On the Road to a Low-Carbon Transportation Future:

The TCI Regional Listening Sessions

What We Heard: Summary Report

November 14, 2018

TRANSPORTATION & CLIMATE INITIATIVE
Of the Northeast and Mid-Atlantic States

GEORGETOWN CLIMATE CENTER
A Leading Resource for State and Federal Policy

The Transportation and Climate Initiative Regional Listening Sessions
EXECUTIVE SUMMARY

TCI BACKGROUND:

The Transportation and Climate Initiative (TCI) was formed in 2010 by the leaders of environment, transportation and energy agencies in 11 Northeast and Mid-Atlantic states[1] and Washington, D.C. to explore regional approaches to reduce carbon pollution while supporting economic development and ensuring a clean, modern, reliable and affordable transportation system for the region.

2018 LISTENING SESSIONS:

In November 2017, eight TCI member jurisdictions announced the start of a public conversation about the "opportunities and challenges, the benefits we would all like to see in the transportation system of the future, and the policies that will enable us to realize this future together." Between March and August 2018, six regional meetings (one pilot meeting and five full listening sessions) have taken place, convened by TCI member jurisdictions with support from Georgetown Climate Center in Albany (pilot and full sessions) and New York City, NY; Hartford, CT; Wilmington, DE; and Largo, MD.

Each TCI listening session has brought together community members, business leaders, municipal officials, advocates of all stripes, state and local policy leaders and others for three hours to work together to share their needs, goals and insights as to how TCI might proceed in creating a low-carbon transportation future. The listening sessions have drawn roughly 500 participants combined and have engaged over 100 government officials from 11 states and the District of Columbia.

In addition to the regional events organized through TCI, the states of Massachusetts, Rhode Island and New York gathered input from stakeholders and communities within their own states. Results of the state-hosted sessions are not included in this summary.

[1] Virginia joined the Transportation and Climate Initiative in September 2018.

LISTENING SESSION STRUCTURE:

To ensure that every participant could share their own diverse perspectives and experiences, the sessions were structured as facilitated conversations. The agenda for each three-hour listening session included a series of three short briefings by government agency officials, each followed by about 30-60 minutes of independent brainstorming and facilitated group discussions among stakeholders at tables with 6-10 people each. Participants recorded their responses on worksheets collected at the end of each section of the agenda, and discussion was further documented on flip charts by each table's facilitators.

TOPLINE FINDINGS:

What follows is a brief summary of the most common themes, topics of discussion and direct responses to the three questions that were posed to meeting participants. Because the following points were raised by many different people, or groups of people, and from a variety of perspectives, they are not necessarily consistent with one another.

Question 1: "What would make it easier for you to transition to low-carbon transportation choices?"

- **Improve public transit to make it more convenient, affordable, safe, and reliable.**
- **Make zero-emissions vehicles more readily available, affordable, and easy to use.**
- **Expand the range of transportation options available – and make sure people know what their options are.**
- **Make biking and walking safer and more accessible everywhere.**
- **Incorporate clean transportation into land use and community design.**

Question 2: "A regional low-carbon transportation policy should…"

- **Be equitable and benefit disadvantaged communities –** Policies should be equitable across demographic categories and not disproportionately impact low and moderate-income people or burden any one community.
- **Ensure and expand mobility for all people –** Benefits of transportation policies should improve mobility for everyone regardless of income.
- **Provide incentives for pursuing low-carbon options –** Policies should create sustainable multi-year incentives for people, governments, and companies to use low-carbon transportation options.
- **Facilitate smart growth and better land use/community design practices –** Transportation policies should encourage compact, sustainable development patterns that reduce sprawl and preserve greenspace.

- **Enable efficient movement of goods and provision of services –** Policies should help to maintain and improve transportation infrastructure to enable the efficient movement of freight and people, supporting a vibrant regional economy.
- **Find sustainable, dedicated funding sources for clean transportation options that don't rely on the gas tax and are not regressive –** Many participants expressed the goal of capping and reducing emissions from the transportation sector and letting the market set a related carbon price.
- **Coordinate regionally –** Regionally consistent policies and collaborative planning among jurisdictions to maximize limited resources and generate a resilient bipartisan policy framework.
- **Support market transformation; enable new entrants –** Regional policies should encourage investment in technology research and development but not pick winners and losers.
- **Be effective and accountable to achieve emissions goals –** Policies should reduce greenhouse gas and other emissions in line with state goals.
- **Be technology- and fuel-neutral –** Policies should be performance-based and neutral on fuel sources and technologies, with an openness to ideas, policies, and market forces.
- **Set measurable goals –** Some participants advocated that policies should set ambitious enforceable goals, emphasizing measurable outcomes and clear deadlines. Other participants emphasized the need to set realistic goals with appropriate "safety valves" if expectations are not met.
- **Be linked to broader socioeconomic objectives to realize maximum co-benefits –** Transportation policies should consider the cost of externalities including health impacts, associated risks (e.g., safety), damage to the environment, and account for potential economic, equity and employment-related outcomes.
- **Address emissions and impacts of freight and transit as well as other vehicles –** Policies should enable improvements with respect to all modes of transportation, not just passenger automobiles.
- **Ensure cost-effective options for business and consumers –** Policies should be affordable for all parties and fairly distribute costs and benefits.
- **Encourage commerce and drive economic growth –** Policies should promote economic development, commerce, and business competitiveness and protect manufacturing jobs.
- **Prepare for and respond to emerging trends –** Policies should be responsive to changing technologies and trends, including electric, autonomous and shared vehicles.
- **Prioritize investments in transit, walking, biking –** Policies should prioritize and encourage alternatives to personal vehicles.
- **Engage utilities in program design –** Spread electric vehicle charging costs, and serve low-income and rural communities.

- **Be transparent –** Demonstrate efficient use of public funds through transparent public data and ensure the public is informed about the rationale for any related programs.
- **Consider climate impacts on planning and infrastructure investments –** Anticipate the effects of sea level rise, more intense precipitation and other climate impacts.

Question 3: Participants suggest policies and actions for the states to explore.
In the third portion of the listening session, participants were asked to reflect on the goals identified in the previous conversation, then suggest policies or actions that states should explore to meet those goals. While this exercise produced a wide range of ideas for policies and actions, there were several ideas that emerged consistently across all of the listening sessions. The following policies are ranked according to the frequency with which they were offered, starting with the options that were submitted most often.

1. **Price emissions from the transportation sector and reinvest the proceeds.**
   In all listening sessions, the most frequently offered suggestion was the idea of pricing carbon and using the proceeds to invest in clean transportation options and modernizing our transportation infrastructure and transit systems.
2. **Accelerate electrification of the transportation system.**
   Participants in every listening session suggested exploring a wide variety of policies to encourage and accelerate electrification of the transportation system.
3. **Incorporate smart growth, zoning and affordable housing policies.**
   A package of smart growth policies was also widely offered, with many participants recommending some variation of land-use planning and many recommending funding for transit-oriented development and more affordable housing in close proximity to services, transit and jobs.
4. **Encourage people to increase their use of modes other than personal vehicles**.
5. **Support expansion of alternative transportation fuels.**
   Some participants suggested a need for biodiesel, hydrogen and other fuels in addition to electric vehicles.
6. **Address special issues related to ports and freight.**
   Participants in most sessions specifically named ports, and the ships, trucks, trains, and other heavy-duty vehicles that move cargo as a target of action, due to air quality problems associated with harmful emissions from diesel fuel.
7. **Other policies and incentives.**
   Please see the full report for additional low-carbon transportation policy ideas.

On the Road to a Low-Carbon Transportation Future
The TCI Regional Listening Sessions:
What We Heard: Summary Report

The Northeast and Mid-Atlantic states face the challenge of ensuring a clean, modern, reliable and affordable transportation system to meet citizens' daily needs, to support economic prosperity and to reduce greenhouse gas emissions dramatically in accordance with their states' goals and requirements.

With this in mind, in 2010, the leaders of environment, transportation and energy agencies in 11 Northeast and Mid-Atlantic states and Washington, D.C., formed the Transportation and Climate Initiative (TCI).[2] Since then, they have worked collaboratively, exploring regional approaches to improve the transportation system and to reduce carbon and other pollutants at the same time.

In November 2015, several TCI jurisdictions committed to developing potential market-based policies to help achieve these goals.[3] TCI member states sought out innovative ideas from around the region and country; commissioned analyses identifying potential opportunities, options, and benefits of acting; and learned about potential strategies in low-carbon transportation summits bringing together diverse constituencies.

In November 2017, recognizing the opportunities for communities and businesses in the Northeast and Mid-Atlantic to benefit from transportation system renewal and modernization, eight Northeast and Mid-Atlantic states[4] announced the start of a public conversation about the "opportunities and challenges, the benefits we would all like to see in the transportation system of the future, and the policies that will enable us to realize this future together." They chose to cast a broad net to obtain input on strategies they might explore to reduce carbon emissions from the transportation sector, modernize the transportation system, and increase investments to support zero-emission vehicle goals.

Since then, **six regional meetings** (one pilot meeting and five full listening sessions) took place, convened by TCI member jurisdictions with support from Georgetown Climate Center to broaden the states' view.

---

[2] Virginia joined the Transportation and Climate Initiative in September 2018.

[3] "Five Northeast States and DC Announce They Will Work Together to Develop Potential Market-Based Policies to Cut Greenhouse Gas Emissions from Transportation." November 2015. http://www.georgetownclimate.org/articles/five-northeast-states-and-dc-announce-they-will-work-together-to-develop-potential-market-based-policies-to-cut-greenhouse-gas-emissions-from-transportation.html

[4] https://www.transportationandclimate.org/main-menu/exploring-regional-solutions-improve-transportation-and-reduce-emissions

Location	Date	Attendance
Albany, New York *(pilot)*	**Wednesday, March 21, 2018**	**48 participants**
Albany, New York	**Monday, April 9, 2018**	**93 participants**
Hartford, Connecticut	**Monday, May 21, 2018**	**71 participants**
Wilmington, Delaware	**Wednesday, June 6, 2018**	**85 participants**
New York, New York	**Tuesday, July 24, 2018**	**118 participants**
Largo, Maryland	**Monday, August 27, 2018**	**82 participants**
Total		**497 participants**

Each TCI listening session brought together community members, business leaders, municipal officials, advocates of all stripes, policy experts and others for three hours to work together to share their needs, goals and insights as to how the states might proceed in creating a low-carbon transportation future. The listening sessions drew roughly 500 participants combined and have engaged over 100 state officials from 11 states and the District of Columbia since March.

To ensure that every participant could share their own diverse perspectives and experiences, the sessions were structured as facilitated conversations that encouraged them to consider and convey their priorities and goals, and to exchange ideas about what types of policies they feel might best foster a new low-carbon transportation future.

In addition to the regional events organized through TCI, the states of Massachusetts,[5] Rhode Island,[6] and New York[7] gathered input from stakeholders and communities within their own states.[8]

A Collaborative Approach to Considering Policies

States recognized that when exploring strategies to modernize and reduce carbon emissions from transportation, a range of economic, social, and equity issues need to be included. They also placed a priority on considering the needs and goals of diverse stakeholders to ensure that any policies or new technologies serve to improve the performance of transportation systems, and that all communities and stakeholders benefit from the low-carbon transition.

[5] https://www.mass.gov/transportation-listening-sessions
[6] http://climatechange.ri.gov/state-actions/listening-sessions.php
[7] https://www.dec.ny.gov/energy/99223.html
[8] Results of the state hosted sessions are not included here.

The listening sessions were designed to capture the input and perspectives of diverse stakeholders by providing opportunities for them to engage in conversation and learn from each other and state officials. In each session, stakeholders were asked to reflect on the multiple purposes and values in the transportation space, and engage in active conversation about a range of solutions and policy options for meeting those needs.

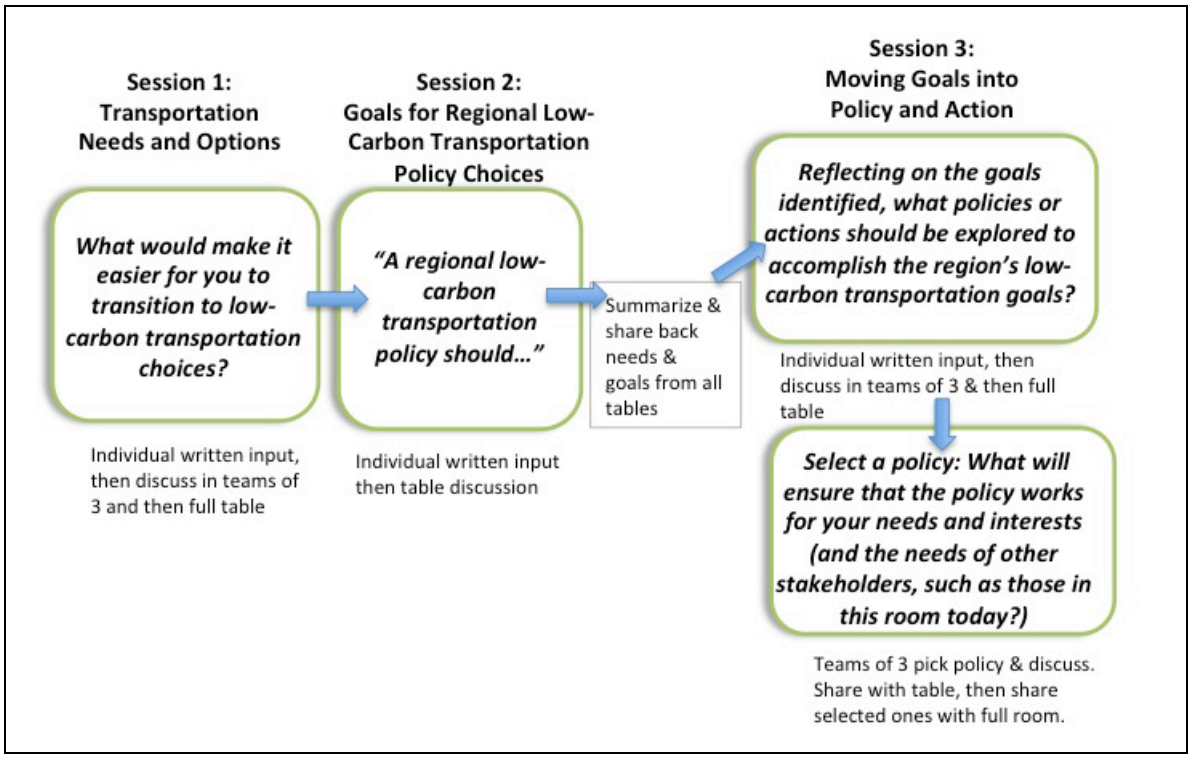
The purpose of the listening sessions was not to debate or to come to one solution, but rather to encourage the participating stakeholders to share their ideas and perspectives, draw out different points of view and gather a comprehensive list of the issues, concerns, opportunities, ideas, and questions that stakeholders in TCI states believe agency decision makers should be exploring. Participants were assigned to tables to ensure diverse interactions and the exchange of ideas with people from other communities, organizations, regions, and industries.

Listening Session Format

The agenda for each three-hour listening session included a series of three short briefings by officials from state transportation and environmental agencies, each followed by about 30-60 minutes of independent brainstorming and group discussion among stakeholders at tables of 6-10 people, each with a trained facilitator. The facilitator's role was to ensure all viewpoints were heard and that the conversation was accurately reflected in the written materials collected, and to manage the timing and flow of the various exercises. To further ensure that all viewpoints were collected, and to prevent interpersonal dynamics from deterring anyone from offering ideas, each exercise in the program provided participants an opportunity to record their ideas individually, before sharing their suggestions with others at the table. A sample listening session agenda is included in Appendix A.

Three rounds of conversations addressed these questions:

1. What would make it easier for you to transition to low-carbon transportation choices?
2. Complete the following sentence: "A regional low-carbon transportation policy should…"
3. (a) Reflecting on the goals identified [in question 2], what policies or actions should be explored to accomplish the region's low-carbon transportation goals? (b) Select a policy: What will ensure that the policy works for your needs and interests (and the needs of other stakeholders, such as those in this room today?)



Stakeholders had robust discussions as they explored potential regional clean transportation strategies and considered together about how to design policies that could meet multiple goals.

Who Participated?

Between March and August 2018, six regional listening sessions were held in five states. Meeting announcements were sent to over 2,000 representative stakeholders and citizens. A priority was placed on inviting a wide range of public, private and community organizations, as well as individual citizens.

In all, about 500 participants participated in one or more sessions. A list of organizations in attendance is included at the end of this document[9]. About 100 state agency staff, representing 12 of the 13 TCI jurisdictions,[10] participated as facilitators, presenters or observers, to hear participants' ideas directly and to observe the issues raised in dialogue.

In every location, written evaluations and anecdotal observation indicated most attendees were energized and engaged from start to finish for each three-hour

[9] See Appendix B.

[10] See Appendix D. Officials from VT, MA, RI, CT, NH, NY, NJ, PA, DE, DC, and MD attended at least one listening session each. Officials from Virginia also attended, and Virginia announced it would join TCI on September 12, 2018.

session.[11] Feedback in evaluation forms and verbally was very positive. Participants appreciated the opportunity to discuss low-carbon transportation options and how these options could help to improve their quality of life. Participants appeared to embrace the opportunity to engage with the diversity of views represented at their tables. In their written evaluations, many commented on how the sessions gave them the opportunity to talk with people with whom they do not usually interact and to hear new ideas and perspectives. Participants reported they particularly appreciated learning and hearing the concerns and ideas of others, and the sense that their input was heard. All facilitator notes and individual written submissions were recorded and typed up for TCI state agencies to readily access, review, and consider. A more detailed summary of evaluation data is included in Appendix C.

[11] See Appendix C for a summary of participant evaluation forms.

Question 1: Participants Define their Needs for a Low-Carbon Future

After welcoming remarks from senior state officials and the Georgetown Climate Center, speakers (generally state environment, transportation, and energy agency officials) offered brief overviews of each session that followed.

Transportation Needs and Options:

In the first of the three parts of each listening sessions, participants were presented with a short overview of the sources of greenhouse gas pollution and the relative importance of transportation in the overall portfolio of greenhouse gas emissions. Then they were asked to respond to the question: ***"What would make it easier for you to transition to low-carbon transportation choices?"***

The responses to Question 1 at all six listening sessions reflected the individual perspectives of participants, as well as the priorities of the communities, businesses, and organizations that they represent. When participants reflected on their own needs, their ideas tended to be concrete and specific to each participant's own travel patterns or desired options. This question illuminated some of the factors individuals perceive as barriers to using cleaner transportation options. The responses in this part of the conversation fell into several overarching themes. Although these sessions were not designed to generate quantitative information, the order of the themes below reflects the relative frequency with which they were offered. The bullets below each bold-faced theme are some of the most commonly identified needs, drawn from discussion notes and participants' written submissions:

Improve public transit to make it more convenient, affordable, safe, and reliable:

- Make transit systems everywhere more reliable.
- More frequent buses and trains.
- More street furniture and other amenities (such as benches, signage, better lighting, and bus shelters) at stations.
- Ensure fares that are not a burden on low and moderate-income families.
- Make real-time transit information available and accurate. Make services more responsive to daily needs of the riders, including based on the fluctuations of weather and time of year.
- Give buses and shuttles priority or dedicated lanes so they can move even when there is traffic congestion.

Make zero-emissions vehicles more readily available, affordable, and easy to use:

- Ensure access to charging for people who live in apartments or row houses.
- Provide affordable access to vehicles and charging for low income individuals and communities and prioritize infrastructure investments in places already overburdened by transportation emissions.
- Ensure electric vehicles are powered by clean renewable energy.

- Transition transit buses and school buses to electricity and/or cleaner alternative fuels.
- Provide more charging stations at more accessible locations – including workplaces, public spaces, etc.
- Improve the vehicles themselves to increase range and utility and offer a wider variety of vehicle types from which to choose.

Expand the range of transportation options available – and make sure people know what their options are:

- Provide enough options that people can customize their travel choices for their needs each day and even each trip: buses/transit/bike/walk.
- Meet the needs of elderly individuals and individuals with disabilities.
- Ensure people have access to a variety of clean fuel options.
- Provide information to educate people on the emissions implications of their real-time travel decisions.

Make biking and walking safer and more accessible everywhere:

- Expand bike lanes and trails; improve sidewalks and other biking and walking infrastructure.
- Address legacy and other pollution affecting health in some communities so that walking and biking is safe and healthy and not a less healthy choice.

Incorporate clean transportation into land use and community design:

- Focus on land-use planning with transit-oriented development.
- Site more affordable housing and employment centers near transit.
- Create places where travel is less needed.

Question 2: Participants Define their Goals

Before exploring specific policies for low-carbon transportation, participants were asked to identify the goals that policies should meet. After short presentation by a state official exploring the kinds of goals a low-carbon transportation system might be designed to achieve, each participant provided their thoughts on the following: ***"A regional low-carbon transportation policy should…"***

Conversations at each table and reviews of input from across the six sessions revealed consistent themes about the goals participants believe a regional policy needs to meet. As states consider goals of regional transportation policies, the following themes are presented roughly in order of how often they came up in the table discussions:

- **Be equitable and benefit disadvantaged communities –** Policies should be equitable across demographic categories and not disproportionately impact low and moderate-income people or burden any one community. Environmental justice and overburdened communities should be prioritized for air pollution reductions and benefit from investments, particularly considering cumulative impacts of legacy pollution. Those with fewer transportation options should have greater access to services.

- **Ensure and expand mobility for all people –** Benefits of transportation policies should improve mobility for everyone regardless of income. The unique needs of urban, suburban, and rural communities should be addressed, with low emission alternatives available to all users. Policies should provide convenient, efficient, and timely transportation options, including addressing the needs of aging populations. Policies should enable increased access to jobs and opportunities (including intercity and suburb to suburb).

- **Provide incentives for pursuing low-carbon options –** Policies should create sustainable multi-year incentives for people, governments, and companies to use low-carbon transportation options. At a larger scale, incentives and rebates should help market development and send price signals to disincentivize polluting behavior and incentivize clean/green behavior, such as greening fleets. Individuals should be incentivized to take public transit.

- **Facilitate smart growth and better land use/community design practices –** Transportation policies should encourage compact, sustainable development patterns that reduce sprawl and promote transportation-oriented development, complete streets, urban infill, preserve greenspace, and make communities designed for safe biking and walking.

- **Support market transformation; enable new entrants –** Regional policies should encourage investment in research and the development of new technologies, provide market incentives, promote low-carbon fuels, and set standards but not pick winners and losers.

- **Enable efficient movement of goods and provision of services –** Policies should reduce congestion, help to maintain and improve transportation infrastructure to enable the efficient movement of freight and people, and support a vibrant regional economy.

- **Find sustainable, dedicated funding sources for clean transport options that don't rely on the gas tax and are not regressive –** Policies should create a new source of funding that will continue to be viable even as the region transitions to alternative fuels for transportation. Proceeds from the policy should be dedicated to investments in low-carbon transportation and not redirected to other purposes. The policy should also include provisions to minimize cost impacts on low- and moderate-income households.

- **Price externalities** – Many participants expressed the goal of capping and reducing emissions from transportation sector. A common goal was also to put a price on air pollution and externalities that reflects the cost of reducing greenhouse gas emissions from transportation.

- **Coordinate regionally –** Regionally consistent policies and collaborative planning among jurisdictions would help to maximize limited resources and generate a resilient bipartisan policy framework.

- **Be effective and accountable to achieve emissions goals –** Policies should reduce greenhouse gas and other emissions in line with state goals.

- **Be technology- and fuel-neutral –** Policies should be performance-based and neutral on fuel sources and technologies, with an openness to ideas, policies, and market forces.

- **Set measurable goals –** Some participants advocated that policies should set ambitious enforceable goals, emphasizing measurable outcomes and clear deadlines. Benchmarks should be used to measure progress (e.g., commute times, air quality). Other participants emphasized the need to set realistic goals with appropriate "safety valves" if expectations are not met.

- **Be linked to broader socioeconomic objectives to realize maximum co-benefits –** Transportation policies should consider health needs and capture the health cost benefits of reducing emissions of GHG's and other pollutants.

Policies should consider the cost of externalities including health impacts, associated risks (e.g., safety), damage to the environment, as well as account for comprehensive impact analysis – environmental, economic, equity, employment.

- **Address emissions and impacts of freight and transit as well as other vehicles –** Policies should enable improvements with respect to all modes of transportation, not just passenger automobiles. This includes enabling freight and non-road vehicles to reduce their emissions and the impact they have on the roadways.

- **Ensure cost-effective options for business and consumers –** Policies should be affordable for all parties (e.g., end users, taxpayers) and fairly distribute costs and benefits.

- **Encourage commerce and drive economic growth –** Policies should promote economic development, commerce, and business competitiveness and generate business opportunities for private industry. They should protect manufacturing jobs. They should include opportunities for public/private partnerships.

- **Prepare for and respond to emerging trends –** Policies should be responsive to changing technologies and trends, including the emergence of shared ride options and the rise of online retail, as well as autonomous vehicles adoption and rules.

- **Prioritize investments in transit, walking, and biking –** Policies should prioritize and encourage alternatives to personal vehicles, including walking, biking and public transportation.

- **Engage utilities in program design –** Spread EV charging costs, and serve low-income and rural communities.

- **Be transparent –** Demonstrate efficient use of public funds through transparent public data. In developing transportation policies, engagement and collaboration from all sectors/populations was encouraged, including with the private sector. Also, participants advocated that the states ensure the public is informed about the rationale for any related programs.

- **Consider climate impacts on planning and infrastructure investments –** Ensure that transportation infrastructure and policies anticipate the effects of sea level rise, more intense precipitation, and other climate impacts.

Question 3: Participants Suggest Policies and Actions for the States to Explore

In the third portion of the listening session, participants were asked to reflect on the goals they identified in the previous conversation, then suggest policies or actions that states should explore to meet the identified goals and work for all of those in the room.

While this exercise produced a wide range of ideas for policies and actions, there were seven ideas that emerged consistently across all of the listening sessions. The following policies are ranked according to the frequency with which they were offered, starting with the options that were submitted most often.

1) **Price emissions from the transportation sector and reinvest the proceeds**
   In all listening sessions, the most frequently offered suggestion was the idea of pricing carbon and using the proceeds to invest in clean transportation options and modernizing our transportation infrastructure and transit systems.

   Participants described their recommendations in different ways. [12]

   - *Have fuel suppliers buy carbon allowances, put the dollars into a fund, to invest in sustainable transportation. Investments from the fund should further reduce carbon intensity of the transportation network, have a direct set aside of funds to defray transportation costs for environmental justice communities and invest a portion of the funds in the clean energy economy to boost jobs.* (CT)
   - *Do a 'cap and invest' where the cap sets a finite limit to carbon emissions, creates a price for carbon so* [the] *market can efficiently reduce emissions and provide incentives for private capital deployment, and creates revenue for implementation (which can be channeled to environmental justice communities). This needs to be in line with science based targets, needs an effective way of measuring emissions, needs a low enough cap, revenue needs to be used in efficient and proven effective clean transit improvements, use 'pay for success' to efficiently allocate revenue.* (MD)
   - *Create a Zero-Emission Transportation Fund with a dedicated source of funding (either a carbon fee or a cap and invest program) and use it for transit, walking, biking and ZEVs but not for repair and maintenance for highways, roads and bridges). To be sure it works, create a requirement for transparent and public educations and input in the decision-making process for investments. (NYC)*
   - *A market-based cap and invest program would guarantee the climate goal* [is met]*, provide funding for further mitigation activities, and allow the price to be set by the market in an open and transparent way. To do this, we need a balanced cap (not too loose and not too tight), a liquid secondary market, the ability to use allocations and offsets to bring sectors into the market, a way to*

[12] Throughout this document, text in italics contains verbatim examples submitted by participants.

ensure that revenues are used for public benefit for disadvantaged/low-income communities, and it needs to be regional to reduce leakage and ensure the most efficient carbon reduction. (CT)

- *Use the Regional Greenhouse Gas Initiative (RGGI) as a model and create a version for transportation sector.* (NY)

2) Accelerate electrification of the transportation system

Participants in every listening session suggested exploring a wide variety of policies to encourage and accelerate electrification of the transportation system. The following is a representative selection of the policies and actions participants submitted for states to consider:

- *Phase out the sales of all gasoline and diesel engines in the region by 2040.*
- *Set registration fees for vehicles inversely to their combined EPA MPG.*
- *Consumer incentives (e.g., rebates) for the purchase of electric vehicles.*
- *Expand state incentives for low-carbon transportation and public private partnerships.*
- *Require Electric Vehicle Readiness in all new developments across the region.*
- *Require all new school buses purchased to be electric-only, after 2020 (with some proposing incentive packages).*
- *Electrify all transit vehicles and last-mile delivery.*
- *Require clean vehicles exclusively for all municipal services (electric and high levels of biodiesel) and private waste hauling.*
- *Pilot an Electric Vehicle-Only Zone and similarly, reducing diesel use in low income and minority communities, by mandating EVs targeted areas (e.g., creating environmental justice transportation zones which need more assertive programs).*
- *Install an electric vehicle fast charging network across the region.*
- *Public Utility Commissions should reduce electric rates for EV owners, public EV charging, and off-peak charging.*
- *Require EV charging to be increasingly powered by clean renewables.*
- *Provide battery storage incentives for private sector entities.*
- *Require all gas stations to be built (or rebuilt) to include EV charging stations.*
- *Work with local governments to include access to EV charging for residents of multi-family dwellings in building codes.*

3) Incorporate smart growth, zoning and affordable housing policies.

A package of smart growth policies was also widely offered, with many participants recommending some variation of land-use planning as an important policy option to consider. Many said that this work should begin as soon as possible, to enable emissions reductions and energy efficiency in the long-term. The proposed policies and actions included such measures as:

- *Offer incentives to cities and towns to encourage zoning law revisions.*
- *Give more state support and funding for transit-oriented development.*

- *Set state policies so urban infill and brown field clean ups and redevelopment are more affordable.*
- *Policies designed to reduce parking and to reverse incentives that create sprawl.*
- *Establish state government entity to enable better coordination and implementation of new policies at the intersection of housing, transportation, environment, energy, and economic development.*
- *Mandate a percentage reduction in GHG emissions on cities and towns and encourage then to revise their zoning and practices to meet it.*
- *More affordable housing balance near jobs or near transit.*
- *Incentives to cities and towns to help them revise their zoning.*
- *More large-scale state support and funding for transit-oriented development, urban infill, and brown field clean ups.*
- *Incentives to developers allowing them to reduce minimum parking requirements for new developments if they participate in reducing demand.*

4) **Encourage people to increase their use of transportation modes other than personal vehicles.**
   - *Establish new rideshare concepts and programs for rural areas.*
   - *Make all transit more affordable or free.*
   - *Allow for multimodal transfers that make it easier for travelers (faster, better bike lockers, integrated bus, rail centers, etc.).*
   - *Invest heavily in new infrastructure including new transit lines and development near transit.*
   - *Invest in new apps that encourage more spontaneous ridesharing (paired with Uber and Waze) and more flexible shared transportation systems.*
   - *Consider congestion pricing programs in localized areas.*

5) **Support expansion of alternative transportation fuels (in addition to electrification).**
   - *Consider a Northeast Low Carbon Fuel Standard or other policies to support clean biofuels, especially for heavy duty vehicles, keeping the money in the private sector.*

6) **Address special issues related to ports and freight.**
   Participants in most sessions specifically named ports, and the ships, trucks, trains, and other heavy-duty vehicles that move cargo as a target of action due to air quality problems associated with harmful emissions from diesel fuel. Truck and ship engine idling, truck access through adjacent communities, and the need to replace old and inefficient diesel equipment are all key steps in reducing off-road air pollution and greenhouse gases.

7) Other policies and incentives

The categories above represent approaches that were offered in multiple listening sessions by multiple participants. There were other ideas and approaches that were offered less frequently, and do not readily fit in one of the categories above. Examples include:

- *Create a single payment system on all transit modes, parking and tolls across the region.*
- *Set registration fees for vehicles in direct proportion to their injury to the roadway surfaces, greatly increasing the cost of buses and trucks, especially for freight, as they damage the roads thousand-fold more than cars.*
- *Improve consumer education about transportation choices.*
- *Enhance drivers' (transportation) education in three ways: 1) have students learn to drive on electric vehicles or take their test in an EV, 2) include classes in how to take transit where they have specific experiences in doing so, relevant to their geographic area and 3) teach the energy and environmental impacts of transportation choices in the class and test for this knowledge.*

Appendix A: Sample Listening Session Agenda

Transportation & Climate Initiative Listening Session

Monday, August 27, 2018
1:00 pm – 4:00 pm
University of Maryland's Academic Center at Largo
1616 McCormick Dr,
Upper Marlboro, MD 20774

Agenda

12:30 – 1:00 PM Registration

1:00 – 1:10 PM **Welcome and Opening**
Vicki Arroyo, Executive Director, Georgetown Climate Center

1:10 – 1:20 PM **Challenges and Opportunities**
Ben Grumbles, Secretary of the Environment, Maryland Department of the Environment
R. Earl Lewis Jr., Deputy Secretary for Policy, Planning and Enterprise Services, Maryland Department of Transportation
Tommy Wells, Director, District of Columbia Department of Energy & Environment

1:20 – 1:50 PM **Session 1: Transportation Needs and Options**
Presentation by Colleen Turner, Assistant Director, Office of Planning & Capital Programming, Maryland Department of Transportation
Participant discussions at tables

1:50 – 2:10 PM **Session 2: Goals for the Regional Transportation Policy**
Presentation by Devon Dodson, Senior Advisor, Maryland Department of the Environment
Participant discussions at tables

2:10 – 2:30 PM **BREAK**

2:30 – 2:40 PM **Report Out from Sessions 1 and 2**

2:40 – 3:45 PM **Session 3: Moving Goals into Policy and Action**
Presentation by Dave Nemazie, Chief of Staff, University of Maryland Center for Environmental Science
Participant discussions at tables

3:45 – 4:00 PM **Reflecting on What was Heard and Next Steps**
Vicki Arroyo, Executive Director, Georgetown Climate Center
Ben Grumbles, Secretary of the Environment, Maryland Department of the Environment

Appendix B: List of Attending Organizations

9th Ward Interfaith Coalition
AAA Northeast
Acadia Center
Adirondack Council
Advanced Biofuels USA
Air Liquide
Alan M Voorhees Transportation Center, at Rutgers University
ALIGN Economy Environment Equity Alliance for a Greater New York (ALIGN)
Alliance for Clean Energy New York
America Walks
American Council for an Energy-Efficient Economy
American Lung Association in Connecticut
American Petroleum Institute
American Petroleum Institute New York
American Public Health Association
Arup Group
Association of New Jersey Environmental Commissions
Associated General Contractors NYS
Athena Consulting Group Inc.
Baltimore City
Bayshore Ford Truck Sales
Bloomberg Associates
Build Your Dreams
Caesar Rodney Institute
CALSTART
Cambridge Systematics
Capalino+Company
Capital CarShare
Capital District Regional Planning Commission
Capital District Transportation Authority
Capital District Transportation Committee
Capitol Region Council of Governments
CDi Consulting Services, LLC
CDM Smith
Center for Latino Progress
Central Maryland Transportation Alliance
Ceres
ChargePoint
ChargEVC
Chesapeake Conservancy
Chesapeake Utilities
Christiana Care Health Services
Cigna
Citizens Budget Commission
Citizens for Public Transportation
City of Hartford
City of New York
City of Saratoga Springs
City of Schenectady
Clean Air Council
Clean Communities of Central New York
Clean Water Action
Clearview Energy Partners
Climate Action Associates
ClimateXChange
Climate Jobs NY
Climate Law & Policy Project
Climate Solutions for Millennials
ClimateYogi
Columbia University
Community Housing Empowerment Connections Inc.
Complete George
Con Edison
Connecticut Center for Advanced Technology
Connecticut Department of Economic and Community Development
Connecticut Energy Marketers Association
Connecticut Fund for the Environment
Connecticut Green Bank, Connecticut Metropolitan Council of Governments
Connecticut Petroleum Council/ American Petroleum Institute,
Connecticut Roundtable on Climate & Jobs
Convoy Solutions
Cooperson Associates
Council of State Governments/Eastern Regional Conference
CTrides
CTV Prince George
Cummins
Delaware City Refining Company

Delaware Concerned Residents for EJ
Delaware Concerned Residents for Environmental Justice
Delaware Ecumenical Council on Children and Families
Delaware Public Service Commission
Delaware Sierra Club
Delaware Sustainable Energy Utility
Delaware Valley Regional Planning Commission
Department of Defense
Diesel Technology Forum
Dover/Kent County MPO
DuPont
Dwight-Englewood
Earthjustice
EarthKind Energy / Sustainable Westchester
Eastern Shore Land Conservancy
Educational and Cultural Trust Fund
Emerald Alternative Energy Solutions, Inc.
Empire Clean Cities
Empire State Development
Energy Foundation
Environment America
Environment Connecticut
Environment New Jersey
Environmental Advocates of New York
Environmental Defense Fund
Environmental Energy Alliance of New York
Environmental Justice Health Alliance,
EV Advisors, LLC
EV Connect
Eversource Energy
Exelon
Featherstonhaugh, Wiley and Clyne
Financial Services Company
Franklin Energy
Fuel Cell and Hydrogen Energy Association
Gabel Associates
Gannett Fleming
Georgetown Center on Poverty and Inequality
GNA Creative
Greater Bridgeport Transit
Greater New Haven Clean Cities Coalition
Greater Portland Council of Governments
Green for All
Greenlots
Greenspot
Greenwald Consulting LLC
Hawk Freight Services, Inc.
Health Care Without Harm
Hinman Straub Advisors, LLC,
Hinman Straub, P.C
HoCo Climate Action
Hudson County Planning
Hudson Valley Community College
Hughes & Cronin
Imani Energy
Incyte
International Brotherhood of Electrical Workers
International Emissions Trading Association
Jill Gaumer, LCSW
JLM Environmental Consulting
Jobs to Move America
Labor Network for Sustainability
League of Women Voters
League of Women Voters NCC
League of Women Voters of Delaware
M.J. Bradley & Associates
Marathon Petroleum Company, LP
Marbletown Environmental Conservation Commission
Mark L. Stout Consulting
Maryland Chamber of Commerce
Maryland Department of Health
Maryland Department of Housing and Community Development
Maryland Environmental Health Network
Maryland General Assembly
Maryland League of Conservation Voters
Maryland Motor Truck Association
Maryland Sierra Club
Marylanders for Energy Democracy & Affordability
Maryland-National Capital Park and Planning Commission
Massachusetts Petroleum Council/American Petroleum Institute
Metropolitan Area Planning Council
Metropolitan Washington Council of Governments
Mid-Atlantic Petroleum Distributors Association

Ministère des Relations Internationales et de la Francophonie du Québec
MMR, LLC
Motor Transport Association of Connecticut
Municipal Electric Utilities Association of New York State
National Association of State Energy Officials
National Biodiesel Board
National Institutes of Health
Natural Resources Defense Council
Naugatuck Valley Council of Governments
NESCAUM
New Jersey Department of Environmental Protection
New Jersey Petroleum Council/American Petroleum Institute
New Jersey Transit
New Jersey Work Environment Council
New York & Atlantic Railway
New York Battery & Energy Storage Technology Consortium
New York Capital Consultants Inc.
New York City Department of City Planning
New York City Department of Transportation
New York City Economic Development Corp.
New York City Environmental Justice Alliance
New York City Mayor's Office of Sustainability
New York Community Trust
New York Lawyers for the Public Interest
New York Metropolitan Transportation Council
New York Power Authority
New York State Association of Counties
New York State Association of Town Superintendents of Highways
New York State Canal Corporation
New York State Energy Research and Development Authority
New York State Thruway Authority
New York Times
New York Working Families
New Yorkers for Clean Power
Niagara frontier Transit Authority
NJ TRANSIT
North Jersey Transportation Planning Authority
NorthLight Foundation
NorthStar Strategies
NRG Energy
NYC Office of the Mayor
Orange County Transportation Council
Office of Delegate Dana Stein
Partnership for the Delaware Estuary
Paulsboro Refining Company
Pennsylvania Department of Environmental Protection
People of Albany United for Safe Energy
Perils for Pedestrians TV
Pioneer Valley Planning Commission
Plug-In America
Plug Power Inc.
POLITICO
Port Authority of New York and New Jersey
Ports America Chesapeake
Price Automotive Group
Price Chopper Supermarkets
Prince George's Department of Public Works and Transportation
Prince Georges' County Council
Professional Alliance for Technology & Habitat
Public Service Enterprise Group
Railroads of New York, Inc.
Regional Plan Association
Regulatory Assistance Project
Resources for the Future
RideShare Delaware/DART
Rochester Peoples Climate Coalition
Rockefeller Brothers Fund
Rutgers Climate Institute
Rutgers University
S&P Global Market Intelligence
Shell Oil Products US
Sierra Club
Sierra Club Atlantic Chapter
Sierra Club Hudson Mohawk Group
Sprague Operating Resources LLC
Stepping Stones Resources, Inc.
Tesla
The Climate Group
The Climate Mobilization Montgomery County

The Council of State Governments/Eastern Regional Conference
The Nature Conservancy
The New School
The New York Metropolitan Transportation Council
Town of Clifton Park
Toxics Action Center
Toyota Motor North America
Transportation for America
Transportation for Massachusetts
Tri-State Transportation Campaign
Trucking Association of New York
U.S. Department of Energy
U.S. Public Interest Research Group
UBVB Holdings LLC
Ulster County
Union of Concerned Scientists
United Technologies Corporation
University of Albany – SUNY
University of Connecticut
University of Maryland
US Department of Transportation-Volpe Center
US Environmental Protection Agency (EPA) Region 1
Environmental Protection Agency - Region 2
Vermont Natural Resources Council
Well Mind Association of Greater Washington
WE ACT for Environmental Justice
Westchester County Dept. of Planning
Working Group on Seafood & Energy
Yale University

Appendix C: Summary of Participant Evaluations

The Georgetown Climate Center and the states together designed the meetings to allow for a high level of interaction, collaboration, and detailed conversations about how the region might transition to a low-carbon transportation system. At the conclusion of each session, participants were asked to complete a short evaluation form. They were asked to "List 3 things that were most useful" about the sessions and to "List 3 opportunities for improvement." The feedback received was very positive. Comments expressed appreciation for:

- The presence and active participation of high-level state officials as presenters, facilitators, and observers, and officials' clear interest in hearing participants' opinions.
- The wide range of stakeholders representing a diversity of opinions, allowing participants to hear authentic concerns and goals from many sectors.
- The beneficial role of table facilitators and their level of training and experience
- How well-organized the process was and how it was timed, with logical and engaging sequencing and good questions.
- The opportunity to get to know how others are approaching the issues, both to identify partners with common goals as well as areas of disagreement.
- How collaborative the dialogue was, offering the possibility for cross-pollination of ideas and effective evaluation of challenges.

Many participants noted that they liked the small-group discussion format, appreciated the introductions and short presentations provided by state officials, and felt that the conversations were well-facilitated and moderated. The suggestions for improvement were primarily related to the sound volume in the room, with smaller numbers of people wanting more time or longer sessions, or requesting that more information be provided ahead of time.

Appendix D: State Agency Personnel

Many thanks to the following personnel from various state agencies in the TCI region who helped staff the regional listening sessions and make the events a success.

Connecticut:
Department of Energy and Environmental Protection
Robert Klee (Commissioner), Mary Sotos (Deputy Commissioner for Energy), Tracy Babbidge, Siri Chillari, Kiesha Christopher, Keri Enright-Kato, Paul Farrell, Sharon Gustave, Jeff Howard, Patrice Kelly, Paul Kritzler, Dino Pascua, Jen Riley

Department of Transportation
James Redeker (Commissioner), David Elder, Tom Maziarz

Delaware:
Department of Natural Resources and Environmental Control
Andrea Kreiner (Director, Division of Energy and Climate), Jennifer DeMooy, Lauren DeVore, Caren Fitzgerald, Valerie Gray, Kathy Harris, Harita Kandarpa, Susan Love, Mike Snyder, Kari St. Laurent, Mike Tholstrup, Rob Underwood, Kelly Valencik, Kerri Yandrich, Carl Yetter, Ian Yue

Department of Transportation
Nathan Attard, Drew Boyce, Theresa Columbo, Silvana Croope, Mike Duross, LaTonya Gilliam, Anson Gock, Michael Hahn, Stephanie Johnson, Hannah Kushner, Paul Moser, Jim Pappas, Brian Urbanek

Public Service Commission
Harold Gray (Commissioner), Raj Barua

District of Columbia:
Department of Energy & Environment
Tommy Wells (Director), Jenn Hatch, Kate Johnson

Department of Transportation
Erik Belmont, Austina Casey

Maryland:
Department of the Environment
Ben Grumbles (Secretary), George Aburn, Devon Dodson, Chris Hoagland, Justin Mabrey

Maryland *(continued):*
Department of Transportation
Earl Lewis (Deputy Secretary for Policy, Planning and Enterprise Services), Gary Greening, Nick Kyriacou, Dorothy Morrison, Colleen Turner

Energy Administration
Chris Rice

Department of Planning
Bihui Xu

Department of Housing and Community Development
Thomas Walz

Department of Health
Allison Gost

Department of Education
Gabriel Rose

Massachusetts:
Executive Office of Energy & Environmental Affairs
Dan Sieger (Assistant Secretary for Environment), Katie Theoharides (Assistant Secretary of Climate Change)

Department of Environmental Protection
Marty Suuberg (Commissioner), Christine Kirby (Assistant Commissioner)

New Hampshire:
Department of Environmental Services
Becky Ohler

New Jersey:
Department of Environmental Protection
Peg Hanna, Robert Kettig, Christine Schell

Department of Transportation
Jamie DeRose, Andy Swords

Board of Public Utilities
Michael Hornsby

New York:
Department of Environmental Conservation
Jared Snyder (Deputy Commissioner for Air Resources, Climate and Energy), Lisa DeJesus, Pam Hadad-Hurst, Mark Lowery, Lois New, Muna Nur, Marna Posluszny, Adanna Roberts, Nancy Welsh

New York State Energy Research and Development Authority
John Williams (Director, Policy and Regulatory Affairs), Kara Allen, Richard Mai, Robyn Marquis, Adam Ruder, Jason Zimbler

Department of Transportation
Ronald Epstein (Executive Deputy Commissioner), Paul Krekeler, Alan Warde, Lynn Weiskopf

New York State Canal Corporation
Jeff Gritsavage

New York State Power Authority
John Markowitz, Rajiv Diwan

Pennsylvania:
Department of Environmental Protection
Jessica Shirley (Director, Policy)

Department of Transportation
Andrew Blum

Rhode Island:
Office of the Governor, Gina Raimondo
Rosemary Powers (Deputy Chief of Staff)

Vermont:
Agency of Natural Resources
Peter Walke (Deputy Secretary)

Virginia
Department of Environmental Quality
Chris Bast (Chief Deputy)

Appendix E: Acknowledgements

The Georgetown Climate Center serves as facilitator of the Transportation and Climate Initiative, and we are grateful to the funders who make our work possible. We appreciate the dedicated support of the Barr Foundation, Energy Foundation, The New York Community Trust, Rockefeller Brothers Fund, and Town Creek Foundation for this regional policy work. We also thank other funders who support our climate and clean energy work in this region, including The John Merck Fund, Merck Family Fund, Hewlett Foundation, and the John D. and Catherine T. MacArthur Foundation.

Georgetown Climate Center also thanks our consultants Sonia Hamel and Beth Tener who worked closely with our team and TCI states to craft the facilitation agenda, to assist Center and state staff with facilitating sessions, and to compile and synthesize extensive public input to inform this report.

We also want to thank the University of Maryland for co-hosting the listening session in Largo, Maryland, and Rutgers University and the Regional Plan Association, for co-hosting the session in New York City.