

Responses to Comments

on the

Draft Environmental Analysis

Prepared for the

Innovative Clean Transit Regulation

**California Air Resources Board
1001 I Street
Sacramento, California, 95814**

Released December 4, 2018

to be considered at the

December 14, 2018 Board Hearing

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Attachments

- A. Comment Letters

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1. INTRODUCTION

The California Air Resources Board (CARB or Board) released a Draft Environmental Analysis (Draft EA) for the Proposed Innovative Clean Transit Regulation (Proposed Project) on August 7, 2018, for a 45-day public review and comment period that concluded September 24, 2018. The ICT Regulation was modified and made publicly available for a 15-day comment period from November 9 through November 26, 2018. CARB received numerous comment letters through the comment docket opened for the Proposed Project including the Draft EA, during that time. All of the comment letters are available for viewing on the comment docket at:

<https://www.arb.ca.gov/lispub/comm/bccommlog.php?listname=ict2018>. Pursuant to CARB's certified regulatory program, staff reviewed all the comment letters received to determine which ones raised significant environmental issues related to the Draft EA requiring a written response.

This document presents those comments and CARB staff's written responses for the Board to consider for approval prior to taking final action on the Proposed Project. Although this document includes written responses only to those comments related to the Draft EA, all of the public comments were considered by staff and provided to the Board members for their consideration. For reference purposes, this document frequently includes direct quotes of each comment followed by the written response. The full comment letters have been bracketed and included in Attachment A to this document. Attachments and appendices to these comment letters can be found at the link to the docket provided above.

Following consideration of the comments received on the Draft EA and during the preparation of the responses to those comments, CARB revised the Draft EA to prepare the Final EA released December 4, 2018.

1.1. Requirements for Responses to Comments

These written responses to public comments on the Draft EA are prepared in accordance with CARB's certified regulatory program to comply with the California Environmental Quality Act (CEQA). CARB's certified regulations state:

California Code of Regulations, title 17, Section 60007. Response to Environmental Assessment

(a) If comments are received during the evaluation process which raise significant environmental issues associated with the proposed action, the staff shall summarize and respond to the comments either orally or in a supplemental written report. Prior to taking final action on any proposal for which significant environmental issues have been raised, the decision maker shall approve a written response to each such issue.

Public Resources Code (PRC) Section 21091 also provides direction on reviewing and responding to public comments in compliance with CEQA. While this section refers to

environmental impact reports, proposed negative declarations, and mitigated negative declarations, rather than an EA, it contains useful guidance for preparing a thorough and meaningful response to comments.

PRC Section 21091, subdivision (d) states:

(1) The lead agency shall consider comments it receives if those comments are received within the public review period.

(2) (A) With respect to the consideration of comments received, the lead agency shall evaluate any comments on environmental issues that are received from persons who have reviewed the draft and shall prepare a written response pursuant to subparagraph (B). The lead agency may also respond to comments that are received after the close of the public review period.

(B) The written response shall describe the disposition of each significant environmental issue that is raised by commenters. The responses shall be prepared consistent with section 15088 of Title 14 of the California Code of Regulations.

The CEQA Guidelines, in California Code of Regulations, title 14, Section 15088, also require a thorough and meaningful response to comments. Section 15088 states, in relevant part, that specific comments and suggestions about the environmental analysis that are at variance from the lead agency's position must be addressed in detail with reasons why specific comments and suggestions were not accepted. Responses must reflect a good-faith, reasoned analysis of the comments.

1.2. Comments Requiring Substantive Responses

CARB is required to prepare written responses only to those comments that raise "significant environmental issues" associated with the proposed action, as outlined in California Code of Regulations, title 17, Section 60007(a). A total of 423 comment letters were submitted electronically on or before September 24, 2018 to the comment docket set up for the Proposed Project and its appendices, including the Draft EA, and seven additional comment letters were received during the first Board Hearing held for this item on September 28, 2018. Out of the 430 total comment letters initially received, 12 comment letters were determined to include comments raising significant environmental issues related to the Draft EA. The Proposed Projects were modified and made publicly available for a 15-day comment period from November 9 through November 26, 2018. Out of the 28 comment letters received on the 15-day package, seven letters were determined to include comments raising significant environmental issues related to the Draft EA. CARB staff took an approach of erring on the side of inclusion in determining which comments warranted a written response, and included some comments that did not mention the analysis included in the Draft EA but did raise issues related to potential adverse impacts related to the Proposed Project. CARB has responded to all comments that raise or relate to environmental concerns. Responses are not required at this time to comments that do not raise environmental concerns.

2. RESPONSES TO COMMENTS

The comment letters responded to in this document were assigned a sequential number in the order in which they were received. Table 2-1 provides the list of comment letters that contain environmental comments. Responses to these comments are provided below. Comment letters, bracketed to indicate individual comments, are provided in Attachment A.

Comment Number	Date	Name	Affiliation
371	September 24, 2018	Paul Jablonski	San Diego Metropolitan Transit System
377	September 24, 2018	Debra L. Hale	Transportation Agency for Monterey County
382	September 24, 2018	Rick Ramacier	County Connection
383	September 24, 2018	Hitesh Soneji	Olivine
386	September 24, 2018	Moses Stites	Fresno County Rural Transit Agency
393	September 24, 2018	Darrell E. Johnson	Orange County Transportation Authority
402	September 24, 2018	Dennis J. Mulligan	Golden Gate Bridge Highway and Transportation District
403	September 24, 2018	Darren M. Kettle	Ventura County Transportation Commission
415	September 24, 2018	Joshua Shaw	California Transit Agency
416	September 24, 2018	Polly Chapman	Trinity County Transportation Commission
421	September 24, 2018	Kevin Maggay	SoCal Gas
422	September 24, 2018	Todd Campbell	Clean Energy
15-1-5	November 26, 2018	Michael Pimentel	California Transit Association
15-1-8	November 19, 2018	Jim Hartnett	San Mateo County Transit District
15-1-11	November 26, 2018	Rick Ramacier	Central Contra Costa Transit Authority
15-1-13	November 26, 2018	Carl Sedoryk	Monterey Salinas Transit District

Comment Number	Date	Name	Affiliation
15-1-20	November 26, 2018	Darrell E. Johnson	Orange County Transportation Authority
15-1-24	November 26, 2018	Alex Clifford	Santa Cruz Metropolitan Transit District
15-1-27	November 26, 2018	Joshua Shaw	California Transit Association

The following Master Responses address recurring themes within the comments listed in Table 2-1. The Master Responses are referenced within the individual responses, where applicable.

Master Response 1:

Comment:

Several commenters state that the Draft Environmental Analysis (Draft EA) fails to adequately assess all reasonably foreseeable compliance responses and, thus, underestimates the environmental impacts of the Proposed Project.

Response:

In Section 2.0, “Project Description,” the Draft EA provides an overview of the project objectives, concepts of the Proposed Project, and outlines the potential compliance responses that could occur because of implementation of the recommended actions. As described in the fifth paragraph on page 6 of the Draft EA, “[t]he level of detail of impact analysis is necessarily and appropriately general because the Proposed Project is programmatic.” As an analogy for this Draft EA (which in this case has been prepared under CARB’s Certified Regulatory Program), a Program Environmental Impact Report (EIR) is an EIR which may be prepared on a series of actions that can be characterized as one large project and are related, including projects related in connection with the issuance of regulations for a continuing program. (Cal. Code Regs., tit. 14, § 15168(a).) As discussed in the EA, CARB considers both the development of its regulation, and the compliance responses resulting therefrom, to be within the scope of the “project”. As such, the EA analysis is conducted at a high level, without knowing precisely where, what type, and to what extent individual project-level activities will occur in response to the regulation.

The reasonably foreseeable compliance responses are analyzed in a programmatic manner for several reasons: (1) any individual action or activity would be carried out under the same program; (2) the reasonably foreseeable compliance response would result in generally similar environmental effects that can be mitigated in similar ways (Cal. Code Regs., tit. 14, § 15168 (a)(4)); and (3) while the types of foreseeable compliance responses can be reasonably predicted, the specific location, design, and setting of the potential actions are unknown at this time. The law is clear that CEQA

does not require agencies to engage in speculation when analyzing the environmental effects of their decisions. CEQA provides that an indirect impact should only be considered if it is a reasonably foreseeable impact caused by the project. (Cal. Code Regs., tit. 14, § 15064(d)(3).) An environmental impact that is speculative is not reasonably foreseeable. (*Id.*) Attempting to predict decisions by entities regarding the specific location and design of infrastructure undertaken or specific programs developed by local air districts that involve extensive decision-making processes in response to implementation of the Proposed Project is speculative given the influence of other business and market considerations in those decisions. Moreover, because the regulation is designed (in part in response to commenters) to be flexible and to allow CARB to modulate its requirements based upon compliance responses to avoid negative outcomes, some impacts are not foreseeable because they can be avoided through the design of the regulation itself.

Because it is programmatic, the Draft EA takes a reasonably conservative approach in its post-mitigation significance conclusions (i.e., tending to overstate the risk that feasible mitigation may not be implemented by the agency with authority to do so, or may not be sufficient) and discloses, for compliance purposes with the California Environmental Quality Act (CEQA), that potentially significant environmental impacts may be unavoidable, where appropriate. Specific actions undertaken to implement the Proposed Project would undergo project-level environmental review and compliance processes as required at the time they are proposed (page 6 of the Draft EA).

The degree of specificity required in a CEQA document corresponds to the degree of specificity inherent in the underlying activity it evaluates. The environmental analysis for broad programs cannot be as detailed as for specific projects. (Cal. Code Regs., tit. 14, § 15146.) For example, the assessment of a construction project would naturally be more detailed than for the adoption of a plan because the construction effects can be predicted with a greater degree of accuracy. (Cal. Code Regs., tit. 14, § 15146, subd. (a).) The level of detail in the Draft EA reflects that the Proposed Project is a broad statewide regulatory action. The Draft EA provides a good-faith effort to evaluate programmatically the potential for significant adverse impacts associated with implementation of the Proposed Project based on what is known at this time.

Master Response 2:

Comment:

Several commenters state that the Draft EA fails to adequately identify or analyze the potentially significant environmental impacts due to increased single-occupancy vehicle use and other effects from decreased use of transit caused by either increased fares or decreased transit service as a result of the expense of complying with the Proposed Project.

Response:

Many of the commenters' concerns involve claimed future economic effects of the Proposed Project, some of which are extrapolated into claimed future environmental impacts. We note as a threshold principle that CEQA does not require analysis of purely economic impacts; rather, only analysis of physical changes flowing from economic effects is required. (Cal. Code Regs., tit. 14, § 15131.) To the extent commenters have raised purely economic concerns, no response is necessary to those comments at this time. However, some commenters claim that the commenter's claimed economic effects of the Proposed Project would lead to changes in the services provided by transit agencies, including potentially decreased levels of transit service or higher fares, which the commenters claim could in turn lead to indirect environmental impacts. Where economic effects are raised in connection with environmental changes, the intermediate economic or social changes need not be analyzed in any detail greater than necessary to trace the chain of cause and effect; the focus of the analysis must be on the physical changes. (Cal. Code Regs., tit. 14, § 15131(a).) To the extent commenters raise environmental concerns regarding such changes in service, CARB provides the following response.

The economic and environmental analyses of the Proposed Project recognize there is a greater initial capital cost for zero-emission buses and associated infrastructure. The analyses also show that there are operational savings that could offset these costs over the life of a bus. Additionally, a variety of incentive and financing programs are available. Together, these are expected to avoid increased fares or reductions in service from the Proposed Project.

Nevertheless, a number of public comments expressed concerns about cost increases leading to changes in levels of service. As such, the Proposed Project has been revised in the 15-day changes to provide greater flexibility to transit agencies to ensure changes in levels of service would not occur. For example, if transit agencies are unable to sufficiently manage these initial costs despite the overall savings, the Proposed Project includes a number of exemptions to address costs. Similarly, if a zero-emission bus (ZEB) will not meet the service needs on a one-for-one replacement basis, additional exemptions are available. These safeguards are explicitly intended to ensure that transit service is not adversely affected. (See Section 2023.4(a) of the Proposed Project.) These safeguards would exempt individual transit agencies from ZEB purchases if available depot-charging battery electric buses (BEBs) cannot meet the transit agency's needs or if the additional incremental costs (e.g., electricity cost) could not be offset by the transit agency through funding or financing .

More specifically, the Modifications to The Proposed Regulation Order, released on November 9, 2018, further clarify, with detailed language, the intent and mechanisms that will ensure service cuts or fare increases will not be required of any transit agency as a result of the Proposed Project (CARB, 2018a). More specifically, the Modifications to The Proposed Regulation Order, released on November 9, 2018, further clarify, with

detailed language, the intent and mechanisms that will ensure service cuts or fare increases will not be required of any transit agency as a result of the Proposed Project (CARB, 2018a). A transit agency may obtain an exemption from the requirements to purchase ZEBs under the following circumstances:

- Setback of construction schedule of needed ZEB infrastructure (§2023.4(c)(1));
- Available ZEBs cannot meet a transit agency's daily mileage needs (§2023.4(c)(2));
- Available ZEBs do not have adequate gradeability performance when compared to internal combustion engine buses to meet the transit agency's daily needs (§2023.4(c)(3));
- A required ZEB type that has passed requisite (i.e., Altoona) testing and has met all applicable safety requirements is unavailable for purchase (§2023.4(c)(4));
- A transit agency's Board of Directors declares a fiscal emergency (§2023.4(c)(5));
- A transit agency can demonstrate that it cannot offset the incremental cost of purchasing available ZEBs with available funding or financing (§2023.4(c)(5)); or
- A transit agency cannot offset the managed, net electricity cost for depot-charging battery electric buses (§2023.4(c)(5)).

The Executive Officer will grant an exemption upon request, if the specified criteria in section 2023.4(c) are met. These exemptions are broadly available, and the criteria for granting them are clearly set forth in the regulatory text. This exemption structure provides both transparency and certainty to the process of seeking exemptions from aspects of the program that could otherwise potentially impose substantial additional costs on transit agencies. Further, the Proposed Project does not require an abrupt transition. It provides a phase-in schedule for technology to improve continuously and for transit agencies to learn from a progressive deployment. The Proposed Project provides additional time for small transit agencies, and for further development of non-standard buses, before they are phased into the purchase requirements. The combined effect of these exemptions and phased-in schedule is to render negative service impacts not reasonably foreseeable, as the exemptions are available and appropriate precisely to avoid such impacts. CARB, like the commenters, recognizes the importance of public transit, and has designed the regulation to ensure that transit continues to be effective, including with exemptions as needed to avoid the impacts commenters suggest should be avoided.

Moreover, such negative impacts are also likely to be avoided initially (even without the use of exemptions) because of the options transit agencies have to comply with the Regulation affordably. While the exemptions built into the most current proposed regulatory language provide certainty as a backstop against unmanageable cost increases, the Attachment B: "Supplemental To Economic Impacts Assessment" (CARB, 2018b) for the amended regulatory proposal shows that financing is also available to transit agencies as a method to mitigate the initial incremental cost of purchasing BEBs.

Financing distributes the initial incremental cost over several years. Compared with purchasing conventional buses, even without incentives, leasing BEBs is expected to mitigate impacts on annual cash flow to preclude adverse changes in transit service or fares, avoiding a change in rider behavior. This analysis is an addendum to the Initial Statement of Reasons (ISOR) for the Proposed Innovative Clean Transit (ICT) Regulation and includes further analysis of costs and adds detailed financing examples. As noted above, in the case that a transit agency is unable to finance the higher incremental cost of purchasing available BEBs and can provide supporting documentation, including evidence of an application for funding and financing, denial of funding and financing, and documentation showing the incremental cost cannot be offset, the transit agency would be able to obtain an exemption under Section 2023.4(c)(5) from the zero-emission bus purchase requirement, and would have no additional costs to consider.

The initial cost analysis provided in the Standardized Regulatory Impact Assessment (SRIA) and ISOR reflects the “worst case scenario” on funding availability because no funding is assumed. CARB's analysis demonstrates that future cost savings and financing options together (even without funding) and other safeguards in the regulation will ensure that available ZEBs will meet a transit agency's needs, and are sufficient to mitigate concerns about increased capital and operational costs from the Proposed Project.

Nevertheless, as described above, the Proposed Regulation includes a comprehensive suite of available exemptions to ensure the program would not significantly affect levels of service or ridership. The proposed resolution further expresses the Board's intent that the regulation should not cause service cuts or fare increases. To even further ensure this intent is met, CARB will conduct a comprehensive review of program readiness, considering issues such as costs, performance, and reliability of ZEBs and corresponding infrastructure, at least one year prior to the initiation of any purchase requirement. This is intended to provide the Board with information to determine whether any additional actions are necessary to ensure that the regulation will not result in service cuts or fare increases.

CARB shares commenters' focus on avoiding inappropriate fare increases or service changes on ridership. However, with these comprehensive provisions – many of which were developed in response to the initial comments CARB received to address these concerns – to ensure the Proposed Project will not cause service reductions or fare increase, the Proposed Project would not substantially affect levels of service or ridership, and would therefore not cause any significant indirect impacts to the environment resulting therefrom (including to the public services, air quality, climate change, or traffic and transportation resource areas). The impact determinations set forth in the Draft EA remain accurate.

Comment Letter 371 September 24, 2018	Paul Jablonski San Diego Metropolitan Transit System
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371-1: The commenter states that: “The most significant concern with the proposed ICT Rule is the cost impact. The increase in capital and operating costs due to the proposed rule would have potentially devastating consequences for our system, as well as for transit across the state. We fear that this additional cost burden will significantly reduce and limit our ability to provide needed transportation to the disadvantaged and low-income, transit dependent communities that we serve. MTS has a rich history of being one of the most efficient, cost effective transit systems in the country, maximizing the amount of transit service we can provide within limited, existing resources. Significantly increasing MTS's costs will result in service reductions. MTS will be forced to trade service for proposed ICT Rule compliance and implementation costs. Reducing service will subsequently have negative effects in achieving emissions reduction goals, as less available transit will lead to increases in personal vehicle miles traveled.”

Response:

Please see Master Response 2 explaining why the Proposed Project is not expected to directly or indirectly cause reduced transit service or increased fares, and thus will not indirectly result in environmental impacts.

371-2: The commenter continues by stating: “Electricity vs RNG costs. MTS is a large consumer of both RNG for the bus fleet and electricity as a result of our light rail system. Not including LCFS for either RNG or electricity, MTS's cost for RNG is about \$0.16 per mile. MTS pays about \$0.225 for a kilowatt of electricity, pushing the projected cost per mile for electricity using ARB staff's calculations to about \$0.5175 per mile. The annualized increase in fuel costs for a 100% deployment of ZEB's would be \$8.6 million additional operating / fuel costs.”

“This fundamental concern about cost is exacerbated by the inclusion of \$1.6 billion in LCFS credits/revenue from 2041 to 2050 (note that the current LCFS statutory authority expires in 2030). We believe that including this LCFS revenue twenty-five to thirty years into the future is both risky, and inappropriate.”

Response:

This comment appears to involve purely economic concerns, and thus no response is necessary at this time. (Cal. Code Regs., tit. 14, § 15131(a).) However, this comment letter also expresses concern that the commenter's claimed economic effects of the Proposed Regulation would lead to changes in the services provided by transit agencies, including potentially decreased levels of transit service or higher fares. To the extent the commenter intended this comment to raise environmental concerns regarding such changes in service, CARB provides the following response.

The commenter is asserting that their electricity costs are higher than those projected by CARB and that will impact the cost of the regulation. Please see Master Response 2 explaining why the Proposed Project is not expected to directly or indirectly cause reduced transit service or increased fares, and thus will not indirectly result in environmental impacts. The Proposed Project includes an explicit exemption for a transit agency that cannot offset high managed net electricity costs (§ 2023.4(c)(5)).

Regarding the comments on LCFS as they pertain to costs of complying with the Proposed Regulation, the LCFS program's statutory authority does not expire in 2030. Health and Safety Code Section 38551, subdivision (a), maintains the program "unless otherwise amended or repealed," and subdivision (b) states that "[i]t is the intent of the Legislature that the statewide greenhouse gas emissions limit continue in existence and be used to maintain and continue reductions in emissions of greenhouse gases beyond 2020."

Consistent with that expressed intent, Health and Safety Code Section 38566 codifies a 2030 target of ensuring reductions to "at least" 40% below 1990 emissions levels." Since LCFS is one of the cornerstone regulations included in the Scoping Plan to bring major emission reductions from the transportation sector, it is reasonable to assume some level of LCFS revenue will be available in the future. In the event that electricity costs are high or the LCFS credit value is low or not available to offset the electricity costs for charging a battery electric bus when compared to a comparable combustion engine bus as specified, the transit agency would be able to receive an exemption from the zero emission bus purchase requirement for a financial hardship as specified in section 2023.4(c)(5).

Comment Letter 377 September 24, 2018	Debra L. Hale Transportation Agency for Monterey County
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377-1: The commenter states that: “It is in the interest of the passengers who take over 4.5 million bus rides from San Jose to Templeton, Monterey to Big Sur, Salinas to King City, and all destinations in between, that this regulation maximize the clean air benefits of transit without resulting in cuts to service. It does not improve air quality or reduce vehicle miles traveled if regulations are so costly that our transit agencies are required to reduce bus service to implement them.”

Response:

Please see Master Response 2 explaining why the Proposed Project is not expected to directly or indirectly cause reduced transit service or increased fares, and thus will not indirectly result in environmental impacts.

377-2: The commenter states that: “furthermore, we are concerned that the regulation leaves natural gas buses out of the zero emission vehicle options, particularly because Monterey County is now installing a waste to energy facility that will make such vehicles carbon-negative – a net positive impact on air quality because they take methane gas out of the atmosphere.”

Response:

This comment does not appear to raise any environmental impact concerns, and therefore no response is necessary. To the extent the comment is suggesting an alternative of including natural gas buses in the zero emission vehicle options, such an alternative would not meet most of the project objectives, including Objective 1 (“Achieve the maximum emissions reduction possible from transit buses to attain the national and State ambient air quality standards for Criteria air pollutants”); Objectives 3, 5, 6, and 11 (reducing GHGs and transitioning from combustion to electric powertrains); and Objectives 8, 11, and 13 (furthering innovation and economic activity relating to zero emissions technology development). This is because natural gas buses – including those fueled by RNG – still produce tailpipe emissions that impact local air quality. They also do not help further development of electric powertrains, and non-RNG fueled natural gas buses still emit greenhouse gases. The commenter also does not specify how such an option would reduce or avoid any potentially significant impact identified in the Draft EA, and CARB staff does not see how it would do so. Therefore, CARB staff has not further considered inclusion of natural gas fueled buses as a CEQA project alternative.

Comment Letter 382 September 24, 2018	Rick Ramacier County Connection
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382-1: The commenter states that: “while the progress made on the proposed regulation is substantial, a few concerns remain that I would urge ARB to further address. To identify my first concern, I reiterate the CTA stated concern that the imposition of the zero-emission bus (ZEB) purchase requirement is not tied to benchmarks for ZEB cost and performance, infrastructure buildout costs, and funding availability. There are significant risks in assuming, that data gathered from limited, short-term ZEB deployments will accurately reflect the realities of ZEB deployments at-scale. County Connection strongly believes that, despite the claims of some interest groups, ZEB cost and performance, infrastructure buildout, and the cost of electricity as fuel, are still issues.”

The commenter also states that: “While overall, we are pleased with the operation of our BEBs, if these two concerns cannot be overcome over time, we will not be able to sustain an operation that increases the reliance on BEBs without cuts to service and/or undue increases in passenger fares. This is particularly acute when it comes to the costs of electricity. If the cost of electricity does not come down substantially from \$8.75/dge, there is no way we can sustain our present levels of service - let alone improve services that would reduce Greenhouse gases - and transition further to BEBs.

“In short, while we at County Connection desire to put more BEBs into service in the future, we cannot do so if the price of electricity remains at a cost where we have to cut service to pay for the price differential between electricity and renewable diesel.”

Response:

Please see Master Response 2 explaining why the Proposed Project is not expected to directly or indirectly cause reduced transit service or increased fares, and thus will not indirectly result in environmental impacts.

Regarding utility costs, there are many different utilities that service transit agencies; costs will vary by utility. Generally, for BEBs, the cost of fuel (electricity) per mile charged at the depot overnight after accounting for the LCFS credit value is significantly less than that for comparable combustion-engine buses. In addition, the Proposed Project has many built-in safeguards in section 2023.4 to address potential unintentional individual consequences and ensure transit service is not adversely affected. For example, a transit agency may receive an exemption from a purchase of ZEBs when the transit agency cannot offset the managed, net electricity cost for depot-charging battery electric buses, as specified in section 2023.4(c)(5).

To the extent the comment is suggesting an alternative of including benchmarks for cost and performance relating to ZEB vehicles and infrastructure that would need to be met before ZEB purchase requirements take effect, such an alternative would not satisfy several of the Proposed Project’s objectives to a similar extent as the Proposed Project, including Objectives 1 and 4 (reducing criteria pollutant emissions to the maximum

extent possible to meet federal and State standards); Objectives 3 and 5 (reduce GHGs); Objectives 8 and 13 (incentivize and spur ZEV technology to help meet the State Implementation Plan); and Objective 12 (protecting and preserving the public health via reducing harmful air pollution). This is because a benchmarking alternative would in substantial part have the effect of inappropriately and inflexibly delaying environmentally protective regulations, without certainty as to when the benchmark would be met. The Proposed Project and its carefully crafted fact-dependent exemptions constitutes a more flexible and more environmentally beneficial alternative Project Proposed.

The Proposed Project addresses cost and performance issues through exemptions on a case-by-case basis. A benchmark-based alternative, as compared to a case-by-case exemption evaluation, would not have nearly the same level of certainty as the Proposed Project in terms of reducing air quality and GHG emissions. Transit fleets are diverse and their circumstances vary; these circumstances are best considered individually, while maintaining environmentally protective regulations to the extent appropriate across the State. It is not clear what benchmarks would be used and how they would be set. A benchmark, depending on how it is set, may result in the suspension of the ZEB purchase requirement and the associated air quality benefits from *all* transit agencies when that benchmark is not satisfied for only a handful of transit fleets. Program suspension resulting from an unsatisfied benchmark may also make it more difficult to resume and advance the ICT program and achieve its benefits in a flexible manner, even in the event a benchmark or resulting suspension were not statewide (again, depending on how the benchmark is set). Thus, creating rigid regulatory off-ramps today to govern all future circumstances would risk inappropriately forgoing substantial air quality and GHG emissions benefits. In contrast, the approach CARB has designed ensures not only that exemptions are available but also that the appropriateness of these exemptions is considered fully on the circumstances of a given transit agency in the process of purchasing new buses and flexibly tailored to yield the results needed in the future.

This determination is based both on the facts at hand in this regulatory process and on CARB's extensive experience in successfully setting future goals by regulation and then implementing those regulations effectively. Technologies have regularly matured more quickly, and sometimes in different ways, than initially anticipated, rendering it important to make decisions in flexible regulatory frameworks based upon the evolving situation. Additionally, establishing holistic benchmarks is unnecessary given that the Proposed Project already includes safeguards to avoid the stated concerns the benchmarks would be designed to address. Thus, a benchmark set today, and locked in regulation, is likely to be less responsive to future needs than flexible exemptions that may be deployed based upon future facts.

It also remains unclear which environmental impacts identified in the EA as potentially significant would be reduced or avoided by a benchmark-based approach. As noted above, the Proposed Regulation already includes safeguards to ensure that impacts to service levels would not rise to the level of significance.

Additionally, establishing benchmarks on funding availability could not be done based on inputs and assumptions used in CARB's analysis as requested by CTA, as the ISOR and SRIA did not include funding incentives in estimating the costs of the Proposed Project.

Furthermore, as stated in the ISOR and as directed in the proposed resolution approving the amendments, CARB is committed to a comprehensive review on costs, performance, and reliability of ZEBs and corresponding infrastructure at least one year prior to the initiation of any purchase requirement. CARB would have the option to adjust the requirements accordingly based on outcome of this review. Thus, for all the discussed reasons, CARB staff has not further considered including as a CEQA project alternative benchmarks for ZEB cost and performance as a condition precedent for ZEB purchase requirements.

Comment Letter 383 September 24, 2018	Hitesh Soneji Olivine
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383-1: The commenter states that they support: “CARB’s efforts to propel California’s public transit agencies towards zero emissions fleets. We also appreciate CARB’s efforts to engage diverse stakeholders in the process of formulating the Innovative Clean Transit Regulation. In reviewing the INFORMATIVE DIGEST OF PROPOSED ACTION AND POLICY STATEMENT OVERVIEW (GOV. CODE, § 11346.5, subd. (a)(3)), it appears that the proposed actions do not contemplate Vehicle to Grid Interaction, electricity rates, and grid infrastructure. Olivine believes that a strong ZEB proposal needs to consider and provide prudent guidance around VGI deployment to ensure that ZEB charging impacts to the electrical grid are mitigated and/or positive. Without VGI, ZEB charging may induce additional stress to the electrical grid, which could negatively impact air quality in California.”

Response:

VGI could provide benefits to both the grid and fleets and is still being developed. VGI is expected to present an opportunity to improve grid reliability and better utilization of renewable energy when charging a wide range of cars, trucks, and buses. VGI could result in air quality benefits as its use continues to evolve and the statewide battery electric vehicle market expands. Buses are only one part of the overall market. As pointed out in Figure II-1 in the ISOR, carbon dioxide (CO₂) is the primary GHG emitted in California, accounting for 84 percent of total GHG emissions in 2015. The GHG emissions inventory further shows that the transportation sector, primarily comprised of on-road travel, is the single largest source of CO₂ in California. Californians can reduce CO₂ emissions by driving less and switching to a more fuel-efficient vehicle technology. The Proposed Project is poised to set an example in both of these ways, and the experience gained from deployment of ZEBs is expected to transfer to other heavy-duty vehicles. The Proposed Project provides flexibility to transit agencies to work with utilities to decide the best charging methods based on individual situation of infrastructure and electricity rate. It is unclear from the comment what guidance is suggested or how VGI could be appropriately applied to transit buses. Furthermore, even if VGI does not become widely used by buses, this does not mean that the Proposed Project would potentially negatively impact air quality. Refer to pages 46 through 48 of the Draft EA for a discussion of energy impacts.

The comment about stress on the grid is not consistent with information available to CARB. Staff believes ZEB charging will not induce additional stress to the electrical grid without VGI or that impacts on the grid would negatively impact emissions. The California Electric Transportation Coalition’s letter to CARB, dated March 27, 2017 (CalETC 2017), states:

Studies have shown that transportation electrification provides grid benefits for California and California’s power grid can handle the additional load from increased transportation electrification. Electric vehicles provide benefits to the grid because electric vehicles, when managed correctly, can shift load to off-peak

periods and utilize generation, creating a more efficient grid and system load factor.

As an illustrative example, the peak load measured by the California Independent System Operator from 1998 through 2016 has been between 41,000 to 51,000 MW. If 10,000 transit buses in California were to charge at the same time, on peak (which is very unlikely), at 100 kW per bus, that would equal 1,000 MW of load from transit. That's 2-2.4% of the statewide peak load. If transit-bus charging were to occur mostly off-peak (which is more likely), this load could provide a benefit to the grid, flattening out the overall load curve. (citations omitted)

Comment Letter 386 September 24, 2018	Moses Stites Fresno County Rural Transit Agency
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386-1: The commenter states that: “[It] is a rural transit operator with high mileage routes and with varying performance of ZEB's, implementation has been affected by the "in-service" range of the vehicle and the extra driver training required in order to maximize the range.”

Response:

This comment refers to logistical hardships the commenter asserts they have experienced and does not address the adequacy, accuracy, or completeness of the Draft EA. To the extent the comment is referring to the impact these logistical hardships may have on cost or ridership, please see Master Response 2 explaining why the Proposed Project is not expected to directly or indirectly cause reduced transit service or increased fares.

The Proposed Project includes exemptions in the event zero-emission buses are not available to meet the range and other needs of transit agencies to ensure service is not reduced (and therefore there are no resulting indirect environmental impacts) as a result of the Proposed Project. The exemption based on daily mileage specified in section 2023.4(c)(2) addresses individual fleet situations and the exemption request can be supported by data from transit fleets based on their individual in-use experience. No changes to the Draft EA are required in response to this comment. The comment will be provided to the Board for consideration.

386-2: The commenter states that: “Grid capacity and charging infrastructure is also an existing challenge associated with transitioning and deploying an electric fleet in the rural communities of Fresno County. Infrastructure is lacking and aging in many areas and the utility rates remains a concern as [the commenter] transitions to a 100% zero emission fleet.”

Response:

This comment references long-term energy-related concerns but does not address the adequacy, accuracy, or completeness of the Draft EA; no changes to the Draft EA are required in response to this comment. To the extent the comment is referring to the impact the utility rates may have on service cost or ridership, please see Master Response 2 explaining why the Proposed Project is not expected to directly or indirectly cause reduced transit service or increased fares.

Refer to pages 46 through 48 of the Draft EA for a discussion of energy impacts. See response to comment 383-1 for additional information related to energy effects. To the extent the comment relates to concerns about the inability for the utility to make upgrades to serve a battery electric bus fleet or the cost of electricity, the exemptions in the regulation under Section 2023.4(c)(1) to address delays in infrastructure installation or electricity costs can address the issue.

386-3: The commenter states: “Incentives: The staff report supporting the proposed regulation emphasizes the importance of incentive funding to minimizing adverse impacts to transit service (see Initial Statement of Reasons, pages ES-8, III-8, VIII-26). Given the stated importance of this funding and our shared goal of protecting vital transit service, this provision would require ARB to revise its current policy disallowing the use of incentive funding to meet regulatory compliance to explicitly allow transit agencies to use incentive funding whenever they are prepared to purchase a ZEB.”

Response:

This comment concerns CARB’s funding policy and does not address the adequacy, accuracy, or completeness of the Draft EA; no changes to the Draft EA are required in response to this comment. While there is no statutory mandate requiring CARB to fund the transition to zero-emission buses, CARB staff continues to advocate in annual investment planning, such as the Low Carbon Transportation Investments and AQIP Funding Plans (as indicated on page II-6 in the ISOR), for additional funding for zero-emission buses. As described in the ISOR, there are several major funding programs administered by CARB or other entities that were established to encourage the introduction of zero-emission technologies. Some of these funding programs require early or extra action with respect to a regulatory requirement to access funding. Staff’s proposal also provides sufficient time and opportunities for transit agencies to act ahead of the proposed schedule, access funding, and to deploy ZEBs in a manner that is consistent with a transit agency’s normal bus purchase schedule. The Proposed Project was also structured to encourage early action. The Proposed Project counts any voluntary ZEB purchase towards future compliance requirements to allow early actors to continue to remain eligible for funding after the purchase requirements begin. In addition, the option to discharge the ZEB purchase requirements based on ZEB purchase thresholds were also selected to further encourage early action by discharging the purchase requirements for two additional years which would also extend funding eligibility. Furthermore, as committed to in the ISOR, a comprehensive review will be conducted on costs, performance, and reliability of ZEBs and corresponding infrastructure at least one year prior to the initiation of any purchase requirement. CARB would have the option to develop proposed adjustments to the requirements accordingly based on the outcome of this review. Please see Master Response 2 explaining why the Proposed Project is not expected to directly or indirectly cause reduced transit service or increased fares.

Comment Letter 393 September 24, 2018	Darrell E. Johnson Orange County Transportation Authority
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393-1: The commenter states that: "[T]he Proposed ICT assumes that transit agencies will have to divert existing funds used for operations purposes to meet the purchase requirements. In this scenario, transit agencies like OCTA would have to analyze potential service reductions. In order to meet the \$442 million funding gap, OCTA would have to reduce service by more than 20 percent; a level surpassing what was done during the last recession. This would not only immediately impact the most transit-dependent areas of the state, but may also lead to an increase in vehicle miles travelled, which is counter-productive to other California Air Resources Board (ARB) environmental initiatives. These secondary impacts are not analyzed in the environmental analysis done for the Proposed ICT or in the economic analysis."

Response:

Please see Master Response 2 explaining why the Proposed Project is not expected to directly or indirectly cause reduced transit service or increased fares, and thus will not indirectly result in environmental impacts.

OCTA's analysis incorrectly assumed that 1.4 BEBs would be necessary to replace each combustion bus (1.4:1 ratio), according to OCTA's presentation to its board on September 20, 2018.¹ The initial assumption is that more ZEBs will be needed to provide the same service, which in turn substantially increases costs and OCTA's estimated impact on service. Staff is unable to find the rationale behind this ratio from OCTA's presentation. Furthermore, staff disagrees that more buses would be needed, given that the Proposed Project includes exemptions that would help avoid the need for such redundancies. The exemptions are available to ensure that no ZEB purchases are required unless depot-charging BEBs are available to meet the range and operational needs of a transit agency with a single charge and do not require an increase in the number of buses to meet the transit agency's daily needs. The exemptions would apply even if other options, like charging on route or fuel-cell electric buses, were available. In addition, the regulation has safeguards to address the costs of high electricity or barriers to overcoming the initial capital costs of a ZEB purchase. An exemption would allow the transit agency to purchase combustion engine buses instead and would result in no changes in cost. For these reasons, the OCTA analysis is not consistent with the regulation's requirements, and the asserted impacts to VMT, air quality, and GHG emissions are net expected.

¹ <https://octa.legistar.com/MeetingDetail.aspx?ID=597895&GUID=8E4612D3-C63A-41E2-A337-6195BD60247B&Options=&Search=18-1433>

393-2: The commenter states that: “There also is no discussion about electricity costs and how that will vary based on time of day, and based on various fleet fueling requirements. Currently there is no certainty about the future of these costs, or what rates will be imposed for transit agencies. Many of the previous demonstrations of this technology were operating under special rate provisions which should not be held as the standard to determine costs for this regulation.”

Response:

This comment appears to involve purely economic concerns, and thus no response is necessary at this time. (CEQA Guidelines, Cal. Code Regs., tit. 14, § 15131(a).) This comment requests a discussion about costs varying based on time of day and does not identify a physical impact that was not discussed in the EA. However, this comment letter also expresses concern that the commenter’s claimed economic effects of the Proposed Project would lead to changes in the services provided by transit agencies, including potentially decreased levels of transit service or higher fares. To the extent the commenter intended this comment to raise environmental concerns regarding such changes in service, CARB provides the following response.

It is also important to note that the experimental electricity rates (as claimed by the commenter) was never used in the economic analysis provided in SRIA and ISOR. All electricity rates are based on utilities’ published rates. Though a discussion of cost variation alone does not need to be provided in the EA, it should be noted that the revised regulation includes an exemption for financial hardship due to excess electricity cost in comparison to internal combustion engines. The Executive Officer will grant an exemption upon request. Please see Master Response 2 explaining why the Proposed Project is not expected to directly or indirectly cause reduced transit service or increased fares.

This comment also references long-term energy-related impacts, which are discussed on pages 46 through 48 of the Draft EA (CARB, 2018c) and on page 23 of appendix D of the ISOR, Total Fuel Costs (CARB, 2018d). See response to comment 383-1 for additional information related to energy effects, including energy-related information associated with increased capacity.

See also Response to Comment 393-5.

393-3: The commenter states: “The ICT Proposal should therefore be updated to do the following: ... Update the economic and environmental analysis to account for secondary ramifications from the implementation of the Proposed ICT, including potential service reductions impacting emission reduction efforts and economic impacts to transit riders.”

Response:

Please refer to the Response to Master Comment 2 explaining why the proposed regulations are not expected to directly or indirectly cause reduced transit service or increased fares, and thus will not indirectly result in environmental impacts.

393-4: The commenter suggests that: “Include analysis of alternative regulatory frameworks to achieve the 2040 goal, which may be less burdensome, including CTA's initial counterproposal.”

Response:

This comment does not appear to raise any environmental issues, and does not require a response. Nevertheless, to the extent that the commenter’s reference to alternatives including the CTA initial proposal as the performance target approach, see response to comment 421-2. If the comment is referring to the current CTA proposal, see response to comment 415-2.

393-5: The commenter states: “Include updated analysis related to electricity and fueling costs, without consideration of existing agreements with transit agencies that have provided for a temporary reduction in rates.”

Response:

This comment does not raise any environmental impact concerns. To the extent it intends to raise potential environmental impacts from increased fueling costs, please see Master Response 2. For electricity analysis, see Appendix M, Battery Electric Truck and Bus Charging Cost Calculator Spreadsheet, of the ISOR, which uses electric utilities’ published electricity rates for commercial users. Staff did not use special experimental rates in any of the analysis. That calculator was first released in 2016, last updated June 20, 2017, and received no comments from transit agencies regarding its adequacy. Further discussions about fuel costs, including electricity cost, are provided in Appendix D. Total Fuel Costs of the ISOR.

Comment Letter 402 September 24, 2018	Dennis J. Mulligan Golden Gate Bridge Highway and Transportation
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402-1: The commenter states that: “Incentives: The staff report supporting the proposed regulation emphasizes the importance of incentive funding to minimizing adverse impacts to transit service (see Initial Statement of Reasons, pages ES-8, III-8, VIII-26). Given the stated importance of this funding and our shared goal of protecting vital transit service, this provision would require ARB to revise its current policy disallowing the use of incentive funding to meet regulatory compliance to explicitly allow transit agencies to use incentive funding whenever they are prepared to purchase a ZEB.”

Response:

Please see Master Response 2 explaining why the Proposed Project is not expected to directly or indirectly cause reduced transit service or increased fares, and thus will not indirectly result in environmental impacts. Please also see the response to comment 386-3 regarding funding policy.

Comment Letter 403 September 24, 2018	Darren M. Kettle Ventura County Transportation Commission
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403-1: The commenter states: “In the event that use of electric bus technology precludes the availability of the cargo compartments, the result would be a reduction in the number of riders who can use bicycles to access VCTC's system, thus creating a negative air quality impact.”

Response:

The commenter is referring to electric over-the-road coaches, which are at an earlier stage of commercialization; ICT would impose a deferred implementation date of 2026 for these vehicles. Traditional 40-foot buses, which have the initial implementation in 2023, do not utilize cargo compartments for bicycles. The Proposed Project is structured to provide flexibility for transit agencies to prioritize the purchase of traditional 40-foot buses to meet the ZEB purchase requirements and deferring ZEB motor coach purchases to 2029 or potentially later if early ZEB purchases of other bus types are made. In addition, battery technology is expected to continue to improve, and battery size and placement concerns are likely to be less of an issue for a given bus application over time. At this time, there is uncertainty in how much cargo space would be needed for battery electric buses or fuel cell electric buses in 2026 or later, and how much space would be needed for bicycles when bicycle racks are full. There are several manufacturers making ZEBs, and by 2026 this may not be an issue for all bus manufacturers, depending on bus design and transit agency needs. Furthermore, as committed to in the ISOR, a comprehensive review will be conducted on program readiness including areas like costs, performance, and reliability of ZEBs and corresponding infrastructure, as well as any other relevant issue, at least one year prior to the initiation of any purchase requirement. Further, this review will be conducted on each of the bus types, including over-the-road coaches. This issue would be considered in the review if still relevant in the future.

Comment Letter 415 September 24, 2018	Joshua Shaw California Transit Agency
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415-1: The commenter states “Battery Performance: Batteries used in the ZEBs will degrade over time. The assessment will help identify how battery degradation may affect daily operating range as vehicles age, and whether transit buses would require mid-life battery replacement. The assessment can help to estimate the remaining battery capacity after the end of their useful life in buses.”

Response:

This comment does not address the adequacy, accuracy, or completeness of the Draft EA, and no changes to the Draft EA are required in response to this comment. This comment raises no concerns regarding environmental impacts resulting from the Proposed Project, and does not require a response. Nevertheless, to clarify the record, CARB provides the following information.

CARB has conducted a review into battery performance in its Technology Assessment for Medium- and Heavy-Duty Battery Electric Trucks and Buses ((CARB, 2015)). In its Assessment, CARB defers to the expertise of the battery manufacturing industry, which concludes that the useful life of a battery is affected by several factors, including the depth of discharge encountered, potential overcharging concerns, and environmental conditions during operations. Moreover, the Assessment references research into the development of more resilient lithium-ion based batteries which could decrease rates of battery degradation while improving recharge times.² CARB is confident that the Assessment adequately analyzed battery performance for medium- and heavy-duty trucks and buses, and the Assessment has informed the development of the components of the Proposed Project. In its cost projections, CARB conservatively estimated a mid-life battery replacement.

415-2: The commenter states that: “collectively, the following proposals are referred to as the “Association’s Alternative.”

Strengthening Performance Review:

“**Establishing Benchmarks:** The inclusion of language that would establish benchmarks for ZEB cost and performance and funding availability. These benchmarks should be sourced from the inputs and assumptions used by ARB staff in the Original SRIA, Draft Environmental Analysis and Cost Update.

³ Note, this document is cited to respond to the comments on the Draft EA and environmental impacts of the Proposed Project. It is not cited as a “document relied upon” under Gov. Code § 11346.2, subd. (b)(3), for the proposed ICT Regulation.

“Relationship between Benchmarks and ZEB Purchasing Requirements: The inclusion of language that would require ARB to temporarily halt the ZEB purchase requirement if real-world ZEB cost and performance and funding availability are misaligned with the benchmarks established in the proposed regulation.”

The commenter also suggests a number of specific changes to several elements of the Proposed Project, including those summarized or quoted below:

- Revising the initial threshold for the discharge of the ZEB purchase requirement to 800 zero emission buses for the first threshold and 1200 for the second threshold
- Modifying the definition of large transit agency and corresponding definition of small transit agency
- Suggesting provisions to be added to the Proposed Project requiring ARB to fund the transition to ZEBs
- Revising the purchase definition to “A new bus is considered purchased when a Notice to Proceed or Purchase Order is issued to the manufacturer and a transit agency’s funds are identified, committed and encumbered.”
- The commenter states that Section 2023.3(d) could “be augmented to expand the schedule to include one bonus credit for conversions to battery-electric placed in service on or before December 31, 2017 and which remained in service as of January 1, 2018.”
- The commenter states that the Proposed Regulation could be amended such that, in crediting ZEB deployments that exceed ZEB purchase requirements, ARB would provide the same level of credit for conversions to battery-electric as purchases of standard battery-electric buses, and one-half credit for electric trolley buses placed into service between January 1, 2018 and December 31, 2020.”
- The commenter states that the Proposed Regulation could “be amended to include language requiring a technology assessment of these ZEB types in 2026 to evaluate commercial availability and operational readiness based on data gathered from real-world deployments of these ZEB types prior to the inclusion of these vehicles in the regulation.”
- The commenter states that the Proposed Regulation could be amended to remove “[t]he requirement that transit agencies share an MPO, RTPA or air basin to form a joint zero-emission bus group.”
- The commenter states that the Proposed Regulation could be amended to revise the provisions for the exemption from a ZEB purchase to include exemptions if “The cost or performance characteristics of the zero-emission bus would result in a transit agency violating any federal, state, or local laws, regulations or ordinances.”

Response:

The comment does not address the adequacy, accuracy, or completeness of the Draft EA, and no changes to the Draft EA are required in response to this comment. To the extent the comment was intended to provide a new alternative under CEQA, staff provide the following response.

As explained in response to comment 382-1, the commenter's suggestion to include benchmarks is unnecessary given that the Proposed Project's safeguards already address the stated concerns with more precision and flexibility. Additionally, benchmarks would be potentially less protective of the air quality benefits and would be less effective in meeting the objectives of the regulation. See response to comment 382-1.

A number of the commenter's suggested changes are reflected in the 15-day changes staff proposed. In the 15-day changes, staff proposed to change the threshold numbers to discharge the ZEB purchase requirements to 850 zero-emission buses purchased or in active bus fleets by December 31, 2020, and to 1250 ZEBs by December 31, 2021. These changes reflect a transit survey conducted by staff that identified the number of existing ZEBs and those that are on order, awarded funding, or are planned as the appropriate targets. Though these changes are not identical to the commenter's suggestion, they are directionally consistent and better reflect the current status of ZEBs in public transit.

Staff recommended regulatory language changes in the 15-day changes to reflect the commenter's recommendation for the definitions of "large transit agency," "small transit agency," and for a bus purchase, as well as clarified language regarding credits for ZEB conversions as proposed by the commenter. Furthermore, staff proposes to add criteria for electric trolleybuses to earn zero-emission bonus credits that, though not identical, represents a change that is broadly consistent with the commenter's suggestion. Staff has proposed a 1/10 credit for electric trolleybuses placed in service between January 1, 2018, and December 31, 2019. The credits would expire by the end of 2024. Providing these bonus credits recognizes trolleybuses' contribution to expanding zero-emission technology. The staff proposal was developed in consultation with constituents and is supported by SFMTA, which is the only transit agency that owns electric trolleybuses, as stated in their comment letter to the proposed 15-day changes.

With respect to funding policy, see response to comment 386-3.

As pointed out in the ISOR, at p. X-8, the intent of the Joint Group compliance in section 2023.2 of the Proposed Project is to provide flexibility for multiple transit agencies to work collaboratively in order to more effectively utilize and optimize fueling and maintenance infrastructure for early deployments. Some transit agencies within the group may take the lead in providing infrastructure, maintenance, and training operators, especially in early stages of regulation's implementation. This option may smooth out the early transition phase for some transit agencies.

The MPOs and RTPAs are responsible for design and implementation of long-term transportation planning, which sets transportation strategies and creates a framework for project priorities within a metropolitan area's transportation system. The MPOs and RTPAs each focus on their respective local region, which assures that federal funding is better coordinated and distributed and emissions reductions would occur locally in each region throughout the State, and would benefit various disadvantaged communities within those regions. However, the Joint Group compliance option can be used by transit agencies that share infrastructure even if not in the same air basin, air district, or MPO. Without boundaries on the criteria to form a Joint Group, there would be greater risk that this compliance option would simply be used to delay action by some transit agencies because of independent decisions made by other transit agencies and would ultimately result in fewer zero-emission buses and fewer emission benefits than the Proposed Project. Overall, the alternative would not meet many of the objectives of the Proposed Project, as described in Chapter 2 Section A of the Final EA. These include emissions benefits and petroleum reduction in Objectives 1, 2, 3, 4, and 5 and the technology advancement goals of Objectives 6, 7, 8, and 10. It also remains unclear how this alternative would reduce or avoid any potentially significant impact identified in connection with the Proposed Project. Therefore, staff is proposing to retain the original proposal with the 15-day changes to ensure that emissions benefits are maximized and more equitably distributed.

Finally the concerns about costs or conflicts with State or federal laws are addressed in the safeguards included in the regulation. Please see Master Response 2 explaining why the Proposed Project is not expected to directly or indirectly cause reduced transit service or increased fares, and thus will not indirectly result in environmental impacts.

415-3: The commenter states that: "The EA does not Discuss the Proposed Regulation's Potentially Significant Environmental Impacts From Transit Agency Service Changes."

"The EA estimates emissions savings resulting from the conversion of today's transit bus fleet, powered by internal combustion engines, to zero-emission, all other things remaining equal. It projects that the Proposed Project will "reduce GHG emissions by 19 million metric tons of carbon dioxide equivalent (MMT CO₂e) from 2020 to 2050" and "result in an estimated 7,032 tons and 39.4 tons emission reduction from 2020 to 2050 for tailpipe NO_x and PM_{2.5}, respectively." Absent from the EA is any assessment of how the cost of the regulation, estimated at \$1.1 billion through 2040 by ARB staff, might degrade transit service, whether through higher fares or reduced service, and ultimately, transit ridership and statewide emissions."

Response:

Staff disagrees that the estimated cost of implementation of the Proposed Project might degrade transit service through higher fares or reduced service. Please see Master Response 2 explaining why the Proposed Project is not expected to directly or indirectly

cause reduced transit service or increased fares, and thus will not indirectly result in environmental impacts.

415-4: The commenter states that (emphasis in original):

“An analysis by the Orange County Transportation Authority (OCTA), presented to their Board of Directors on September 20, 2018, proves that these impacts to transit service are more than hypothetical. The analysis found that “if the ARB adopts the Proposed Regulation, it would create financial implications for OCTA’s transit system if no additional funding is identified. It is currently expected that OCTA will proceed with its next large transit bus procurement after 2020, subjecting the procurement to the new purchase requirements. It is expected that almost 300 buses will be procured at that time. If the ZEB purchase requirement is in place, this could increase procurement costs by as much as \$114 million. **Overall, to replace our entire fleet with ZEBs, including paratransit, it would cost at least an additional \$442 million in current dollars, more than double what it would cost to replace the fleet with traditional fuel vehicles. These estimates assume that there would need to be an expansion of the fleet by about 40 percent due to range limitations with existing ZEBs; however, these estimates do not include the costs of infrastructure and potential for increased fueling costs. This would significantly impact OCTA’s ability to maintain existing services and could result in a service reduction of over 20 percent if the additional funding were not identified.** Furthermore, there are several technology challenges that continue to exist for ZEBs, including the inability to meet existing transit bus range requirements, lack of commercially available ZEBs to replace paratransit vehicles, and no guarantee that existing technology will meet necessary warranties to fulfill federal useful life requirements.”

Response:

See response to comment 393-1 and Master Response 2 explaining why the Proposed Project is not expected to directly or indirectly cause reduced transit service or increased fares, and thus will not indirectly result in environmental impacts.

415-5: The commenter states that: “Virtually every transit agency that has submitted comments on the ISOR has projected similar impacts to their transit operations. As of the drafting of these comments, these agencies include: AC Transit; City of Pasadena; County Connection; Golden Gate Bridge, Highway and Transportation District, Monterey-Salinas Transit; Napa Valley Transportation Authority; Riverside Transit Agency; San Diego Metropolitan Transit System; and, San Mateo County Transit District.”

Response:

To clarify, not all letters cited in this comment explicitly claim that the Proposed Project could cause a reduction in transit services. A general summary of comments is provided for the agencies cited:

- **AC Transit:** AC Transit's letter from September 6, 2018, notes "concerns regarding the uncertainty with the scalability, the uncertainty with the technology, and the uncertainty with the financial ability to implement this rule" as well as uncertainty regarding scaling up their ZEB operations. AC Transit states support for a zero-emission fleet but notes that it must be balanced with financial resources and must not undercut their priority of providing public transit.
- **City of Pasadena:** City of Pasadena's letter from July 23, 2018, claims that it is not possible for the City to deploy ZEB technology "without having to fundamentally alter and significantly reduce the level of transit service currently provided to the public."
- **County Connection:** County Connection's letter from September 24, 2018, express concerns about electricity costs and availability of ZEBs for service in relation to diesel vehicles. The letter stated that if those concerns cannot be addressed, they will not be able to increase ZEBs in their fleet without cuts to service or an increase in fares.
- **Golden Gate Bridge, Highway and Transportation District:** The Golden Gate Bridge, Highway and Transportation District's letter, dated September 24, 2018, alludes to protecting transit agencies and riders from risks associated with transition to ZEB use and alludes to incentive funding that minimizes adverse impacts to transit service.
- **Monterey Salinas Transit:** Monterey-Salinas Transit District's letter, dated September 20, 2018, raises funding issues and mentions transit service reduction as a hypothetical way to address funding shortfalls. The same comments were echoed in its letter dated September 24, 2018.
- **Napa Valley Transportation Authority:** Napa Valley Transportation Authority's letter, dated September 20, 2018, mentions the CARB's proposal to exclude certain vehicles from the rule until a future time ensures the regulation will not impair service to vulnerable populations.
- **Riverside Transit Agency:** Riverside Transit Agency's letter, dated September 21, 2018, notes that without existing funding sources to purchase ZEBs, funding used for revenue service would be redirected and would most likely reduce service levels. The comment letter notes this could result in more vehicles on the road and increased pollutant emissions. Riverside Transit Agency also notes that they have incurred costs savings from operating a compressed natural gas fleet, and losing these funds would result in reduced transit services.
- **San Diego Metropolitan Transit System:** San Diego Metropolitan Transit System's comment letter, dated September 21, 2018, states that they are concerned that the additional cost will reduce and limit the agency's ability to provide transportation.

- **San Mateo County Transit District:** San Mateo County Transit District's comment letter, dated September 21, 2018, notes concerns over investments in vehicle technology adversely affecting transit service and notes funding is a particular concern.

The comment itself does not address the adequacy, accuracy, or completeness of the Draft EA, and no changes to the Draft EA are required in response to this comment. However, to the extent the commenter is raising a concern about the impact on transit service, see Master Response 2 explaining why the Proposed Project is not expected to directly or indirectly cause reduced transit service or increased fares, and thus will not indirectly result in environmental impacts.

415-6: The commenter states that: "Because the proposed regulation would significantly increase the costs to transit agencies, the proposed amendments would impair transit ridership and, thus, emissions resulting from reduced service. For example, research compiled by the Victoria Transport Policy Institute, which cites studies by the American Public Transportation Association, among others, demonstrates that demand for transit service is not perfectly inelastic and can be negatively influenced by degradation of service quality and/or fare prices (Litman, 2017). That is, if transit service is reduced, increasing the temporal cost of taking public transit, mode shift to other forms of motorized travel, like personal automobiles or transportation network companies, may be induced. These findings were validated by TransitCenter, which found that "the idea that people without cars are 'captive' and will use transit regardless of quality is severely overstated" (TransitCenter, 2016). By the same token, if transit fares increase, some transit riders will substitute rides on buses and rail with other modes of motorized travel, increasing VMT and emissions. APTA found that average bus fare elasticities in large and small cities are -0.36 and -0.43, respectively (Pham and Linsalata, 1991). These elasticities mean that, in large and small cities, even a modest increase in fare prices of 10% will lead to a 3.6% and 4.3% decline in transit ridership. These findings were further validated by a major study in the United Kingdom that found that bus fare elasticities are -0.4 in the short-run and -0.7 in the long-run (Daragay and Hanly, 1999). The larger impact of bus fare increases in the long-run reflects the fact that individuals, given time, will be able to secure additional travel options. The EA likewise fails to analyze the impact that higher costs may have on procurement habits, if agencies are unable to secure funding to purchase currently more expensive ZEBs. In this scenario, a resource-strapped transit agency would have the potential to delay the procurement of new buses until they have the resources necessary to purchase the mandated ZEB. This has the potential to cause agencies to operate an older, more polluting compressed natural gas or diesel bus, resulting in higher emissions."

"The EA should be augmented to discuss these potential impacts, as it is not the burden of the public to investigate these issues. (See, e.g., *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 352, 311 ["CEQA places the burden of environmental

investigation on government rather than the public,” and a lead agency “should not be allowed to hide behind its own failure to gather data.”].)”

Response:

See response to comment 393-1 and Master Response 2 explaining why the Proposed Project is not expected to directly or indirectly cause reduced transit service or increased fares, and thus will not indirectly result in environmental impacts.

415-7: The commenter states that: “Regarding impacts on public services, the impact analysis purports to address “Short-Term Construction-Related **and** Long-Term Operational-Related Effects on Public Services.” (Draft Environmental Analysis, p. 77 [emphasis added].) However, aside from one sentence addressing “increased demand on public services related to fire protection,” there is no discussion of the Proposed Project’s long-term operational impacts on transit services. (See *id.* at pp. 77-78.) This, notwithstanding that the analysis appears to rely on CEQA Guidelines, Appendix G for its significance standards, and Appendix G expressly identifies adverse impacts to “response times or other performance objectives.” As explained above, however, there is a significant danger that the proposed regulation will negatively impact transit agencies’ ability to maintain existing levels of service, which would cause physical changes in the environment as people are forced to forego public transportation in favor of individualized options.”

Response:

See response to comment 393-1 and Master Response 2 explaining why the Proposed Project is not expected to directly or indirectly cause reduced transit service or increased fares, and thus will not indirectly result in environmental impacts. Moreover, the analysis performed in the Draft EA, including the discussion under “Short-Term Construction-Related and Long-Term Operational-Related Impacts to Public Services” on pages 77 and 78, is programmatic in nature. See Master Response 1 for additional information regarding the programmatic nature of the Draft EA.

415-8: The commenter states: “Regarding the short-term, construction-related impacts to mineral resources, the EA acknowledges the possibility that building construction could have a negative impact on access to mineral resources. (Draft Environmental Analysis, p. 66.) However, the EA then discounts that impact because “buildings would be limited in size such that they would not wholly preclude resources recovery from adjacent areas.” (Id.) To illustrate, the EA then provides an example of a facility that “could occupy about 8 acres” and asserts that such a facility would be “unlikely to completely preclude mineral resources recovery from a specific deposit.” (Id.) “As a result,” the EA concludes, “this impact would be **less than significant.**”

“This analysis is inadequate. While the EA asserts the impact is less than significant, it fails to cite evidence to support its assumptions regarding the size of the facilities to be constructed (i.e., that they will general occupy about 8 acres) or the size of affected

deposit areas (i.e., that they will generally be larger than 8 acres). (See East Sacramento Partnership for a Livable City, supra, 5 Cal.App.5th at 302.) Indeed, the environmental document asserts elsewhere that there is “inherent uncertainty” as to “the exact location of new facilities,” the “geologic conditions at project sites,” the “characteristics of any new facilities,” and the “kinds of modifications to existing facilities” that would occur under the Proposed Project. (See Draft Environmental Analysis, p. 49.)”

Response:

As discussed in Master Response 1, the environmental analysis contained in the Draft EA is programmatic. See Master Response 1 for additional information regarding the programmatic nature of the Draft EA.

As noted throughout the Draft EA (see, e.g., Draft EA pages 21, 25, and 49), there is inherent uncertainty surrounding the size, magnitude, and location of new or modified facilities and/or infrastructure related to the reasonably foreseeable compliance responses to the Proposed Project. For assumptions about facility size, an example of a facility that is approximately 8 acres is the Proterra electric bus manufacturing facility in the City of Industry. The facility is approximately 7 acres, making the 8-acre figure conservative. In terms of precluding access to mineral resources, precise size of facilities is unknown; however, CARB uses a conservative facility size estimate to determine that total preclusion of mineral resource availability if such a facility is constructed on an area with mineral resources is unlikely. As a result, CARB has put forth a good-faith effort to evaluate the potentially significant mineral resources impacts of such compliance responses in the Draft EA and, where appropriate, identifies in the Draft EA project-level mitigation that may be implemented by a lead agency. As discussed in Master Response 1, CARB need not speculate regarding where specific facilities may be constructed, as that information is not knowable to CARB at this high-level stage of regulatory development.

415-9: The commenter states that: “As a result, the EA should be revised and recirculated to address these issues.”

Response:

See responses to comments 415-7 and 415-8. No significant new information has been added to the EA that would necessitate recirculation (Cal. Code Regs., tit. 14, § 15088.5).

415-10: The commenter states that: “The EA Should Further Analyze the Recognized Significant and Unavoidable Impacts Associated with New Facilities”

“According to the EA, the proposed regulation would result in the construction of a large number of new and modified facilities built to increase the supply of ZEBs. The EA finds the impacts of these new facilities to be significant for a wide range of resources. Although the EA identifies “suggested” mitigation to offset these impacts, and notes that

these measures could reduce the impacts to a less-than-significant level, the EA does not identify any mitigation measures that would provide enforceable mechanisms to lessen the significant impacts of the proposed regulation. Instead, for each of the resources, the EA finds the impact would continue to be significant and unavoidable because ARB does not possess land use authority over new facilities. There are several concerns with this approach, as explained below.”

Response:

The comment serves as an introductory comment to subsequent comments. See Responses to Comments 415-11 through 415-16.

415-11: The commenter states that: “An environmental document cannot simply label an impact “significant and unavoidable” without first providing adequate discussion and analysis, as this would “allow[] the agency to travel the legally impermissible easy road to CEQA compliance.” (Berkeley Keep Jets Over the Bay Comm. v. Bd. of Port Comm’rs (2001) 91 Cal.App.4th 1344, 1370.) Accordingly, the eventual adoption of a statement of overriding considerations does not excuse the lead agency from properly conducting environmental review in the first instance. (Id.) Rather, the lead agency must adequately quantify the impact, and consider feasible mitigation based on that analysis, prior to concluding that an impact is “significant and unavoidable.” (See, e.g., Sundstrom, supra, 202 Cal.App.3d at 311 [“CEQA places the burden of environmental investigation on government rather than the public,” and a lead agency “should not be allowed to hide behind its own failure to gather data.”].) As such, “sole reliance” on another agency’s regulatory authority “is inadequate to address environmental concerns under CEQA.” (Californians for Alternatives to Toxics v. Department of Food and Agriculture (2005) 136 Cal.App.4th 1, 16.)”

Response:

As discussed in Master Response 1, environmental review under CARB’s certified regulatory program is programmatic. CARB has made a good-faith effort to evaluate and disclose the physical environmental impacts of compliance responses to regulations, strategies, programs, and frameworks. CARB also considers specific mitigation for impacts identified as significant. In several instances throughout the Draft EA (see, e.g., pages 64, 75, and 82), CARB indicates that, while implementation of project-level mitigation measures could reduce impacts to a less-than-significant level, it is beyond CARB’s authority to implement such measures. As noted in Master Response 1, compliance responses that could result in adverse environmental effects (e.g., the construction and operation of new facilities) would undergo project-level environmental review under the scrutiny of a lead agency other than CARB. For example, if a transit agency needs to upgrade its facility to host new zero-emissions buses by conducting trenching, ground disturbance, electrical line upgrade, etc., it might need to secure a construction permit first, mitigate fugitive dust and storm water management, and eventually secure an operating permit before formal operation. CARB lacks the type of general land use authority held by cities and counties, and therefore cannot impose conditions on such projects that involve environmental resources beyond CARB’s jurisdiction.

Further, different transit agencies have their own procurement schedule that may not respond to a fixed purchase routine based on the vehicle inventory. Therefore, CARB also cannot predict precisely when and where these facility upgrades will take place. Seeking to further identify where facility modifications would take place would require CARB to speculate, which CEQA itself does not require. In such cases, a lead agency would evaluate the potential for environmental impacts to occur and would be responsible for identifying and enforcing project-level mitigation measures during the environmental review process. CARB therefore overstates the anticipated adverse environmental impacts of implementation of the Proposed Project as CARB would not serve as the lead agency under CEQA for activities undertaken in response to the Proposed Project. These impacts are discussed and, for CEQA compliance purposes, disclosed to be potentially significant and unavoidable, where appropriate.

Regarding the commenter's assertion concerning *Berkeley Keep Jets Over the Bay Comm. v. Bd. of Port Comm'rs* (2001) 91 Cal.App.4th 1344, CARB agrees that disclosing impacts as significant and unavoidable, and preparing a statement of overriding considerations, does not excuse failure to analyze a project's environmental impacts in the first instance. Yet that case is inapplicable here, as CARB did analyze the reasonably foreseeable environmental impacts of its proposal, to the extent those impacts are knowable at this programmatic, high-level regulatory development phase. See Master Response 1.

The commenter's reference to *Californians for Alternatives to Toxics v. Department of Food and Agriculture* is inapposite here. That case involved a scenario in which an agency relied solely on noting the existence of another agency's regulatory program as the basis for deeming an impact less than significant. Here, the commenter's objections arise in the context of CARB's having identified certain impacts as *significant and unavoidable*, in part due to the fact that CARB lacks authority to require the mitigation which could potentially reduce that impact to below significance. CEQA recognizes that agencies are not required to propose or analyze a mitigation measure that is legally infeasible, including mitigation measures that are beyond the powers conferred by law on the agency. (Pub. Resources Code § 21004; Cal. Code Regs., tit. 14, § 15040, 15126.4(a)(5).) CARB has proposed mitigation measures where potential mitigation measures exist, and noted that it lacks legal authority to implement those mitigation measures. As a matter of law, those mitigation measures are legally infeasible as they pertain to CARB, and CARB properly disclosed that it lacks authority to ensure those measures are implemented. CEQA does not require otherwise.

415-12: The commenter states that: "The draft EA claims that "there is inherent uncertainty in the degree of mitigation that would ultimately need to be implemented" because "the programmatic analysis in the Draft EA does not allow for identification of the precise details of project-specific mitigation." (Id. at 20.) Consequently, the Draft EA's significance conclusions "tend[] to overstate the risk that feasible mitigation may not be sufficient to mitigate an impact to less than significant." (Id.) Nevertheless, the Draft EA claims, "[i]t is also possible that the amount of mitigation necessary to reduce environmental impacts to below a significant level may be far less than disclosed in th[e]

Draft EA” because “[i]t is expected that many potentially significant impacts of facility and infrastructure projects would be avoidable or mitigable to a less-than-significant level as an outcome of their project-specific environmental review process.” (Id.) There are several problems with this approach.”

Response:

The comment serves as an introduction to subsequent comments. See Responses to Comments 415-13 through 415-16.

415-13: The commenter states that: “First, ‘identification of the precise details of project-specific mitigation’ is not necessary to determine ‘the degree of mitigation that would ultimately need to be implemented’ in all cases, as the Draft EA claims. (Id. at 20.) For instance, the Draft EA claims ‘[o]peration of new or expanded [lithium-ion battery] recycling facilities could require substantial energy use to process, breakdown, and refurbish batteries.’ (Id. at 48.) But then finds that ‘there is inherent uncertainty as to the location and size of new or expanded recycling facilities; therefore, the total energy demand for any future facility is speculative.’ (Id.) However, the Draft EA contains sufficient information to permit a reasonable estimate of total energy demand. The Draft EA states that, at present, “there are ten specialized companies processing and recycling lithium-ion batteries in the U.S. and Canada.” (Id. at 59.) The Draft EA could have used the energy demands of these facilities to generate a reasonable estimate of how much energy a facility of that type requires. Further, the Draft EA could have used the production capabilities of these facilities to generate a reasonable estimate of how many additional recycling facilities will be needed to accommodate increased demand from the proposed regulation. Yet the Draft EA did no such thing. Instead, the Draft EA simply concluded “the total energy demand for any future facility is speculative.” (Id. at 48.)”

Response:

The Draft EA explains several times (see, e.g., pages 5, 29, and 70) that the analysis is intentionally programmatic in nature as quantification of the size, magnitude, and severity of environmental impacts cannot accurately be determined from a program-level environmental review. The Draft EA makes a good-faith effort to disclose all potentially significant and unavoidable effects associated with the Proposed Project and identifies project-level mitigation measures that may be suitable to reduce impacts to less-than-significant levels. As discussed on pages 47 through 48 of the Draft EA, deployment of ZEBs under the Proposed Project would result in a beneficial impact to energy consumption when coupled with other Statewide regulatory programs and policies (e.g., the Renewable Portfolio Standard) which serve to improve Statewide energy efficiency and renewability. Use of ZEBs would decrease overall fossil fuel consumption, which would result in less wasteful or inefficient use of energy. This improvement in energy efficiency is expected to be greater than the energy demand required to recycle lithium-ion batteries. Moreover, facilities constructed within the State

would be supplied by energy that must meet the benchmark renewable goals of the Renewable Portfolio Standard. Furthermore, although there are existing battery recycling facilities, they may not be representative of future facilities. Similarly, it is unknown whether the capacity of future individual facilities would be comparable to existing facilities. As such, using the production capacities of existing facilities to determine how many additional recycling facilities would be needed would be a speculative exercise. The environmental analysis in the Draft EA is inherently programmatic and, as stated previously, does not attempt to quantify impacts that are determined to be overly speculative in nature pursuant to CEQA Guidelines Sections 15064(d)(3) and 15145.

With respect to energy impacts, CARB takes the conservative approach of overstating the anticipated adverse environmental impacts of implementation of the Proposed Project. These impacts are discussed and, for CEQA compliance purposes, disclosed to be potentially significant and unavoidable, where appropriate. See Master Response 1 for additional information regarding the programmatic nature of the Draft EA and CARB's certified regulatory program.

415-14: The commenter states that: "Similar examples can be found throughout the Draft EA. The Draft EA states that "[t]he demand for additional mining to meet increased use of [lithium-ion] batteries could result in the development of new mines and mining of lithium." (Id. at 67.) It then asserts that "it would be too speculative to determine if, when, and where a new mine may be located." (Id.) However, specific knowledge of these facts is not necessary to perform a meaningful analysis of potential environmental impacts. The Draft EA contains information regarding the number of lithium mines currently in operation in the U.S., the amount of lithium resources in the U.S., the amount of lithium resources globally, and the amount of demand that will be stimulated by the proposed regulation. (Id. at 67-68.) Using this information, the Draft EA could have analyzed how many new mining facilities will likely be needed to accommodate increased demand from the proposed regulation, and the types of impacts that can be expected to result from the construction and operation of such facilities. Information regarding the specific location and design of the facilities is not necessary to draw general conclusions regarding the likely scope of impacts."

Response:

As discussed on page 67 of the Draft EA, "it would be too speculative to determine if, when, and where a new mine may be located. In the case that new mines are required, they would go through independent environmental review at the appropriate federal, State, or local level." Although existing mines are known and additional lithium resources have been identified, the location and size of future facilities is not only based on lithium resource location. Also, other influencing factors such as land use planning constraints affect where mines may be located and the size of the mining operation. The environmental analysis in the Draft EA is therefore inherently programmatic and, as stated previously, does not attempt to quantify impacts that are determined to be overly

speculative in nature pursuant to CEQA Guidelines Sections 15064(d)(3) and 15145. With respect to mineral resources impacts, CARB takes the conservative approach of overstating the anticipated adverse environmental impacts of implementation of the Proposed Project. The Draft EA discloses at a programmatic level the adverse impacts of lithium mining on mineral resources (see, e.g., pages 40, 75, and 101). These impacts are discussed and, for CEQA compliance purposes, disclosed to be potentially significant and unavoidable, where appropriate. See Master Response 1 for additional information regarding the programmatic nature of the Draft EA and CARB's certified regulatory program.

415-15: The commenter states that: "Second, by expressly claiming to overstate the risk that feasible mitigation may be insufficient while, at the same time, asserting that impacts could be reduced to less-than-significant levels by local lead agencies, the Draft EA obscures the significance of its identified impacts. However, an environmental document that does not include sufficient information to "enable[] the reader to evaluate the significance of [] impacts" is inadequate under CEQA. (Lotus, supra, 223 Cal.App.4th 645, 654.) ARB's approach "precludes both identification of potential environmental consequences arising from the project and also thoughtful analysis of the sufficiency of measures to mitigate those consequences." (Id. at 658.) The fact that the proposed project's significant environmental impacts may be mitigated by local lead agencies does not relieve ARB from its duty to consider and to quantify the project's environmental impacts."

Response:

The commenter has not identified specific instances where it believes CARB "obscures the significance of its identified impacts" by asserting impacts could be reduced to less than significant levels by local lead agencies. Therefore, only a general response to this comment can be provided. Indeed, the Draft EA explains in several places after disclosing potentially significant impacts that those impacts could be reduced to a less-than-significant level by a land use or permitting agency conditions of approval, but that imposition and enforcement of such mitigation measures are not within the purview of CARB. The Draft EA explains that lead agencies responsible for CEQA compliance for projects would be responsible for identifying significant impacts and imposing and enforcing mitigation and CARB acknowledges that enforcement of the mitigation identified in this Draft EA would be implemented by a lead agency. Therefore, the Draft EA takes the conservative approach in its post-mitigation significance conclusion and discloses, for CEQA compliance purposes, that impacts found to be potentially significant impacts would remain potentially significant and unavoidable.

415-16: The commenter states that: "Third, by relying solely on local lead agencies to enforce mitigation measures, the Draft EA sidesteps analysis of important environmental impacts. Here, as in Californians for Alternatives to Toxics, ARB has "repeatedly deferred" to local and federal "regulatory scheme[s] instead of analyzing environmental consequences." (Californians for Alternatives to Toxics, supra, 136

Cal.App.4th at 16.) As such, ARB has failed to discharge its duty under CEQA to “meaningfully consider the issues raised by the proposed project.” (Id.) In *Californians for Alternatives to Toxics*, the lead agency relied on another agency’s regulatory scheme to support a finding of no significant impact. (Id. at 17.) Here, in contrast, ARB finds a significant impact, but then immediately asserts that the impact may not actually be significant in light of state and federal regulatory schemes. In both cases, however, the result is the same: the lead agency sidesteps CEQA’s informational purpose and fails to “meaningfully consider the issues raised by the proposed project.” (Id. at 16.)”

Response:

The commenter has not identified specific instances where it believes CARB “sidesteps analysis of important environmental impacts” and has not identified impacts it believes CARB did not address. Therefore, only a general response to this comment can be provided. Indeed, the Draft EA concludes the Proposed Project would result in significant and unavoidable impacts on several resource areas including, but not limited to, aesthetics, biological resources, cultural resources, transportation and traffic, hazardous materials, and utilities and service systems. Under CEQA, it can be reasonably assumed that project proponents would comply with applicable laws and regulations. The Draft EA takes this compliance into account when it would reduce environmental impacts. For example, page 78 of the Draft EA discloses that increased operation of facilities may increase the need for emergency services in case of accidents. The Draft EA then notes that individual facilities would be required to comply “with the Occupational Safety and Health Administration safety regulations,” which would minimize risk of accidents. As a result, the Draft EA concludes that construction of manufacturing facilities would therefore not require provision of additional public services. At this programmatic level, this level of analysis is appropriate. See Master Response 1. As demonstrated, contrary to the commenter’s assertion, CARB discloses the potential impacts that are reduced by existing regulations.

415-17: The commenter states that (citations omitted): “The EA Does Not Propose Adequate Mitigation for New/Modified Facilities”

“As explained above, CEQA requires mitigation measures to be enforceable through means that are legally binding.) This requirement is designed to ensure that mitigation measures will actually be implemented.”

“None of the mitigation measures identified in the draft EA are enforceable through legally binding means. Instead, the EA merely identifies “[r]ecognized practices routinely required to avoid and/or minimize impacts to” the relevant resource category. (See generally Draft Environmental Analysis, Attachment B.) There is, however, nothing in the proposed regulation that ensures those “recognized practices” will actually be implemented. Although ARB defends this approach on the ground that it “does not have the authority to require implementation of mitigation related to new or modified facilities that would be approved by local jurisdictions,” that is insufficient to discharge ARB’s

obligations under CEQA. The environmental document contains no discussion or analysis regarding ARB's consideration of feasible mitigation measures, other than to state in conclusory fashion that none exist. ARB must use whatever authority it has at its disposal to ensure that the mitigation measures identified in the EA are enforceable through legally-binding means. Thus, at the very least, ARB must analyze a range of potential mitigation measures and determine, based on the results of that analysis, whether such measures are feasible or not."

Response:

The comment correctly states that the mitigation measures provided for potentially significant impacts in the Draft EA are not legally binding. As described in response to comment 415-11, CARB does not have the land use authority to implement project-level mitigation measures that could be used to reduce impacts to less-than-significant levels and therefore cannot conclude any impact would be less than significant with mitigation. The commenter suggests that CARB must analyze mitigation measures and determine which are feasible. CARB discloses potentially significant impacts and identifies common project-level mitigation measures that could be sufficient to reduce the severity of impacts. It is legally infeasible for CARB to implement mitigation that is beyond its authority. The feasibility, appropriateness, and efficacy of mitigation measures would again be evaluated by a lead agency other than CARB during its project-level review. The mitigation measures contained in the Draft EA represent common measures used to reduce significant environmental impacts; however, CARB does not limit future mitigation practices to those identified in the Draft EA. The mitigation provided serves as possible practices that could be implemented by a lead agency. See Master Response 1 for more information regarding project-level environmental review under the Proposed Project.

415-18: The commenter states that (citations omitted): "The Draft EA should include the Association's Alternative in its alternatives analysis. As noted above, the Association's Alternative makes only modest changes to the waiver of certain ZEB purchasing requirements, and would therefore be equally effective in implementing the statutory purpose of the proposed regulation. The Association's Alternative also makes several common sense changes to the proposed regulation to lessen its burden on transit agencies and to ensure that the regulation is achieving its intended goals, including strengthening ZEB performance review standards, modifying the definitions of "large" and "small" transit agencies to reflect real-world conditions, relaxing current limitations on funding for the purchase of ZEBs, and others. Consequently, the Association's Alternative "could feasibly accomplish [all] of the basic objectives of the project and could avoid or substantially lessen one or more of [its] significant effects."

Response:

A number of changes proposed by staff are consistent with the commenter's suggested changes, and the reasons some were not incorporated into the staff proposal are

addressed in the response to comment 415-2. The comments about the Association's Alternative are also addressed by the response to comment 415-2.

Comment Letter 416 September 24, 2018	Polly Chapman Trinity County Transportation Commission
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416-1: The commenter states that: “Incentives: The staff report supporting the proposed regulation emphasizes the importance of incentive funding to minimizing adverse impacts to transit service (see Initial Statement of Reasons, pages ES-8, III-8, VIII-26). Given the stated importance of this funding and our shared goal of protecting vital transit service, this provision would require ARB to revise its current policy disallowing the use of incentive funding to meet regulatory compliance to explicitly allow transit agencies to use incentive funding whenever they are prepared to purchase a ZEB. In addition, the HVIP is an equitable and efficient process for offsetting the cost of a zero emission bus. However, CARB must express its support for creating an infrastructure funding program. This program should also be available to small operators to finance the rollout plans. Without a secure source for infrastructure investments in fueling/charging facilities, maintenance facilities, and storage capacity, the ability to meet the goals of this rule is doubtful. We urge the Air Resources Board to review and compare purchase orders and actual costs associated with the purchase of CNG/Clean Diesel vehicles and Battery-electric vehicles. Battery electric buses are more than double the cost of CNG/Clean Diesel Buses after HVIP vouchers. The HVIP program and PG&E transit budgeting are non-dedicated, temporary funding sources available to implement a costly and sometimes unreliable form of technology. Dedicated and reliable funding and incentive programs will allow for continuity of services when implementing the technology.”

Response:

Please see Master Response 2 explaining why the Proposed Project is not expected to directly or indirectly cause reduced transit service or increased fares, and thus will not indirectly result in environmental impacts. Please also see responses for comments 386-3 and 415-18.

416-2: The commenter states that: “Funding Considerations: We urge the Air Resources Board to consider the vast difference between agencies considered small to both the Federal Transit Administration and California Department of Transportation but not the Air Resources Board. These agencies are traditionally rural or nonprofit/ADA providers with inequitable funding in comparison to "other" large operators pooled into the same definition by the Air Resources Board. These agencies have much smaller staffing capacities and current transit employment trends, such as driver and maintenance staff shortages are exacerbated in smaller communities. These agencies often have much larger routes and service areas. Rural transit systems and ADA/non-profit providers face unique challenges that are not considered in the regulation as it exists today due to vague definitional standards. Trinity County annually receives approximately \$280,000 in Local Transportation Funds (LTF) that covers TOA administration, transit operations, and a purchased transportation program for our local

residents who live in areas that are not serviced by public transportation. With SB I, we now receive approximately \$110,000 in State Transit Assistance Funds (STA), which is used for operations and to replace rolling stock or improve bus stops. With Trinity County having a population of only 13,628 we are not a self-help county so we are very dependent on LTF, STA, and federal funding. Electric buses and charging stations would have to be purchased and installed through a grant program, which historically has been difficult for our low population county to be successful in. The comment discusses the disadvantages of being a small, rural transit agency. The comment summarizes the amount of Local Transportation Funds and State Transit Assistance Funds currently received by Trinity County Transportation Commission and notes that the Commission is very dependent on outside funding. The comment asserts that additional grant funding will be required to comply with the Proposed Project.”

Response:

As discussed in Master Response 2 and detailed in the Staff Report, CARB staff has identified multiple options for transit agencies to utilize, including increased grant funding and lease agreements. These options are made available by the revisions to the Proposed Project in the regulatory changes that were made available for a 15-day review period. Further, the comment does not address the adequacy, accuracy, or completeness of the Draft EA and no changes to the Draft EA are required in response to this comment.

Comment Letter 421 September 24, 2018	Kevin Maggay SoCal Gas
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421-1: The commenter states that: “**Transit agencies and ridership could suffer unintended consequences:** Transit agencies, which are not for profit organizations and rely heavily on subsidies to provide services, will be asked to take on the financial burdens of zero emission technologies. If they are unable to get zero emission buses and their associated infrastructure fully subsidized, they will have no choice but to pass the burden on to their ridership in the form of increased fares or reduced service. If the technology struggles continue, not only transit agencies will be impacted, but those that rely on the essential services transit agencies provide will be impacted as well. This is significant because most riders who rely on public transit are low-income individuals”.

Response:

Please see Master Response 2, explaining why the Proposed Project is not expected to directly or indirectly cause reduced transit service or increased fares, and thus will not indirectly result in environmental impact, and the response to comment 393-3.

421-2: The commenter states that: “In addition, and as stated above, LA Metro conducted a study to compare the zero and near-zero emission alternatives. The study, commissioned by a transit agency, found that near-zero technologies with RNG would be more effective at reducing emissions and less expensive, or in other words, less burdensome. However, the ISOR states “...no alternative proposed was found to be less burdensome and equally effective in achieving the purposes of the regulation in a manner that ensures full compliance with the authorizing law.” Therefore, as LA Metro has concluded that there is an alternative that would more effective and less burdensome, ARB did not fully examine reasonable alternatives and therefore did not fulfill this requirement. SoCalGas recommends that ARB first conduct a thorough analysis of feasible alternatives, including a true performance-based standard, before proceeding with this regulation. We urge ARB to assess a true performance standard or alternative compliance method in lieu of the proposed regulation. A true performance based standard can potentially achieve comparable emission reductions at a fraction of the cost and should be assessed per Government Code Section 11346.5(D)(13).”

Response:

The staff analysis of a low-NOx engine and renewable fuel strategy is similar to the LA Metro study and is included in the ISOR as an alternative. The staff analysis showed the alternative results in an overall cost increase due to the incremental cost of low-NOx engines when the overall cost of the Proposed Project results in overall cost savings because of operational savings. Introduction of low-NOx engines has a relatively small increase in costs and no operational savings. The staff analysis did not attribute any costs or benefits to the use of RNG because they are correctly attributed to the LCFS regulation. The LA Metro analysis used the assumption that RNG is commercially available at a comparable price in California due to the LCFS program and erroneously

claimed the benefits of using RNG are attributable to the transit agency. The GHG emission reduction benefit has been accounted for by the LCFS program and cannot be double-counted when evaluating benefits of the Proposed Project. The LA Metro analysis counted the benefits of RNG without reflecting its higher cost without the LCFS regulation and does not represent any additional emission reduction benefit outside of the LCFS program. CARB's analysis, on the other hand, was done without double-counting the GHG benefits. The low-NOx engine alternative has a lower capital cost but results in an overall cost increase with no new GHG benefits and was rejected as described in the ISOR.

Overall, the alternative does not meet many of the objectives of the Proposed Project, as described in Chapter 2 Section A of the Final EA. These include emissions benefits and petroleum reduction in Objectives 1, 2, 3, 4, and 5 and the technology advancement goals of Objectives 6, 7, 8, and 10.

In principle, a performance-based standard would set a common standard and periodic milestones for all fleets to meet with a wide range of possible actions to meet the standard. A performance-based analysis was included as an alternative in the ISOR described as the "Performance Target Approach" beginning on page IX-3. Staff worked with CTA and transit agencies over several meetings to develop appropriate metrics and to identify an appropriate methodology to meet the objectives of the regulation. Staff determined there were numerous challenges in establishing a performance based method and that it is not a feasible alternative. As described in the ISOR, this approach is more complicated than ZEB purchase requirements because it has more parameters to track such as vehicle mileage, passenger counts, fuel type, fuel use and other measurable metrics for a wide range of vehicles in the fleet. It also presents challenges in establishing the appropriate baselines and compliance targets to simultaneously achieve criteria pollutant and GHG reductions in an equitable manner from all fleets. The complexity in concept design and reporting requirements would also make the regulation difficult to enforce. Lack of enforceability is in direct conflict of EA Objective 9. In addition, the complexity and challenges with setting equitable targets for all fleets would make the technology advancing Objectives 10, 11, and 12 less effective. That in turn means remaining Objectives 1, 2, 3, 4, 5, 6, 7, and 8 would be met less effectively, or would not be met due to failure to achieve the intended GHG emission reductions.

Comment Letter 422 September 24, 2018	Todd Campbell Clean Energy
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422-1: The commenter states that (citations omitted): “The proposed ICT rule does not consider how a "ZEB-only" transit fleet could impact California's ability to respond to a state of emergency caused by a natural disaster or a cyber-attack on the electrical grid. The news media has recently covered how our current building codes in California may be insufficient for major earthquakes due to a modeling issue. This discovery created so much concern that Assembly Member Nazarian proposed legislation that would update California's building codes. Even as Hurricane Florence hits the Carolinas, many residents and commercial businesses lost electrical power just like those hit by Hurricane Katrina along the Gulf Coast or in Puerto Rico with Hurricane Irma.”

Response:

The Draft EA evaluates environmental impacts associated with physical changes to the environment from impacts to public services, such as fire response on pages 77 and 78. These impacts are grounded in environmental impacts caused by affects to service response times, since CEQA requires evaluation only of environmental impacts. The commenter does not identify a specific environmental impact resulting from transit agencies using zero-emission buses in the context of a natural disasters, such as by attempting to use such vehicles for evacuations, or the draw on the electrical system to charge such buses. The article cited by the commenter in Comment 422-1 footnote 6 notes that compressed natural gas buses were used to evacuate residents during Hurricane Sandy when other fleets suffered from fuel shortages. Other examples in the article related to maintaining local service and being able to operate non-transit vehicles during recovery activities. Therefore, while transit vehicles can be used for natural disaster evacuations, the article cited by the commenter also notes that vehicles using traditional fuel also can be rendered unusable during natural disasters due to fuel shortages (e.g., from refinery shutdowns). The article does not state whether additional facilities were built in response to this scenario. Because existing transit operators rely on a mix of fuels that are subject to various operational challenges during natural disasters, it would be speculative to conclude that implementation of the program would trigger construction of new facilities to address evacuations during natural disasters. CEQA Guidelines Sections 15064(d)(3) and 15145 note, generally, that speculation is not required in evaluation of environmental impacts. Therefore, no changes have been made to the Draft EA in response to this comment.

Although cyber-attacks constitute a real threat, the commenter does not present evidence that links increased reliance on the electrical grid for vehicle charging to decreased ability to respond to a cyber-attack on the electrical grid. Thus, environmental impacts from a cyber-attack here are speculative.

15 Day 15-1-5 September 21, 2018	Michael Pimentel California Transit Association
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15-1-5-1: The commenter request that CARB: “Add language to the proposed regulation that establishes benchmarks for ZEB cost and performance and funding availability.”

“These benchmarks should be sourced from the inputs and assumptions used by ARB staff in the Original SRIA, Draft Environmental Analysis and Cost Update.”

Response:

This comment does not appear to raise any environmental issues, and does not require a response. To the extent the comment is reiterating a previous suggestion of an alternative including benchmarks for ZEB cost and performance to be met before ZEB purchase requirements take effect, please see the response to comment 382-1.

15 Day 15-1-8 September 21, 2018		Jim Harnett San Mateo County Transit District
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15-1-8-1: The commenter states that: “The Proposed Amendments do not, however, incorporate our most important recommendations to include language in the regulation itself, which requires ARB to establish benchmarks for ZEB cost and performance and to institute a technology assessment that guarantees that transit agencies are only charged with accelerating their adoption of these technologies, if they meet the benchmarks set by the State.”

Response:

This comment does not appear to raise any environmental issues, and does not require a response. To the extent the comment is reiterating a previous suggestion of an alternative including benchmarks for ZEB cost and performance to be met before ZEB purchase requirements take effect, please see the response to comment 382-1. Please also see Master Response 2 explaining why the Proposed Project is not expected to directly or indirectly cause reduced transit service or increased fares, and thus will not indirectly result in environmental impacts.

15-1-8-2: The commenter states that: “Like the California Transit Association, we believe if challenges arise, they will be widespread throughout the industry and will necessitate more holistic action by the ARB. We, therefore, continue to urge you to include language in the regulation that establishes benchmarks for ZEB cost and performance and that compels a technology assessment. We also continue to urge you to relax limitations on incentive funding to allow transit agencies to access funding whenever they are ready to purchase a ZEB or make investments in infrastructure.”

Response:

This comment does not appear to raise any environmental issues, and does not require a response. To the extent the comment is reiterating a previous suggestion of an alternative including benchmarks for ZEB cost and performance to be met before ZEB purchase requirements take effect, please see the response to comment 382-1. Please also see Master Response 2 explaining why the Proposed Project is not expected to directly or indirectly cause reduced transit service or increased fares, and thus will not indirectly result in environmental impacts.

15 Day 15-1-11 September 26, 2018	Rick Ramacier Central Contra Costa Transit Authority
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15-1-11-1: The commenter states that: “Two significant issues remain concerning, though. The first one and perhaps most important is that the imposition of the zero-emission bus (ZEB) purchase requirement is still not tied to benchmarks for ZEB cost and performance, infrastructure buildout costs, and funding availability. There are significant risks in assuming, that data gathered from limited, short-term ZEB deployments will accurately reflect the realities of ZEB deployments at-scale. County Connection strongly believes that, despite the claims of some interest groups, ZEB cost and performance, infrastructure buildout, and the cost of electricity as fuel, are still issues.”

Response:

Please see Master Response 2 explaining why the Proposed Project is not expected to directly or indirectly cause reduced transit service or increased fares, and thus will not indirectly result in environmental impacts. See also the response to comment 382-1 explaining why benchmarks are not included as an alternative.

15-1-11-2: The commenter states that: “As I wrote in my letter to you on this subject dated September 24, 2018, County Connection strongly believes you should be guided by this question posed by the California Transit Association (CTA) months ago: "What will happen to transit service, if the assertions made by ARB staff and interest groups are wrong, and the cost and difficulty of the transition to fully electrified bus fleets more closely align with the warnings of California's public transit agencies?" To help ensure that this question is addressed in manner that minimizes the risk to transit service and the transit using public, County Connection reiterates that performance and cost benchmarking is placed within the regulation itself.”

Response:

Please see Master Response 2 explaining why the Proposed Project is not expected to directly or indirectly cause reduced transit service or increased fares, and thus will not indirectly result in environmental impacts. See also the response to comment 382-1 explaining why benchmarks are not included as an alternative.

15-1-11-3: The commenter states that: “Benchmarking and Regulatory Assessment: This provision would require the California Air Resources Board to conduct a regulatory assessment - before a ZEB purchase requirement goes into effect - that evaluates real-world ZEB cost and performance with benchmarks for ZEB cost and performance established at the time of rule adoption. This regulatory assessment should allow the Board to issue an across-the-board suspension of the ZEB purchase requirement, much like the original Transit Fleet Rule did, if real-world ZEB cost and performance is not yet at parity with the cost and performance of conventionally-fueled transit buses. This provision would have no impact on the ZEB purchase requirement, if benchmarks for ZEB cost and performance are being met, as anticipated by ARB staff and interest groups.”

Response:

Please see the response to comment 382-1 explaining why benchmarks are not included as an alternative. Please also see Master Response 2 explaining why the Proposed Project is not expected to directly or indirectly cause reduced transit service or increased fares, and thus will not indirectly result in environmental impacts.

15 Day 15-1-13 September 26, 2018	Carl Sedoryk Monterey Salinas Transit District
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15-1-13-1: The commenter states that: “If transit agencies lose access to this incentive funding, which is being offered because ARB acknowledges that the technology is currently more expensive and underperforms, they will need to redirect resources from some other purposes. Should it be reducing the state of good repair for our current fleets? Reducing Transit service to some of the most vulnerable people in our community? Or should we pass costs onto our riders by way of higher fares, which would most likely push choice riders back into their single occupancy, fossil fuel-powered vehicles?”

Response:

Please see Master Response 2 explaining why the Proposed Project is not expected to directly or indirectly cause reduced transit service or increased fares, and thus will not indirectly result in environmental impacts.

15-1-13-2: The commenter states that (emphasis omitted): “Performance Benchmarks: While the availability of incentive funding is critical for smoothing the introduction of ZEBs and limiting financial risk to transit agencies, we’d argue that the greater risk to our transit service would be in projecting the cost and technological capabilities of ZEBs five, ten, or twenty years out. To limit these risks, we’ve asked ARB staff to establish within the regulation itself cost and performance benchmarks that would be reviewed periodically, likely before the imposition of a purchase requirement, and used to determine how the regulation proceeds. This is consistent with the approach taken in the original Transit Fleet Rule. Under this scheme, ARB would review the real-world cost and performance of zero-emission buses and their supporting infrastructure at some future date and, if they do not align with ARB staff’s projections—which are built into the cost model and used to estimate the proposed regulation’s economic and environmental impact then the regulation would put on a temporary hold.”

Response:

Please see Master Response 2 explaining why the Proposed Project is not expected to directly or indirectly cause reduced transit service or increased fares, and thus will not indirectly result in environmental impacts. Please see the response to comment 382-1 explaining why benchmarks are not included as an alternative.

15 Day 15-1-20 September 26, 2018	Darrell E. Johnson Orange County Transportation Authority
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15-1-20-1: The commenter states that: “Unfortunately, the recent amendments do not address OCTA's primary concerns with the proposed ICT regulation. The proposed regulatory language still does not identify adequate funding for agencies to meet the purchase mandate, which could be partially addressed if the regulation explicitly authorized ARB incentive programs to be available through the life of the regulation. The regulatory language also does not include explicit benchmarks to ensure that the buses transit agencies will be mandated to purchase will meet the operational needs of the agency and will not require a shifting of financial resources that could adversely impact transit riders. For your reference, OCTA has voiced these concerns in previous letters to the ARB, dated January 22, 2018; May 14, 2018; and September 24, 2018, as well as in public comments at the September ARB Board Meeting. OCTA encourages amendments be developed to address these concerns before the regulation is put forward for adoption.”

Response:

Please see Master Response 2 explaining why the Proposed Project is not expected to directly or indirectly cause reduced transit service or increased fares, and thus will not indirectly result in environmental impacts. Please refer to responses to comments 386-3 regarding CARB incentive funding and response to comment 382-1 regarding benchmarks.

15 Day 15-1-24 September 26, 2018	Alex Clifford Santa Cruz Metropolitan Transit District
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15-1-24-1: The commenter states that: “100% zero emissions bus fleets by 2040 -What does that mean?: Please make it clear that CARB does not intend to force transit agencies to retire non -ZEB vehicles in 2040 and that CARB understands that transit agencies may continue to perform engine overhauls on CNG buses as 2040 approaches and after 2040, which may result in CNG buses continuing to run in service beyond 2040. Depending on funding, transit agencies may not be able to retire CNG buses purchased, for example in 2028, and instead, due to resource limitations, may spend far less money extending the life of a CNG bus by performing an engine overhaul. CARB stated at a workshop that the intent of the language was to ensure that transit agencies do not purchase anything but ZEBs from 2040 on. However, this statement is incongruent with the draft Regulation, which as currently drafted, ensures that all buses purchased from 2029 forward are to be 100% ZEB. Therefore, what does "zero emissions by 2040" mean?”

Response:

The regulation is clearly a purchase requirement with exemptions to allow combustion purchases in appropriate circumstances. Beginning in 2029, all new bus purchases must be ZEBs (unless an exemption is granted). Though the goal is to have entire fleets of ZEBs by 2040, there is no requirement to retire buses early to meet the goal of 100 percent ZEBs by 2040. Please see Master Response 2 explaining why the Proposed Project is not expected to directly or indirectly cause reduced transit service or increased fares, and thus will not indirectly result in environmental impacts.

15-1-24-2: The commenter states that: “Benchmarking and Regulatory Assessment: METRO requests that the Regulation, not the Resolution, contain a Benchmarking provision. This provision would require the California Air Resources Board to conduct a regulatory assessment - before a ZEB purchase requirement goes into effect - that evaluates real-world ZEB cost and performance with benchmarks for ZEB cost and performance established at the time of rule adoption.”

“This regulatory assessment should allow the Board to issue an across-the-board suspension of the ZEB purchase requirement, much like the original Transit Fleet Rule did, if real-world ZEB cost and performance does not achieve parity with the cost and performance of conventionally-fueled transit buses. This provision would have no impact on the ZEB purchase requirement, if benchmarks for ZEB cost and performance are being met, as anticipated by CARB staff and interest groups.”

“I continue to believe what I have expressed to CARB staff numerous times, that without benchmarking, CARB is handing the ZEB OEMs a captive audience. That is, public transit agencies will be required to purchase the ZEB OEM products, irrespective of the product's ability to perform to the differing range requirements of the public transit agencies.”

“Without a mandatory CARB Board review, the Regulation may result in reductions in public transportation. Santa Cruz METRO enjoys a fare box recovery of about 23%. What that means is that state and federal grants and our local sales tax resources provide the other 77% in operating revenues required to deliver the service. Every transit subsidy dollar is a precious resource and must be carefully considered for use as service on the street or as a capital expenditure to purchase new buses.”

“A significant portion of METRO's ridership are the poorest of the poor - the transit dependent. These are customers who rely on METRO to get to and from work and to their doctor's appointments. Insufficient battery energy density technology advancements may result in a waste of public dollars as an unchecked CARB Regulation may force transit agencies to purchase hundreds, maybe thousands of inferior ZEBs that they must retain for at least twelve years (FTA requirement).”

“Therefore, the higher cost of the ZEBs, inferior performing ZEBs and potentially higher electricity propulsion costs, may result in transit agencies having insufficient resources to continue to provide the level of service they do today, resulting in potential service reductions.”

Response:

Please see the response to comment 382-1 explaining why benchmarks are not included as an alternative. Please see Master Response 2 explaining why the Proposed Project is not expected to directly or indirectly cause reduced transit service or increased fares, and thus will not indirectly result in environmental impacts. The Modifications to The Proposed Regulation Order, released on November 9, 2018, further clarifies the intent, with detailed language, that the expanded exemptions should ensure no service cuts for any transit agency as a result of the Proposed Project (CARB, 2018a).

15 Day 15-1-27 September 26, 2018	Joshua Shaw California Transit Association
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15-1-27-1: The commenter states that: “However, the Proposed Amendments have yet to make progress on our most important recommendations to: incorporate zero-emission bus (ZEB) cost & performance benchmarks and a regulatory assessment in the regulation itself; and, add language to the regulation that allows transit agencies to access incentive funding to offset the incremental cost of ZEBs for the life of the regulation. As detailed at length in our letter, dated September 24, 2018, we remain concerned about ZEB cost and performance; making these changes is essential to ensuring transit agencies can continue to deliver frequent, reliable and affordable service as they take on the monumental task of electrifying their fleets. Any dilution of our service resulting from this regulation undermines the state’s ability to reach its climate objectives and harms the very riders whose air we are endeavoring to improve with cleaner zero-emission fleets. By submitting this letter in the 15-day comment period, we ask that you revisit these omissions with ARB staff and direct them to make changes to the regulation that are consistent with the Association’s recommendations, listed below.”

Response:

Please see the response to comment 382-1 explaining why benchmarks are not included as an alternative. Please see Master Response 2 explaining why the Proposed Project is not expected to directly or indirectly cause reduced transit service or increased fares, and thus will not indirectly result in environmental impacts. Please refer to the response to comments 386-3 regarding CARB incentive funding.

15-1-27-2: The commenter states that: “Benchmarking and Regulatory Assessment: In our September 24 letter, and in public testimony before the Board on September 28, the Association made the following recommendations related to “Benchmarking and Regulatory Assessment:”

“Move the existing language on the “Performance Review of Zero-Emission Bus Technologies” scheduled to occur “at least one year prior to the initiation of any purchase requirements” from the ISOR (pp. I-13 to I-14) to the proposed regulation.

“Add language to the proposed regulation that establishes benchmarks for ZEB cost and performance and funding availability – these should be sourced from the inputs and assumptions used by ARB staff in the Original SRIA, Draft Environmental Analysis and Cost Update.”

Response:

Please see the response to comment 382-1 explaining why benchmarks are not included as an alternative. Please see Master Response 2 explaining why the Proposed Project is not expected to directly or indirectly cause reduced transit service or increased fares, and thus will not indirectly result in environmental impacts.

3. REFERENCES

California Air Resources Board (CARB) (2015). *Draft Technology Assessment: Medium- and Heavy-Duty Battery Electric Trucks and BusesFYI* (October 2015), available at: https://www.arb.ca.gov/msprog/tech/techreport/bev_tech_report.pdf.

California Electric Transportation Coalition (CaETC) (2017). *California Air Resources Board Staff Questions for Utilities Regarding Medium- and Heavy-Duty Transportation Electrification* (March 22, 2017), available at: <https://arb.ca.gov/msprog/ict/meeting/mt170626/170626caletcletter.pdf>.³

California Air Resources Board (CARB) (2018a). *Proposed Innovative Clean Transit Regulation, Modifications to the Proposed Regulation Order* (posted November 9, 2018), available at: <https://www.arb.ca.gov/regact/2018/ict2018/15dayatta.pdf>.

California Air Resources Board (CARB) (2018b). *Proposed Innovative Clean Transit Regulation, Attachment B: Supplemental to Economic Impact Assessment of the Initial Statement of Reasons for the Innovative Clean Transit Regulation* (posted November 9, 2018), available at: <https://www.arb.ca.gov/regact/2018/ict2018/15dayattb.pdf>.

California Air Resources Board (CARB) (2018c). *Draft Environmental Analysis for the Proposed Innovative Clean Transit Regulation, A Replacement to the Fleet Rule for Transit Agencies* (posted August 7, 2018), available at: <https://www.arb.ca.gov/regact/2018/ict2018/appc.pdf>.

California Air Resources Board (CARB) (2018d). *Public Hearing to Consider the Proposed Innovative Clean Transit Regulation, Staff Report: Initial Statement of Reasons, Appendix D: Total Fuel Costs* (posted August 7, 2018), available at: <https://www.arb.ca.gov/regact/2018/ict2018/appd.pdf>.

³ Note, this document is cited to respond to the comments on the Draft EA and environmental impacts of the Proposed Project. It is not cited as a “document relied upon” under Gov. Code § 11346.2, subd. (b)(3), for the proposed ICT Regulation.

ATTACHMENT A
COMMENT LETTERS

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September 24, 2018

California Air Resources Board, Members
1001 I Street, Suite
Sacramento, CA 95814

RE: Response to the Initial Statement of Reasons for the Proposed Innovative Clean Transit Regulation

Chair Nichols and Members of the California Air Resources Board:

On behalf of the California Transit Association, I write to you today in response to the Initial Statement of Reasons for the Proposed Innovative Clean Transit (ICT) Regulation, released August 7, 2018. The Association and its more than 200 transit-affiliated members support the goal of converting California's transit bus fleet to 100% zero-emission by 2040. We greatly appreciate that the proposed regulation to achieve that goal takes a major step forward from the regulatory concept first released in December 2017 by improving on several central provisions that we have long-deemed onerous or problematic. While there are several changes to the proposed regulation we continue to seek – two in particular we believe are necessary to protect California's transit riders from the service cuts or fare increases that could result from pursuing widespread transit bus electrification too hastily – we thank you and your staff for your demonstrated commitment to working with us to deliver a progressive regulation that will achieve our shared goal.

To reiterate, we believe a regulation should be completed this year to facilitate the conversion to ZEB technology by 2040. Having said that, we are again calling your attention – and offering solutions – to several issues with the proposed regulation and challenges on the horizon that could force unfortunate trade-offs between capital and operational expenditures. These trade-offs, if not acknowledged and addressed head-on in the proposed regulation, would harm the very communities that should and deserve to benefit most from clean air investments.

Part 1 of these comments include technical suggestions and recommendations that we believe would enhance the proposed regulation and further the California Air Resources Board's (ARB) objectives while further limiting adverse impacts to California's public transit agencies and the riders who rely on our service. As you will see, building upon these suggestions, we are formally presenting these suggestions as an "alternative" to the regulation for consideration by ARB (the "Association's Alternative"). The recommendations that comprise this alternative were previously shared with you in our letter, dated July 19, 2018, and have since been formalized by our Executive Committee in the 45-day comment period.

Part 2 of these comments addresses ARB’s obligations under the California Administrative Procedure Act, Govt. Code, § 11350, *et seq.* (the “APA”), and other statutes. This portion of the comments addresses ARB’s duty to analyze regulatory alternatives under the APA; the Standardized Regulatory Impact Assessment (or “SRIA”) prepared for the Proposed ICT Regulation; and, the external peer review process required under Section 57004 of the Health & Safety Code. Part 3 of these comments addresses ARB’s duties under the California Environmental Quality Act, Pub. Resources Code, § 21000, *et seq.* (“CEQA”).

We hope you will strongly consider this feedback, and direct ARB staff to address the deficiencies we identify and to incorporate our recommendations in the final regulation order by adopting the Association’s Alternative. We thank you for this opportunity to comment and we look forward to participating in the public meeting on the proposed regulation, scheduled for September 28, 2018.

I. Part I: Technical Suggestions and Recommendations to Improve the Proposed ICT Regulation

A. ARB Can Enhance the Proposed ICT Regulation by Adopting Several Technical Amendments

Benchmarking and Regulatory Assessment (ISOR, pp. I-13-I-14): In our letter dated July 19, 2018, we recommended that, given the aggressive electrification goals sought in the proposed regulation and the continued uncertainty around, among other things, ZEB cost and performance, and funding availability, the regulation establish benchmarks for ZEB cost and performance and include a regulatory assessment to evaluate real-world cost and performance against these benchmarks. We argued that the regulatory assessment should take place before the ZEB purchase requirement goes into effect and should require the Board to issue an across-the-board suspension of the ZEB purchase requirement, much like the original Transit Fleet Rule did, if real-world ZEB cost and performance is underwhelming, or adequate funding to support the transition to a fully electrified transit fleet is unavailable.

The proposed regulation meets us halfway by incorporating aspects of our recommendations in the ISOR. More specifically, the ISOR states ARB staff’s commitment to providing the Board with a *“comprehensive update on costs, performance, and reliability of ZEBs and corresponding infrastructure...at least one year prior to the initiation of any purchase requirement. The review would look at bus categories, such as cutaway buses and standard buses individually, to ensure categorical needs and characteristics are considered.”*

The review would comprise the following components:

- **“Costs:** *Costs include infrastructure and vehicle capital, operating and maintenance costs. Infrastructure capital costs include charging/refueling equipment, installation, and utility upgrade costs.*
- **Battery Performance:** *Batteries used in the ZEBs will degrade over time. The assessment will help identify how battery degradation may affect daily operating range as vehicles age, and whether transit buses would require mid-life battery replacement. The assessment can help to estimate the remaining battery capacity after the end of their useful life in buses.*

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- **Operating Range:** *The maximum operating range of a vehicle after it is fully charged or refueled. Range assessment will take into consideration various factors, such as energy storage capacity, battery degradation, HVAC, passenger loading, and grades. Understanding real world operating range is essential for a transit agency to plan for its routes and schedule using ZEB technologies.*
- **Performance and Reliability:** *Different from small pilot or demonstration projects, a successful system-wide transition to the ZEB technologies must demonstrate the reliability and viability of the technologies. Measurements could include bus availability, road call frequency, and other performance metrics, such as fuel efficiency and factors affecting fuel efficiency, refueling or charging time and frequency, and parts availability.”*

We greatly appreciate the inclusion of this language in the ISOR as it is an honest assessment by ARB staff that ZEB technology is still maturing and must be closely monitored to ensure operational viability at-scale. Unfortunately, we believe relegating the language to the ISOR is inadequate, because it does not: carry the same force of law as language included in the regulation order; or, outline the steps the Board would take, or even the options they would consider, if they determined that the ZEB purchase requirement would negatively impact transit service.

We recommend that ARB strengthen the performance review identified in the ISOR by:

- **Codifying its language in the proposed regulation; then,**
- **Adding language in the proposed regulation that would establish benchmarks for ZEB cost and performance and funding availability – these should be sourced from the inputs and assumptions used by ARB staff in the Original SRIA, Draft Environmental Analysis and Cost Update;**
- **Adding language in the proposed regulation that would require the Board to temporarily halt the ZEB purchase requirement, if real-world ZEB cost and performance and funding availability are misaligned with the benchmarks established in the proposed regulation.**

ZEB Purchase Requirements (Section 2023.1 (a)(1)): The proposed regulation maintains a ZEB purchase requirement as the primary mechanism for facilitating widespread transit electrification. We continue to believe that a ZEB purchase requirement is inappropriate, because it fails to take into consideration the diverse financial positions and operational needs of transit agencies. Nevertheless, ARB staff should be commended for acknowledging that the once-2020 purchase requirement start date was too soon to be practical for agencies, given the current state of ZEB technology and the reality of 18- to 24-month procurement cycles. We appreciate that ARB staff has also recognized that there are unique financial and administrative challenges faced by small agencies that justify delaying the purchase requirement for these agencies until 2026. Importantly, this delay will also allow small transit agencies to learn from the experiences of large agencies on effective ZEB deployment.

If combined with a strong benchmarking and regulatory assessment provision that allow for an across-the-board suspension of the ZEB purchase mandate, as discussed above; a realistic waiver for early compliance; and, case-by-case, agency-by-agency, ARB Executive Officer approved, off-ramps from the ZEB purchase mandate, the ZEB purchase requirement

schedule offered in the proposed regulation may be implementable. Together, these provisions would institute important safeguards that better ensure that agencies are not charged with purchasing ZEBs, if their cost and/or performance would jeopardize transit service. We are aware that various stakeholder groups, comprising the Advanced Clean Transit Coalition, support accelerating the ZEB purchase requirement schedule to claim ZEB deployments at more transit agencies sooner. **We recommend that ARB resist calls to accelerate the ZEB purchase requirement schedule and, instead, maintain the ZEB purchase requirement schedule in the proposed regulation.**

We assert that transformation of our state's public transit network will not come about from all transit agencies fumbling through new requirements and new technologies at once, but rather through targeted investments and successful ZEB demonstrations led by key agencies, which allow best practices to be developed and shared throughout the industry.

Waiver of Initial Zero-Emission Bus Purchase Requirements (Section 2023.1 (b)(1) and 2023.1 (b)(2)): The proposed regulation provides an opportunity to delay the start date for the ZEB purchase requirement faced by large transit agencies, if the number of ZEBs in operation and/or on order at the end of 2020 and 2021 reach 1,000 and 1,150, respectively. We appreciate the inclusion of this provision, as it represents a creative approach by ARB staff to permitting the leaders in transit electrification to continue to lead, while also encouraging other agencies to explore deploying ZEBs early.

We support this provision and recommend that ARB replace Section 2023.1 (b)(1) and 2023.1 (b)(2) in the proposed regulation with the following:

- **The zero-emission bus purchase requirements for calendar year ending December 31, 2023, are waived if California transit agencies collectively have at least eight hundred (800) zero-emission buses purchased or in active bus fleets by December 31, 2020, as determined by the Executive Officer based on the reporting data for calendar year 2020 required by section 2023.8.**
- **If the 2023 zero-emission bus purchase requirement is waived as a result of the implementation of section 2023.1(b)(1), then the zero-emission bus purchase requirements for calendar year ending December 31, 2024, are waived if California transit agencies collectively have at least one-thousand and two hundred (1,200) zero-emission buses purchased or in active bus fleets by December 31, 2021, as determined by the Executive Officer based on the reporting data for calendar year 2021 required by section 2023.8.**

These recommendations reflect the Association's best estimates for realistic ZEB purchase thresholds, based on the self-reported procurement schedules of our members and expected funding availability as of summer 2018. Without these adjustments, the ZEB threshold number for 2020 is too high and would translate into a *de facto* ZEB purchase requirement in 2023.

Large vs. Small Transit Agencies (Sections 2023 (b)(29) and 2023 (b)(49)): The proposed regulation defines a large transit agency as "a transit agency with a fleet size of one-hundred (100) or more buses" and a small transit agency as "a transit agency with a fleet size of fewer than one-hundred (100) buses." The proposed regulation defines a bus as "a rubber-tire vehicle designed to transport passengers by road with gross vehicle weight (GVWR) greater

than 14,000 pounds, but does not include a trolley bus...” The practical impact of the definition of a bus is that it counts both standard transit buses and cutaway vehicles toward fleet totals.

These definitions appear to have been promulgated by ARB staff for simplicity, but they are ultimately problematic, because they are misaligned with the definitions for small and large agencies used by the Federal Transit Administration (FTA) to determine the eligible uses of critical federal funding sources, like Chapter 53 of Title 49 U.S.C. 5307 funding (FTA 5307).

For background, FTA defines large agencies as those operating in Primary Urbanized Areas (UZAs) with populations greater than 200,000 and at least 100 vehicles in annual maximum service; and, defines small agencies as those operating in UZAs with populations less than 200,000 or those with fewer than 100 vehicles in annual maximum service. Understanding this is critical, because small agencies have long-been afforded, and have taken advantage of, the opportunity to use FTA 5307 funding to fund operations. FTA has deliberately provided this flexibility to these agencies in recognition that many of them operate in rural and/or suburban areas, and lack access to local funds and ancillary revenue that supports basic service needs. Should the regulation maintain the current definitions for small and large transit agencies, several agencies recognized as small by FTA would become large agencies for ARB’s purposes and would be forced to comply with the more aggressive ZEB purchase requirement schedule. This more aggressive schedule would likely require these small agencies to redirect their FTA 5307 funding from operations to meeting the ZEB purchase requirement, possibly undermining lifeline transit service.

To avoid conflicts with federal funding programs that could jeopardize the provision of transit service, particularly for small agencies, we urge ARB to defer to the Association and its members on the appropriate definition of large and small transit agencies.

We recommend that ARB replace Section 2023 (b)(29) in the proposed regulation with the following:

- **“Large Transit Agency” means a transit agency operating in an UZA with population of at least 200,000 with at least 100 vehicles in annual maximum service**

We recommend that ARB replace Section 2023 (b)(49) in the proposed regulation with the following:

- **“Small Transit Agency” means a transit agency that satisfies either of the following conditions:**
 - **The transit agency operates in an UZA with population less than 200,000**
 - **The transit agency operates fewer than 100 vehicles in annual maximum service**
- **For the purposes of this section, a transit agency that is otherwise defined as a small transit agency shall be considered a large transit agency, if the following conditions are met:**
 - **The agency operates in either the South Coast and San Joaquin Valley air basins**

- **The agency operates more than 65 vehicles in annual maximum service**

Role of Incentives (N/A): The proposed regulation would limit access to incentive funding to transit agencies that exceed their baseline ZEB purchase requirements.

We continue to assert that the state’s experience with ZEB deployments – i.e. 450 ZEBs now operating, or on order, all purchased with the help of state and/or federal incentives – the high cost of the proposed regulation between 2020 and 2040, and the role that robust transit service must play in reducing emissions from the transportation sector requires that the state remove all barriers to transit agencies accessing incentive funding. **We recommend that ARB fund the transition to ZEBs, even if that requires directly funding regulatory compliance.**

We note that we are not alone in making this request: Californians for Zero-Emission Vehicles, an advocacy group representing ZEB manufacturers and interest groups, and BYD Motors, Inc., recently filed similar comments with you. Like the Association, these groups recognize the devastating impact that an unfunded ZEB purchase requirement could have on the vital public service our members provide.

Purchase Definition (Section 2023.1 (a)(5)): The proposed regulation requires ZEBs to be “*delivered within two years from the initial date of a Notice to Proceed*” (NTP) to count as purchases under the ZEB purchase requirement. From discussions with ARB staff, we understand that the two-year delivery requirement was added to prevent a transit agency from attempting to count as purchases, options that would not be manufactured and delivered to the agency for many years. Having consulted with the leading Original Equipment Manufacturer (OEM), we believe this provision offers a solution to a problem that does not exist. That is, an OEM would not agree to manufacture an option (codified in an NTP) far in advance of delivery, because the price of components and raw materials could change, leading to an uncertain profit margin for the bus.

Additionally, it is common knowledge among transit agencies nationwide that deliveries of ZEBs and associated infrastructure are routinely – sometimes, chronically – late, a problem that can only be addressed by the OEMs, not transit agencies.

We recommend that ARB replace Section 2023.1 (a)(5) in the proposed regulation with the following:

- **A new bus is considered purchased when a Notice to Proceed or Purchase Order is issued to the manufacturer and a transit agency’s funds are identified, committed and encumbered.**

ZEB Rollout Plan (Section 2023.1 (d)): The proposed regulation requires transit agencies to submit ZEB rollout plans, approved by their governing boards, detailing their commitment to fully transition to ZEB technology by 2040 or earlier as well as their schedule and needs for realizing that transition. The proposed regulation requires large and small agencies to submit these plans to ARB by July 1, 2020 and July 1, 2023, respectively.

We support and appreciate the inclusion of this new provision, which recognizes the strength of our past request for individualized ZEB deployment plans. This provision will encourage transit agencies to think through the steps necessary for full fleet conversion to ZEB technology, but will also provide the state with useful information on costs, funding needs and

other barriers to electrification, which will help justify future state investment in ZEBs and support future legislative actions.

We recommend that ARB resist calls to accelerate the submission date for ZEB roll-out plans by small agencies and, instead, maintain the submission date in the proposed regulation. As we have communicated to you across many forums, even the transit agencies most bullish about ZEB technology are operating small ZEB fleets. These same agencies acknowledge that it will take time and resources for our industry to learn what it will take to successfully convert an entire fleet to ZEB technology, and to promulgate best practices. The lag in the submission date is useful, because it allows these early adopters and large agencies, many of which are better-capitalized, to uncover key insights into widespread ZEB deployment, which can be shared with small agencies and incorporated into their ZEB rollout plans.

ZEB Bonus Credit (Section 2023.3): The proposed regulation outlines a schedule of ZEB bonus credits, which allows early adopters to collect additional credits for ZEBs already in service. These ZEB bonus credits can be used to satisfy future ZEB purchase requirements. We believe the proposed schedule is appropriate, because it recognizes that transit agencies that have already deployed ZEBs assumed additional costs and risks to support the commercialization of ZEB technology. **We recommend that ARB maintain the proposed schedule, including the higher level of bonus credit for fuel-cell electric buses, which recognizes their higher upfront and operational costs; and, expand the schedule to include one bonus credit for conversions to battery-electric placed in service on or before December 31, 2017 and which remained in service as of January 1, 2018.**

Additionally, we recommend that ARB, in crediting ZEB deployments that exceed ZEB purchase requirements, provide the same level of credit for conversions to battery-electric as purchases of standard battery-electric buses, and one-half credit for electric trolley buses placed into service between January 1, 2018 and December 31, 2020.

Excluded Buses (Section 2023.1 (c)): The proposed regulation excludes cutaway buses, over-the-road buses and articulated buses from the ZEB purchase requirement until January 1, 2026 and until the applicable ZEB type has passed and obtained an Altoona bus testing report as required by Title 49 of the Code of Federal Regulations (CFR) Section 665.13. We appreciate and support this provision, which acknowledges that electric technology for these bus types is still nascent and, if included under the ZEB purchase requirement too soon, would have devastating impacts on transit services serving the disabled, the elderly as well as commuters. We also appreciate that the performance review discussed under “*Benchmarking and Regulatory Assessment*” offers ARB staff’s commitment to assessing the state of the technology for these non-standard buses before they are included under the purchase mandate.

Our support for this provision notwithstanding, we recommend that ARB look beyond the Altoona bus testing report as proof that a vehicle is ready for revenue service, and include language within the regulation requiring a technology assessment of these ZEB types in 2026 to evaluate commercial availability and operational readiness based on data gathered from real-world deployments of these ZEB types prior to the inclusion of these vehicles in the regulation.

Provisions for Extension or Exemption of a ZEB Purchase (Section 2023.4): The proposed regulation enumerates the conditions under which a transit agency may request an extension or exemption from the ZEB purchase requirement. These conditions, which must be verified by ARB’s Executive Officer, generally relate to delays in bus delivery, delays in infrastructure buildout, and the unavailability of requisite ZEB technology that exist beyond the transit agency’s control.

These conditions, which reflect many of the recommendations we offered in our July 19, 2018 comment letter are well-thought out and provide assurance that transit agencies will not be forced to comply with the ZEB purchase requirement, if external factors would make compliance impossible or otherwise harm transit service.

While we support this provision and the specific conditions outlined in the proposed regulation, we recommend that ARB replace Section 2023.4 (c)(4)(B)(3) in the proposed regulation with the following:

- **The cost or performance characteristics of the zero-emission bus would result in a transit agency violating any federal, state, or local laws, regulations or ordinances.**

Additionally, we commit to working with ARB staff to clarify that the deferral for ZEBs that cannot meet a transit agency’s daily mileage need requires the development of a new testing protocol to determine range based on real world operation, and should not use the Orange County bus test cycle.

Compliance Option for Joint Zero-Emission Bus Groups (Section 2023.2): The proposed regulation outlines the requirements for establishment of Joint Zero-Emission Bus Groups. This provision allows two or more transit agencies to pool their resources to meet their ZEB purchase requirements, if the agencies share the same Metropolitan Planning Organization (MPO), Transportation Planning Agency (RTPA) or are located in the same air basin. Overall, we support the inclusion of this provision, which offers an alternative, more flexible pathway to compliance for small agencies across the state. That said, there are several small agencies in close proximity to one another that do not share an MPO, RTPA or air basin, but which would benefit from this provision. **For that reason, we recommend that ARB remove the requirement that transit agencies share an MPO, RTPA or air basin to form a joint zero-emission bus group.**

B. The Association’s Alternative

The Association believes the technical recommendations described above would dramatically enhance the proposed regulation. As such, ARB should consider an alternative under which ARB would adopt the proposed regulation with the following amendments.

Collectively, the following proposals are referred to as the “Association’s Alternative.”

- **Strengthening Performance Review:**
 - **Establishing Benchmarks:** The inclusion of language that would establish benchmarks for ZEB cost and performance and funding availability. These benchmarks should be sourced from the inputs and assumptions used by ARB staff in the Original SRIA, Draft Environmental Analysis and Cost Update.

- **Relationship between Benchmarks and ZEB Purchasing Requirements:** The inclusion of language that would require ARB to temporarily halt the ZEB purchase requirement if real-world ZEB cost and performance and funding availability are misaligned with the benchmarks established in the proposed regulation.
- **Waiver of Certain ZEB Purchasing Requirements:** Section 2023.1, subdivisions (b)(1) and (b)(2) should be replaced with the following requirements:
 - **Subdivision (b)(1):** The ZEB purchase requirements for calendar year ending December 31, 2023, would be waived if California transit agencies collectively have at least eight hundred (800) zero-emission buses purchased or in active bus fleets by December 31, 2020, as determined by the Executive Officer based on the reporting data for calendar year 2020 required by section 2023.8.
 - **Subdivision (b)(2):** If the 2023 ZEB purchase requirement is waived under Subdivision (b)(1), the ZEB purchase requirements for calendar year ending December 31, 2024, would be waived if California transit agencies collectively have at least one-thousand and two hundred (1,200) zero-emission buses purchased or in active bus fleets by December 31, 2021, as determined by the Executive Officer based on the reporting data for calendar year 2021 required by section 2023.8.
- **Modification of Definition of “Large Transit Agency,” under Section 2023(b)(29):**
 - “Large Transit Agency” means a transit agency operating in an UZA with population of at least 200,000 with at least 100 vehicles in annual maximum service
 - For the purposes of this section, a transit agency that is otherwise defined as a small transit agency shall be considered a large transit agency, if the following conditions are met:
 - The agency operates in either the South Coast and San Joaquin Valley air basins
 - The agency operates more than 65 vehicles in annual maximum service
- **Modification of Definition of “Small Transit Agency,” under Section 2023(b)(49):**
 - “Small Transit Agency” means a transit agency that satisfies either of the following conditions:
 - The transit agency operates in an UZA with population less than 200,000
 - The transit agency operates fewer than 100 vehicles in annual maximum service

- **Role of Incentives:** Provisions would be added to the proposed regulation requiring ARB to fund the transition to ZEBs.
- **Purchase Definition:** Section 2023.1(a)(5) would be replaced with the following language:
 - A new bus is considered purchased when a Notice to Proceed or Purchase Order is issued to the manufacturer and a transit agency's funds are identified, committed and encumbered.
- **ZEB Bonus Credit:**
 - Section 2023.3(d) would be augmented to expand the schedule to include one bonus credit for conversions to battery-electric placed in service on or before December 31, 2017 and which remained in service as of January 1, 2018.
 - In addition, in crediting ZEB deployments that exceed ZEB purchase requirements, ARB would provide the same level of credit for conversions to battery-electric as purchases of standard battery-electric buses, and one-half credit for electric trolley buses placed into service between January 1, 2018 and December 31, 2020.
- **Excluded Buses:** The proposed regulation would be amended to include language requiring a technology assessment of these ZEB types in 2026 to evaluate commercial availability and operational readiness based on data gathered from real-world deployments of these ZEB types prior to the inclusion of these vehicles in the regulation.
- **Provisions for Extension/Exemption of a Zeb Purchase:** Section 2023.4(c)(4)(B)(3) would be replaced with the following language:
 - The cost or performance characteristics of the zero-emission bus would result in a transit agency violating any federal, state, or local laws, regulations or ordinances.
- **Compliance Option for Joint ZEB Groups:** The requirement that transit agencies share an MPO, RTPA or air basin to form a joint zero-emission bus group would be removed.

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II. Part II: Comments on Appendix I and Concerns Arising Under the APA

A. Alternatives Analysis under the APA

The Legislature requires that state agencies avoid unnecessary or unduly burdensome regulation. As such, ARB may not propose regulations unless it has determined no alternative to its own proposal would be “as effective and less burdensome to affected private persons and equally effective in implementing the statutory purpose or other provision of law.” (Govt. Code, § 11346.5(a)(13).) To adopt a regulation, ARB must likewise affirm and explain, with “supporting information,” that “no alternative” it has considered “would be more effective and less burdensome to affected *private persons* than the adopted regulation, or would be more

cost effective to affected private persons and equally effective” in meeting the proposal’s legislative objective. (Govt. Code, § 11346.9(a)(4) [emphasis added].)

The proposed regulation will affect “private persons.” Specifically, if grant funding is inadequate to cover the high upfront capital costs, then transit agencies will be forced to increase fares or decrease transit service, and “private persons” will experience increased costs and reduced availability of public transit. The impact to “private persons” of the proposed regulation would be particularly acute for low-income persons and persons from minority communities who overwhelmingly comprise the transit customer base. Consider, for example, that the 2012 American Communities Survey found that the average income for a transit rider is \$15,281 in the City of Los Angeles; 71 percent of transit riders in Los Angeles are Hispanic. In the Cities of San Diego, San Francisco and Sacramento, the average income of transit riders is \$18,143, \$42,230, and \$30,227, respectively. These income levels are far below the average in these cities and significantly less than the income levels of all commuters.

Under these circumstances, ARB bears the burden of demonstrating no alternative would be “as effective and less burdensome to affected private persons and equally effective in implementing the statutory purpose or other provision of law.” (Govt. Code, § 11346.5(a)(13).) Likewise, before considering the proposed regulation for adoption, ARB must demonstrate, with “supporting information,” that “no alternative” that the Board has considered “would be more effective and less burdensome to affected private persons than the adopted regulation, or would be more cost effective to affected private persons and equally effective” in meeting the proposal’s legislative objective. (Govt. Code, § 11346.9(a)(4).)

The legislative objective (or, “statutory purpose”) of the proposed regulation can be found in the text of SB 32, which states:

[i]n adopting rules and regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emissions reductions authorized by this division, the state board shall ensure that statewide greenhouse gas emissions are reduced to at least 40 percent below the statewide greenhouse gas emissions limit no later than December 31, 2030.

(Health & Saf. Code, § 38566.) Thus, the legislative objective underlying the proposed regulation is to ensure GHG emissions will be “reduced to at least 40 percent below the statewide greenhouse gas emissions limit no later than December 31, 2030,” in a manner that is technologically feasible and cost-effective. (*Id.*; see also ISOR at X-1 [“The proposed ICT regulation is designed to reduce criteria pollutants, toxic air contaminants, and GHG emissions from the public transit sector, and to reduce community and regional air pollution.”].)

Although the Alternatives Analysis in Section IX of the ISOR includes some findings concerning the above statutes, those analyses do not contain supporting information for the conclusions drawn. For instance, ARB asserts that Alternative 2 (a proposal for a less stringent zero-emission bus purchase requirement) “will result in less emission reduction benefits in early years compared with the proposed purchase requirement.” (See ISOR, IX-11.) However, ARB has not shown that sufficient funding will be available to allow transit agencies to achieve the more demanding requirement without increased costs or decreased services. In the absence of such information, there is no basis for a conclusion that Alternative 2 would be less

effective than ARB's proposal. As such, ARB's alternatives analysis does not include the evidence and discussion required under Sections 11346.5 and 11346.9.

ARB should consider the Association's Alternative, which is identified in Part I(B) above. This alternative would be more than "equally effective in implementing the statutory purpose." (Govt. Code, § 11346.5(a)(13).) The Association's Alternative makes only modest changes to the waiver of certain ZEB purchasing requirements, and would be equally effective in implementing the statutory purpose of the proposed regulation. The Association's Alternative also makes several common sense changes to the proposed regulation to lessen its burden on transit agencies and to ensure that the regulation is achieving its intended goals, including strengthening ZEB performance review standards, modifying the definitions of "large" and "small" transit agencies to reflect real-world conditions, relaxing current limitations on funding for the purchase of ZEBs, and others. The Association's Alternative, would thus be equally effective in meeting CARB's statutory objectives, while at the same time reducing cost impacts to regulated entities, and thus, affected private persons.

As a result of the foregoing, ARB should not on the current record proceed to a final action because it cannot, among other things, comply with Section 11346.9(a)(4) of the Government Code. If ARB intends to pursue the proposed regulation, the record should demonstrate ARB has addressed the issues raised by the Association.

B. Association's Concerns Regarding the SRIA

The APA requires that state agencies proposing to "adopt, amend, or repeal any administrative regulation" first perform an assessment of "the potential for adverse economic impact on California business enterprises and individuals." (Govt. Code, § 11346.3(a).) Specifically, ARB must prepare a Standardized Regulatory Impact Assessment ("SRIA") analyzing "the potential adverse economic impact on California business and individuals of a proposed regulation," (Govt. Code, § 11346.3), and declare in the notice of proposed action any initial determination that the action will not have a significant statewide adverse economic impact directly affecting business. (Govt. Code, § 11346.5(a)(8); *Western States Petroleum Assn. v. Board of Equalization* (2013) 57 Cal.4th 401, 428 [hereinafter, "WSPA"].) The SRIA must evaluate several issues, including "elimination of jobs within the state," "the elimination of existing businesses within the state," and "[t]he competitive . . . disadvantages for businesses currently doing business within the state." (Govt. Code, § 11346.3, subs. (c)(1)(A)-(C).) The SRIA must be circulated with the ISOR, and must be supported by "facts, evidence, documents, [or] testimony," and made available for public review and comment for at least 45-days before an agency approves a regulation. (Govt. Code, §§ 11346.5, subs. (a)(7), (a)(8), 11347.3(b)(4).) The SRIA cannot be based on "mere speculati[on]." (*WSPA, supra*, 57 Cal.4th at 428.) "A regulation . . . may be declared invalid if . . . [t]he agency declaration . . . is in conflict with substantial evidence in the record." (*Calif. Ass'n of Medical Products Suppliers v. Maxwell-Jolly* (2011) 199 Cal.App.4th 286, 306.)

The SRIA does not meet applicable standards. One of the fundamental assumptions of the SRIA is that "the incremental costs to transit agencies of the proposed ICT regulation could be offset without relying on financing options" due to the availability of grant funding. (See SRIA at 41.) According to the SRIA, "grant funding **can reduce or eliminate most of the initial capital costs** of the proposed ICT regulation" such that transit agencies who experience

increased costs will not pass those costs on to individuals through decreases in service or increases fares. (See SRIA at 41.) On the basis of this assumption, the SRIA concludes that there are no direct costs incurred by individuals as a result of the proposed regulation. (*Id.*) However, ARB's analysis of available funding shows that it falls well short of covering the estimated cost of the proposed regulation, and consequently, fails to demonstrate that transit agencies will not have to reduce transit service and/or increase fares to comply with the proposed regulation.

ARB estimates that the cost of the proposed regulation through 2030 and 2040 will be \$605.7 million and \$1.1 billion, respectively. To arrive at these estimates, ARB built a complex cost model that rests on a series of optimistic assumptions, including bus purchase costs, bus maintenance costs, fuel costs, fuel efficiency, and charger install costs. We have particular concern about the assumption used in ARB's cost model that includes Low Carbon Fuel Standard (LCFS) credits for transit agencies through 2050 when, in fact, LCFS is presently only statutorily authorized through 2030. When the model is updated to reflect the true sunset date for LCFS, the estimated cost of the proposed regulation through 2040 climbs to \$2.01 billion. This higher cost estimate does not include changes to any of the other assumptions listed above, which would meaningfully increase the cost of the proposed regulation.

ARB identifies five potential funding sources. Taken together, however, these are clearly not sufficient to ensure that transit agencies will not be compelled to increase fares or decrease service as a result of the proposed regulation.

The Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project ("HVIP") provides point-of-sale vouchers to partially offset the incremental cost of zero- and near-zero emission trucks and buses. These vouchers, which are funded through an annual appropriation by the State Legislature, are issued to public and private fleet owners on a first-come/first-serve basis. In FY 2017-18, HVIP made a total of \$188 million available to fleet owners, with at least \$35 million set aside for zero-emission bus deployment, specifically. (SRIA at 41.) In FY 2018-19, HVIP made an additional \$125 million available to fleet owners. While the current funding capacity of HVIP is substantial, this capacity is not specifically earmarked to zero-emission bus deployment, and the program itself relies on annual appropriation by the State Legislature, which provides no guarantee of future funding. Moreover, the capital costs of the proposed regulation are estimated to be at least \$74 million in the year 2020 alone, and as much \$989 million through 2032. (SRIA at 37, Table C12.) The currently available – and therefore, knowable – funding in HVIP is plainly inadequate to meaningfully offset these costs so as to ensure no changes in service or increased fares.

Pursuant to SB 350 Clean Energy and Pollution Reduction Act of 2015, the California Public Utilities Commission approved over \$750 million in funding for investments in infrastructure projects in the service territories of Southern California Edison and Pacific Gas & Electric that support the deployment of zero-emission vehicles. (See *id.* at 42.) Of this total, transit agencies in the SCE and PGE service territories are guaranteed a combined minimum investment in infrastructure projects of \$52.5 million. These funds, however, are available for only a five-year period. (See *id.* at 42.) Again, this is plainly inadequate in light of the \$989 million of estimated costs through 2032. (*Id.* at 37, Table C12.)

The Volkswagen Environmental Mitigation Trust (“Mitigation Trust”) provides California approximately \$423 million to fund specified eligible actions to mitigate the lifetime excess NOx emission caused by Volkswagen’s emission test defeat device. Of this total, \$130 million is specifically earmarked for transit, school and shuttle buses and supporting infrastructure. No more than 50% of this funding, or \$65 million, can be used for any one vehicle type (e.g. transit buses or shuttle buses). Guidelines for this funding have not been developed yet.

The Low Carbon Transit Operations Program (“LCTOP”) is claimed to provide an **unidentified amount** that “will support new or expanded bus or rail services, expand intermodal transit facilities, and **may** include equipment acquisition, fueling, maintenance and other costs to operate those services or facilities . . .” (*Id.* at 42.) Yet, an unidentified amount that “may” be used to offset ZEB purchases, maintenance, and other costs cannot be relied upon to offset the increased costs to transit agencies.

Finally, the Transit and Intercity Rail Capital Program (“TIRCP”) provides **competitive** grants of **unidentified amounts** “to fund transformative capital improvements that will modernize California’s intercity, commuter, and urban rail systems, and bus and ferry transit systems, to significantly reduce GHG emissions, vehicle miles traveled, and congestion.” (*Id.* at 43.) Again, an unidentified amount that may or may not be used to offset the regulation’s initial capital costs, and which is not guaranteed to all transit agencies because it must be competitively granted, cannot be relied upon to meaningfully offset transit agencies capital costs.

ARB estimates that the cost of the proposed regulation through 2030 and 2040 will be \$605.7 million and \$1.1 billion, respectively. When their model is updated to reflect the true sunset date for LCFS of 2030, the estimated cost of the proposed regulation through 2040 climbs to \$2.01 billion. Although the SRIA claims that “grant funding **can reduce or eliminate most of the initial capital costs** of the proposed ICT regulation” and that, as a result, transit agencies will not pass on those costs to individuals through changes in services or increased fares, (*id.* at 41 [emphasis added]), the available grant funding identified in the SRIA falls well short of the proposed regulation’s estimated costs. The HVIP guarantees only \$35 million for ZEBs, much of which has already been committed, and only for FY 2017-18; SB 350 guarantees \$52.5 million for infrastructure projects that support zero-emission bus deployments in the SCE and PGE service territories, but not for ZEB purchases and only for a five year period; the Mitigation Trust provides a maximum of \$65 million for zero-emission transit buses and charging infrastructure; the LCTOP provides an **unidentified** amount, which “may include” ZEB costs; and, similarly, the TIRCP provides an **unidentified** amount that may or may not be used to fund ZEB-related activities.

Accordingly, the conclusions in the SRIA that transit agencies will not pass on costs to customers due to the availability of grant funding are not be supported by “facts, evidence, documents, [or] testimony,” (Govt. Code, §§ 11346.5, subs. (a)(8)), are “mere speculati[on],” (*WSPA, supra*, 57 Cal.4th at 428), and are contradicted by the record evidence.

C. External Peer Review

Pursuant to Health and Safety Code § 50074, ARB may not “take any action to adopt the final version of a rule unless” it undertakes a peer review to evaluate the “scientific portions” of the rule. (Health & Saf. Code, § 57004(d).) Section 57004 was enacted by the Legislature in response to “[s]ignificant questions . . . raised by both the environmental and regulated communities about the scientific basis for some rules.” (California Bill Analysis, S.B. 1320 Assem., 8/11/1997.) Thus, it requires CALEPA agencies, such as the ARB, to submit the “scientific portions” of a proposed regulation to an external peer reviewer “for the purpose of conducting an analysis of the science on which the regulation is based.” (*Id.*) The peer reviewer must then “provide a written evaluation as to whether the scientific portion of the rule is based on sound scientific knowledge, methods and practices.” (*Id.*; see also Health & Saf. Code, § 57004(d) [stating that “board, department, or office [must] submit[] the scientific portions of the proposed rule, along with a statement of the scientific findings, conclusions, and assumptions on which the scientific portions of the proposed rule are based and the supporting scientific data, studies, and other appropriate materials, to the external scientific peer review entity for its evaluation” and that the “external scientific peer review entity [must] prepare[] a written report that contains an evaluation of the scientific basis of the proposed rule”].) The “scientific portions” of a proposed regulation include “those foundations of a rule that are premised upon, or derived from, empirical data or other scientific findings, conclusions, or assumptions establishing a regulatory level, standard, or other requirement for the protection of public health or the environment.” (*Id.*, subd. (a)(2).)

The proposed regulation contains numerous “scientific portions” that must be subjected to external peer review pursuant to § 50074 because they “are premised upon, or derived from, empirical data or other scientific findings, conclusions, or assumptions establishing a regulatory level, standard, or other requirement for the protection of public health or the environment.” (*Id.*, subd. (a)(2).) These “scientific portions” include, but are not limited to:

- Determination of the feasibility of implementing the ZEB purchase requirement
- Determination of the percentage of total new bus purchases that must be ZEBs
- Determination of the minimum number of ZEBs that transit agencies must collectively purchase to trigger waiver of the purchase requirements for 2023 and 2024
- Determination that all new bus purchases need to be ZEBs by 2029
- Determination of the number of zero-emission passenger miles per year deemed equivalent to having one ZEB in the agency’s fleet
- Determination of the number of bonus credits for each FCEB or BEB placed in service
- Determination of the dates for application of the bonus credits
- Determination of the date for requiring the purchase of low-NOx engines
- Determination of the date for requiring the use of renewable fuels for diesel and CNG buses
- Determination that sufficient funding will be available to offset initial capital costs such that transit agencies will not be forced to increase fares or decrease service

As such, CARB must submit these portions of the rule, “along with a statement of the scientific findings, conclusions, and assumptions on which [they] are based and the supporting scientific

data, studies, and other appropriate materials, to the external scientific peer review entity for its evaluation.” (*Id.* at subd. (d)(2).)

III. Part III: Comments on Appendix C

A. ARB’s Obligations under CEQA

State agencies such as ARB must “refrain from approving projects with significant environmental effects if there are feasible alternatives or mitigation measures that can substantially lessen or avoid those effects.” (*City of Arcadia, supra*, 135 Cal.App.4th at 1421 [citing *Mountain Lion Found. v. Fish & Game Comm.* (1997) 16 Cal.4th 105, 134].) To perform this evaluation, ARB must “first . . . identify the environmental effects” of a proposed regulation, “and then . . . mitigate [any] adverse effects through the imposition of feasible mitigation measures or through the selection of feasible alternatives.” (*Sierra Club, supra*, 7 Cal.4th at 1233.) “The CEQA process is intended to be a careful examination, fully open to the public, of the environmental consequences of a given project, covering the entire project, from start to finish. This examination is intended to provide the fullest information reasonably available upon which the decision makers and the public they serve can rely in determining whether or not to start the project at all, not merely to decide whether to finish it.” (*NRDC v. City of Los Angeles* (2002) 103 Cal.App.4th 268, 271.)

State regulatory programs “that meet certain environmental standards and are certified by the Secretary of the California Resources Agency are exempt from CEQA’s requirements for preparation of EIRs, negative declarations, and initial studies.” (*City of Arcadia, supra*, 135 Cal.App.4th at 1421.) The scope of this exemption, however, is narrow, and only excuses ARB from complying with the requirements found in Chapters 3 and 4 of CEQA (*i.e.*, Pub. Res. Code, §§ 21100-21154) in addition to Public Resources Code § 21167. (Pub. Res. Code, § 21080.5(c).) However, “[w]hen conducting its environmental review and preparing its documentation, a certified regulatory program is subject to the broad policy goals and substantive standards of CEQA.” (Kostka & Zischke, *Practice Under Cal. Env. Quality Act* (2016 update) § 21.10) [“Kostka & Zischke”] [citing *City of Arcadia, supra*, 135 Cal.App.4th at 1422; *Sierra Club, supra*, 7 Cal.4th 1215; *Californians for Native Salmon & Steelhead Ass’n v. Dept. of Forestry* (1990) 221 Cal.App.3d 1419; *Env’tl Protection Info. Ctr. v. Johnson* (1985) 170 Cal.App.3d 604, 616].) The broad policy goals of CEQA include: (1) providing public agencies and the public with detailed information about the effect that a proposed project is likely to have on the environment, (2) identifying the ways in which the significant effects of a proposed project might be minimized, and (3) identifying alternatives to the proposed project. (See Pub. Res. Code §§ 21002, 21002.1(a), 21061; 14 C.C.R. § 15362.) Thus, the CEQA Guidelines expressly provide that “[i]n a certified program, an environmental document used as a substitute for an EIR must include ‘[a]lternatives to the activity and mitigation measures to avoid or reduce any significant or potentially significant effects that the project might have on the environment.’” (*City of Arcadia, supra*, 135 Cal.App.4th at 1422 [quoting CEQA Guidelines, § 15252(a)(2)(A)].)

ARB’s functional equivalent document is the “staff report,” which “shall be prepared and published by the staff of the state board.” (17 Cal. Code Regs., § 60005(a).) The regulations require the staff report to be “published at least 45 days before the date of the public hearing”

on the rulemaking, and to “be available for public review and comment.” (*Id.*) Staff reports must be prepared “in a manner consistent” “with the goals and policies of” CEQA, and “shall contain” “[1] a description of the proposed action, [2] an assessment of anticipated significant long or short term adverse and beneficial environmental impacts associated with the proposed action and [3] a succinct analysis of those impacts.” (17 Cal. Code Regs., § 60005(b).) Additionally, the analysis must “address feasible mitigation measures and feasible alternatives . . . which would substantially reduce any significant adverse impact identified.” (*Id.*)

The regulations also provide that an action “for which significant adverse environmental impacts have been identified during the review process shall *not* be approved or adopted as proposed if there are feasible mitigation measures or feasible alternatives available which would substantially reduce such adverse impact.” (*Id.*, § 60006 [emphasis added].) “Feasible” means “capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors, and consistent with the state board’s legislatively mandated responsibilities and duties.” (*Id.*)

If ARB receives comments raising “significant environmental issues associated with the proposed action,” staff must “summarize and respond to the comments either orally or in a supplemental written report. Before taking final action on any proposal for which significant environmental issues have been raised, the decision maker shall approve a written response to each such issue.” (*Id.*, § 60007.) ARB must respond to the issues raised by the public by providing a “good faith, reasoned analysis in response, and at a level of detail that matches the level of detail in the comment.” (CEQA Guidelines, § 15088(c); *Pfeiffer v. City of Sunnyvale* (2011) 200 Cal.App.4th 1552, 1568.) If ARB disagrees with the “recommendations and objections raised in the comments,” the “recommendations and objections” “must be addressed in detail,” with the agency “giving reasons why specific comments and suggestions were not accepted.” (CEQA Guidelines, § 15088(d).) “Conclusory statements unsupported by factual information will not suffice.” (*Id.*) Finally, because ARB may not take “final action on any proposal which raise significant environmental issues associated with the proposed action” until the state board “approve[s] a written response to each” issue raised, (Cal. Code Regs., § 60007(a)), ARB staff’s responses to environmental comments must be presented to the state board before consideration of the Proposed Amendments for approval. (*Id.*)

B. Compliance with ARB’s Certified Regulatory Program and CEQA

1. The EA does not Discuss the Proposed Regulation’s Potentially Significant Environmental Impacts From Transit Agency Service Changes

The EA estimates emissions savings resulting from the conversion of today’s transit bus fleet, powered by internal combustion engines, to zero-emission, all other things remaining equal. It projects that the proposed regulation will “reduce GHG emissions by 19 million metric tons of carbon dioxide equivalent (MMT CO₂e) from 2020 to 2050” and “result in an estimated 7,032 tons and 39.4 tons emission reduction from 2020 to 2050 for tailpipe NO_x and PM_{2.5}, respectively.” Absent from the EA is any assessment of how the cost of the regulation, estimated at \$1.1 billion through 2040 by ARB staff, might degrade transit service, whether

through higher fares or reduced service, and ultimately, transit ridership and statewide emissions.

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An analysis by the Orange County Transportation Authority (OCTA), presented to their Board of Directors on September 20, 2018, proves that these impacts to transit service are more than hypothetical. The analysis found that “if the ARB adopts the Proposed Regulation, it would create financial implications for OCTA’s transit system if no additional funding is identified. It is currently expected that OCTA will proceed with its next large transit bus procurement after 2020, subjecting the procurement to the new purchase requirements. It is expected that almost 300 buses will be procured at that time. If the ZEB purchase requirement is in place, this could increase procurement costs by as much as \$114 million. **Overall, to replace our entire fleet with ZEBs, including paratransit, it would cost at least an additional \$442 million in current dollars, more than double what it would cost to replace the fleet with traditional fuel vehicles. These estimates assume that there would need to be an expansion of the fleet by about 40 percent due to range limitations with existing ZEBs; however, these estimates do not include the costs of infrastructure and potential for increased fueling costs. This would significantly impact OCTA’s ability to maintain existing services and could result in a service reduction of over 20 percent if the additional funding were not identified.** Furthermore, there are several technology challenges that continue to exist for ZEBs, including the inability to meet existing transit bus range requirements, lack of commercially available ZEBs to replace paratransit vehicles, and no guarantee that existing technology will meet necessary warranties to fulfill federal useful life requirements.”

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Virtually every transit agency that has submitted comments on the ISOR has projected similar impacts to their transit operations. As of the drafting of these comments, these agencies include: AC Transit; City of Pasadena; County Connection; Golden Gate Bridge, Highway and Transportation District, Monterey-Salinas Transit; Napa Valley Transportation Authority; Riverside Transit Agency; San Diego Metropolitan Transit System; and, San Mateo County Transit District.

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Because the proposed regulation would significantly increase the costs to transit agencies, the proposed amendments would impair transit ridership and, thus, emissions resulting from reduced service. For example, research compiled by the Victoria Transport Policy Institute, which cites studies by the American Public Transportation Association, among others, demonstrates that demand for transit service is not perfectly inelastic and can be negatively influenced by degradation of service quality and/or fare prices (Litman 2017). That is, if transit service is reduced, increasing the temporal cost of taking public transit, mode shift to other forms of motorized travel, like personal automobiles or transportation network companies, may be induced. These findings were validated by TransitCenter, which found that “the idea that people without cars are ‘captive’ and will use transit regardless of quality is severely overstated’ (TransitCenter, 2016). By the same token, if transit fares increase, some transit riders will substitute rides on buses and rail with other modes of motorized travel, increasing VMT and emissions. APTA found that average bus fare elasticities in large and small cities are -0.36 and -0.43, respectively (Pham and Linsalata, 1991). These elasticities mean that, in large and small cities, even a modest increase in fare prices of 10% will lead to a 3.6% and 4.3% decline in transit ridership. These findings were further validated by a major study in the United Kingdom that found that bus fare elasticities are -0.4 in the short-run and -0.7 in the long-run

(Daragay and Hanly, 1999). The larger impact of bus fare increases in the long-run reflects the fact that individuals, given time, will be able to secure additional travel options. The EA likewise fails to analyze the impact that higher costs may have on procurement habits, if agencies are unable to secure funding to purchase currently more expensive ZEBs. In this scenario, a resource-strapped transit agency would have the potential to delay the procurement of new buses until they have the resources necessary to purchase the mandated ZEB. This has the potential to cause agencies to operate an older, more polluting compressed natural gas or diesel bus, resulting in higher emissions.

The EA should be augmented to discuss these potential impacts, as it is not the burden of the public to investigate these issues. (See, e.g., *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 352, 311 [“CEQA places the burden of environmental investigation on government rather than the public,” and a lead agency “should not be allowed to hide behind its own failure to gather data.”].)

415-6

2. The EA’s Findings of Less-than-Significant Impacts for Certain Resource Categories Are Inadequate

An environmental document must identify and focus on the “significant environmental effects” of the proposed project. (See Pub. Res. Code § 21100(b)(1.); CEQA Guidelines, §§ 15126(a), 15126.2(a), 15143. A significant effect on the environment is defined as a substantial or potentially substantial adverse change in the environment. (See Pub. Res. Code §§ 21068, 21100(d); CEQA Guidelines, § 15382.) The “environment” refers to the physical conditions “existing within the area which will be affected by a proposed project, including land, air, water, minerals, flora, fauna, noise, [and] objects of historic or aesthetic significance,” among others. (Pub. Res. Code § 21060.5) The environment affected by a project includes both natural and man-made conditions. (See CEQA Guidelines § 15360.)

To assess the impact of a proposed project on the environment, the lead agency must examine the changes to existing environmental conditions that would occur in the affected area if the proposed project were implemented. (See CEQA Guidelines, § 15126.2(a); *San Joaquin Raptor Rescue Ctr. v. County of Merced* (2007) 149 Cal.App.4th 645.) An agency may find that an environmental impact is less than significant if it concludes the impact is not a substantial or potentially substantial adverse change to the environment. (See CEQA Guidelines, § 15382; *National Parks & Conserv. Ass’n v. County of Riverside* (1999) 71 Cal.App.4th 1341, 1359.) The agency must briefly indicate the reasons that possible significant effects were determined not to be significant. (See 14 CEQA Guidelines, § 15128.) Thus, when there is evidence that an impact might be significant, the agency may not adopt a contrary finding without providing an adequate explanation along with supporting evidence. (See *East Sacramento Partnership for a Livable City v. City of Sacramento* (2016) 5 Cal.App.5th 281, 302.) Additionally, while economic and social effects ordinarily need to be discussed in an environmental document, physical changes to the environment caused by a project’s economic or social effects are secondary impacts that must be included in the impact analysis if they are significant. (See CEQA Guidelines, § 15131(a).)

The EA finds the potential impacts for several resource categories would be less-than-significant based on inadequate analysis. These resource categories include, but are not

limited to, public services, short-term, construction-related impacts energy demand, and short-term, construction-related impacts to mineral resources. The analyses for these resource categories all disclose substantial or potentially substantial adverse changes to the environment without providing an adequate explanation, including supporting evidence, of the reasons why these effects were deemed not to be significant.

Regarding impacts on public services, the impact analysis purports to address “Short-Term Construction-Related **and** Long-Term Operational-Related Effects on Public Services.” (Draft Environmental Analysis, p. 77 [emphasis added].) However, aside from one sentence addressing “increased demand on public services related to fire protection,” there is no discussion of the proposed regulation’s long-term operational impacts on transit services. (See *id.* at pp. 77-78.) This, notwithstanding that the analysis appears to rely on CEQA Guidelines, Appendix G for its significance standards, and Appendix G expressly identifies adverse impacts to “response times or other performance objectives.” As explained above, however, there is a significant danger that the proposed regulation will negatively impact transit agencies’ ability to maintain existing levels of service, which would cause physical changes in the environment as people are forced to forego public transportation in favor of individualized options.

415-7

Regarding the short-term, construction-related impacts to mineral resources, the EA acknowledges the possibility that building construction could have a negative impact on access to mineral resources. (Draft Environmental Analysis, p. 66.) However, the EA then discounts that impact because “buildings would be limited in size such that they would not wholly preclude resources recovery from adjacent areas.” (*Id.*) To illustrate, the EA then provides an example of a facility that “could occupy about 8 acres” and asserts that such a facility would be “unlikely to completely preclude mineral resources recovery from a specific deposit.” (*Id.*) “As a result,” the EA concludes, “this impact would be **less than significant.**”

This analysis is inadequate. While the EA asserts the impact is less than significant, it fails to cite evidence to support its assumptions regarding the size of the facilities to be constructed (*i.e.*, that they will general occupy about 8 acres) or the size of affected deposit areas (*i.e.*, that they will generally be larger than 8 acres). (See *East Sacramento Partnership for a Livable City, supra*, 5 Cal.App.5th at 302.) Indeed, the environmental document asserts elsewhere that there is “inherent uncertainty” as to “the exact location of new facilities,” the “geologic conditions at project sites,” the “characteristics of any new facilities,” and the “kinds of modifications to existing facilities” that would occur under the proposed regulation. (See Draft Environmental Analysis, p. 49.)

415-8

As a result, the EA should be revised and recirculated to address these issues.

3. **The EA Should Further Analyze the Recognized Significant and Unavoidable Impacts Associated with New Facilities**

415-9

According to the EA, the proposed regulation would result in the construction of a large number of new and modified facilities built to increase the supply of ZEBs. The EA finds the impacts of these new facilities to be significant for a wide range of resources. Although the EA identifies “suggested” mitigation to offset these impacts, and notes that these measures could

reduce the impacts to a less-than-significant level, the EA does not identify any mitigation measures that would provide enforceable mechanisms to lessen the significant impacts of the proposed regulation. Instead, for each of the resources, the EA finds the impact would continue to be significant and unavoidable because ARB does not possess land use authority over new facilities. There are several concerns with this approach, as explained below:

415-10

An environmental document cannot simply label an impact “significant and unavoidable” without first providing adequate discussion and analysis, as this would “allow[] the agency to travel the legally impermissible easy road to CEQA compliance.” (*Berkeley Keep Jets Over the Bay Comm. v. Bd. of Port Comm’rs* (2001) 91 Cal.App.4th 1344, 1370.) Accordingly, the eventual adoption of a statement of overriding considerations does not excuse the lead agency from properly conducting environmental review in the first instance. (*Id.*) Rather, the lead agency must adequately quantify the impact, and consider feasible mitigation based on that analysis, prior to concluding that an impact is “significant and unavoidable.” (See, e.g., *Sundstrom*, supra, 202 Cal.App.3d at 311 [“CEQA places the burden of environmental investigation on government rather than the public,” and a lead agency “should not be allowed to hide behind its own failure to gather data.”].) As such, “sole reliance” on another agency’s regulatory authority “is inadequate to address environmental concerns under CEQA.” (*Californians for Alternatives to Toxics v. Department of Food and Agriculture* (2005) 136 Cal.App.4th 1, 16.)

415-11

The draft EA claims that “there is inherent uncertainty in the degree of mitigation that would ultimately need to be implemented” because “the programmatic analysis in the Draft EA does not allow for identification of the precise details of project-specific mitigation.” (*Id.* at 20.) Consequently, the Draft EA’s significance conclusions “tend[] to overstate the risk that feasible mitigation may not be sufficient to mitigate an impact to less than significant.” (*Id.*) Nevertheless, the Draft EA claims, “[i]t is also possible that the amount of mitigation necessary to reduce environmental impacts to below a significant level may be far less than disclosed in th[e] Draft EA” because “[i]t is expected that many potentially significant impacts of facility and infrastructure projects would be avoidable or mitigable to a less-than-significant level as an outcome of their project-specific environmental review process.” (*Id.*) There are several problems with this approach.

415-12

First, “identification of the precise details of project-specific mitigation” is not necessary to determine “the degree of mitigation that would ultimately need to be implemented” in all cases, as the Draft EA claims. (*Id.* at 20.) For instance, the Draft EA claims “[o]peration of new or expanded [lithium-ion battery] recycling facilities could require substantial energy use to process, breakdown, and refurbish batteries.” (*Id.* at 48.) But then finds that “there is inherent uncertainty as to the location and size of new or expanded recycling facilities; therefore, the total energy demand for any future facility is speculative.” (*Id.*) However, the Draft EA contains sufficient information to permit a reasonable estimate of total energy demand. The Draft EA states that, at present, “there are ten specialized companies processing and recycling lithium-ion batteries in the U.S. and Canada.” (*Id.* at 59.) The Draft EA could have used the energy demands of these facilities to generate a reasonable estimate of how much energy a facility of that type requires. Further, the Draft EA could have used the production capabilities of these facilities to generate a reasonable estimate of how many additional recycling facilities will be needed to accommodate increased demand from the proposed regulation. Yet the

Draft EA did no such thing. Instead, the Draft EA simply concluded “the total energy demand for any future facility is speculative.” (*Id.* at 48.)

415-13

Similar examples can be found throughout the Draft EA. The Draft EA states that “[t]he demand for additional mining to meet increased use of [lithium-ion] batteries could result in the development of new mines and mining of lithium.” (*Id.* at 67.) It then asserts that “it would be too speculative to determine if, when, and where a new mine may be located.” (*Id.*) However, specific knowledge of these facts is not necessary to perform a meaningful analysis of potential environmental impacts. The Draft EA contains information regarding the number of lithium mines currently in operation in the U.S., the amount of lithium resources in the U.S., the amount of lithium resources globally, and the amount of demand that will be stimulated by the proposed regulation. (*Id.* at 67-68.) Using this information, the Draft EA could have analyzed how many new mining facilities will likely be needed to accommodate increased demand from the proposed regulation, and the types of impacts that can be expected to result from the construction and operation of such facilities. Information regarding the specific location and design of the facilities is not necessary to draw general conclusions regarding the likely scope of impacts.

415-14

Second, by expressly claiming to overstate the risk that feasible mitigation may be insufficient while, at the same time, asserting that impacts could be reduced to less-than-significant levels by local lead agencies, the Draft EA obscures the significance of its identified impacts. However, an environmental document that does not include sufficient information to “enable[] the reader to evaluate the significance of [] impacts” is inadequate under CEQA. (*Lotus, supra*, 223 Cal.App.4th 645, 654.) ARB’s approach “precludes both identification of potential environmental consequences arising from the project and also thoughtful analysis of the sufficiency of measures to mitigate those consequences.” (*Id.* at 658.) The fact that the proposed project’s significant environmental impacts may be mitigated by local lead agencies does not relieve ARB from its duty to consider and to quantify the project’s environmental impacts.

415-15

Third, by relying solely on local lead agencies to enforce mitigation measures, the Draft EA sidesteps analysis of important environmental impacts. Here, as in *Californians for Alternatives to Toxics*, ARB has “repeatedly deferred” to local and federal “regulatory scheme[s] instead of analyzing environmental consequences.” (*Californians for Alternatives to Toxics, supra*, 136 Cal.App.4th at 16.) As such, ARB has failed to discharge its duty under CEQA to “meaningfully consider the issues raised by the proposed project.” (*Id.*) In *Californians for Alternatives to Toxics*, the lead agency relied on another agency’s regulatory scheme to support a finding of no significant impact. (*Id.* at 17.) Here, in contrast, ARB finds a significant impact, but then immediately asserts that the impact may not actually be significant in light of state and federal regulatory schemes. In both cases, however, the result is the same: the lead agency sidesteps CEQA’s informational purpose and fails to “meaningfully consider the issues raised by the proposed project.” (*Id.* at 16.)

415-16

4. **The EA Does Not Propose Adequate Mitigation for New/Modified Facilities**

As explained above, CEQA requires mitigation measures to be enforceable through means that are legally binding. (Pub. Resources Code, § 21081.6(b); CEQA Guidelines, § 15126.4.) This requirement is designed to ensure that mitigation measures will actually be implemented. (*Fed. of Hillside & Cyn. Ass'ns, supra*, 83 Cal.App.4th at 1261; *Anderson First, supra*, 130 Cal.App.4th at 1186.)

None of the mitigation measures identified in the draft EA are enforceable through legally binding means. Instead, the EA merely identifies “[r]ecognized practices routinely required to avoid and/or minimize impacts to” the relevant resource category. (See generally Draft Environmental Analysis, Attachment B.) There is, however, nothing in the proposed regulation that ensures those “recognized practices” will actually be implemented. Although ARB defends this approach on the ground that it “does not have the authority to require implementation of mitigation related to new or modified facilities that would be approved by local jurisdictions,” that is insufficient to discharge ARB’s obligations under CEQA. The environmental document contains no discussion or analysis regarding ARB’s consideration of feasible mitigation measures, other than to state in conclusory fashion that none exist. ARB must use whatever authority it has at its disposal to ensure that the mitigation measures identified in the EA are enforceable through legally-binding means. Thus, at the very least, ARB must analyze a range of potential mitigation measures and determine, based on the results of that analysis, whether such measures are feasible or not.

415-17

5. Alternatives Analysis

The requirement that environmental documents identify and discuss alternatives to the project stems from the fundamental statutory policy that public agencies should require the implementation of feasible alternatives or mitigation measures to reduce the project’s significant impacts. (See, e.g., Pub. Resources Code, § 21002.) The lead agency must “focus on alternatives to the project . . . which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives. . . .” (CEQA Guidelines, § 15126.6(b).) Additionally, the range of alternatives “shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects.” (*Id.* at subd. (c).) The CEQA Guidelines specifically recognize that comments raised by members of the public on an environmental document are particularly helpful if they suggest “additional specific alternatives . . . that would provide better ways to avoid or mitigate the significant environmental effects.” (CEQA Guidelines, § 15204.)

The Draft EA should include the Association’s Alternative in its alternatives analysis. As noted above, the Association’s Alternative makes only modest changes to the waiver of certain ZEB purchasing requirements, and would therefore be equally effective in implementing the statutory purpose of the proposed regulation. The Association’s Alternative also makes several common sense changes to the proposed regulation to lessen its burden on transit agencies and to ensure that the regulation is achieving its intended goals, including strengthening ZEB performance review standards, modifying the definitions of “large” and “small” transit agencies to reflect real-world conditions, relaxing current limitations on funding for the purchase of ZEBs, and others. Consequently, the Association’s Alternative “could feasibly accomplish [all]

of the basic objectives of the project and could avoid or substantially lessen one or more of [its] significant effects.” (CEQA Guidelines, § 15126.6(c).)

415-18

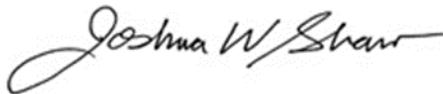
IV. Conclusion

These suggestions and recommendations, comprising the Association’s Alternative, represent the best thinking of our Association leadership for improving the proposed regulation, and were developed following many hours of thoughtful and collaborative engagement with ARB staff. We believe strongly that incorporating them in your final rule is essential to protecting transit service quality, maintaining affordable fares, and ensuring that the riders who depend on the service our members provide are not disadvantaged by the proposed regulation. These changes will maximize the chances of successfully reaching our shared goal of widespread transit electrification by 2040 and will minimize adverse impacts to Californians most in need of healthy and growing public transit options.

We thank you again for this opportunity to comment, and for your dedication to working with us to get the transition to a fully electrified transit bus fleet right.

Please contact Legislative and Regulatory Advocate Michael Pimentel at 916-446-4656 or at michael@caltransit.org, if you have any questions or comments about the Association’s feedback on this proposed regulation.

Sincerely,



Joshua W. Shaw
Executive Director

cc: Kim Craig, Deputy Cabinet Secretary, Office of Governor Edmund G. Brown, Jr.
Alice Reynolds, Senior Advisor, Office of Governor Edmund G. Brown, Jr.
Richard Corey, Executive Officer, California Air Resources Board
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September 24, 2018

California Air Resources Board Members
1001 I Street, Suite
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RE: Response to the Initial Statement of Reasons for the Proposed Innovative Clean Transit Regulation

Chair Nichols and Members of the California Air Resources Board (ARB):

On behalf of the Central Contra Costa Transit Authority (County Connection), I submit the following comments in response to the Initial Statement of Reasons for the Proposed Innovative Clean Transit (ICT) Regulation. County Connection provides service to the 10 cities as well unincorporated areas of the central and southern parts of Contra Costa County – the areas adjacent to the I-680 and SR24 corridors. Our service area population is just over 500,000 and we operate a fleet of 121 fixed route buses (30 and 40 ft) and a fleet of 63 paratransit vehicles (small cutaways, mini vans, etc) that serve primarily seniors and folks with disabilities that cannot use the fixed route service.

As of the end of 2018, eight of our 121 buses will be battery electric buses (BEB). In fact, these will be the very first BEBs that the bus manufacture, GILLIG has ever built. We are very proud of that fact. We have successfully introduced inductive charging on route to assist in extending battery life and operational range. While it is not yet official board policy at County Connection, we are intending to continue purchasing inductively charged BEBs as our bus procurement opportunities arise. I will speak more to our experiences later in this letter.

As currently drafted, the proposed regulation improves on the Draft Regulatory Concept for the Proposed Innovative Clean Transit Regulation, released December 2017. Improvements to the proposed regulation reflect ongoing discussions between California Air Resources Board staff and the leadership of the California Transit Association (CTA). As a member of that CTA group that has met regularly with the staff of ARB, I greatly appreciate the progress we have made on making the proposed regulation much more workable in the real world where public transit is delivered and used. It is my opinion that the ARB staff have worked extremely hard to develop a draft regulation that meets the many needs and interests of the affected parties.

While the progress made on the proposed regulation is substantial, a few concerns remain that I would urge ARB to further address. To identify my first concern, I reiterate the CTA stated concern that the imposition of the zero-emission bus (ZEB) purchase requirement is not tied to benchmarks for ZEB cost and performance, infrastructure buildout costs, and funding availability. There are significant risks in assuming, that data gathered from limited, short-term ZEB deployments will accurately reflect the realities of ZEB deployments at-scale. County Connection strongly believes that, despite the claims of some interest groups, ZEB cost and performance, infrastructure buildout, and the cost of electricity as fuel, are still issues.

382-1

As I noted above, we will have eight BEBs in service by the end of the year. We put the first four BEBs into service in late 2016. At this point we have learned a number of things about our project that serve as things all of us need to be very mindful of moving forward. Our project has been documented and studied by the National Renewable Energy Laboratory (NREL). In June of 2018, NREL provided us with a draft of the Preliminary Project Results. A final Preliminary Project

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Results document has yet to be released. Without going into a review of this draft document, two things stand out as long term concerns.

The first is that our BEBs have been available for service 71.6% of the time in comparison to 88.5% of the time for a comparable diesel powered bus. If we cannot significantly decrease the availability difference over time, we will need to have more BEBs than diesel buses to cover the same level of service to the public. That in turn becomes a significant capital cost when applied over a larger number of buses in service.

The second significant concern that NREL's work documents relative to our BEB project is related to how much it is costing us to charge our BEBs with electricity.

County Connection purchases electricity for its BEBs from PG&E. Currently, PG&E does not offer us a "transit rate" for purchasing electricity for our BEBs. Moreover, to date they have indicated a plan to do so as they implement SB350. Therefore, we are currently paying standard rate payer rates. This – according to NREL – is resulting in County Connection paying – on average - \$8.75 per diesel/gallon/equivalent (dge) for the electricity from PG&E that we sue to charge our eight BEBs! During the same period of time, NREL documented that County Connection paid \$1.86 per gallon for diesel fuel. It should be noted that County Connection has been using renewable diesel for its diesel powered buses since mid 2017.

While overall, we are pleased with the operation of our BEBs, if these two concerns cannot be overcome over time, we will not be able to sustain an operation that increases the reliance on BEBs without cuts to service and/or undue increases in passenger fares. This is particularly acute when it comes to the costs of electricity. If the cost electricity does not come down substantially from \$8.75.dge, there is no way can sustain our present levels of service – let alone improve services that would reduce Greenhouse gases – and transition further to BEBs.

In short, while we at County Connection desire to put more BEBs into service in the future, we cannot do so if the price of electricity remains at a cost where we have to cut service to pay for the price differential between electricity and renewable diesel.

382-1

As you move to consider adopting an update to the ICT, County Connection strongly believes you should be guided by this question posed by CTA: *“What will happen to transit service, if the assertions made by ARB staff and interest groups are wrong, and the cost and difficulty of the transition to fully electrified bus fleets more closely align with the warnings of California’s public transit agencies?”* To help ensure that this question is addressed in manner that minimizes the risk to transit service and the transit using public, County Connection offers you a few recommendations designed to manage the risks associated with this ambitious transition and minimize adverse impacts to transit service. These are very consistent with those you are seeing from CTA, the California Association for Coordinated Transportation (CalACT), as well as many other public transit providers and users.

Benchmarking and Regulatory Assessment

This provision would require the California Air Resources Board to conduct a regulatory assessment – *before* a ZEB purchase requirement goes into effect – that evaluates real-world ZEB cost and performance with benchmarks for ZEB cost and performance established at the time of rule adoption. This regulatory assessment should allow the Board to issue an across-the-board suspension of the ZEB purchase requirement, much like the original Transit Fleet Rule did, if real-world ZEB cost and performance is not yet at parity with the cost and performance of conventionally-fueled transit buses. This provision would have no impact on the ZEB purchase requirement, if benchmarks for ZEB cost and performance are being met, as anticipated by ARB staff and interest groups.

Incentive Funding

The staff report supporting the proposed regulation emphasizes the importance of incentive funding to minimizing adverse impacts to transit service (see Initial Statement of Reasons, pages ES-8, III-8, VIII-26). However, this proposed regulation is aimed at public transit operators who by definition are local or regional government services supported by California state tax payers. As such, most of them use federal transportation funds to purchase buses and paratransit vehicles. Thus,

they are beholden to strict federal rules and regulations regarding how buses are procured and how long they must remain in service before they can be retired.

The various individual transit operators are all on different bus replacement cycles based on when they receive the necessary federal funding to pay for replacement buses. Some of these federally defined bus replacement schedules will not allow an operator(s) to purchase “early” in terms of meeting the proposed regulation when they are replacing existing non-zero emission buses. In those cases, present policies on the use of incentive funding won’t allow those transit operators to use the incentive funds. Thus, some operators are going to be financially penalized for simply adhering to federal transit vehicle procurement rules.

Given the stated importance of this funding and our shared goal of protecting vital transit service, and at the same time move forward together towards full ZEB implementation within public transit by 2040, ARB should revise its current policy disallowing the use of incentive funding to meet regulatory compliance to explicitly allow transit agencies to use incentive funding whenever they are prepared to purchase a ZEB at least through 2029.

Cutaway Vehicles

These vehicles are either used to transport the most vulnerable of our fellow constituents – frail senior and folks with disabilities (many who rely on wheelchairs or other similar type mobility devices), or used in small urban or rural areas of the state – often for lifeline services to the transit dependent. Furthermore, these vehicles have been used in each of the last four years to evacuate vulnerable populations from wildfires in Lake, Mendocino, and Shasta counties.

Currently, there are no viable electric or fuel cell powered cutaway vehicles available. Thus, at this time it would not be prudent to include cutaways in the initial timeframe of proposed regulation. Therefore, County Connection strongly supports the ARB staff recommendation to defer the regulation on to cutaway vehicles until 2026. Similarly, we support the ARB staff definition of a cutaway as put forward on page 37 of Article 4.3 in Appendix B-2 of the proposed regulation.

Thus, County Connection urges ARB to retain these two staff recommendations despite some reservations expressed by a number of advocates in the environmental community.

Applying the Regulation Small Transit Operators and Defining Small Operators

Larger and more urban transit operators tend to have access to better and more diverse funds sources than smaller transit operators. This is especially true with respect to federal transit funds. Because of that, the federal government, through the Federal Transit Administration (FTA) defines large and small operators based on both the number of vehicles and operator has in service in their peak periods of service as well if they serve a large urban area, a small urban area, or a rural area. Among the three areas, the operators that serve the large urban areas as federally define, have much great access to federal funds.

Furthermore, larger systems have greater depths of staff in terms of number and knowledge and generally have an easier time implementing new technologies. Operators from small urban areas or rural areas tend to watch and learn from the larger urban systems when new technologies – like ZEBs enter the transportation market place.

In order to increase the chances that transit operators in small urban areas or rural areas have at succeeding without major service disruptions in transitioning to ZEBs, County Connection believes that ARB staff are right to delay much of the proposed regulation applying to small operator until 2023. We urge the ARB to keep this in the final regulation.

Just as important is the definition of a small operators within the proposed regulation. County Connection urges ARB to use a definition that is used consistently throughout transit regulation and funding. That definition is the current federal definition that specifies that small operator is one that has less than 100 buses in peak service. Under the proposed regulation, ARB staff have used a different definition of a small operator that is unique and not used anywhere else for transit regulation or funding. If this unique definition is used, there will be California transit operators that are defined as small operators by the federal government and Caltrans, but defined as a large operator by ARB.

This potential conflict in small vs large definition will be confusing at best and likely counter-productive. It should be noted that even if ARB uses a traditional definition of a small operator which is what we ask, all California transit operators are getting to full ZEB fleets by 2040 under the proposed regulation.

County Connection respectfully submits these comments. We appreciate your consideration of them. Please know that County Connection shares your goal of reducing deadly emissions from all mobile sources include public transit vehicles. We only ask that you consider our concerns about how we get to fully ZEB transit fleets by 2040. Our concerns are only driven by our desire to make sure we can provide public transit service to our shared constituents as we continue to work together on our common goals.

I close by saying thank you to the ARB staff for working very hard with our industry through CTA on getting to this point. With just little more work and attention, I think we can a good update to the ICT that we can all live with and will move forward the goals of the State of California.

If you have any questions or comments, please feel free to contact me at 925-680-2050.

Sincerely,



Rick Ramacier

General Manager

cc: Richard Corey, Executive Officer, California Air Resources Board
Steve Cliff, Deputy Executive Officer, California Air Resources Board
Jack Kitowski, Chief, Mobile Source Control Division, California Air Resources Board
Tony Brasil, Heavy Duty Diesel Implementation Branch, California Air Resources Board
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November 26, 2018

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RE: Proposed Amendments to the Innovative Clean Transit Regulation

Chair Nichols and Members of the California Air Resources Board (ARB):

On behalf of the Central Contra Costa Transit Authority (County Connection), I submit the following comments in response to the Proposed Amendments to the Innovative Clean Transit (ICT) Regulation, released November 9, 2018. County Connection provides service to the 10 cities as well unincorporated areas of the central and southern parts of Contra Costa county – the areas adjacent to the I-680 and SR24 corridors. Our service area population is just over 500,000 and we operate a fleet of 121 fixed route buses (30 and 40 ft) and a fleet of 63 paratransit vehicles (small cutaways, mini vans, etc) that serve primarily seniors and folks with disabilities that cannot use the fixed route service.

As of the end of 2018, eight of our 121 buses will be battery electric buses (BEB). In fact, these will be the very first BEBs that the bus manufacture, GILLIG has ever built. We have successfully introduced inductive charging on route to assist in extending battery life and operational range.

At your hearing on September 28, 2018, I testified that County Connection was very appreciative of how hard CARB and its staff have worked to develop a thoughtful and more workable regulation. I mentioned how challenging the updated ICT will be for public transit operators, but that we were ready to embrace a future where our collective fleets would become entirely zero emission based. I mentioned our common goals and missions. However, I also spoke of a few outstanding issues.

With the release of the of the CARB “Proposed Amendments to the Innovative Clean Transit Regulation, A Replacement of the Fleet Rule For Transit Agencies”, a few of those concerns were addressed and we are greatly appreciative of that. We are especially thankful for the updated definition of a small operator making it consistent with other definitions that small operators have to answer to in other regulatory and funding arenas. And, we note the updated definition of a ZEB purchase in the proposed amendments that we asked for.

Two significant issues remain concerning, though. The first one and perhaps most important is that the imposition of the zero-emission bus (ZEB) purchase requirement is still not tied to benchmarks for ZEB cost and performance, infrastructure buildout costs, and funding availability. There are significant risks in assuming that data gathered from limited, short-term ZEB deployments will accurately reflect the realities of ZEB deployments at-scale. County Connection strongly believes that, despite the claims of some interest groups, ZEB cost and performance, infrastructure buildout, and the cost of electricity as fuel, are still issues. We remain concerned that without benchmarks being placed in the updated regulation, future CARB boards and or staff

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15-1-11-1

(current board members and staff notwithstanding) will not feel beholden to the current language that is in the current CARB staff report.

As I wrote in my letter to you on this subject dated September 24, 2018, County Connection strongly believes you should be guided by this question posed by the California Transit Association (CTA) months ago: *“What will happen to transit service, if the assertions made by ARB staff and interest groups are wrong, and the cost and difficulty of the transition to fully electrified bus fleets more closely align with the warnings of California’s public transit agencies?”* To help ensure that this question is addressed in manner that minimizes the risk to transit service and the transit using public, County Connection reiterates that performance and cost benchmarking is placed within the regulation itself. Below I re-submit a short paragraph originally draft by CTA on this that was a part of my letter of September 24, 2018.

15-1-11-2

Benchmarking and Regulatory Assessment

This provision would require the California Air Resources Board to conduct a regulatory assessment – before a ZEB purchase requirement goes into effect – that evaluates real-world ZEB cost and performance with benchmarks for ZEB cost and performance established at the time of rule adoption. This regulatory assessment should allow the Board to issue an across-the-board suspension of the ZEB purchase requirement, much like the original Transit Fleet Rule did, if real-world ZEB cost and performance is not yet at parity with the cost and performance of conventionally-fueled transit buses. This provision would have no impact on the ZEB purchase requirement, if benchmarks for ZEB cost and performance are being met, as anticipated by ARB staff and interest groups.

15-1-11-3

The second outstanding concern relates to incentive funding. Since very little progress has been made on this concern in the proposed amendments, I restate what I said on this concern in my letter from September 24, 2018 below.

The staff report supporting the proposed regulation emphasizes the importance of incentive funding to minimizing adverse impacts to transit service (see Initial Statement of Reasons, pages ES-8, III-8, VIII-26). However, this proposed regulation is aimed at public transit operators who by definition are local or regional government services supported by California state tax payers. As such, most of them use federal transportation funds to purchase buses and paratransit vehicles. Thus, they are beholden to strict federal rule and regulations regarding how buses are procured and how long they must remain in service before they can be retired.

The various individual transit operators are all on different bus replacement cycles based on when they receive the necessary federal funding to pay for replacement buses. Some of these federally defined bus replacement scheduled will not allow an operator(s) to purchase “early” in terms of meeting the proposed regulation when they are replacing existing non-zero emission buses. In those cases, present policies on the use of incentive funding won’t allow those transit operators to use the incentive funds. Thus, some operators are going to be financially penalized for simply adhering to federal transit vehicle procurement rules.

Given the stated importance of this funding and our shared goal of protecting vital transit service, and at the same time move forward together towards full ZEB implementation within public transit by 2040, CARB should revise its current policy disallowing the use of incentive funding to meet regulatory compliance to explicitly allow transit agencies to use incentive funding whenever they are prepared to purchase a ZEB – and any of the related charging infrastructure or related bus yard improvements - at least through 2029.

County Connection respectfully submits these comments. We appreciate your consideration of them. Please know that County Connection shares your goal of reducing deadly emissions from all mobile sources include public transit vehicles. We only ask that you consider our two remaining concerns about how we get to fully ZEB transit fleets by 2040. Are concerns are only driven by are desire to make sure we can provide public transit service to our shared constituents as we continue to work together on our common goals.

I close by saying thank you to CARB staff for working very hard with our industry - through CTA - on getting to this point. With just little more work and attention, I think we can a good update to the ICT that we can all live with and that will move forward the goals of the State of California.

If you have any questions or comments, please feel free to contact me at 925-680-2050.

Sincerely,

A handwritten signature in black ink, appearing to read "Rick Ramacier". The signature is written in a cursive, flowing style.

Rick Ramacier
General Manager

cc: Richard Corey, Executive Officer, California Air Resources Board
Steve Cliff, Deputy Executive Officer, California Air Resources Board
Jack Kitowski, Chief, Mobile Source Control Division, California Air Resources Board
Tony Brasil, Heavy Duty Diesel Implementation Branch, California Air Resources Board
Shirin Barfjani, Mobile Source Control Division, California Air Resources Board

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Todd R. Campbell
Vice President Public Policy & Regulatory Affairs



September 24, 2018

Mary Nichols, Chair
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: Proposed Innovative Clean Transit Rule

Dear Chair Nichols and Members of the Governing Board,

Clean Energy continues to hold real concerns over the proposed Innovative Clean Transit (ICT) rulemaking. While it is evident that the Air Resources Board (ARB) staff is determined to move aggressively toward a zero-emission ICT rulemaking, we and many other transit property stakeholders maintain our position that the staff analysis supporting the rule is overly optimistic and underestimates the potential public health, societal, and economic costs that could result from faulty analysis. Compounding the pain, the ICT does not have adequate benchmarking and regulatory assessment mechanisms to ensure transit properties up and down the state have the flexibility to successfully operate and fulfill their mission of transporting people for work, school, health or leisure. Further, we find the proposed ICT to be devoid of its obligation under Government Code Section 11346.5(D)(13) to fully consider alternatives to ZEBs.

Clean Energy strongly encourages ARB's Governing Board to direct staff to perform a alternatives analysis prior to rule adoption. Further, Clean Energy urges the Governing Board to require a regulatory assessment with benchmarks prior to any ZEB purchase requirement. The Governing Board should, at the very least, give itself the authority to scale back the rule if ARB staff's ZEB projections on cost, operational reliability and technology readiness fall short. Further, the Governing Board should ensure that transit properties are resilient during a state-of-emergency and allow transit properties to meet their ZEB purchase requirements with near zero emission strategies powered by renewable fuels if ZEB strategies fail to meet key benchmarks required for full ZEB adoption.

Reasonable Alternatives Not Considered

ARB is required to examine alternatives to a proposed regulation under Government Code Section 11346.5(D)(13) which reads as follows:

"A statement that the adopting agency must determine that no reasonable alternative considered by the agency or that has otherwise been identified and brought to the attention of the agency would be more effective in carrying out the purpose for which the action is proposed, would be as effective and less burdensome to affected private persons than the proposed action, or would

be more cost effective to affected private persons and equally effective in implementing the statutory policy or other provision of law.” (emphasis added)

ARB staff chose not to fully examine both zero and near-zero emission alternatives by stating in the ISOR that “no alternative proposed was found to be less burdensome and equally effective in achieving the purposes of the regulation in a manner that ensures full compliance with the authorizing law.” However, LA County Metro performed a comparative study on zero and near-zero emission technologies which found that near-zero emission technologies fueled by renewable natural gas would be more effective at reducing emissions and at a much lower cost to implement. Since ARB opted not to fully evaluate all viable alternatives Clean Energy recommends that ARB conduct a thorough alternatives analysis for the proposed ICT prior to its adoption to comply with existing law.

As stated above, LA Metro conducted a study to compare the zero and near-zero emission alternatives. The study, commissioned by a transit agency, found that near-zero technologies with RNG would be more effective at reducing emissions and less expensive. However, the ISOR states “...no alternative proposed was found to be less burdensome and equally effective in achieving the purposes of the regulation in a manner that ensures full compliance with the authorizing law.” In other words, ARB did not fully examine reasonable alternatives and therefore did not fulfill its obligation under Government Code Section 11346.5(D)(13).

Clean Energy recommends that ARB conduct a thorough alternatives analysis for the proposed ICT prior to its adoption to comply with existing law.

Require Benchmarking and Regulatory Assessment to balance Optimistic Technology and Cost Projections

ARB’s assessments of zero emission bus (ZEB) technology and costs remain overly optimistic. While it is evident that ZEB technology has evolved since the first adoption of ARB’s first transit bus rule, today’s ZEB technology still cannot meet the operational and performance needs of most transit agencies, large or small, and there is still much room for improvement before we should consider them fully commercial. In fact, most of the focus on the number of agencies adopting ZEBs into their fleets or the number of ZEBs purchased is more reflective of transit agencies willing to test out the technology based on the very generous incentives that have been provided by the State of California. Such statistics that are being showcased throughout the staff report should not be construed as either complete acceptance of the technology, a testament that the technology works for each agency, or that such purchases are anything more than a demonstration project. ARB’s governing board should not overly misconstrue the true meaning of a transit’s willingness to test out ZEB strategies.

Further, ARB’s cost estimates are substantially below most transit industry expert’s estimates. Assumptions that ZEB can eventually replace conventional buses on a 1:1 basis and ZEB life cycle operational costs could be discounted by as much as 25 percent within the next decade are speculative. In fact, ARB’s cost model does not fully account for electrical charging systems. The California Transit Association estimates statewide costs for such infrastructure could be as much as \$10 billion more than ARB’s estimate. Further, ARB’s cost model does not contemplate

resiliency planning that will be necessary for state of emergency scenarios. Not only can forecasts mislead ARB's Governing Board about the true capital cost of the ICT, a decision to move the rule forward without accurate projections could result in the rule's failure to protect the health of the public, our state's transit agencies, and regional mobility throughout California. The negative outcome could be further compounded if there are no meaningful offramps for transit agencies to access.

The ICT's overly aggressive electrification goals combined with overly optimistic technology advancement and cost projections demand that the ARB Governing Board include a regulatory assessment that evaluates real-world ZEB costs and performance with benchmarks for ZEB cost and performance established at the time of rule adoption. Further, this regulatory assessment should occur before the ZEB purchase requirement goes into effect and should allow the Board to issue an across-the-board suspension of the ZEB purchase requirement, much like the original Transit Fleet Rule did, if real-world EB costs and performance is not yet at parity with the cost and performance of conventionally-fueled transit buses. Further, this safeguard should be in addition to the case-by-case, agency-by-agency, ARB Executive Officer-approved off-ramps from the ZEB purchase requirement discussed under the ICT's *"Deferral for ZEB Purchase Requirement."*

No Resiliency Considerations during a State of Emergency

The proposed ICT rule does not consider how a "ZEB-only" transit fleet could impact California's ability to respond to a state of emergency caused by a natural disaster or a cyber-attack on the electrical grid. The news media has recently covered how our current building codes in California may be insufficient for major earthquakes due to a modeling issue.¹ This discovery created so much concern that Assembly Member Nazarian proposed legislation that would update California's building codes.² Even as Hurricane Florence hits the Carolinas, many residents and commercial businesses lost electrical power just like those hit by Hurricane Katrina along the Gulf Coast or in Puerto Rico with Hurricane Irma.³

422-1

In terms of cyberattacks, Russia and China are at the top of the Pentagon's list as cyber threats to the country. In fact, American intelligence agencies have identified cyberthreats as the No. 1 risk facing the United States — it has ranked ahead of terrorism for years now in the annual assessment provided to Congress, even before the Russian intrusion into the election.⁴ In March of this year, the US government released a security alert that claimed Russian hackers sought to

¹ See *"A Seismic Change in Predicting How Earthquakes Will Shake Tall Buildings"* <https://www.nytimes.com/2018/06/27/us/california-earthquakes-building-safety.html> or *"At Risk in a Big Quake: 39 of San Francisco's Top High Rises"* <https://www.nytimes.com/2018/06/14/us/california-earthquakes-high-rises.html>

² See *"California Today: How Much Is a Safe Building Worth?"* <https://www.nytimes.com/2018/07/06/us/california-today-earthquakes-vulnerable-buildings.html>

³ See *"Factbox: More Than 870,000 Without Power as Florence Looms Inland"* <https://www.nytimes.com/reuters/2018/09/15/us/15reuters-storm-florence-outages-factbox.html>

⁴ See *"Pentagon Puts Cyberwarriors on the Offensive, Increasing the Risk of Conflict"* <https://www.nytimes.com/2018/06/17/us/politics/cyber-command-trump.html>

penetrate multiple U.S. critical infrastructure sectors, including **energy**, nuclear, commercial facilities, water, aviation, and manufacturing.⁵

While we expect natural disasters to eventually occur and accept that there are no guarantees that all future cyber-attacks will be prevented, transit fleets often play a critical role in mobilizing the public so that they can evacuate areas that have been hit hard by hurricanes, wildfires, floods and earthquakes. In many cases, these natural disasters have wreaked havoc on electrical power systems that disable both electrical and diesel transit bus platforms. Meanwhile, natural gas buses have often been used to help move people during times of crisis as the pipeline system was not impacted and natural gas vehicle stations are not reliant upon the electrical grid.⁶

Proposed ICT should be more Inclusive of Near Zero Buses Powered by Renewable Gas

Although near zero natural gas buses and renewable natural gas are commercially available, cost-effective and deliver ZEB-like performance for both nitrogen oxide (NOx) a carbon emission, the proposed ICT regulation does little to leverage this more affordable alternative as a compliance option. Instead, the proposed ICT only requires the technology when ZEB technologies are not being purchased by a transit property that already runs a natural gas property. For those transit properties that operate on diesel, there is no requirement at all unless a low NOx diesel product becomes available on the market. Of course, based on the State Implementation Plan, we may not see diesel low NOx engines until 2023.

Given that some transit properties opted to change their entire operational system to accommodate natural gas less than two decades ago to further clean the air, we would encourage ARB providing these transit agencies with greater flexibility on the ZEB adoption timeline. Specifically, these properties should automatically be allowed to delay ZEB purchase requirements until 2025 regardless of the collective ZEB purchase of buses statewide.

ARB Staff's Change in Fleet Size Definition Remains Problematic

We have addressed the issue of fleet size and ARB's proposed changes in definition in earlier comments and we urge the Governing Board to ensure consistency with FTA's definitions. Specifically, under today's ARB transit rule, large fleets are defined as transit agencies with 200 or more buses, excluding cutaway vehicles toward fleet totals. The proposed definition of large transit fleet is 100 or more vehicles and counts both standard transit buses and cutaway vehicles toward fleet totals. Clearly, these definitions have been promulgated by ARB staff for simplicity and greater inclusion of transit properties required to follow a more aggressive ZEB adoption schedule. Unfortunately, this decision to change the definitions of large and small transit fleets will be misaligned with the definitions for small and large agencies used by the Federal Transit Administration (FTA) to determine the eligible uses of critical federal funding sources, like Chapter 53 of Title 49 U.S.C 5307. We strongly recommend that the Governing Board support the

⁵ See *"In a First, U.S. Blames Russia for Cyber Attacks on Energy Grid"*

<https://www.reuters.com/article/us-usa-russia-sanctions-energygrid/in-a-first-u-s-blames-russia-for-cyber-attacks-on-energy-grid-idUSKCN1GR2G3>

⁶ See the Office of Energy Efficiency and Renewable Energy's "5 Ways Alternative Fuels Aid Response to Hurricanes and Natural Disasters at <https://www.energy.gov/eere/articles/5-ways-alternative-fuels-aid-response-hurricanes-and-natural-disasters>).

California Transit Association's request that ARB staff adopt definitions established by the FTA which are as follows:

- A large agency shall be defined as a transit agency operating in a primary urbanized area with population of at least 200,000 with at least 100 vehicles in annual maximum service
- A small agency shall be defined as a transit agency, if any of the following conditions are met:
 - The agency operates in a primary urbanized area with a population less than 200,000; or,
 - The agency operates fewer than 100 vehicles in annual maximum service.

Concluding Thoughts

Clean Energy shares the goals of ARB to further reduce emissions throughout the state's transit properties. Where we diverge in approach is on technology. While ARB is pushing to move transit only to a full ZEB outcome, we believe a more hybrid approach is warranted. Because no one can credibly argue that ZEB technology can fully meet today's transit properties needs with existing battery or fuel cell technology or state that ZEB technologies will be ready in time to aggressively implement ZEB purchase requirements outlined in the ICT, we believe ARB should have performed a full comparative analysis as required by Government Code Section 11346.5(D)(13). Unfortunately, ARB staff opted not to perform this analysis by making a statement that has yet to be validated. Furthermore, the historical narrative that celebrates transit properties that chose to adopt ZEB strategies within the text of the proposed ICT ignores the significant tax payer dollars spent and herculean effort made by transit properties that switched away from diesel to 100 percent natural gas operations. These transit players didn't demonstrate a few buses and run the rest of their fleet on diesel. They made a complete transitional change to a new technology that was proven and cost-effective. Rather than allow such transit properties to harness their existing infrastructure and adopt near zero emission strategies powered by renewable natural gas that can deliver ZEB-like performance, these transit properties are now being forced to abandon their operations for a strategy that has yet to be fully commercialized and install costly infrastructure that will present significant challenges and costs that are largely unforeseen. Furthermore, there is little consideration of resiliency and little consideration of what to do if ARB staff's projections are overly optimistic and prevent transit properties to fulfill their core mission: to move people.

With recent articles alerting us to extended smog days in the South Coast not seen for 20 years,⁷ finding more cost-effective ways to combat mobile source air pollution over costly ZEB strategies may be warranted.

Sincerely,



Todd R. Campbell

⁷ See 87 days of smog: Southern California just saw its longest streak of bad air in decades at <http://www.latimes.com/local/lanow/la-me-smog-streak-20180921-story.html>

The California Transit Association's Requests:

The California Transit Association made the following request related to “cost and performance benchmarking” and the planned performance review in its letter, dated September 24, 2018, and in meetings with ARB members:

1. Move the existing language on the “Performance Review of Zero-Emission Bus Technologies” scheduled to occur “at least one year prior to the initiation of any purchase requirements” from the ISOR (pp. I-13 to I-14) to the proposed regulation. The relevant language reads:

“The performance review would identify the status of ZEB technology and would help the State design policies to further advance zero-emission technologies, and inform funding strategies related to zero-emission vehicles and infrastructure. The review would occur at least one year prior to the initiation of any purchase requirements. This review would look at bus categories, such as cutaway buses and standard buses individually, to ensure categorical needs and characteristics are considered. Staff envisions the performance review will comprise the following components:

- *Costs. Costs include infrastructure and vehicle capital, operating and maintenance costs. Infrastructure capital costs include charging/refueling equipment, installation, and utility upgrade costs.*
 - *Battery performance. Batteries used in the ZEBs will degrade over time. The assessment will help identify how battery degradation may affect daily operating range as vehicles age, and whether transit buses would require mid-life battery replacement. The assessment can help to estimate the remaining battery capacity after the end of their useful life in buses.*
 - *Operating range. The maximum operating range of a vehicle after it is fully charged or refueled. Range assessment will take into consideration various factors, such as energy storage capacity, battery degradation, HVAC, passenger loading, and grades. Understanding real world operating range is essential for a transit agency to plan for its routes and schedule using ZEB technologies.*
 - *Performance and reliability. Different from small pilot or demonstration projects, a successful system-wide transition to the ZEB technologies must demonstrate the reliability and viability of the technologies. Measurements could include bus availability, road call frequency, and other performance metrics, such as fuel efficiency and factors affecting fuel efficiency, refueling or charging time and frequency, and parts availability.”*
2. Add language to the proposed regulation that establishes benchmarks for ZEB cost and performance and funding availability.

- a. These benchmarks should be sourced from the inputs and assumptions used by ARB staff in the Original SRIA, Draft Environmental Analysis and Cost Update

15-1-5-1

3. Add language to the proposed regulation that requires the Board to temporarily halt the initiation of an upcoming year's purchase requirement, if real-world ZEB cost and performance and funding availability are misaligned with the benchmarks established in the proposed regulation.

The California Transit Association made the following request related to funding regulatory compliance in its letter, dated September 24, 2018, and in meetings with ARB members:

1. Add language to the proposed regulation that authorizes a transit agency that has submitted a ZEB rollout plan to ARB to access incentive funding, like HVIP, to pay for regulatory compliance
 - a. In recognition that several of ARB's incentive funding programs have statutory prohibitions on paying for regulatory compliance, this authorization would apply only to incentive funding programs for which no such statutory prohibition applies

ARB Staff's Response:

In response to the Association's requests, ARB is expanding the conditions for which a transit agency can claim a temporary exemption from the ZEB purchase requirement to include situations where a transit agency can document that it cannot offset the incremental costs of purchasing any zero emission bus by considering all available zero emission buses of the relevant bus type, or cannot offset the electricity costs for operating a depot charging battery electric bus when compared to the same type of internal combustion engine bus. It reads:

"A transit agency may request an exemption from the zero-emission bus purchase requirements set forth in section 2023.1(a) due to financial hardship.

A financial hardship would be granted if a fiscal emergency is declared under a resolution by a transit agency's Board of Directors following a public hearing, a transit agency can demonstrate that it cannot offset the incremental cost of purchasing all available zero emission buses when compared to the cost of the same type of conventional bus, or a transit agency can demonstrate that it cannot offset the managed, net electricity cost for depot charging battery electric buses when compared to the fuel cost of the same type of conventional internal combustion engine buses."



November 26, 2018

California Air Resources Board, Members
1001 I Street
Sacramento, CA 95814

RE: Proposed Amendments to the Innovative Clean Transit Regulation

Chair Nichols and Members of the California Air Resources Board:

On behalf of the California Transit Association, I write to you today in response to the Proposed Amendments to the Innovative Clean Transit (ICT) Regulation, released November 9, 2018. The Association and its more than 200 transit-affiliated members support the goal of converting California's transit bus fleet to 100% zero-emission by 2040. We greatly appreciate that the Proposed Amendments, by incorporating several definitional changes proposed by the Association, continue to move in the direction of a workable regulation. **However, the Proposed Amendments have yet to make progress on our most important recommendations to: incorporate zero-emission bus (ZEB) cost & performance benchmarks and a regulatory assessment in the regulation itself; and, add language to the regulation that allows transit agencies to access incentive funding to offset the incremental cost of ZEBs for the life of the regulation. As detailed at length in our letter, dated September 24, 2018, we remain concerned about ZEB cost and performance; making these changes is essential to ensuring transit agencies can continue to deliver frequent, reliable and affordable service as they take on the monumental task of electrifying their fleets. Any dilution of our service resulting from this regulation undermines the state's ability to reach its climate objectives and harms the very riders whose air we are endeavoring to improve with cleaner zero-emission fleets. By submitting this letter in the 15-day comment period, we ask that you revisit these omissions with ARB staff and direct them to make changes to the regulation that are consistent with the Association's recommendations, listed below.**

15-1-27-1

Benchmarking and Regulatory Assessment: In our September 24 letter, and in public testimony before the Board on September 28, the Association made the following recommendations related to "Benchmarking and Regulatory Assessment:"

1. **Move the existing language on the "Performance Review of Zero-Emission Bus Technologies" scheduled to occur "at least one year prior to the initiation of any purchase requirements" from the ISOR (pp. I-13 to I-14) to the proposed regulation. The relevant language reads:**

"The performance review would identify the status of ZEB technology and would help the State design policies to further advance zero-emission technologies, and inform funding

strategies related to zero-emission vehicles and infrastructure. The review would occur at least one year prior to the initiation of any purchase requirements. This review would look at bus categories, such as cutaway buses and standard buses individually, to ensure categorical needs and characteristics are considered. Staff envisions the performance review will comprise the following components:

- **Costs.** Costs include infrastructure and vehicle capital, operating and maintenance costs. Infrastructure capital costs include charging/refueling equipment, installation, and utility upgrade costs.
 - **Battery performance.** Batteries used in the ZEBs will degrade over time. The assessment will help identify how battery degradation may affect daily operating range as vehicles age, and whether transit buses would require mid-life battery replacement. The assessment can help to estimate the remaining battery capacity after the end of their useful life in buses.
 - **Operating range.** The maximum operating range of a vehicle after it is fully charged or refueled. Range assessment will take into consideration various factors, such as energy storage capacity, battery degradation, HVAC, passenger loading, and grades. Understanding real world operating range is essential for a transit agency to plan for its routes and schedule using ZEB technologies.
 - **Performance and reliability.** Different from small pilot or demonstration projects, a successful system-wide transition to the ZEB technologies must demonstrate the reliability and viability of the technologies. Measurements could include bus availability, road call frequency, and other performance metrics, such as fuel efficiency and factors affecting fuel efficiency, refueling or charging time and frequency, and parts availability.”
2. Add language to the proposed regulation that establishes benchmarks for ZEB cost and performance and funding availability – these should be sourced from the inputs and assumptions used by ARB staff in the Original SRIA, Draft Environmental Analysis and Cost Update.
 3. Add language to the proposed regulation that requires the Board to temporarily halt the initiation of an upcoming year’s purchase requirement, if real-world ZEB cost and performance and funding availability are misaligned with the benchmarks established in the proposed regulation.

15-1-27-2

Role of Incentives: In our September 24 letter, and in public testimony before the Board on September 28, the Association recommended that ARB fund the transition to ZEBs in a manner that does not force transit agencies to compromise transit service or the maintenance or expansion of their capital assets. This approach acknowledges that the vast majority of ZEBs purchased to-date – because they are more expensive than conventionally-fueled buses – were purchased with state and/or federal incentive funding, and could be accomplished by:

1. Adding language to the proposed regulation that authorizes a transit agency that has submitted a ZEB rollout plan to ARB to access incentive funding, like HVIP, to offset the incremental cost of ZEBs for the life of the regulation.

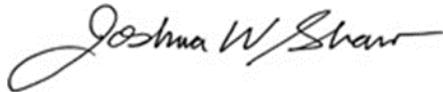
In response to these recommendations and feedback from the Board following public testimony on September 28, the Proposed Regulation now provides the ARB Executive Officer with additional authority to temporarily waive the ZEB purchase requirement for agencies that can demonstrate that they do not have the resources to purchase or operate ZEBs. This added flexibility, which would be administered on a case-by-case basis, improves the regulation, but it fails to acknowledge that, if challenges arise with the regulation, they are likely to be systemic and will require a holistic review and response from ARB.

As you revisit the omission of the Association's recommendations and consider further direction to ARB staff, we hope you will consider that a dozen parties in attendance at the September 28 board meeting, including the most aggressive early adopters of ZEBs in the country, urged ARB's adoption of our recommendations. Like the Association, these parties recognize the importance of incorporating these recommendations into the regulation for protecting transit service quality, maintaining affordable fares, and ensuring that the riders who depend on the service our members provide are not disadvantaged by the regulation.

We thank you again for this opportunity to comment, for your continued willingness to meet with us, and for your dedication to working with our industry to get the transition to a fully electrified transit bus fleet right.

Please contact Legislative and Regulatory Advocate Michael Pimentel at 916-446-4656 or at michael@caltransit.org, if you have any questions or comments about the Association's feedback on the regulation.

Sincerely,

A handwritten signature in black ink that reads "Joshua W. Shaw". The signature is written in a cursive, flowing style.

Joshua W. Shaw
Executive Director

cc: Kim Craig, Deputy Cabinet Secretary, Office of Governor Edmund G. Brown, Jr.
Alice Reynolds, Senior Advisor, Office of Governor Edmund G. Brown, Jr.
Richard Corey, Executive Officer, California Air Resources Board
Steve Cliff, Deputy Executive Officer, California Air Resources Board
Jack Kitowski, Chief, Mobile Source Control Division, California Air Resources Board
Tony Brasil, Branch Chief, Heavy Duty Diesel Implementation Branch, California Air Resources Board
Shirin Barfjani, Air Pollution Specialist, Mobile Source Control Division, California Air Resources Board



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September 24, 2018

California Air Resources Board, Members
1001 I Street, Suite
Sacramento, CA 95814

RE: Response to the Initial Statement of Reasons for the Proposed Innovative Clean Transit Regulation
Chair Nichols and Members of the California Air Resources Board:

On behalf of Fresno County Rural Transit Agency (FCRTA), I submit the following comments in response to the Initial Statement of Reasons for the Proposed Innovative Clean Transit (ICT) Regulation. FCRTA provides service to the 13 rural incorporated cities and 29 unincorporated communities in Fresno County with a transit fleet over 100 vehicles comprised of 10% electric, 45% CNG and 45% gasoline. FCRTA is committed to transition to electrification and has a goal of a 100% electric fleet by 2025 based on available capital funding.

As currently drafted, the proposed regulation improves on the Draft Regulatory Concept for the Proposed Innovative Clean Transit Regulation, released December 2017. Improvements to the proposed regulation reflect ongoing discussions between California Air Resources Board staff and the leadership of the California Transit Association. While the progress made on the proposed regulation is substantial, we remain concerned that the imposition of the zero-emission bus (ZEB) purchase requirement is not tied to benchmarks for ZEB cost and performance, infrastructure buildout costs, and funding availability. Moreover, we see significant risks in assuming, as ARB staff has, that data gathered from limited, short-term ZEB deployments will accurately reflect the realities of ZEB deployments at-scale. We assert that, despite the claims of some interest groups, ZEB cost and performance, infrastructure buildout, and the cost of electricity as fuel, are still issues that must be worked through. Due to the higher purchase costs of the ZEB's, FCRTA has purchased ZEB's based on availability of funding and incentives. **FCRTA is a rural transit operator with high mileage routes and with varying performance of ZEB's, implementation has been affected by the "in-service" range of the vehicle and the extra driver training required in order to maximize the range. Grid capacity and charging infrastructure is also an existing challenge associated with transitioning and deploying an electric fleet in the rural communities of Fresno County. Infrastructure is lacking and aging in many areas and the utility rates remains a concern as FCRTA transitions to a 100% zero emission fleet.**

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As you move to finalize the proposed regulation, FCRTA believes you should be guided by one question: *"What will happen to transit agencies facing a ZEB purchase requirement, and the riders who rely on our service, if the assertions made by ARB staff and interest groups are wrong, and the cost and difficulty of the transition more closely align with the warnings of California's public transit agencies?"* To help navigate this question, the California Transit Association has offered you a series of recommendations designed to manage the risks associated with pursuing the laudable goal of cleaner air for all Californians.

We urge you to adopt these recommendations in full, and emphasize the importance of the following two provisions:

- **Benchmarking and Regulatory Assessment:** This provision would require the California Air Resources Board to conduct a regulatory assessment – *before* a ZEB purchase requirement goes into effect – that evaluates real-world ZEB cost and performance with benchmarks for ZEB cost and performance established at the time of rule adoption. This regulatory assessment should allow the Board to issue an across-the-board suspension of the ZEB purchase requirement, much like the original Transit Fleet Rule did, if real-world ZEB cost and performance is not yet at parity with the cost and performance of conventionally-fueled transit buses. This provision would have no impact on the ZEB purchase requirement, if benchmarks for ZEB cost and performance are being met, as anticipated by ARB staff and interest groups.
- **Incentives:** The staff report supporting the proposed regulation emphasizes the importance of incentive funding to minimizing adverse impacts to transit service (see Initial Statement of Reasons, pages ES-8, III-8, VIII-26). Given the stated importance of this funding and our shared goal of protecting vital transit service, this provision would require ARB to revise its current policy disallowing the use of incentive funding to meet regulatory compliance to explicitly allow transit agencies to use incentive funding whenever they are prepared to purchase a ZEB.

386-3

Only by amending the proposed regulation to include the California Transit Association's recommendations, will you protect California's transit agencies and the riders who rely on our service from the risks associated with this transition. We greatly appreciate your continued commitment to working with the California Transit Association to get this proposed regulation right.

If you have any questions or comments, please feel free to contact me at (559) 233-6789 Ext.244.

Sincerely,



Moses Stites
General Manager

cc: Richard Corey, Executive Officer, California Air Resources Board
Steve Cliff, Deputy Executive Officer, California Air Resources Board
Jack Kitowski, Chief, Mobile Source Control Division, California Air Resources Board
Tony Brasil, Heavy Duty Diesel Implementation Branch, California Air Resources Board
Shirin Barfjani, Mobile Source Control Division, California Air Resources Board



September 24, 2018

California Air Resources Board
Chair Nichols and Members of the Board
1001 I Street, Suite
Sacramento, CA 95814

RE: **Response to the Initial Statement of Reasons for the Proposed Innovative Clean Transit Regulation**

Chair Nichols and Members of the California Air Resources Board:

On behalf of Golden Gate Bridge, Highway and Transportation District (GGBHTD/ "District"), I submit the following comments in response to the Initial Statement of Reasons for the Proposed Innovative Clean Transit (ICT) Regulation. As the District has stated in an earlier letter to California Air Resources Board (CARB) staff, dated May 29, 2018, we respect and appreciate your Agency's efforts to achieve its goal of a "long-term attainment of a zero-emission transit fleet in California." This is a very important goal, and Golden Gate Transit (GGT), which is the bus transit division of the GGBHTD, would like to start taking measured steps to support it.

GGT provides regional transit service in four counties, which include Sonoma, Marin, San Francisco, and Contra Costa Counties. Our primary charge is to connect citizens along the Highway 101 corridor to key, regional employment, transportation, medical and educational centers throughout the North Bay and San Francisco, as well as to BART in Contra Costa County. To cover this extensive service area, our buses can travel up to 400 miles on one fueling.

Given that most of our riders are Marin and Sonoma residents, who have the resources to drive to work, but choose to take GGT because of its reliability, convenience and comfort, it is critical that we utilize vehicles, which can reliably deliver the services they demand at a comfort level that meets their requirements. To address these demands half of GGT's fleet of nearly 200 vehicles consists of over-the-road coaches produced by MCI. These vehicles seat up to 57 passengers and meet our operational requirement of 400 miles on a single fueling. They are also much smoother and more comfortable than our standard 40-foot urban buses, which seat up to 41 passengers, during long freeway trips between counties.

As currently drafted, the proposed regulation improves on the Draft Regulatory Concept for the Proposed Innovative Clean Transit Regulation, released December 2017. Improvements to the proposed regulation reflect ongoing discussions between CARB staff and the leadership of the California Transit Association. While the progress made on the proposed regulation is substantial, we remain concerned that the imposition of the zero-emission bus (ZEB) purchase requirement is not tied to benchmarks for ZEB cost and performance, infrastructure buildout costs, and funding availability. Moreover, we see significant risks in assuming, as CARB staff has, that data gathered from limited, short-term ZEB deployments will accurately reflect the realities of ZEB deployments at-scale. We assert that, despite the claims of some interest groups, ZEB cost and performance, infrastructure buildout, and the cost of electricity as fuel, are still issues that must be worked through.

As you move to finalize the proposed regulation, the GGBHTD believes that you should be guided by one question: “What will happen to transit agencies facing a ZEB purchase requirement, and the riders who rely on our service, if the assertions made by CARB staff and interest groups are wrong, and the cost and difficulty of the transition more closely align with the warnings of California’s public transit agencies?” To help navigate this question, the California Transit Association has offered you a series of recommendations designed to manage the risks associated with pursuing the laudable goal of cleaner air for all Californians.

We urge you to adopt these recommendations in full, and emphasize the importance of the following two provisions:

- **Benchmarking and Regulatory Assessment:** This provision would require the California Air Resources Board to conduct a regulatory assessment – *before* a ZEB purchase requirement goes into effect – that evaluates real-world ZEB cost and performance with benchmarks for ZEB cost and performance established at the time of rule adoption. This regulatory assessment should allow the Board to issue an across-the-board suspension of the ZEB purchase requirement, much like the original Transit Fleet Rule did, if real-world ZEB cost and performance is not yet at parity with the cost and performance of conventionally-fueled transit buses. This provision would have no impact on the ZEB purchase requirement, if benchmarks for ZEB cost and performance are being met, as anticipated by ARB staff and interest groups.
- **Incentives:** The staff report supporting the proposed regulation emphasizes the importance of incentive funding to minimizing adverse impacts to transit service (see Initial Statement of Reasons, pages ES-8, III-8, VIII-26). Given the stated importance of this funding and our shared goal of protecting vital transit service, this provision would require ARB to revise its current policy disallowing the use of incentive funding to meet regulatory compliance to explicitly allow transit agencies to use incentive funding whenever they are prepared to purchase a ZEB.

402-1

Only by amending the proposed regulation to include the California Transit Association’s recommendations, will you protect California’s transit agencies and the riders who rely on our service from the risks associated with this transition. We greatly appreciate your continued commitment to working with the California Transit Association to get this proposed regulation right.

If you have any questions or comments, please feel free to contact me at 415-923-2203, or contact Mona Babauta, Deputy General Manager, Bus Division (Golden Gate Transit), at 415-257-4467 or Mbabauta@goldengate.org.

Sincerely,



Denis J. Mulligan
General Manager

cc: Richard Corey, Executive Officer, California Air Resources Board
Steve Cliff, Deputy Executive Officer, California Air Resources Board
Jack Kitowski, Chief, Mobile Source Control Division, California Air Resources Board
Tony Brasil, Heavy Duty Diesel Implementation Branch, California Air Resources Board
Shirin Barfjani, Mobile Source Control Division, California Air Resources Board



November 26, 2018

California Air Resources Board, Members
1001 I Street, Suite
Sacramento, CA 95814

RE: Response to the Initial Statement of Reasons for the Proposed Innovative Clean Transit Regulation

Chair Nichols and Members of the California Air Resources Board:

On behalf of the Monterey Salinas Transit District (MST) I want to acknowledge – and thank you for – the considerable progress that has been made on the proposed Innovative Clean Transit (ICT) regulation.

MST remains committed to reducing greenhouse gas emissions by providing frequent, affordable, and accessible public mobility services throughout the Monterey Bay region. Over several decades our district has been an innovator in experimenting with a wide variety of alternative technologies, including lead-acid battery electric, compressed natural gas, locally grown and processed bio-diesel, hybrid-electric and most recently the latest in zero emission battery-electric buses including the first-of-its-kind inductive charged battery electric trolley vehicle. We believe that reducing carbon emissions and greenhouse gases is important to the health of our residents and environment in which we live and support the goal of eventually eliminating fossil fuel as a primary source of fuel to power our mobility.

MST continues to believe that facilitating a transition to cleaner transit buses is best done by allowing transit agencies to craft individualized zero emission bus (ZEB) deployment plans that are consistent with their unique financial and operational requirements; however, we also recognize the value in providing ARB staff with constructive feedback on the proposed regulation as currently drafted. We believe this feedback better ensures that if you proceed with a purchase mandate, the worst impacts to transit service will be minimized.

Costs and Incentives

MST remains concerned with the specifics of what is now in print as well as the impact the associated price tag will have on local agencies like MST. You should be aware that according to ARB staff's own estimates, which include some significant assumptions we would strongly dispute, the regulation will cost transit agencies \$1.1 billion between 2020 and 2040. If you remove the Low Carbon Fuel Standards (LCFS) funding, which does not even have statutory authorization through 2040, that price tag climbs to \$2.1 billion over the same time frame.

Advocating and delivering quality public transportation as a leader within our community and industry.

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Pacific Grove • Salinas • Sand City • Seaside • Soledad **Administrative Offices** 19 Upper Ragsdale Drive, Suite 200 Monterey, CA 93940

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This is meaningful because at various junctures your Board has communicated to ARB staff its preference to preserve and expand transit service as we continue to make progress on cleaner bus fleets. We fail to see how this is possible without adequate funding to absorb the cost of the regulation and without more robust safeguards being built into the regulation. We fully understand that ARB cannot make commitments for future funding because you do not control the State's purse strings; the Legislature does. That said, our industry has long argued that accessing the incentive funding that ARB does have should be made much simpler and more useful to transit agencies.

Under the proposed regulation, transit agencies would only be able to access ARB's incentive funding – primarily Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project dollars – if they take early action to procure ZEBs before the purchase mandates kick in or if they procure more ZEBs than is required. Unfortunately, this will mean that transit agencies that cannot procure ZEBs early because their fleets have not reached their useful life when the purchase mandate goes into effect, or because their financial positions won't allow it, would be barred from accessing incentive funding for future ZEB procurements.

If transit agencies lose access to this incentive funding, which is being offered because ARB acknowledges that the technology is currently more expensive and underperforms, they will need to redirect resources from some other purposes. Should it be reducing the state of good repair for our current fleets? Reducing Transit service to some of the most vulnerable people in our community? Or should we pass costs onto our riders by way of higher fares, which would most likely push choice riders back into their single occupancy, fossil fuel-powered vehicles?

15-1-13-1

You should know that we are not alone in making this request. CalZEV, comprised of Proterra, GreenPower, CalETC, and BYD, among others, has expressed their support for freeing up incentive funding to support the proposed regulation.

We also ask you to consider that if incentive funding isn't available to transit agencies when they need it, an agency might have no alternative but to keep an older, higher pollution/emissions vehicle in service because they lack the resources to move forward with a zero-emission bus purchase and its attendant electric charging or hydrogen storage/fueling infrastructure costs. In that regard, we feel that ARB must express its support for creating an infrastructure funding program. This program should also be available to small operators to finance their roll-out plans. Without a secure source for infrastructure investments in fueling/charging facilities, maintenance facilities, and storage capacity, the ability to meet the goals of this rule is doubtful.

Performance Benchmarks

While the availability of incentive funding is critical for smoothing the introduction of ZEBs and limiting financial risk to transit agencies, we'd argue that the greater risk to our transit service would be in projecting the cost and technological capabilities of ZEBs five, ten, or twenty years out. To limit these risks, we've asked ARB staff to establish **within the regulation itself** cost and performance benchmarks that would be reviewed periodically, likely before the imposition of a purchase requirement, and used to determine how the regulation proceeds. This is consistent with the approach taken in the original Transit Fleet Rule.

Under this scheme, ARB would review the real-world cost and performance of zero-emission buses and their supporting infrastructure at some future date and, if they do not align with ARB staff's projections

– which are built into the cost model and used to estimate the proposed regulation’s economic and environmental impact – **then the regulation would put on a temporary hold.**

15-1-13-2

Currently, ARB staff has included language within the staff report that commits to reviewing the real-world cost and performance of ZEBs one year prior to the imposition of a purchase requirement, but there is no indication of how the data gathered would be used. We are thankful for this inclusion, but it doesn’t go far enough to ensure that transit agencies will not be saddled with untenable costs or inadequate performance. We encourage you to work with ARB staff to have our preferred provisions added to the regulation itself.

Small Agencies and Non-Standard Buses

While we make these requests, we also want to communicate the dangers of ARB staff moving the regulation, particularly its purchase requirement, in a more aggressive direction. This, as you may already know, is being advocated for by a coalition of environmental groups, and these groups advocate for:

- Accelerating the purchase requirement, particularly for small agencies
- Accelerating the creation of ZEB roll-out plans, particularly for small agencies
- Accelerating the inclusion of cutaway and non-standard buses in the regulation

Referring to our points about cost and performance, these changes would require transit agencies to purchase more ZEBs while costs are higher and performance is lower. This would require smaller transit agencies to experiment with new technologies – even though these agencies can least afford to do so – and would require that the industry, all at once, troubleshoot the transition rather than allow for an information transfer between early adopters and other agencies.

MST urges the Board to reconsider the definition of a “small operator” and instead use a definition that transit operators are familiar with and which is currently used in federal and state programs. The proposed regulations define a small operator as any operator with fewer than 100 buses. MST urges the Board to rely on the current federal definition that specifies a small operator as having less than 100 buses during peak operations.

MST strongly supports the delayed compliance for small operators to adopt the rollout plans and purchase mandates. MST and other small operators in the state agree that additional time will be needed to secure funding for developing and adopting the plans. In some cases operators will need to locate, purchase, and build new storage facilities because of inadequate space or because they currently rent space from another public entity. The additional time needed to develop the roll-out plans support the need for the later purchase mandate timeline. The later purchase mandate should also benefit small operators, allowing them to take advantage of lower vehicle prices as demand increases and supply chains mature.

Finally, in recent years California has been beset by increasingly frequent wildfires, floods, and mudslides, for which local transit operators are called upon to make mass movements of public safety personnel and evacuees over distances that are beyond the range of ZEB vehicles. To this end, MST advocates that public transit operators continue to be allowed to operate some number of traditional fossil fuel fleets in the event of an emergency evacuation response, due to a local civil emergency or

natural disaster, until such time that the range of zero emission buses ensures they are reliably operational for a period of days or until power supplies are restored after such disasters occur.

Once again, I would like to commend your staff on their openness in listening to the comments and concerns of myself and my peers within the California transit industry.

If you have any questions or comments, please feel free to contact me at 831-264-5002.

Sincerely,

A handwritten signature in black ink, appearing to read "Carl Sedoryk". The signature is fluid and cursive, with the first name "Carl" and last name "Sedoryk" clearly distinguishable.

Carl Sedoryk
General Manager / CEO

cc: Richard Corey, Executive Officer, California Air Resources Board
Steve Cliff, Deputy Executive Officer, California Air Resources Board
Jack Kitowski, Chief, Mobile Source Control Division, California Air Resources Board
Tony Brasil, Heavy Duty Diesel Implementation Branch, California Air Resources Board
Shirin Barfjani, Mobile Source Control Division, California Air Resources Board



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Darrell E. Johnson
Chief Executive Officer

November 26, 2018

Ms. Mary Nichols
Chair
California Air Resources Board
1001 "I" Street
Sacramento, CA 95814

Subject: **Proposed Amendments to the Innovative Clean Transit Regulation**

Dear Chair Nichols:

The Orange County Transportation Authority (OCTA) welcomes the opportunity to offer comments on the most recent amendments proposed to the California Air Resources Board's (ARB) Innovative Clean Transit (ICT) Regulation. These amendments, dated November 9, 2018, improve upon previous versions of the proposed ICT regulation. While progress has been made, OCTA continues to have concerns about the proposal's lack of clear benchmarks in the regulation to ensure that the technology and costs match the regulation's assumptions, and the absence of a viable funding source that would help agencies meet the purchase requirement.

Since the ARB Meeting on September 28, 2018, various technical changes were made to the regulation in response to concerns expressed by transit agencies. OCTA specifically supports the strengthening of the early compliance waiver, the additional temporary exemptions, and clarification of the definition of a zero-emission bus purchase. OCTA is hopeful for more improvements like these to allow for a sensible implementation of zero-emission bus technology.

Unfortunately, the recent amendments do not address OCTA's primary concerns with the proposed ICT regulation. The proposed regulatory language still does not identify adequate funding for agencies to meet the purchase mandate, which could be partially addressed if the regulation explicitly authorized ARB incentive programs to be available through the life of the regulation. The regulatory language also does not include explicit benchmarks to ensure that the buses transit agencies will be mandated to purchase will meet the operational needs of the agency and will not require a shifting of financial resources that could adversely impact transit riders. For your reference, OCTA has voiced these concerns in previous letters to the ARB, dated January 22, 2018; May 14, 2018; and September 24, 2018, as well as in public comments at the September ARB Board Meeting. OCTA encourages amendments be developed to address these concerns before the regulation is put forward for adoption.

15-1-20-1

Ms. Mary Nichols
November 26, 2018
Page 2

While the recent amendments are constructive, additional improvements are necessary to allow for the expansion of zero-emission technology in an economically sustainable manner. If you or your staff have any questions regarding OCTA's concerns with the proposed ICT regulation, please contact Kristin Essner, Manager of State and Federal Relations, at (714) 560-5754 or kessner@octa.net.

Sincerely,



Darrell E. Johnson
Chief Executive Officer

DJ:ds
Attachment

c: Members, California Air Resources Board
Richard Corey, Executive Officer, California Air Resources Board
Steve Cliff, Deputy Executive Officer, California Air Resources Board
Jack Kitowski, Chief, Mobile Source Control Division, California Air Resources Board
Shirin Barfjani, Air Pollution Specialist, Mobile Source Control Division, California Air Resources Board
Yachun Chow, Manager, Zero Emission Bus Truck and Bus Section, California Air Resources Board
Platinum Advisors, LLC



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Director

(Vacant)
Ex-Officio Member

CHIEF EXECUTIVE OFFICE

Darrell E. Johnson
Chief Executive Officer

September 24, 2018

Ms. Mary Nichols
Chairman
California Air Resources Board
1001 "I" Street
Sacramento, CA 95814

Subject: **Comments on Innovative Clean Transit Regulation Discussion Document**

Dear Chairman Nichols:

The Orange County Transportation Authority (OCTA) appreciates the opportunity to offer comments on the California Air Resources Board's (ARB) Proposed Innovative Clean Transit Regulation (Proposed ICT), dated August 7, 2018. Since the release of the ICT Discussion Document in December 2017, work has been done by transit agencies across the state, including OCTA, and ARB staff to find a path forward which would allow for further adoption of zero-emission transit technologies, while also recognizing each transit agency's service requirements, and any technological or financial limitations. Progress has been made since the ICT Discussion Document was released, including the inclusion of provisions which provide additional deference to an individual agency as to the path the agency will take to transition to a zero-emission fleet by 2040, and more explicit recognition of areas where an extension or an exemption from fleet transition requirements may be necessary. However, there are continued concerns about the Proposed ICT's focus on mandatory purchase requirements, insufficient identification of funding to meet the requirements, lack of regulatory language requiring a regular assessment of technology and cost benchmarks to ensure the new buses are meeting their stated goals, and an emphasis on uniform standards statewide, rather than flexibility to consider an agency's specific technology and cost dynamics. These concerns, plus the insufficiencies in the correlating economic and environmental analysis, may lead to the implementation of a regulation with significant unintended impacts to transit agencies.

Many of the continued concerns can be addressed through further refinements to the proposed regulatory language, and more expansive analysis that reflects the fiscal impacts and identification of funding sources to meet expected cost increases. Attached to this letter are details on specific issues that OCTA encourages the ARB to address if the Proposed ICT is to move forward for eventual adoption. Furthermore, OCTA is also supportive of the comments

Ms. Mary Nichols
September 24, 2018
Page 2

submitted by the California Transit Association. Without addressing these issues, as currently drafted, the Proposed ICT could jeopardize not only existing transit service levels, but present challenges in meeting fleet operating needs. These implications directly contradict the ARB's goals in pursuing the ICT, namely improving transit service and reducing emissions.

OCTA appreciates the time and effort ARB staff has taken to meet with transit agencies statewide to discuss the Proposed ICT, and hopes to continue to build on existing efforts by transit agencies to expand zero-emission technology in an economically sustainable manner. This includes OCTA's actions to obtain over ten hydrogen fuel cell buses, exclusive use of renewable natural gas for the existing fleet, and integration of low nitrogen oxide engines. With these efforts in mind, OCTA hopes to continue discussions with the ARB and develop collaborative solutions that will help reduce emissions and improve transit service statewide. If you or your staff have any questions regarding OCTA's comments, please contact Kristin Essner, Manager of State and Federal Relations, at (714) 560-5754 or kessner@octa.net.

Sincerely,



Darrell E. Johnson
Chief Executive Officer

DJ:ke
Attachment

c: Members, California Air Resources Board
Richard Corey, Executive Officer, California Air Resources Board
Steve Cliff, Deputy Executive Office, California Air Resources Board
Jack Kitowski, Chief, Mobile Source Control Division, California Air Resources Board
Shirin Barfjani, Air Pollution Specialist, Mobile Source Control Division, California Air Resources Board
Yachun Chow, Manager, Zero Emission Bus Truck and Bus Section, California Air Resources Board
Platinum Advisors

Orange County Transportation Authority Comments on the California Air Resources Board's Proposed Innovative Clean Transit Regulation

1. Funding is not identified to bridge the gap between existing technology and zero-emission buses, which could directly impact existing transit service.

The Proposed Innovative Clean Transit Regulation (Proposed ICT) would create a new unfunded mandate for transit agencies, without the identification of sufficient resources to compensate for the increased costs needed to implement the proposed purchase requirement. For the Orange County Transportation Authority (OCTA), it is estimated that it would cost an additional \$442 million, at current cost estimates, to convert its fleet to zero-emission technology. This is more than double what it would cost to replace the fleet with traditional fuel vehicles. In addition, it is estimated that to replace OCTA's fixed route buses, it would cost as much as \$39 million in infrastructure costs based on the estimates provided by ARB in the Proposed ICT. This cost could be more for hydrogen fueling infrastructure. These estimates do not include other costs including those associated with training, increased fuel costs, and right-of-way needs. The bus replacement estimate assumes the cost differential between existing compressed natural gas (CNG) buses, and the need to increase the fleet size to integrate zero-emission buses (ZEB). OCTA's buses must meet a 300 mile range. Replacing a CNG bus with a ZEB, powered by current electric battery technology, is not a straight one-to-one comparison. Instead, because ZEBs cannot meet existing fleet range requirements, transit agencies will have to expand their fleet to comply with the purchase requirement and maintain existing service.

Already, OCTA has budgeted funding from existing sources, including the Low Carbon Fuel Standard, Transportation Development Act, State Transit Assistance, cap-and-trade, SB 1 (Chapter 5, Statutes of 2017) and federal transit sources, to maintain existing service levels. These funding sources are the only funding identified in the regulation to help transit agencies meet the requirements of the ICT Proposal, beyond state grant sources which transit agencies cannot access after regulatory requirements are in force and/or are subject to annual appropriations by the Legislature.

Thus, the Proposed ICT assumes that transit agencies will have to divert existing funds used for operations purposes to meet the purchase requirements. In this scenario, transit agencies like OCTA would have to analyze potential service reductions. In order to meet the \$442 million funding gap, OCTA would have to reduce service by more than 20 percent; a level surpassing what was done during the last recession. This would not only immediately impact the most transit dependent areas of the state, but may also lead to an increase in vehicle miles travelled, which is counter-productive to other California Air Resources Board (ARB) environmental initiatives. These secondary impacts are not analyzed in the environmental analysis done for the Proposed ICT or in the economic analysis.

393-1

There also is no discussion about electricity costs and how that will vary based on time of day, and based on various fleet fueling requirements. Currently there is no certainty

about the future of these costs, or what rates will be imposed for transit agencies. Many of the previous demonstrations of this technology were operating under special rate provisions which should not be held as the standard to determine costs for this regulation.

393-2

The ICT Proposal should therefore be updated to do the following:

- Identify funding sources beyond existing sources already being used for transit operations purposes, to close the cost gap between the requirements of the Proposed ICT and current technology.
- Explicitly ensure that all ARB grant funding programs where ICT activities are eligible can continue to be used by transit agencies to meet the requirements put in place by the ICT Proposal.
- Update the economic and environmental analysis to account for secondary ramifications from the implementation of the Proposed ICT, including potential service reductions impacting emission reduction efforts and economic impacts to transit riders.
- Update the economic analysis so it is focused on the actual implementation period, and does not include out years beyond the Proposed ICT requirements. This otherwise unfairly includes potential cost decreases in those years.
- Include analysis of alternative regulatory frameworks to achieve the 2040 goal, which may be less burdensome, including CTA's initial counterproposal.
- Include updated analysis related to electricity and fueling costs, without consideration of existing agreements with transit agencies that have provided for a temporary reduction in rates.

393-3

393-4

393-5

2. The regulatory timeline for implementation does provide for an assessment of economic or technological benchmarks to ensure that the technology is meeting its stated goals prior to enforcement of purchase requirements

While the Proposed ICT includes language in its justification stating that a benchmark analysis will be done of various cost and technology factors, there is nothing in the regulation that ensures that this analysis will be done prior to a purchase requirement being put in place. This could present significant hardship for agencies which abide by the purchase requirement and are forced to integrate a significant number of zero-emission buses, which may not be meeting that fleet's service needs. For instance, under OCTA's existing procurement process, OCTA will potentially be looking at replacing 58 percent of its fleet by 2023. Under the Proposed ICT, potentially 25 percent of this purchase would have to be zero-emission technology. If the new technology cannot meet OCTA's requirements related to such things as range and reliability, this could put future federal funding into jeopardy.

The ICT proposal should ensure that technology and economic assessments are done before any requirement is enforced, including prior to 2023. In addition, if at any time a requirement is found to be technologically or economically infeasible, a grace period

should be applied to all transit agencies, including agencies with a procurement in process.

3. The Proposed ICT should only include cutaways, articulated buses, and over-the-road coaches into the regulation after a complete cost and technology assessment is completed.

OCTA appreciates efforts by the ARB to defer the inclusion of various bus types under the purchase requirement until those buses have undergone more rigorous testing. However, under the current Proposed ICT, these buses are automatically included under the purchase requirement in 2026, or once they complete Altoona testing, whichever is later. While none have been Altoona-tested, and therefore are not eligible for federal funding, more substantive analysis is still needed to ensure that these buses can meet various agencies' operational needs. This is of heightened concern with cutaway buses, which are used to fulfill critical American with Disabilities Act (ADA) paratransit services, if the buses are not able to meet an agency's operational requirements, this may not only lead to impacts to paratransit service, but could impact a transit agency's compliance with ADA.

4. The Proposed ICT should the extend the "waiver of purchase requirement" framework into future years.

Currently, the Proposed ICT only allows for a waiver of the purchase requirement if a statewide target is met in the years of 2020 and 2021. This concept should continue into future years, aligned with each agency's rollout plan. This would prevent a transit agency from being subject to an arbitrary purchase requirement, and allow additional flexibility for an agency to purchase a bus when necessary. In either case, a transit agency would still have to submit a rollout plan for transitioning its fleet to zero-emission by 2040, maintaining that statewide target. The ARB would also have an opportunity to set statewide targets each year based on actual data and need, rather than simply implementing a one-size fits all requirement. This concept should at least be considered in the years leading up to the 2029 100 percent purchase requirement mandate.

5. The individual agency rollout plan required under the Proposed ICT should include a section for a transit agency to outline anticipated challenges in meeting its 2040 goal.

While the rollout plan would require a transit agency to include a wealth of information related to how it plans to meet a fleet transition to zero-emission buses by 2040, including planned procurement dates, funding, and technology choice, it does not include a section that allows an agency to communicate where it foresees potential challenges or where flexibility may be needed. For instance, the rollout plan would currently require each agency to identify funding to meet the fleet transition, even when the agency does not know where that funding may come from. While new sources of grant funding may eventually become available, no agency can presuppose that taking place. The requirements related to the rollout plan should therefore be clarified to ensure that the plan is not meant to be financially constrained, and that agencies may deviate from their

original plan. Furthermore, it would help inform the regulation's implementation going forward for agencies to communicate their specific technology requirements and where they foresee challenges. This could include fuel prices, electricity demand, range needs, and reliability. This would provide an opportunity for ARB to know where monitoring may be necessary as the regulation is implemented.

6. Early action credits should be granted in a manner that takes into account all transit agency actions taken prior to any new requirement taking effect.

OCTA supports ARB efforts to recognize those agencies that have taken steps to implement advanced technologies prior to any new regulatory requirements. Currently, the ICT Proposal provides for different credit levels depending on whether the bus was put into service before or after January 1, 2018 for hydrogen buses. It is unclear why that differentiation is made. Instead, the two credits should be awarded for all hydrogen buses procured prior to the regulation taking effect, regardless of when that bus was put into service.

7. The proposed extensions and exemptions in the Proposed ICT need clarification, and should include automatic statewide regulatory exemptions in emergency situations.

OCTA appreciates efforts to include scenarios where the ARB Executive Director may approve extensions or exemptions for compliance with the requirements when certain conditions are present. While each of the scenarios presented are valid, clarification is needed in the following areas:

- For the scenarios related to bus delivery or range, these should be complete exemptions if the situation cannot be resolved within the one-year extension.
- Any extension or exemption for a bus being unable to meet a transit agency's requirement should be based on that agency's highest mileage routes. Currently, the Proposed ICT states that as long as a bus is able to meet the range requirements for at least one route within that agency's system, no extension will be given. However, when transit agencies purchase significant quantities of buses at one time, those buses will have to be used systemwide, including the higher range routes, which could be 300 plus miles. In order to prevent any disruption in service, or the creation of several sub-fleets, a transit bus will therefore have to meet a transit agency's longest ranges.

8. Personnel training will be required for any technology transition, which is not currently addressed in the Proposed ICT.

Traditionally, the work-force found in the transit industry includes a high degree of expertise with diesel engines, with transition now occurring because of the introduction of natural gas engines. With high demand for this knowledge in fields outside of transit, there are also numerous existing issues in attracting talent to fill maintenance and operations

roles. ARB's Proposed ICT will create an added level of difficulty, by requiring a completely new type of staff knowledge, without any identified training opportunities.

A transition to ZEBs would require complete retraining on the technological operating elements of a bus, and the safety aspects. Without any existing large operation of ZEBs at existing transit facilities, many of the implications of the technology change are unknown. Gradual implementation of the technology would allow transit agencies to mitigate these risks and prepare and protect their staff. There should be a discussion within the Proposed ICT of resources available, including expansion of eligibility for existing resources to be spent for training programs, and plans for training not only the existing workforce, but also those wishing to enter the workforce, on this new technology.

9. The definitions included in the Proposed ICT must account for fleet differences.

The Proposed ICT includes several common definitions which set the basis for the regulation. However, a number of these definitions may differ based on the agency. For instance, while the definition of "useful life" is based on what is needed to meet federal requirements (12 years), many transit agencies, including OCTA, have extended out their useful life to allow the agency to maximize the funding dedicated for operations purposes. The Proposed ICT should be amended in this case, to account for any agency-specific differences that may exist.

10. A bus should still count towards an agency's purchase requirement, even when the bus fails through no fault of the transit agency.

The Proposed ICT currently states that a bus only counts towards an agency's purchase requirement if it remains in service for at least five years. However, the only reason an agency would remove a bus from service prior to the bus meeting its useful life is if the bus was unable to safely be operated along an agency's routes, or if the bus was in an accident which prevented further operation. This could be due to a multitude of factors beyond the transit agency's control. If the bus is removed from service, this would also create challenges in a transit agency's ability to replace the bus using federal funding since the bus was unable to meet the federal standards related to useful life. The Proposed ICT should recognize the original intent of the transit agency in complying with the regulation, and count these buses towards a Proposed ICT purchase requirement.

September 21, 2018

Clerk of the Board
California Air Resources Board
1001 I Street, P.O. Box 2815
Sacramento, CA 95812-2815

Re: proposed Innovative Clean Transit (ICT) Regulation and a Draft Environmental Analysis (Draft EA)

Submitted online via CARB's Web Comment Submittal Form

Olivine supports CARB's efforts to propel California's public transit agencies towards zero emissions fleets. We also appreciate CARB's efforts to engage diverse stakeholders in the process of formulating the Innovative Clean Transit Regulation. In reviewing the INFORMATIVE DIGEST OF PROPOSED ACTION AND POLICY STATEMENT OVERVIEW (GOV. CODE, § 11346.5, subd. (a)(3)), it appears that the proposed actions do not contemplate Vehicle to Grid Interaction, electricity rates, and grid infrastructure. Olivine believes that a strong ZEB proposal needs to consider and provide prudent guidance around VGI deployment to ensure that ZEB charging impacts to the electrical grid are mitigated and/or positive. Without VGI, ZEB charging may induce additional stress to the electrical grid, which could negatively impact air quality in California.

383-1

Olivine also reinforces its earlier feedback provided both at the June 13, 2018 workshop and via public comment.

- Vehicle to Grid Integration (VGI) is crucial to manage electricity (fuel) costs. Several transit districts expressed concern over or shared their experience with high electricity costs. Olivine's analysis has shown that electricity costs can be managed via intelligent charge control algorithms and/or bi-directional power flow. These strategies enable a variety of grid engagement opportunities, including direct wholesale electricity market participation and joining virtual power plant aggregations like the Olivine Green Community. VGI functionality needs to be a default component of all Battery Electric Bus (BEB) deployments.
- VGI functionality should be required in BEB and/or charging infrastructure procurements. The costs associated with enabling VGI functionality are small compared with the large capital required for both buses and infrastructure. The marginal increase associated with VGI functionality will have a quick pay back period from electricity (fuel) cost savings.
- Transit-specific utility rates are needed to address the concerns of demand charges associated with fleet electrification. CARB should coordinate efforts with the CPUC and the Energy Commission in order to incent transit districts to electrify their fleets with targeted rate design, as opposed to chilling their investment due to problematic rate design which imposes burdensome electricity (fuel) costs.
- Department of General Services procurement efforts should require VGI and V2G functionality in the selection of battery electric buses and charging infrastructure by the State.
- Olivine recommends a technical workshop be held on these issues; the opportunity to explore and debate them would be valuable to all stakeholders. Olivine believes that such a workshop will help shed light on many of the uncertainties around deploying infrastructure and concerns around fuel costs.

Sincerely,
Hitesh Soneji
Sr. Solutions Design Engineer, Olivine Inc.



BOARD OF DIRECTORS 2018

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November 19, 2018

Ms. Mary D. Nichols, Chair
California Air Resources Board
1001 I Street
Sacramento, CA 95814

RE: Proposed Amendments to the Innovative Clean Transit Regulation

Dear Chair Nichols and Members of the California Air Resources Board:

On behalf of the San Mateo County Transit District (District), I submit the following comments in response to the "Proposed Amendments to the Innovative Clean Transit Regulation." The District operates SamTrans, San Mateo County's bus and paratransit service, which is in the initial stages of converting its bus fleet from diesel to 100% battery-electric. Given this planned transition, we support policies that spur zero-emission bus (ZE) technology forward, but we also believe such policies must take into account various real-world constraints, including the state of ZEB technology, the cost and difficulty of infrastructure buildout, as well as funding availability. The Proposed Amendments under consideration in this 15-day comment period, while a step in the direction of a workable regulation, unfortunately, fall short of the transit industry's recommendations for accounting for these constraints.

More specifically, the Proposed Amendments make much-needed technical changes to the definition of small and large transit agencies, the definition of a ZEB purchase, and the parameters for bonus credits. The Proposed Amendments also establish more realistic statewide ZEB deployment targets for 2020 and 2021, which, if reached, would slow the imposition of the ZEB purchase requirements on large agencies. The Proposed Amendments do not, however, incorporate our most important recommendations to include language in the regulation itself, which requires ARB to establish benchmarks for ZEB cost and performance and to institute a technology assessment that guarantees that transit agencies are only charged with accelerating their adoption of these technologies, if they meet the benchmarks set by the State. The Proposed Amendments also do not relax the current limitations on incentive funding, which prevents such funding from being used to meet regulatory compliance. Instead, the Proposed Amendments provide the Air Resources Board's Executive Officer with additional authority to temporarily waive the ZEB purchase requirement for agencies that can demonstrate that they do not have the resources to purchase or operate ZEBs. This added authority acknowledges the validity of

15-1-8-1

SAN MATEO COUNTY TRANSIT DISTRICT
1250 San Carlos Ave. - P.O. Box 3006
San Carlos, CA 94070-1306 (650)508-6200

the challenges the transit industry has noted, but it assumes that they will be faced only occasionally and are best dealt with on a case-by-case basis.

Like the California Transit Association, we believe if challenges arise, they will be widespread throughout the industry and will necessitate more holistic action by the ARB. We, therefore, continue to urge you to include language in the regulation that establishes benchmarks for ZEB cost and performance and that compels a technology assessment. We also continue to urge you to relax limitations on incentive funding to allow transit agencies to access funding whenever they are ready to purchase a ZEB or make investments in infrastructure.

15-1-8-2

Together, these recommendations would allow transit agencies to manage the risk of the transition to zero-emission bus technologies while providing encouragement to the original equipment manufacturers to continue to innovate.

The District thanks you for this opportunity to weigh in on this rule. Please feel free to contact Casey Fromson, Director of Government and Community Affairs at (650) 508-6493 or via email at fromsonc@samtrans.com if you need any additional information.

Sincerely,



Jim Hartnett
General Manager/Chief Executive Officer

cc: San Mateo County Transit District Board of Directors
San Mateo County Transit District State Legislative Delegation

*Santa Cruz Metropolitan
Transit District*



November 26, 2018

California Air Resources Board, Members
1001 I Street, Suite
Sacramento, CA 95814

RE: Response to the November 9, 2018 modified text and information for the proposed amendments to the Innovative Clean Transit Regulation

Dear Chair Nichols and Members of the California Air Resources Board:

On behalf of Santa Cruz Metropolitan Transit District (METRO) I submit the following comments in response to the recently posted modified text for proposed amendments to the Proposed Innovative Clean Transit (ICT) Regulation

METRO provides service to urban and rural areas of Santa Cruz County. Established in 1968, Santa Cruz METRO provides fixed-route and Highway 17 commuter service with a transit fleet comprised of ninety-eight 35' and 40' fixed-route buses and thirty-one paratransit vehicles, transporting about 5 million passenger trips a year. METRO also provides paratransit service to Santa Cruz County with its ParaCruz service, providing about 72,000 trips per year. METRO's operating budget in FY19 is \$49 million. METRO serves the cities of Santa Cruz, Capitola, Watsonville, and Scotts Valley, as well as the unincorporated areas of Aptos, Soquel, Live Oak, Bonny Doon, Davenport, and the San Lorenzo Valley in the Santa Cruz Mountains.

On behalf of METRO I would like to express our gratitude for the CARB ICT process that has provided an opportunity for METRO to communicate our concerns about the initial and revised ICT. Further, METRO wishes to acknowledge the modifications made thus far to the ICT in which incorporates some of the California Transit Association's comments.

On May 19, 2017 METRO's Board of Directors adopted a policy to attempt to have the fixed-route fleet 100% zero emissions by 2040. Of course this position is subject to both funding and significant improvements in battery energy density and/or bus range. METRO's bus electrification model is one in which we plan to charge all night and run all day, which is comparable to the current model in which METRO fuels CNG buses at night and runs them all day without additional refueling. METRO does not plan to construct in-route opportunity recharging stations. Buses operating on the METRO system must be able to be placed in service on runs that go up to 300 miles/day. Therefore, buses purchased must have a range of at least 300 miles *end of life* (inclusive of battery degradation). The current zero emissions Buses (ZEBs) available on the market today fall significantly short of this reasonable operating range.

Santa Cruz Metropolitan District's current concerns are as follows:

100% zero emissions bus fleets by 2040 – What does that mean?

Please make it clear that CARB does not intend to force transit agencies to retire non-ZEB vehicles in 2040 and that CARB understands that transit agencies may continue to perform engine overhauls on CNG buses as 2040 approaches and after 2040, which may result in CNG buses continuing to run in service beyond 2040. Depending on funding, transit agencies may not be able to retire CNG buses purchased, for example in 2028.



and instead, due to resource limitations, may spend far less money extending the life of a CNG bus by performing an engine overhaul. CARB stated at a workshop that the intent of the language was to ensure that transit agencies do not purchase anything but ZEBs from 2040 on. However, this statement is incongruent with the draft Regulation, which as currently drafted, ensures that all buses purchased from 2029 forward are to be 100% ZEB. Therefore, what does “zero emissions by 2040” mean?

15-1-24-1

Benchmarking and Regulatory Assessment

METRO requests that the Regulation, not the Resolution, contain a Benchmarking provision. This provision would require the California Air Resources Board to conduct a regulatory assessment – *before* a ZEB purchase requirement goes into effect – that evaluates real-world ZEB cost and performance with benchmarks for ZEB cost and performance established at the time of rule adoption. This regulatory assessment should allow the Board to issue an across-the-board suspension of the ZEB purchase requirement, much like the original Transit Fleet Rule did, if real-world ZEB cost and performance does not achieve parity with the cost and performance of conventionally-fueled transit buses. This provision would have no impact on the ZEB purchase requirement, if benchmarks for ZEB cost and performance are being met, as anticipated by CARB staff and interest groups.

I continue to believe what I have expressed to CARB staff numerous times, that without benchmarking, CARB is handing the ZEB OEMs a captive audience. That is, public transit agencies will be required to purchase the ZEB OEM products, irrespective of the product’s ability to perform to the differing range requirements of the public transit agencies.

Without a mandatory CARB Board review, the Regulation may result in reductions in public transportation. Santa Cruz METRO enjoys a farebox recovery of about 23%. What that means is that state and federal grants and our local sales tax resources provide the other 77% in operating revenues required to deliver the service. Every transit subsidy dollar is a precious resource and must be carefully considered for use as service on the street or as a capital expenditure to purchase new buses.

A significant portion of METRO’s ridership are the poorest of the poor - the transit dependent. These are customers who rely on METRO to get to and from work and to their doctor’s appointments. Insufficient battery energy density technology advancements may result in a waste of public dollars as an unchecked CARB Regulation may force transit agencies to purchase hundreds, maybe thousands of inferior ZEBs that they must retain for at least twelve years (FTA requirement).

Therefore, the higher cost of the ZEBs, inferior performing ZEBs and potentially higher electricity propulsion costs, may result in transit agencies having insufficient resources to continue to provide the level of service they do today, resulting in potential service reductions.

15-1-24-2

A mandatory CARB Board review of the Benchmarking data in three to five years may save transit agencies from wasting public resources on inferior products and higher operational costs and stave off potential resulting service reductions.

*Santa Cruz Metropolitan
Transit District*



HVIP

CARB must change their interpretation of the availability of HVIP to transit agencies. Currently, CARB staff insist that HVIP will only be available to transit agencies that purchase ZEBs ahead of the Purchase Schedule/mandate and HVIP is not to be utilized for regulatory compliance. Transit agencies are not “for profit” agencies and since CARB is implementing this Regulation, CARB must become a partner by seeking to assist wherever possible in offsetting the \$300K higher cost of a ZEB versus a conventional CNG bus. METRO respectfully requests that CARB change their interpretation of the HVIP program to allow HVIP dollars to be available to any transit agency that purchases ZEBs and at any time.

In closing, thank you again for your willingness to receive feedback from transit agencies on the revised draft Regulation. METRO respectfully request that you consider incorporating the revisions suggested in this letter in CARB’s final Regulation.

Respectfully submitted,

Alex Clifford
CEO

Santa Cruz Metropolitan Transit District

cc: Richard Corey, Executive Officer, California Air Resources Board
Steve Cliff, Deputy Executive Officer, California Air Resources Board
Jack Kitowski, Chief, Mobile Source Control Division, California Air Resources Board
Tony Brasil, Heavy Duty Diesel Implementation Branch, California Air Resources Board
Shirin Barfjani, Mobile Source Control Division, California Air Resources Board



Metropolitan Transit System

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San Diego, CA 92101-7490
(619) 231-1466

September 21, 2018

California Air Resources Board, Members
1001 I Street
Sacramento, CA 95814

RE: Response to the Initial Statement of Reasons for the Proposed Innovative Clean Transit Regulation

Dear Chair Nichols and Members of the California Air Resources Board:

The San Diego Metropolitan Transit System (MTS) submits these comments in regards to the California Air Resources Board (CARB) proposed Innovative Clean Transit Regulation (ICT Rule). MTS supports the State's efforts to develop and implement a comprehensive strategy to continue to meet air quality standards, reduce emissions, and meet Climate Action goals. We appreciate the CARB staff's efforts to work with all stakeholders and create a rule that would accomplish those goals without degrading transit service in the State. However, as we believe the proposed ICT Rule would have a profound impact on MTS's operations and ability to provide transit to the growing San Diego urban area, we respectfully submit these comments and ask that the Board consider postponing action on the ICT Rule.

MTS's Commitment to Clean Transit

MTS operates transit services over 3240 total square miles in San Diego County, and provides an environmentally-friendly transportation option to ten cities, the unincorporated County, and the international border. Along with its extensive light rail network, MTS operates 602 heavy duty buses, 96 percent of which have been replaced with Compressed Natural Gas (CNG) buses in keeping with our commitment to cleaner fuel technology. Our agency has long been a partner with CARB in meeting and exceeding its goals, having been one of the first systems to select the alternative clean fuels path and CNG in the early 2000's. MTS has aggressively invested over \$70 million in transforming our bus fleet to CNG. MTS now purchases 100% renewable natural gas (RNG), deploys low-NOx near-zero engines, and is even transitioning our entire smaller mini-bus and paratransit bus fleets (over 200 additional buses) to the clean alternative fuel of propane. More recently, MTS's Board of Directors signaled its commitment to zero emission technology and launched a Zero Emission Bus (ZEB) pilot to test the technology and to help overcome some of its shortcomings prior to system wide deployment. Combining these efforts with our electric light rail system, MTS is a proud leader in providing a transit system for San Diego that is already at near-zero emissions.



Comments Regarding the ICT Rule

MTS appreciates the opportunity to work with CARB staff, the California Transit Association (CTA), and other stakeholders on this proposed rule. However, MTS has significant concerns with the proposed ICT Rule and the potentially devastating effect its implementation in its current form could have on public transit for San Diego.

The most significant concern with the proposed ICT Rule is the cost impact. The increase in capital and operating costs due to the proposed rule would have potentially devastating consequences for our system, as well as for transit across the state. We fear that this additional cost burden will significantly reduce and limit our ability to provide needed transportation to the disadvantaged and low-income, transit dependent communities that we serve. MTS has a rich history of being one of the most efficient, cost effective transit systems in the country, maximizing the amount of transit service we can provide within limited, existing resources. Significantly increasing MTS's costs will result in service reductions. MTS will be forced to trade service for proposed ICT Rule compliance and implementation costs. Reducing service will subsequently have negative effects in achieving emissions reduction goals, as less available transit will lead to increases in personal vehicle miles traveled.

371-1

We believe that the proposed rule is based on overly aggressive projections and assumptions. We believe that almost every component used in the proposed ICT's Attachment I, Cost Updates, is understated and/or overly optimistic and not consistent with the "real world" data that has consistently been provided to CARB staff by CTA, its member transit systems, and MTS. This includes everything from bus prices, daily operating ranges of ZEBs, resulting bus replacement ratios, infrastructure costs and impacts, and the cost of electricity as a fuel. In addition to the significant underestimation of the costs of the proposed rule, the supporting cost analysis also includes extremely aggressive, speculative assumptions with regard to Low Carbon Fuel Standard (LCFS) revenue in the latter years of the analysis.

Attachment I, Cost Updates, section E. Statewide Costs states that adoption of the proposed rule will result in \$1.5 billion in savings by 2050 for transit systems. However, a more detailed view of CARB staff's estimate shows that the projected costs to transit, from 2020 to 2040 (the full implementation date of the proposed rule), is actually over \$2 billion (with just under \$1 billion offset by projected, estimated LCFS revenue). Using "real world" actual data from transit systems, CTA and MTS have completed a comprehensive analysis of the costs and estimate that the proposed rule will actually cost transit systems between \$2 to 4 billion in additional costs between 2020 and 2040. Specifically for MTS, we project our incremental, additional costs between 2020 and 2040 to be in the range of \$300 - \$450 million, in today's dollars.

Here are just a few of the major cost components that MTS is experiencing with our pilot that support our concern for the cost of this proposed rule. These costs are based on costs we have incurred and existing contracts:

- Bus purchase prices. MTS purchases forty foot CNG / RNG buses for \$525,000. The forty foot, battery electric pilot buses have a price of \$890,000, a difference of \$365,000,

69% additional cost per bus. This comes from the competitively procured Commonwealth of Virginia contract.

- Infrastructure. MTS's costs to install six depot chargers at our bus facility is almost \$600,000, almost \$100,000 per bus, which does not include any large scale upgrades to transformers, the grid service, or other utility based pieces that a full deployment will require.
- Electricity vs RNG costs. MTS is a large consumer of both RNG for the bus fleet and electricity as a result of our light rail system. Not including LCFS for either RNG or electricity, MTS's cost for RNG is about \$0.16 per mile. MTS pays about \$0.225 for a kilowatt of electricity, pushing the projected cost per mile for electricity using CARB staff's calculations to about \$0.5175 per mile. The annualized increase in fuel costs for a 100% deployment of ZEB's would be \$8.6 million additional operating / fuel costs.

This fundamental concern about cost is exacerbated by the inclusion of \$1.6 billion in LCFS credits/revenue from 2041 to 2050 (note that the current LCFS statutory authority expires in 2030). We believe that including this LCFS revenue twenty-five to thirty years into the future is both risky, and inappropriate.

371-2

As MTS considers the magnitude of the costs to full ZEB deployment within this proposed rule, the cost benefits to achieving zero emissions for MTS are even more diminished based upon the already near-zero emissions footprint of MTS. Given this, for MTS the actual cost per pound of Green House Gas (GHG) that would be reduced with the implementation of this proposed ICT Rule is disproportionate and exorbitant.

MTS's additional concerns with the proposed rule include the following, which are being detailed within the CTA's communication:

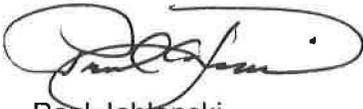
- The inclusion of smaller, cutaway buses by 2026. This will increase costs for these already expensive transit services and further erode our ability to provide existing levels of transit service to San Diego.
- The omission of benchmark provisions from the proposed rule. Benchmarking would allow for analysis and a reset if the aggressive, speculative assumptions on cost factors do not materialize over the next few years.
- The ability to design, implement and pay for the massive infrastructure to support 100% ZEB deployment is not adequately considered. In fact, today there is no urban transit facility with infrastructure to meet the needs of a 100% ZEB fleet.
- Transit agencies are concerned that once a rulemaking occurs we will no longer be eligible for the funding incentives that we currently use to offset the higher cost of ZEB purchases.

- The ICT Rule does not address the extremely high cost of electricity, especially in Southern California, as well as potential shortages of availability in heavily urbanized areas. In addition to calling for a new ratemaking to provide lower rates to transit agencies operating ZEBs, we believe that the ICT Rule should include a strategy for addressing such things as availability and time of use pricing to minimize financial and operational impacts of moving toward 100 percent electrification.

Conclusion

MTS supports the comments submitted by the CTA and other transit systems. Consistent with these comments, we request that the Board delay a decision on the proposed ICT Rule, and instead direct CARB staff to continue to work with the transit industry in developing a more effective and realistic strategy that will further the emissions reduction goals, while also protecting the ability of transit systems to continue to meet the demands of our communities by providing effective, efficient public transit. MTS is committed to continuing to work with the ARB staff and the CTA to create a strategy and ICT Rule that will achieve the CARB and State goals, but will also support and further the deployment of public transit in our communities, and avoid the unintentional consequences of devastating transit service to our most vulnerable riders and citizens.

Respectfully Submitted,



Paul Jablonski
Chief Executive Officer

cc: Richard Corey, Executive Officer, California Air Resources Board
Steve Cliff, Deputy Executive Officer, California Air Resources Board
Jack Kitowski, Chief, Mobile Source Control Division, California Air Resources Board
Tony Brasil, Heavy Duty Diesel Implementation Branch, California Air Resources Board
Shirin Barfjani, Mobile Source Control Division, California Air Resources Board



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tel: 213-244-8192

Email: kmaggay@semprautilities.com

September 24, 2018

Submitted electronically: ict2018

Re: Innovative Clean Transit Regulation

To Whom It May Concern:

SoCalGas appreciates the opportunity to provide comments on the proposed Innovative Clean Transit (ICT) Regulation. SoCalGas has been participating in ICT activities as natural gas transit buses are critical to achieving criteria pollutant and greenhouse gas emission reductions in a timely and cost-effective manner. We look forward to continuing to collaborate with the Air Resource Board (ARB) on the development and implementation of the regulation.

SoCalGas would like to submit previous letters (attached) provided throughout the workshop process into the official rulemaking docket as well as the following overall comments on the ICT.

The technology is not yet proven

Zero emission buses are not yet proven to work in transit applications. While there are several current demonstrations and the technology may appear promising, it is not proven to be commercially or economically feasible. In several cases, most notably with LA Metro, battery electric buses have had a “record of poor performance and mechanical problems” (LA Times article 5/20/18). Similar issues have been reported with a number of other zero emission bus operations including Albuquerque, New Mexico (Albuquerque Business Journal, 5/17/18). Transit agencies that are using zero emission transit operators like Foothill Transit and the Orange County Transportation Authority have also raised concerns about CARB’s proposed ICT rule (Foothill letter to ARB dated 7/5/18; OCTA letters dated 5/14/18 and 1/22/18).

Transit agencies and ridership could suffer unintended consequences

Transit agencies, which are not for profit organizations and rely heavily on subsidies to provide services, will be asked to take on the financial burdens of zero emission technologies. If they are unable to get zero emission buses and their associated infrastructure fully subsidized, they will have no choice but to pass the burden on to their ridership in the form of increased fares or reduced service. If the technology struggles continue, not only transit agencies will be impacted, but those that rely on the essential services transit agencies provide will be impacted as well. This is significant because most riders who rely on public transit are low-income individuals.

421-1

Rollout plan submittals should be delayed until technologies are proven

The regulation start date and schedule is far too aggressive for technologies that are not yet proven. The proposed regulation requires a transit agency to develop a rollout plan in 2020. Transit agencies would have approximately one year from the adoption of the regulation to decide how they will meet

the requirements of the regulation before technologies are proven to be economically and operationally feasible. This would force transit agencies to choose the technology they will be using for multiple decades based on limited prototype information. While battery electric buses are further developed than hydrogen, hydrogen has several advantages over battery electric buses. Hydrogen buses do not have range limitations of battery electric buses. The range of a battery electric bus is limited by the size of the battery, while hydrogen tanks take up minimal space. Also, battery electric buses require significant time to charge the batteries. Hydrogen, on the other hand, can be fueled in a matter of minutes. Transitioning to a mobile, conventionally fueled technology such as hydrogen would present less operational concerns. Hydrogen could ultimately be a better zero emission technology for transit and other mobile applications. Transit agencies should be able to wait for the technologies to further develop before committing significant resources to a specific technology.

Efforts to reduce emissions should be on high polluters

The ICT Initial Statement of Reasons (ISOR) states that 39 percent of the state's greenhouse gas (GHG) emissions come from the transportation sector. However, the ISOR neglects to mention that in 2015, transit emissions account for less than one half of one percent (0.462%) of the state's GHG emissions. Per the ICT cost analysis, battery electric buses cost \$770,000 per bus, which is \$330,000 more than a conventional bus. Turning over the statewide fleet of 14,000 buses would cost over \$10 billion, with the total incremental cost exceeding \$4 billion. This cost is solely for the buses and does not include infrastructure, which will significantly increase the overall cost. LA Metro quoted that the costs for their battery charging systems represented 20% of the total zero emission program cost. This is a high price tag for what will amount to minimal emission reductions. Emission reduction efforts and investments should focus on high polluting sectors. This is particularly important as the Los Angeles Times recently reported (July 23, 2018) that transportation greenhouse gas emissions have increased since 2013. This is an alarming trend as the state has invested approximately \$1.7 billion in Low Carbon Transportation Incentives, specifically to reduce transportation emissions. To effectively reduce transportation emissions, efforts and incentives should focus on high polluters.

Cost effective solutions should be prioritized

As stated above the cost to replace the statewide bus fleet would be over \$10 billion, plus infrastructure. Transit agencies have thoroughly studied the use of zero and near-zero emission natural gas buses running on renewable gas and have found using the latter provides significant emissions benefits at a much lower cost. LA Metro conducted a cost and emissions analysis on zero and near-zero emission buses and found that "...the use of Renewable Natural Gas (RNG) and transition to low NOx buses, will be more effective at reducing in-basin PM, total CO₂, total GHGs, and total NOx from the LAMTA fleet over the next 40 years than transition to either electric or fuel cell buses...This approach will also be less expensive than transition to either electric or fuel cell buses."¹ With billions of dollars going into reducing transportation emissions, while emissions are increasing, now is the time to be prudent with programs and incentives to reduce emissions cost effectively.

The state cannot fund compliance

There are currently unprecedented amounts of incentive funding in the state. Greenhouse Gas Reduction Funds (GGRF) are expected to be able to fund a portion of the near-term turnover to zero

¹ "Zero Emissions Bus Options: Analysis of 2015-2055 Fleet Costs and Emissions," Ramboll Environ (Feb. 5, 2016) (prepared for LA Metro), *available at*: https://media.metro.net/board/Items/2016/09_september/20160914atvcitem4.pdf.

emission buses. Many of the transit agencies that have committed to zero emission buses have already used funding for early action. However, if ICT is approved and purchasing zero emission buses becomes a compliance obligation, transit agencies will no longer be eligible for incentives. Early actors that have already committed to zero emissions, such as large transit agencies, will be able to access the funds. Transit agencies that are not ready to move to zero emissions will not be able to use state incentives and their ability to access federal funds may also be at risk.

Waiting for technologies to develop leaves emission reductions on the table

To impact climate change, it is important to achieve as much emission reductions as quickly as possible. Waiting for developing technologies means emissions reductions are not being achieved during the waiting period. Low NOx engines with RNG, which are available, can achieve emission reductions today.

Comparing the emission reductions, the LA Metro study found that the deployment of buses using Low NOx engines with RNG over a 40-year period would reduce GHG emissions by 72 percent compared to its existing fleet. Meanwhile, deployment of electric buses would reduce GHG emissions by 52 to 53 percent over the same timeframe. This is because RNG significantly reduces GHG emissions, there are GHG emissions associated with the electric grid, and largely because there is a delay in the ability to begin deploying zero emission buses in mass. Reducing emissions early ultimately leads to more emission reductions.

Reasonable alternatives were not considered

ARB is required to examine alternatives to a proposed regulation. Government Code Section 11346.5(D)(13) reads as follows:

“A statement that the adopting agency must determine that no reasonable alternative considered by the agency or that has otherwise been identified and brought to the attention of the agency would be more effective in carrying out the purpose for which the action is proposed, would be as effective and less burdensome to affected private persons than the proposed action, or would be more cost effective to affected private persons and equally effective in implementing the statutory policy or other provision of law.” (emphasis added)

CARB staff’s conclusion that a performance-based regulation alternative is “not feasible” is incorrect, because it is inconsistent with the fact that the current “Fleet Rule for Transit Agencies” has an existing performance-based standard for fleet NOX emissions and has proven successful. Such a standard could easily be extended to other parameters, such as GHG emissions, petroleum reduction, and diesel PM emissions. Unfortunately, this obvious performance-based approach was not considered or evaluated by CARB staff. Thus, it appears that CARB staff has failed to meet its burden under Government Code §11346.5(a)(13) of showing that “no reasonable alternative was considered ... more effective ..., less burdensome ... more cost effective....”

In addition, and as stated above, LA Metro conducted a study to compare the zero and near-zero emission alternatives. The study, commissioned by a transit agency, found that near-zero technologies with RNG would be more effective at reducing emissions and less expensive, or in other words, less burdensome. However, the ISOR states ““...no alternative proposed was found to be less burdensome and equally effective in achieving the purposes of the regulation in a manner that ensures full compliance with the authorizing law.” Therefore, as LA Metro has concluded that there is an alternative that would more effective and less burdensome, ARB did not fully examine reasonable alternatives and

therefore did not fulfill this requirement. SoCalGas recommends that ARB first conduct a thorough analysis of feasible alternatives, including a true performance-based standard, before proceeding with this regulation. We urge ARB to assess a true performance standard or alternative compliance method in lieu of the proposed regulation. A true performance based standard can potentially achieve comparable emission reductions at a fraction of the cost and should be assessed per Government Code Section 11346.5(D)(13).

421-2

Thank you again for the opportunity to comment on the ICT. SoCalGas supports reducing emissions from the transit sector; however, there are significant flaws in how the proposed regulation intends to achieve that goal. An unfunded mandate for unproven technologies would have drastic impacts on transit agencies and users throughout the state and we urge ARB to reconsider the proposal.

If you have any questions, please feel free to contact me.

Sincerely,



Kevin Maggay



Kevin Maggay
Energy and Environmental Affairs
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Email: kmaggay@semprautilities.com

July 23, 2018

Jack Kitowski
Division Chief, Mobile Source Control Division
California Air Resources Board
1001 "I" Street, Sacramento, CA 95814

RE: SoCalGas Comments to the Draft Proposed Innovative Clean Transit Regulation and its Regulation Summary

Mr. Kitowski:

Thank you for the opportunity to comment on the Draft Proposed Innovative Clean Transit Regulation and its Regulation Summary released June 11, 2018.

As a member of the California Natural Gas Vehicle Coalition (CNGVC), we support the comments made by CNGVC and would like to add the following additional insights to their comments.

Regulation start date and schedule

The regulation start date and schedule is far too aggressive for technologies that are not yet proven. While there have been purchases and deliveries of zero emission transit buses, there have yet to be any documented successes for large scale fleet conversions that would warrant such an aggressive schedule. Given your proposed timetable that requires a zero-emission bus (ZEB) rollout plan in 2020 for large transit agencies and 2023 for small transit agencies, large transit agencies would essentially have one year to decide on what type of ZEB pathway to take based on data that shows sub-par performance, uncertain capital costs (buses and infrastructure), and unstable electrical costs. It would not be prudent to force a technology on transit agencies without better results in the field and while competing ZEB technologies are being developed. In addition, the infrastructure issues attendant to Battery-Electric buses (e.g. charging equipment) have also proven to be less-than-ready. The ICT regulation should take this uncertainty into account and allow transit agencies more timeline flexibility.

Sunset on old diesel buses still in service

Under the proposed regulation, existing diesel users would only be required to upgrade their existing buses to 2010 diesel engines until they purchase ZEBs per their rollout schedule. This is not equitable and grossly counterproductive to the goals of the program. The most significant and fastest emission reductions available can be achieved by converting buses to "near zero" technologies as soon as possible. At a minimum, any buses being turned over should be treated similarly. Under the proposed regulation, natural gas users are required to upgrade to an engine certified to near-zero emissions. Additionally, all new fuel contracts must be for renewable fuel only. For a limited time, this should be applied to all buses being turned over by transit agencies, until they are able to move to ZEBs. This same standard should be applied to transit agencies that have diesel engine vehicles. They should upgrade to

buses with engine that are certified to the same CARB optional low NOX standard. The emissions savings would be significant and there would be no loss of reliability in terms of performance.

Create an off-ramp or deferral process for agencies that will have difficulty transitioning to zero-emission vehicles.

Not all transit agencies have the same operational needs. Transit agencies operate varying routes and duty cycles and there is not a one size fits all approach. Zero emission buses may work well for some transit agencies, but not for others depending on the routes, operations, and economic considerations. Even within transit agencies where electric buses have been deployed, performance varies based on the types of routes being driven as well as many other factors. Further, if range and other performance issues affect the ability to keep buses on the road reliably, a transit agency will either have to curtail service OR purchase more buses resulting in significant financial implications (increased costs). Off-ramps should be provided for transit agencies that will have difficulty using all ZEBs. Flexibility of integrating technologies should be afforded to transit agencies based on their specific needs.

Technology feasibility studies are needed

In order to help mitigate the issues mentioned above, CARB should collect more data from those agencies that ARE piloting ZEB technology. Technology feasibility studies should be conducted that realistically assess and document the performance capabilities of ZEBs. Then, based on the ongoing findings and undoubtedly improving performance, transit agencies could calibrate their purchase and integration of ZEB technology in a manner that is best for them. Feasibility studies that prove that the technology is viable should be required prior to enacting any requirements of the regulation.

In addition to the comments above, SoCalGas would also like to reiterate comments made in previous comments letters.

Emission reductions should be the focus of the regulation

The average carbon intensity of renewable natural gas (RNG) is 60-80 percent lower than diesel and can have a carbon intensity (CI) up to 400 percent lower than diesel - carbon negative values far below any other fuel/technology. This is possible because RNG mitigates emissions that would have escaped to atmosphere if not captured. ARB awarded AMP Americas, a renewable energy company, a CI score of -254.94 grams of carbon dioxide per megajoule (g CO₂e/MJ), which is the lowest ever issued by ARB. In comparison, the California electric grid has an energy efficiency ratio corrected CI value of approximately 20 g CO₂e/MJ.

Last year, Cummins Westport Inc. certified a 12-liter engine to the Optional Low Nitrogen Oxide (NOx) standard. A study commissioned by ARB and completed by Southwest Research Institute (SWRI) was recently released that showed that in some transit duty cycles, the natural gas 12 liter near zero engine showed 0.000 grams of NOx per brake horsepower/hour (g/bhp-hr).¹ The SWRI report concluded that 2010-compliant natural gas engines could be developed, using existing technology, that reduced NOx tailpipe emissions to undetectable levels. These technologies are available today and can cost-effectively achieve more emission reductions while also maintaining an expected level of service for the transit agencies purchasing the technology. Continued deployment of existing, proven, clean bus

¹ "Evaluating Technologies and Methods to Lower Nitrogen Oxide Emissions from Heavy-Duty Vehicles", Southwest Research Institute, April 2017

engines would achieve immediate emission reductions that would benefit the public and help to achieve the state's climate goals.

Additionally, LA Metro's recent study found that "...the use of RNG and transition to low NOx buses, will be more effective at reducing in-basin PM, total CO2, total GHGs, and total NOx from the LAMTA fleet over the next 40 years than transition to either electric or fuel cell buses...This approach will also be less expensive than transition to either electric or fuel cell buses." Existing natural gas technologies combined with the use of renewable natural gas achieve more emission reductions at a faster rate and at a lower cost than ZEBs. A long-term technology mandate for ZEBs leaves significant emission reductions on the table, while the technology is still being developed. ARB should focus on emission reductions rather than a technology mandate of ZEBs. This can be done by providing alternative compliance based on emission reductions.

Flexibility for transit agencies

As the technology is still being developed, transit agencies need flexibility in achieving emission reductions, particularly in the early years. The proposed regulation should be performance based to provide maximum flexibility to transit agencies. If CARB proceeds with a technology mandate, it should not be so aggressive until the technology is developed, particularly when Low NOx engines operating on RNG is available.

ICT can help to meet Short Lived Climate Pollutant (SLCP) goals

SLCPs, such as methane and black carbon, have a much higher global warming potential than other greenhouse gases. Reductions of these emissions are critical for curbing climate change. ARB's SLCP Strategy states, "While reducing CO2 emissions limits climate change over the long term, reducing emissions of SLCPs will effectively slow the rate of climate change in the near-term. Therefore, the best path forward is to emphasize parallel strategies for reducing SLCP and CO2 emissions."

In its SLCP Strategy, ARB has a goal to reduce methane emissions by 40 percent. The SLCP Strategy proposes the capture of biogas to be used as a transportation fuel, injected into natural gas pipelines, and used to generate on-site renewable electricity and heat. Increasing the use of renewable gas as a transportation fuel would not only reduce methane emissions from organic waste streams, but also reduce black carbon by displacing diesel in older, conventionally fueled heavy-duty vehicles. Renewable natural gas in transit buses, which in many cases already have natural gas infrastructure in place, is an effective way to quickly achieve methane reduction to meet the state's goal.

Thank you again for the opportunity to comment on the proposal. We look forward to working with you and your staff on the upcoming formal regulatory proceeding.

Respectfully submitted,



Kevin Maggay
Energy and Environmental Affairs Program Manager



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January 12, 2018

Ms. Shirin Barfjani, Lead Staff
California Air Resources Board
P.O. Box 2815
1001 "I" Street
Sacramento, CA 95814
Transmitted to: shirin.barfjani@arb.ca.gov

Re: Innovative Clean Transit Regulation Discussion Document

Dear Ms. Barfjani:

SoCalGas appreciates the opportunity to provide comments on the Innovative Clean Transit (ICT) Regulation Discussion Document ("Discussion Document"). SoCalGas has been participating in ICT activities as natural gas transit buses are critical to achieving criteria pollutant and greenhouse gas emission reductions in a timely and cost-effective manner. We look forward to continuing to collaborate with the Air Resource Board (ARB) on the implementation of the measure. To that end, SoCalGas respectfully submits the following comments on ICT.

ARB should pursue performance standards rather than a technology mandate.

As stated in previous comment letters, SoCalGas strongly recommends a flexible approach based on performance standards to allow transit fleets to deploy advanced, clean technologies that address state environmental needs while providing transit agencies operational flexibility and choice. ARB previously stated that "ARB would develop and propose a variety of approaches and mechanisms to support the transition to a suite of innovative clean transit options."¹ The measure then goes on to explain that the proposal may require a "binding" commitment from transit providers for transitioning to zero-emission buses and *other technologies*" (emphasis added).² However, the proposed regulation, as currently drafted, is a strict technology mandate with no flexibility. Setting a "one size fits all" mandate for a technology that is not fully tested or suitable for all transit duty cycles, will force transit agencies to either purchase buses that don't serve their needs or wait for the technology to be developed. This would result in the state forgoing emission reductions that can be achieved today, with existing, advanced technologies.

¹ "Revised Proposed State SIP Strategy," ARB, pp. 69-70 (March 7, 2017).

² *Id.*

The Discussion Document states “California has made significant progress and is on track to meet the Assembly Bill 32 goals of reducing greenhouse gas (GHG) emissions to the 1990 level by 2020. However, we need to continue making progress beyond 2020 to meet the following goals:

- Federal health-based ambient air quality standards (key milestones in 2023 and 2031).
- 40 percent reduction in GHG emissions from 1990 levels by 2030.
- 80 percent reduction in GHG emissions from 1990 levels by 2050.
- 50 percent petroleum reduction target by 2030.
- Continued reductions in criteria pollutants and toxic air contaminants to protect public health.”

Each of these goals can easily be translated into fleet-wide average performance standards for transit agencies, similar to what has already been done under the CARB “Fleet Rule for Transit Agencies” that sets fleet-wide average NOx and diesel PM emission standards.³ Further, transit agencies operating “near zero” natural gas buses and using renewable natural gas (RNG) are already meeting a 90% reduction in NOx, a 100% reduction in petroleum use, a 100% reduction in diesel PM, and up to a 400% reduction in GHG depending on the RNG source. Thus, transit agencies operating on natural gas can, under a properly designed performance based regulation, meet and exceed the goals established in the Discussion Document and in a shorter timeframe than a technology mandate.

The Performance Based Option conclusion is flawed

The Discussion document addresses a performance based regulation option but claims a “fleet-wide performance standard” is problematic and dismisses that approach for several reasons, none of which are defensible:

1. **Inability to access funding programs.** ARB staff states “funding programs would not allow funding to be used to purchase ZEB or low NOx engines until the transit agency could show compliance with the next compliance requirement.” ARB has had a performance based “Fleet Rule for Transit Agencies” regulation in effect for many years that set fleet-wide average NOx and diesel PM emission performance standards and has enabled transit fleets to access funding where they showed the emission reductions went above and beyond the prevailing standard. ARB staff does not explain why this would not be the case under a technology mandate mechanism. Transit agencies will still be able to access funding programs under a performance based regulation, so this objection is misplaced.
2. **Inability to establish an “equitable” performance based mechanism.** ARB staff states “For example, a uniform NOx reduction goal may be easy to meet for a CNG bus fleet because low NOx engines are already available but may be impractical for a diesel bus fleet that could be forced to retire buses and aggressively ramp up ZEB purchases to achieve the same reductions.” It is not clear why ARB staff believes it is inequitable to force diesel bus fleets to aggressively ramp up ZEB purchases but

³ The ARB “Fleet Rule for Transit Agencies” is codified at 13 CCR § 2023.1

believe it is equitable to force all bus fleets to aggressively ramp up ZEB purchases. A properly designed performance based mechanism would provide diesel bus fleets various options to meet the performance based requirements which may or may not include ZEB purchases. Transit fleet operators should be given fuel and technology choices that allow them to cost-effectively meet performance based emission standards while retaining operational flexibility.

3. **Inability to separate a performance based regulation from other parallel ARB regulations.** ARB staff states “there are challenges with properly separating new actions from those that are already occurring due to ARB regulations for engine emissions standards, vehicle efficiency requirements, and policies to reduce transportation fuel carbon intensity”. ARB has had a performance based “Fleet Rule for Transit Agencies” regulation in effect for many years that set fleet-wide average NOX and diesel PM emission performance standards and has performed well independent of other ARB actions such as the development of the optional low NOX engine standards, the Low Carbon Fuel Standard program, and other regulations. To suggest that updating the “Fleet Rule for Transit Agencies” for NOX and diesel PM emission standards and including new GHG and petroleum reduction standards would be problematic is not explained by CARB staff and is incorrect.
4. **Inability to utilize the National Transit Database (NTD) due to fluctuations in fuel use, mileage, and passenger counts.** ARB staff lists this as a potential barrier but does not explain why the fluctuation in NTD information would prevent the use of a performance based regulation.

ARB staff identifies several other potential compliance methods, including a “zero-emission-miles-based fleet-wide approach”. This method is extremely impractical and would not result in gaining the most emission reductions in the most efficient manner. Transit agencies operate varying routes and duty cycles and there is not a one size fits all approach. Zero emission buses may work well for some transit agencies, but not for others depending on the routes, operations, and economic considerations. A transit agency that chooses to not fully utilize zero emission buses (ZEBs) because of these considerations would be forced to modify its operations to use ZEBs for a set number of miles despite these considerations. A zero-emission-miles-based approach is of particular concern because ZEBs are better suited for very short routes, which would not log as many miles as longer routes. Also, there is no mileage requirement for transit agencies who meet the purchase requirements.

The purpose of the performance based option is to “provide for the greatest opportunity to let market forces drive the form of the emission benefits.” This method clearly does not meet this goal as a strict technology mandate will not accomplish that goal. The performance based option should solely be based on emission reductions.

Emission reductions should be the focus of the regulation

Any fuel and technology capable of meeting the emission performance goals established by ARB should be an option for transit operators to retain and maximize operational flexibility, control and reduce costs, and ensure no service curtailments or interruptions. As an example, the average carbon intensity of RNG is 60-80 percent lower than diesel. Based on the source, RNG

can have a carbon intensity (CI) up to 400 percent lower than diesel, and can be carbon negative, as RNG mitigates emissions that would have otherwise occurred. ARB recently awarded the company, AMP Americas, a renewable energy company, a CI score of -254.94 grams of carbon dioxide per megajoule (g CO₂e/MJ) for RNG, which is the lowest CI score ever issued by ARB for any fuel or technology. In comparison, the California electric grid has an energy efficiency ratio corrected CI value of approximately 20 g CO₂e/MJ. Clearly, RNG can meet and exceed the greenhouse gas emission reductions resulting from the use of electricity and should be an option for transit fleet operators in any new regulation.

The Cummins Westport Inc. has had a 9-liter engine certified to the Optional Low Nitrogen Oxide (NO_x) standard at the lowest level of 0.02 grams/bhp-hr. Last week Cummins Westport Inc. also certified a 12-liter engine to the Optional Low NO_x standard. While it meets the standard, the engine was actually certified to 0.01 grams NO_x, which is 95% lower than existing diesel (certifications attached). A study commissioned by ARB and completed by Southwest Research Institute (SWRI) was recently released that showed that in some transit duty cycles, the natural gas 12 liter near zero engine showed 0.000 grams of NO_x per brake horsepower/hour (g/bhp-hr).⁴ The SWRI report concluded that 2010-compliant natural gas engines could be modified, using existing technology, that reduced NO_x tailpipe emissions to zero.

Additionally, LA Metro's recent study found that "...the use of RNG and transition to low NO_x buses, will be more effective at reducing in-basin PM, total CO₂, total GHGs, and total NO_x from the LAMTA fleet over the next 40 years than transition to either electric or fuel cell buses... This approach will also be less expensive than transition to either electric or fuel cell buses."⁵ In other words, existing natural gas technologies combined with the use of renewable natural gas achieve more emission reductions at a lower cost than ZEBs. A long-term technology mandate for ZEBs leaves significant emission reductions on the table, while the technology is still being developed. ARB should focus on emission reductions rather than picking aspiration goals to be achieved by a specific technology. ARB's plan should allow for alternative compliance, which would likely result in greater emission reductions at a faster rate.

Costs

The Discussion Document states that "on a one-for-one basis in California, the operational savings can make the total cost of ownership comparable to conventional buses even without incentives." In several workshops, multiple transit agencies have stated that this is not true. A study conducted by LA Metro, using actual data rather than the conservative assumptions used in ARB's Transit Fleet Cost Model, shows that electric buses have higher cost

⁴ "Evaluating Technologies and Methods to Lower Nitrogen Oxide Emissions from Heavy-Duty Vehicles", Southwest Research Institute, April 2017

⁵ "Zero Emissions Bus Options: Analysis of 2015-2055 Fleet Costs and Emissions," Ramboll Environ (Feb. 5, 2016) (prepared for LA Metro), *available at*: https://media.metro.net/board/Items/2016/09_september/20160914atvcitem4.pdf.

of total ownership than its current natural gas fleet⁸. LA Metro did not include a cost comparison to diesel buses because they do not have diesel buses in their fleet, however it is safe to assume that they cost difference between diesel and electric buses would be even greater.

In addition to the total operating costs, significant investment must be made to purchase, install and maintain charging infrastructure to power ZEBs. This cost would be passed to customers – transit users and/or electric customers – in the form of reduced service and/or increased costs. Not only would this increase consumer costs, this could also result in stranded assets and investments into existing fueling infrastructure.

ICT should support the State’s Short-Lived Climate Pollutant (SLCP) goals

SLCPs, such as methane and black carbon, have a much higher global warming potential than other greenhouse gases. Reductions of these emissions are critical for curbing climate change. ARB’s SLCP Strategy states, “While reducing CO₂ emissions limits climate change over the long term, reducing emissions of SLCPs will effectively slow the rate of climate change in the near-term. Therefore, the best path forward is to emphasize parallel strategies for reducing SLCP and CO₂ emissions.”

In its SLCP Strategy, ARB has a goal to reduce methane emissions by 40 percent. The SLCP Strategy proposes the capture of biogas to be used as a transportation fuel, injected into natural gas pipelines, and used to generate on-site renewable electricity and heat.⁹ Increasing the use of renewable gas as a transportation fuel would not only reduce methane emissions from organic waste streams, but also reduce black carbon by displacing diesel in older, conventionally fueled heavy-duty vehicles. Renewable natural gas in transit buses, which in many cases already have natural gas infrastructure in place, is an effective way to quickly achieve methane reduction to meet the state’s goal.

Low NOx Engines are in use and readily available today

The Discussion Document proposes that agencies include Low NOx engines be included in purchases if they are available. As stated above, Cummins Westport Inc. has two product offerings that meet the 0.02-gram NOx standard in both 9- and 12-liter sizes. The requirement should be modified as the availability of these engines are not in question.

Early Action Credits

The proposal includes “credit” provisions for agencies that purchase ZEBs prior to the requirement years. The credit should be based on emission reductions not on purchases. The credits should also be extended to transit agencies that purchase any type buses technology, such

⁸ “Zero Emissions Bus Options: Analysis of 2015-2055 Fleet Costs and Emissions,” Ramboll Environ (Feb. 5, 2016) (prepared for LA Metro), *available at*: https://media.metro.net/board/Items/2016/09_september/20160914atvcitem4.pdf.

⁹ California Air Resources Board, Proposed Short-Lived Climate Pollutant Strategy, p. 66 (November 2016), *available at*: <https://www.arb.ca.gov/cc/shortlived/meetings/11282016/revisedproposedslcp.pdf>.

as near zero, natural gas buses powered by renewable natural gas, as long as early emission reductions are achieved.

Thank you for the opportunity to comment and SoCalGas looks forward to working with you on advancing this regulation.

Respectfully submitted,

A handwritten signature in black ink, appearing to be 'KM' or similar initials, written in a cursive style.

Kevin Maggay
Energy and Environmental Affairs Program Manager



September 21, 2018

Mary Nichols, Chair
California Air Resources Board
1001 I Street, Suite
Sacramento, CA 95814

RE: Requested Changes to the “Proposed Innovative Clean Transit Regulation”

Chair Nichols and Members of the California Air Resources Board:

On behalf of the Transportation Agency for Monterey County, I submit the following comments in response to the Initial Statement of Reasons for the Proposed Innovative Clean Transit Regulation. The Transportation Agency for Monterey County is the Regional Transportation Planning Agency that oversees the distribution of State Transit Assistance and Transportation Development Act and Federal Section 5311 funding totaling nearly \$20 million per year to the Monterey-Salinas Transit District (MST).

It is in the interest of the passengers who take over 4.5 million bus rides from San Jose to Templeton, Monterey to Big Sur, Salinas to King City, and all destinations in between, that this regulation maximize the clean air benefits of transit without resulting in cuts to service. It does not improve air quality or reduce vehicle miles traveled if regulations are so costly that our transit agencies are required to reduce bus service to implement them.

377-1

Specifically, we are concerned that the requirement to purchase zero-emission buses is not tied to benchmarks for cost, performance, electrical infrastructure costs and funding available. For instance, electric vehicles cannot handle the mileage requirements for the vast majority of MST’s routes, in a county that is 1.5 times the size of the State of Delaware. In addition, the excessive cost of adding charging infrastructure for a fleet of 80 vehicles -when it cost us over \$1 million to install power systems to serve our current 4 electric buses - will take funding away from other vital projects. We would hate to have our transit operator lose funding for the King City maintenance facility that will eliminate the deadheading 120 miles round trip to the central maintenance and operations facility in Monterey.

Furthermore, we are concerned that the regulation leaves natural gas buses out of the zero emission vehicle options, particularly because Monterey County is now installing a waste to energy facility that will make such vehicles carbon-negative – a net positive impact on air quality because they take methane gas out of the atmosphere.

377-2

As such, we support the California Transit Association in requesting several changes to the regulation, with emphasis on conducting a benchmarking and regulatory assessment, maintaining financial incentives for ZEB purchases, and providing technological flexibility in meeting emissions goals, as detailed below:

- **Conduct a Benchmarking and Regulatory Assessment:** Require the California Air Resources Board to conduct a regulatory assessment – *before* a ZEB purchase requirement goes into effect. This assessment should evaluate real-world ZEB cost and performance with benchmarks for ZEB cost and performance in various regions. This regulatory assessment should allow the Board to issue an across-the-board suspension of the ZEB purchase requirement, much like the original Transit Fleet Rule did, if real-world ZEB cost and performance is not yet at parity with the cost and performance of conventionally-fueled transit buses.
- **Maintain Financial Incentives:** Ongoing incentive funding is needed to assist transit agencies in transitioning to the new ZEB requirements. An unfunded mandate will only take money away from other transit projects that are aimed at the ARB’s objective of reducing emissions by reducing vehicle miles traveled in single-occupant vehicles. The last thing this ZEB regulation should do is lead to a reduction in bus services that puts our low-income riders back into older and high-polluting cars.
- **Provide Technological Flexibility:** It is impossible to know what technological advancements will arise within the next five years, much less the next 10 years. ARB should set a performance-based goal rather than a technology-based goal, one that allows natural gas vehicles (particularly those that are *carbon negative*) or other vehicles that meet the emissions goals, rather than hang its hat on the technology of today.

By amending the proposed regulation to include these and the other California Transit Association’s recommendations, will you protect California’s transit agencies and the riders who rely on our service from the risks associated with this transition. We greatly appreciate your continued commitment to working with the California Transit Association to get this proposed regulation right.

If you have any questions or comments, please feel free to contact me at 831-775-4410.

Sincerely,



Debra L. Hale
Executive Director

cc: Richard Corey, Executive Officer, California Air Resources Board
Steve Cliff, Deputy Executive Officer, California Air Resources Board
Jack Kitowski, Chief, Mobile Source Control Division, California Air Resources Board
Tony Brasil, Heavy Duty Diesel Implementation Branch, California Air Resources Board
Shirin Barfjani, Mobile Source Control Division, California Air Resources Board



TRINITY COUNTY TRANSPORTATION COMMISSION

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September 24, 2018

California Air Resources Board, Members
1001 I Street, Suite
Sacramento, CA 95814

RE: Response to the Initial Statement of Reasons for the Proposed Innovative Clean Transit Regulation

Chair Nichols and Members of the California Air Resources Board:

On behalf of Trinity County Transportation Commission, I submit the following comments in response to the Initial Statement of Reasons for the Proposed Innovative Clean Transit (ICT) Regulation. Trinity County provides service intercity and local bus service within Trinity County and to our neighboring counties of Shasta and Humboldt with a transit fleet comprised of eight cutaway buses. This is a very remote area with steep terrain and one-way trips are up to 60. Each of our routes have a mountain pass to go over and we often have several delays due to road construction delays, wildland fires, and slides. Trinity County supports the electrification program, however, we do not have the means to switch our cutaway fleet to electric.

As currently drafted, the proposed regulation improves on the Draft Regulatory Concept for the Proposed Innovative Clean Transit Regulation, released December 2017. Improvements to the proposed regulation reflect ongoing discussions between California Air Resources Board staff and the leadership of the California Transit Association. While the progress made on the proposed regulation is substantial, we remain concerned that the imposition of the zero-emission bus (ZEB) purchase requirement is not tied to benchmarks for ZEB cost and performance, infrastructure buildout costs, and funding availability. Moreover, we see significant risks in assuming, as ARB staff has, that data gathered from limited, short-term ZEB deployments will accurately reflect the realities of ZEB deployments at-scale. We assert that, despite the claims of some interest groups, ZEB cost and performance, infrastructure buildout, and the cost of electricity as fuel, are still issues.

As you move to finalize the proposed regulation, Trinity County Transportation Commission believes you should be guided by one question: *“What will happen to transit service, if the assertions made by ARB staff and interest groups are wrong, and the cost and difficulty of the transition to fully electrified bus fleets more closely align with the warnings of California’s public transit agencies?”* To help navigate this question, we urge the Air Resources Board to review current range and cost-specific data obtained and provided by both large and smaller operator’s experience as well as unbiased consultants when estimating the actual impact of Innovative Clean Transit on public transit service delivery and review the following considerations:

- **Benchmarking and Regulatory Assessment:** This provision would require the California Air Resources Board to conduct a regulatory assessment – *before* a ZEB purchase requirement goes into effect – that evaluates real-world ZEB cost and performance with benchmarks for ZEB cost and performance established at the time of rule adoption. This regulatory assessment should allow the Board to issue an across-the-board suspension of the ZEB purchase requirement, much like the

original Transit Fleet Rule did, if real-world ZEB cost and performance is not yet at parity with the cost and performance of conventionally-fueled transit buses. This provision would have no impact on the ZEB purchase requirement, if benchmarks for ZEB cost and performance are being met, as anticipated by ARB staff and interest groups.

- **Incentives:** The staff report supporting the proposed regulation emphasizes the importance of incentive funding to minimizing adverse impacts to transit service (see Initial Statement of Reasons, pages ES-8, III-8, VIII-26). Given the stated importance of this funding and our shared goal of protecting vital transit service, this provision would require ARB to revise its current policy disallowing the use of incentive funding to meet regulatory compliance to explicitly allow transit agencies to use incentive funding whenever they are prepared to purchase a ZEB. In addition, the HVIP is an equitable and efficient process for offsetting the cost of a zero emission bus. However, CARB must express its support for creating an infrastructure funding program. This program should also be available to small operators to finance the rollout plans. Without a secure source for infrastructure investments in fueling/charging facilities, maintenance facilities, and storage capacity, the ability to meet the goals of this rule is doubtful. We urge the Air Resources Board to review and compare purchase orders and actual costs associated with the purchase of CNG/Clean Diesel vehicles and Battery-electric vehicles. Battery-electric buses are more than double the cost of CNG/Clean Diesel Buses *after* HVIP vouchers. The HVIP program and PG&E transit budgeting are non-dedicated, temporary funding sources available to implement a costly and sometimes unreliable form of technology. Dedicated and reliable funding and incentive programs will allow for continuity of services when implementing the technology.
- **Delayed Compliance:** Trinity County Transportation Commission strongly supports the delayed compliance for small operators with adopting the rollout plans and purchase mandates. As a small operator, additional time will be needed to secure funding for developing and adopting the rollout plans. Implementation of Innovative Clean Transit may require our agency to purchase and build new storage facilities to meet infrastructure requirements of electric charging stations. The additional time needed to develop the rollout plans support the need for the later purchase mandate timeline. The later purchase mandate should also benefit our agency to take advantage of lower vehicle prices as demand increases and supply chains mature. Trinity County Transportation Commission operation service area is within the County of Trinity, which is a vast county of 3,200 square miles with routes up to 60 mile and service provided in less ideal ZEB-driving conditions, such as inclement weather and steep grades. Delayed compliance allows our agency to begin purchasing Electric Buses as the technology advances and begins to meet range requirements for our standard routes. Earlier compliance may force our agency to otherwise cut services, some of which provide lifeline services to individuals with limited mobility options. Added to long distances is the likelihood of natural disasters causing long distance detours to get passengers to intermodal bus stations located in Redding in Shasta County and Arcata in Humboldt County where national transportation providers such as Greyhound and Amtrak are available. For example, during the 2018 Carr Fire, State Highway 299 was closed between Weaverville and Redding for several weeks. Our transportation service had to travel on State Route 3 and 36 in order to provide service between our rural area and Redding. This took an additional 2 hours and increased the mileage from 50 miles to 120 miles each way. Over the past few years we have had several natural disasters within the area that have increased our idle time and length of trips. Trinity County is either hot or cold so we are constantly running heaters or air conditioners.
- **Cutaway Definition** Trinity County Transportation Commission also supports the proposed definition of a cutaway bus. These vehicles are the workhorse of small transit systems due to their lower capital and operating costs. These vehicles are produced in a wide variety of sizes, and the proposed definition specifying vehicles weight of 14,000 pounds to 26,000 pounds is appropriate. In addition, the rule recognizes that a commercially available zero emission cutaway bus is currently not available.
- **Small Operator Definition:** As an agency that operates 4 vehicles during peak operations but has 8 vehicles total, we urge the Board to reconsider the definition of a “small operator” and use the definition employed by federal and state programs for compliance purposes. The proposed regulations define a small operator as any operator with less than 100 buses. Trinity County Transportation

Commission urges the Board to rely on the current federal definition that specifies a small operator as having less than 100 buses during peak operations. The number "100" is nominal and does accurately portray the size of an operator as a whole. Many vehicles in a fleet may not be regularly used: some may only be used during emergencies or during fleet maintenance, may be retired, or may be vehicles that have met their useful life. We urge CARB not to rely solely on NTD data for the total number of buses because these numbers can represent total buses on the lot including buses being sold or disposed that have met their useful life and back up vehicles used for emergencies.

- **Funding Considerations:** We urge the Air Resources Board to consider the vast difference between agencies considered small to both the Federal Transit Administration and California Department of Transportation but not the Air Resources Board. These agencies are traditionally rural or non-profit/ADA providers with inequitable funding in comparison to "other" large operators pooled into the same definition by the Air Resources Board. These agencies have much smaller staffing capacities and current transit employment trends, such as driver and maintenance staff shortages are exacerbated in smaller communities. These agencies often have much larger routes and service areas. Rural transit systems and ADA/non-profit providers face unique challenges that are not considered in the regulation as it exists today due to vague definitional standards. Trinity County annually receives approximately \$280,000 in Local Transportation Funds (LTF) that covers TDA administration, transit operations, and a purchased transportation program for our local residents who live in areas that are not serviced by public transportation. With SB 1, we now receive approximately \$110,000 in State Transit Assistance Funds (STA), which is used for operations and to replace rolling stock or improve bus stops. With Trinity County having a population of only 13,628 we are not a self-help county so we are very dependent on LTF, STA, and federal funding. Electric buses and charging stations would have to be purchased and installed through a grant program, which historically has been difficult for our low population county to be successful in.

416-2

We respectfully ask that you consider the comments we have provided in addition to those provided by the California Transit Association and the California Association for Coordinated Transportation (CALACT.) Our agency is committed to alleviating providing mobility options to our community and reducing the dependence on single use vehicles. We support efforts to reduce pollution in our community but ask that you consider our comments as to protect California's transit agencies, and the riders who rely on our service, from the risks associated with this transition. We greatly appreciate your continued commitment to working with the California Transit Association to get this proposed regulation right.

If you have any questions or comments, please feel free to contact me at (530) 623-1365 Extension 3427.

Sincerely,



Polly Chapman
Senior Transportation Planner

cc: Richard Corey, Executive Officer, California Air Resources Board
Steve Cliff, Deputy Executive Officer, California Air Resources Board
Jack Kitowski, Chief, Mobile Source Control Division, California Air Resources Board
Tony Brasil, Heavy Duty Diesel Implementation Branch, California Air Resources Board
Shirin Barfjani, Mobile Source Control Division, California Air Resources Board



Ventura County Transportation Commission

September 24, 2018

Mary D. Nichols, Chair
California Air Resources Board
1001 I Street
Sacramento, CA 95814

RE: Innovative Clean Transit Regulation

Dear Chair Nichols:

On behalf of the Ventura County Transportation Commission (VCTC), I am writing to request your agency exercise caution in applying the proposed Innovative Clean Transit Regulation to over-the-road motor coaches. VCTC operates a transit system consisting of 32 over-the-road coaches providing key transit connections between the cities of Ventura County and to locations in neighboring Santa Barbara and Los Angeles Counties. The attractiveness of this system to continue attracting ridership is dependent upon the continued ability to obtain over-the-road coaches that can reliably operate in the Ventura County environment including negotiation of significant grades at freeway speeds. In addition, due to the large number of bicycles used to access the service, it is routinely necessary to utilize both front-mounted bicycle racks as well as the lower cargo area found on motor coaches. **In the event that use of electric bus technology precludes the availability of the cargo compartments, the result would be a reduction in the number of riders who can use bicycles to access VCTC's system, thus creating a negative air quality impact.**

403-1

Although the current version of the Innovative Clean Transit Regulation provides that the regulation not become effective until there is an electric over-the-road motor coach approved by the FTA Altoona Test Center, a more substantive analysis is needed to ensure the motor coaches can meet the various agencies' operational needs including those mentioned above. Therefore, VCTC requests that the over-the-road coaches not be included in the regulation until a more thorough technology assessment can be completed.

Sincerely,

A handwritten signature in blue ink, appearing to read "D. M. Kettle", is written over a horizontal line.

Darren M. Kettle
Executive Director