

Joint Comments: TCI Program Design and Modeling Results

October 8, 2020

To:

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Governors and Other State Officials: Connecticut, Delaware, New Hampshire, New Jersey, New York, Maine, Maryland, Massachusetts, Pennsylvania, Rhode Island, Vermont, Virginia

Mayor and Other City Officials: District of Columbia

Thank you for your continued leadership in the Transportation and Climate Initiative (TCI) toward the development of a robust and equitable regional clean transportation policy.

In support of these efforts, the 28 undersigned members of Our Transportation Future respectfully submit the following comments in response to the “TCI Webinar on program design, modeling, and the implications of COVID-19” on September 16, 2020.¹

We strongly support TCI jurisdictions’ continued work to develop a regional clean transportation policy. As we have commented previously, we believe such a policy is one important component

¹ TCI Webinar on program design, modeling, and the implications of COVID-19 (Sep. 16, 2020), <https://www.transportationandclimate.org/sites/default/files/Fall%202020%20modeling%20webinar%2C%20final%20as%20shown%20on%2020200916.pdf>.

of achieving a 21st-Century regional transportation system that is cleaner; offers more varied, accessible, and affordable transportation options; and serves the needs of everyone.²

Briefly summarized, our major recommendations and conclusions in the comments below are:

- **We recommend the TCI jurisdictions replace the current reference case—which includes multiple outdated and overly conservative assumptions—with the “low EV costs” sensitivity model as the central reference case** to better reflect recent trends.
- **We urge TCI jurisdictions to adopt a regional emissions cap that requires at least a 30 percent reduction in carbon pollution between 2022 and 2032**, relative to the 2022 emissions level projected in the revised TCI Reference Case. All of the modeling released to-date demonstrates that more ambitious cap levels result in greater economic, environmental, and public health benefits. In the midst of current public health, economic, and climate crises, participating TCI jurisdictions cannot afford to ignore the beneficial outcomes from a more ambitious emissions cap.
- A strong minimum reserve price or price floor is critical to ensuring at least a minimum level of program performance and allowance proceeds in the early years of the program. **We recommend setting a price floor consistent with allowance prices modeled in the 20 percent cap scenario, beginning at a minimum of \$6 per ton in 2022.**
- We strongly support inclusion of a well-designed Emissions Containment Reserve (ECR) to capture additional low-cost pollution reduction opportunities. **We recommend setting the ECR trigger price consistent with allowance prices modeled in the 22 percent cap scenario, beginning at a minimum of \$11 per ton in 2022, and to set the ECR size at 10 percent of the combined allowance budgets of the participating jurisdictions.**
- If TCI jurisdictions include a Cost Containment Reserve (CCR), it is important to learn from the examples of similar mechanisms in other markets, such as the CCR in the Regional Greenhouse Gas Initiative (RGGI). Lessons from RGGI include the importance of setting the CCR trigger price at a sufficiently high level that reflects truly unanticipated prices and limiting the CCR size to avoid flooding the market with excess allowances. **We recommend setting the CCR price at a minimum of \$36 per ton in 2022 and limiting the size of the CCR to no more than 10 percent of the combined allowance budgets of the participating jurisdictions.** To ensure the integrity of the TCI carbon cap, any CCR allowances released should result in an equivalent or greater reduction in future year cap levels.

² Our Transportation Future comments (July 29, 2019), https://www.transportationandclimate.org/sites/default/files/webform/tci_2019_input_form/Our%20Transportation%20Future%20%20Letter%20to%20TCI%20Governors_7.29.2019.pdf.

- **We strongly support conducting regular, rigorous program reviews and recommend that the first program review take place within three years of program start, by 2025 if the TCI policy takes effect in 2022.**
- **We urge the TCI jurisdictions to act with urgency in implementing new complementary policies and measures, as well as auditing existing complementary policies and measures, that will accelerate progress towards a more equitable and sustainable future.**

I. Reference and Sensitivity Case Assumptions

Thank you for providing detailed inputs and outputs for the modeling results presented on the September 16 webinar, as previously requested by our groups and others. This information is helpful for stakeholders to understand and evaluate the TCI modeling, and we ask that states continue to make such information publicly available for future TCI modeling analyses.

Based on our review of these data, and as discussed further below, we believe the states' reference case is overly conservative, leading to projected costs of achieving future emissions reductions that are too high. We recommend the states instead adopt one of the low emissions sensitivity cases modeled, or a combination of multiple low emissions sensitivity cases, as the central reference case to provide a more useful point of comparison for policy cases.

A. Reference Case

The states' current reference case is too conservative, leading to projected policy case costs that are too high.

As many of our groups have previously commented, the reference case's assumptions about future battery costs are out of date and likely overestimate the future cost of electric vehicle batteries.³ As with solar and wind power technologies, lithium ion battery costs have fallen much faster than most analysts projected, including a 35 percent drop between 2018 and 2019 alone.⁴ Conservative battery cost assumptions in the reference case likely cause the model to overestimate the cost of transitioning the region's vehicle fleets to EVs.

It is unclear if the reference case includes the recent commitment by CT, ME, MD, MA, NJ, NY, PA, RI, VT, and DC, along with several other states, to ensure 30 percent of new trucks and

³ Joint Comments: Draft TCI MOU and Cap-and-Invest Modeling Results (Feb. 24, 2020), 8, https://www.transportationandclimate.org/sites/default/files/webform/tci_2019_input_form/Joint%20Comments%20on%20Draft%20TCI%20MOU%20and%20Modeling%202-24-20.pdf; Joint Comments on 8/8 TCI Reference Case Results Webinar and Next Steps (Aug. 27, 2019), 4-5, www.transportationandclimate.org/sites/default/files/webform/tci_2019_input_form/Joint%20Comments%20on%208_8%20TCI%20Webinar.pdf.

⁴ Jeff St. John, "Report: Levelized Cost of Energy for Lithium-Ion Batteries Is Plummeting," Greentech Media (Mar. 26, 2019), www.greentechmedia.com/articles/read/report-levelized-cost-of-energy-for-lithium-ion-batteries-bnef.

buses sold are zero-emission by 2030 and that 100 percent are zero-emission by 2050.⁵ Including this agreement in the reference case is important: given the modeling's assumed increases in vehicle miles travelled (VMT) in the medium- and heavy-duty vehicle spaces, states' commitment to increased zero-emissions bus and truck sales will reduce business-as-usual diesel use and the resulting CO₂ and other health-harming pollution.

We also reiterate from previous comments that beyond battery cost declines, rapid innovation and diversification of offerings are taking place in the EV space that do not appear to be fully captured in the reference case.⁶ The range, selection, and performance of EVs—in the light-, medium-, and heavy-duty spaces—have been improving quickly and have resulted in changing consumer preferences, willingness, and interest in electric options. As a result, this may mean that the customer choice parameters embedded in the model could underestimate customers' actual willingness to transition to clean EV options in the near- and mid-term, overstating the difficulty and cost of achieving deeper emissions reductions.

Given these limitations of the current reference case model, we recommend the states adopt, at a minimum, the “low EV costs” sensitivity model as the central reference case, against which TCI policy scenarios are compared. While TCI states have not provided detailed information on the inputs used in the low EV costs sensitivity, that case appears to more accurately reflect the future anticipated cost trajectory of EVs and the region's likely future emissions trajectory.

B. Sensitivity Cases

We appreciate states' inclusion of several sensitivity cases in the most recent modeling, which are helpful to illustrate different potential future trajectories given the inherent uncertainty of projecting the future—uncertainty exacerbated by the ongoing COVID-19 pandemic and economic recession. Inclusion of these sensitivities is an important part of a robust analysis of the regional TCI program.

As the COVID-19 sensitivity cases show, the pandemic has introduced additional uncertainty into projections of future emissions, with both lower and higher emissions outcomes plausible, in the absence of a TCI program. While specific circumstances are different, it is worth noting that the region's power sector cap-and-invest program—the Regional Greenhouse Gas Initiative (RGGI)—was also finalized and launched during a period of economic downturn and uncertainty: the 2007-2009 recession. In the case of RGGI, experience shows that states' initial emissions projections were much too high, leading to an initial RGGI emissions cap that was likewise too high. Though exacerbated by the effects of recession, the RGGI experience mirrors other cap-and-invest programs whose designers have overestimated challenges and costs of reducing pollution and underestimated rates of innovation and emissions reduction opportunities.

⁵ Multi-state Medium- and Heavy-duty Zero Emission Vehicle Memorandum of Understanding (July 14, 2020), <https://www.nescaum.org/documents/multistate-truck-zev-governors-mou-20200714.pdf>.

⁶ Joint Comments: Draft TCI MOU and Cap-and-Invest Modeling Results (Feb. 24, 2020), 8-9, https://www.transportationandclimate.org/sites/default/files/webform/tci_2019_input_form/Joint%20Comments%20on%20Draft%20TCI%20MOU%20and%20Modeling%202-24-20.pdf.

In designing a TCI program that best accounts for uncertainty, we encourage the TCI states to ensure the program includes robust emissions and price safeguards, including an allowance price floor that ensures the program enables significant investment in clean transportation solutions, even if emissions are lower than anticipated in early years, and an Emissions Containment Reserve (ECR) that dynamically adjusts the TCI cap downward and captures additional benefits for residents when the cost of doing so is lower than anticipated. High-side price risk can appropriately be addressed through a well-designed Cost Containment Reserve (CCR), though we caution states to ensure a CCR does not undermine the TCI program's emissions and investment goals. We provide further details on these recommendations below.

II. Regional Cap Level

Given the transportation sector's outsized contribution to climate pollution in the region, it is critical that the regional cap on CO₂ emissions from transportation fuels be bold enough to tackle the problem. The TCI modeling shows that the benefits of the proposed policy would far outweigh the costs across all three cap scenarios analyzed. The modeling also shows that projected economic and employment benefits significantly exceed the projected costs of implementation, and that the most ambitious cap considered—a 25 percent reduction in pollution between 2022 and 2032—would produce the greatest benefits of the scenarios considered. By 2032, annual net benefits to the region from the 25 percent cap are projected to include:

- Up to 1,100 fewer premature deaths and 4,700 fewer cases of childhood asthma, resulting in public health benefits of up to \$11.1 billion a year;⁷
- As well as nearly \$3 billion a year in new net economic growth;
- Almost \$2 billion year per year in increased personal disposable income; and
- 8,900 new jobs.⁸

Based on the strength of these modeling results, advocates previously called on the TCI jurisdictions to consider and analyze impacts under a more ambitious emissions cap.⁹ Given the need for urgent action on climate and the likelihood that a more ambitious emissions cap would yield greater net benefits, we are disappointed that the TCI jurisdictions have not yet considered anything stronger than the 25% by 2032 cap.

⁷ TRECH Project Research Update: Preliminary Results - October 6, 2020. <https://cdn1.sph.harvard.edu/wp-content/uploads/sites/2343/2020/10/TRECHResearchUpdate10.20.pdf>.

⁸ Transportation & Climate Initiative, Webinar: Draft Memorandum of Understanding & 2019 Cap-and-Invest Modeling Results (Dec. 17, 2019), https://www.transportationandclimate.org/sites/default/files/TCI%20Public%20Webinar%20Slides_20191217.pdf.

⁹ Joint Comments: Draft TCI MOU and Cap-and-Invest Modeling Results (Feb. 24, 2020), 8-9, https://www.transportationandclimate.org/sites/default/files/webform/tci_2019_input_form/Joint%20Comments%20on%20Draft%20TCI%20MOU%20and%20Modeling%202-24-20.pdf.

Preliminary findings from the TRECH research project¹⁰ make the need for a more ambitious emissions cap even clearer. The team of researchers from Harvard University, Boston University, Columbia University and the University of North Carolina have found that the TCI program will deliver substantial public health benefits, with every county in the region experiencing cleaner air and improved public health as a result of reduced vehicle pollution and new investment in clean transportation projects. The TRECH findings also show that while public health benefits occur under every TCI emissions cap, those benefits grow much larger under more ambitious emissions caps. These new findings illustrate just how critical the emissions cap is to the health and safety of the region’s residents:

Health Outcomes in 2032 (Investment Scenario B¹¹)

Emissions Cap	Deaths Avoided	Childhood Asthma Cases Avoided	Monetized Health Benefits
20% reduction by 2032	280	980	\$2.7 billion
25% reduction by 2032¹²	950	4,100	\$9.6 billion
Difference in health outcomes	670 lives	3,120 childhood asthma cases	\$6.9 billion

These new findings demonstrate that selecting the appropriate TCI emissions cap is not just a question of climate ambition, consumer cost impacts, or transportation investment need; for hundreds of the region’s residents each year, it is a matter of life and death.

Given unambiguous results showing that each more ambitious cap modeled would produce greater economic benefits and save more lives, we urge the TCI jurisdictions not to cap their ambition at the relatively modest level of a 25% by 2032 emissions reduction. Rather, the TCI

¹⁰ TRECH Project Research Update: Preliminary Results - October 6, 2020. <https://cdn1.sph.harvard.edu/wp-content/uploads/sites/2343/2020/10/TRECHResearchUpdate10.20.pdf>.

¹¹ Scenario B includes a mix of investments in public transit, active mobility and vehicle electrification. TRECH Project Research Update: Preliminary Results - October 6, 2020. <https://cdn1.sph.harvard.edu/wp-content/uploads/sites/2343/2020/10/TRECHResearchUpdate10.20.pdf>.

¹² The TRECH modeling shows that investing a larger share of TCI program proceeds in mass transit and active mobility programs under a 25% cap (i.e., Investment Scenario A) could further grow these benefits to 1,100 premature deaths avoided and 4,700 fewer cases of childhood asthma per year by 2032, resulting in annual public health benefits of \$11.1 billion.

jurisdictions should implement a cap that reduces CO₂ emissions at least 30% by 2032, as such a cap would come closer to approaching the climate targets of the participating jurisdictions and would almost certainly deliver greater economic and public health benefits. We also support TCI states considering cap reductions of greater than 30% by 2032 and evaluating the potential benefits of doing so, to maximize equitable health, environmental and economic outcomes.

III. Program Design Elements

We strongly support the inclusion of design elements that will help manage uncertainty and maintain environmental integrity within the TCI program, particularly a well-designed auction reserve price, Emissions Containment Reserve (ECR), and Cost Containment Reserve (CCR). These provisions do not replace the need for adoption of an ambitious carbon cap at the outset of the TCI program, or the need for states to commit to a regular process of comprehensive program reviews, but these elements can serve as a crucial bridge between the start of the program and first program review to help ensure program function, stability, and benefits in the face of uncertain conditions.

Auction reserve price

The history of similar programs shows that emission caps are nearly always set too high, resulting in lower allowance prices than projected.¹³ Should allowance prices fall too low, it will undermine the program's ability to provide funds for vital transportation investments in the region.

In RGGI, a price floor played a pivotal role in the program's early years, when a high cap yielded lower-than-expected allowance prices. As a result, RGGI auctions cleared at the price floor for 11 consecutive auctions between 2010 and 2012.¹⁴ Without a price floor, RGGI-funded investments in energy efficiency and clean energy programs would have been substantially reduced, and the incentive to switch to non-polluting power sources could have been all but eliminated.

A price floor mechanism also continues to be relevant today in California, where only 63% of allowances offered for sale under that state's program have sold at auction since the COVID-19 pandemic hit the market in March 2020. As such, the current price floor of \$16.68 per ton CO₂ has determined the price of pollution at auction. In total, the price floor has dictated auction settlement prices in California seven times since program launch.¹⁵

The data from the TCI COVID-19 sensitivity scenarios suggests that a TCI program could experience a similar overallocation if the initial cap is set according to the original reference case, but the region does not fully recover from the pandemic and economic recession by the start of a TCI program in 2022. In this scenario, the initial price floor could prove to be the

¹³ <https://media.rff.org/documents/RFF20WP2018-16.pdf>.

¹⁴ <https://www.rggi.org/auctions/auction-results>.

¹⁵ https://ww2.arb.ca.gov/sites/default/files/2020-08/results_summary.pdf.

primary determinant of the cost of pollution, and consequently the amount of allowance proceeds raised, in TCI auctions.

We recommend that the initial price floor be set at a minimum of \$6 per ton in 2022. The price floor should increase by seven percent in each subsequent year, which would be consistent with the scheduled annual increases in the price triggers for RGGI's Cost Containment Reserve (CCR) and Emissions Containment Reserve (ECR) and would reflect the need to apply a more substantial price on carbon emissions over time.

Emissions Containment Reserve (ECR)

We strongly support the inclusion of an ECR to complement the price floor. This policy mechanism designed by the RGGI states provides an innovative means to secure additional emission reductions when those reductions can be achieved at low cost to consumers.¹⁶

Throughout RGGI's history, and other similar programs, reducing emissions has consistently been cheaper than anticipated. If that trend is repeated under a TCI program, an ECR could prove crucial to the region's efforts to meaningfully reduce emissions and avoid over-reliance on the price floor, particularly given the short-term uncertainty surrounding emissions in the TCI program's first control period.

The ECR should be in place in the program's first year (e.g., 2022) with an initial trigger price of at least \$11 per ton. Consistent with RGGI's ECR design, the TCI ECR should be equivalent to 10 percent of the combined allowance budgets of the participating jurisdictions, allowances that are not sold due to the triggering of the ECR should be retired, and the trigger price should increase by seven percent each year.

Cost Containment Reserve (CCR)

We appreciate the need for the TCI program to be designed to help manage uncertainty and protect consumers. If the TCI jurisdictions decide that a CCR is necessary to achieve that goal, they must avoid the failures of RGGI's CCR.

RGGI's CCR undermines the program's environmental integrity by making additional allowances available for purchase without a corresponding reduction in future years' caps. This issue was exacerbated early in the program by the fact that CCR allowances were made available at unreasonably low prices, which happened in both 2014 and 2015--contributing to allowance oversupply and undermining RGGI's climate goals.¹⁷

If the TCI program includes a CCR, the trigger price must be set sufficiently high so that

¹⁶ RGGI, Inc., "Elements of RGGI," www.rggi.org/program-overview-and-design/elements.

¹⁷ "Allowance Prices and Volumes," www.rggi.org/Auctions/Auction-Results/Prices-Volumes.

additional allowances are only made available under exceptional circumstances. We offer at least \$36 per ton as a reasonable CCR trigger price for 2022, in line with our previous February comment letter.¹⁸ This is lower than the trigger price for additional allowances in California's program, but allows for the full range of allowances prices modeled in recent TCI sensitivity analyses.¹⁹

As in RGGI, the size of the CCR should be no more than 10 percent of the combined allowance budgets of participating jurisdictions. If CCR allowances are purchased, the cap should further be reduced over the following five years by a quantity equal to or greater than the amount of CCR allowances purchased to maintain the TCI program's overall climate goal. The CCR trigger price, like the price floor and ECR trigger price, should increase by seven percent each year.

IV. Program Review

We strongly support the TCI jurisdictions' commitment to continued review and improvement of the proposed program in future years. Such improvements should be developed with input from stakeholders through an open and accessible process of regular program reviews.

We recommend that the TCI jurisdictions agree to conduct their first program review within three years of the program's start. In other words, if the program starts in 2022, then the TCI jurisdictions should conduct a program review by 2025. **Jurisdictions should similarly commit to regular program reviews every following three years (e.g., in 2028 and 2031).**

In conducting regular program reviews, TCI jurisdictions should draw upon--and build upon--the many lessons provided by the regular practice of program reviews in RGGI, which have continually strengthened that program. At a minimum, this should include a commitment to:

- Work in close partnership with Equity Advisory Boards to incorporate input from frontline communities on the program's performance and opportunities for improvement;
- Scope each program review to include consideration of program goals, design elements, and overall effectiveness;
- Demonstrate the achievement of program goals through open and public analysis; and
- Willingly incorporate adjustments to the program as needed, based on analysis conducted during the program review, to meet program goals.

Nearly a decade of RGGI program review experience underscores the importance of TCI jurisdictions committing to a regular and comprehensive program review process that assesses and helps ensure the TCI program's economic, environmental, and equitable performance. We believe that TCI states will benefit from adopting this model, which has provided transparency, supported public participation, and enabled RGGI states to accommodate and periodically

¹⁸ Joint Comments: Draft TCI MOU and Cap-and-Invest Modeling Results (Feb. 24, 2020), 8-9, https://www.transportationandclimate.org/sites/default/files/webform/tci_2019_input_form/Joint%20Comments%20on%20Draft%20TCI%20MOU%20and%20Modeling%202-24-20.pdf.

¹⁹ Slide 53 of September 16th webinar

address some of the uncertainty inherent in technical modeling and a market-based regulatory program.

In designing RGGI, member states recognized that, due to the inherent complexity of developing a new market for CO₂ emissions linked to a market for electricity, they would need to proceed with caution and deliberation. They would also need to be certain that their program was producing the results the states were seeking. These concerns prompted the decision to agree to revisit the program goals, design elements, and overall effectiveness after the completion of the first three-year compliance period (2009-2011). In their 2005 Memorandum of Understanding, RGGI states memorialized their agreement to conduct a review in 2012, and to determine whether program changes were warranted. The RGGI states have continued this practice in subsequent compliance periods.

Key benefits that RGGI's program review encourages, which could also be replicated and improved upon under a TCI program include:

- **Transparency:** In its simplest form, RGGI's program review is a monitoring and adjustment process that provides a vehicle for program administrators and stakeholders to assess how the program is working and consider revisions if warranted. However, a program review mechanism also allows states to be ambitious, while experimenting and learning from their efforts. Others have observed that RGGI program reviews have also served as an important venue for directly affected parties and the public to develop their understanding and test the acceptance of proposed program changes in a less structured and formal setting. During program review discussions, stakeholders can see how the regulators themselves are thinking about a challenge, and with this opportunity, stakeholders can endeavor to be more responsive in their engagement.
- **Public participation and support:** Program reviews support the development of important technical analysis of possible program adjustments that might be considered during the review, and the effects they may produce in and beyond the region. RGGI's program reviews have also involved periodic stakeholder workshops, webinars, and learning sessions. They provide a venue for representatives of the regulated community, nonprofits, frontline and consumer groups, and industry advocates to be acknowledged, and to engage with the RGGI states on topics related to program design, operation, and effectiveness, including review of updated emissions inventory data, trends, market prices, and investment strategies.
- **Achievement of program goals:** Program reviews provide important feedback to program administrators. For example, in each of the previous RGGI program review the participating states have acknowledged the program's ability to deliver emission reductions more quickly and cost effectively than projected and used the program reviews to develop strategies to improve the program's environmental performance. These program improvements have included reductions in the regional emissions cap, adjustments for banked allowances, and the creation of an innovative Emissions Containment Reserve (ECR).

V. Complementary Policies and Measures

The breadth and scale of the proposed TCI program is one of its strongest aspects; we need solutions to transportation pollution that create incentives to decarbonize across the entire sector. Nonetheless, that scope should not be mistaken for the totality of the measures desperately needed across the region to deliver the clean, equitable, and modern transportation system that we need. There are aspects of the transportation system which do not respond well to market signals, and there are important, closely-related policies, such as land use planning, on which TCI will have no direct effect. It is imperative that the states ensure the TCI program Memorandum of Understanding, the detailed program Model Rule and subsequent state implementing regulations and legislation are crafted in a manner that facilitates and encourages states to press forward with other complementary policies and measures that will also be needed to achieve more sustainable and equitable transportation.

Market-based mechanisms do not inherently deliver equitable outcomes, so investment decisions and complementary policies and measures must be married to the TCI program framework to ensure just outcomes. Investment decisions supported by TCI program funds must be made with input from the impacted communities; however, as the TRECH study shows, targeting TCI investment funds alone towards more equitable investments in mass transit and other solutions will not fully and adequately address preexisting historic and present disparities in air quality and pollution. The inclusive processes the TCI jurisdictions are committing to empower should not limit themselves to investment decisions under a TCI program but should also consider a wide range of additional and complementary transportation measures. Such complementary policies and measures could include, but are not limited to:

Land Use Planning:

- Encourage Transit Oriented Development (TOD) to create housing near efficient transportation options so communities are easily connected to work, school and play;
- Smart growth policies which create livable, human-scaled cities;
- Zoning Policies should be reformed to enable mixed-use communities that do not encourage automobile reliance;
- New affordable housing in efficient buildings can prevent residents from being priced out to car dependent exurbs.

Emissions Reductions Mandates:

- Zero Emission Zones are viable in urban cores that are well served by transit. These zones will accelerate the deployment of ZEV delivery and service vehicles and ensure they arrive first in the communities most burdened by existing transportation pollution;
- Enforcing strict anti-idling laws around vulnerable populations such as hospitals, schools, and elderly-care housing and encouraging anti-idling technology to prevent unnecessary emissions and pollution;

- Require older medium- and heavy-duty vehicles to adopt the best available retrofit technology, such as those that reduce drag resistance for long-haul trucks;
- Require ports to electrify drayage equipment, limit the daily number of diesel truck deliveries, and enforce anti-idling laws at ports; and
- Require freight and local delivery trucks to meet stricter emission standards by adopting California's heavy-duty vehicle policy under section 177 of the Clean Air Act;

Reduce Vehicle Miles Traveled:

- Implement Complete Streets and Vision Zero Policies to create safe routes for pedestrians, bicyclists, and micro-mobility;
- Provide broadband internet to enable telework, telehealth, and innovative approaches to school and services. Broadband infrastructure in rural areas should be incentivized and affordable options encouraged within cities. Transportation departments and permitting agencies should reduce barriers to the roll out of broadband infrastructure;
- Village centers and walkable mixed-use transit-oriented development should be fostered around high-frequency transit stations that enhance community and provide local options for retail and services; and
- Transportation planning decisions should encourage the movement of people and goods, not vehicles.

* * *

Thank you for the opportunity to provide comments on the most recent TCI program modeling and proposed program design. We look forward to continuing to work with TCI jurisdictions to ensure that the final regional clean transportation program is designed to deliver ambitious and equitable reductions in transportation pollution while expanding, improving, and modernizing transportation options for people and communities throughout the region.

Sincerely,

Acadia Center
 The Alliance for Business Leadership
 Appalachian Mountain Club
 Ceres
 Clean Air Council
 The Climate Group
 Climate Law & Policy Project
 Climate XChange
 Connecticut League of Conservation Voters
 East Coast Greenway Alliance
 Environment America
 Environmental Entrepreneurs
 Environmental League of Massachusetts
 EV Club of Connecticut
 Green Energy Consumers Alliance

Maryland League of Conservation Voters
 Natural Resources Council of Maine
 Natural Resources Defense Council
 New York League of Conservation Voters
 Plug In America
 Save the Sound
 Southern Environmental Law Center
 Transport Hartford Academy at the Center
 for Latino Justice
 Transportation for Massachusetts
 Tri-State Transportation Campaign
 Union of Concerned Scientists
 U.S. PIRG
 Vermont Natural Resources Council