility needed to deploy effective solutions as quickly as possible.

Thank you for your consideration.

Sincerely,

A handwritten signature in cursive script that reads "Nicole Rice".

Nicole Rice, President
California Renewable Transportation Alliance (CRTA)

cc: CARB Board Members
Dr. Steve Cliff, Ph. D., Executive Officer, CARB
Richard Boyd, Division Chief, Transportation & Toxics Division, CARB