

# The Transportation & Climate Initiative

## of the Northeast and Mid-Atlantic States

### Summary of Policy Options in State Climate Action Plans

#### Summary

Twenty-seven states have adopted specific greenhouse gas (GHG) reduction targets, and have completed climate action plans that identify policies and programs designed to meet those targets. Approaches for reducing GHGs in the transportation sector typically address vehicle efficiency and low-carbon fuels – the traditional U.S. approaches – as well as measures designed to reduce annual vehicle use, as measured by vehicle miles traveled (VMT). Vehicle- and fuel-related policies include those related to fuel-efficient and alternative fuel vehicles, low-carbon fuels, and alternative fuel infrastructure. VMT-reduction measures include alternatives to passenger vehicle travel, low-carbon goods movement, land use policies that incentivize compact development, and incentives and disincentives aimed at changing corporate, government and individual behavior.

Below is a summary of 43 GHG reduction strategies for the transportation and land use sectors identified in the climate action plans of Pennsylvania, Virginia and nine of the ten states participating in the Regional Greenhouse Gas Initiative (RGGI)<sup>1</sup>. The number in brackets following each measure indicates how many of the states include that measure in their plan. VMT reduction targets adopted by each of the states are listed in the Appendix. Given the many policy options available, the Agency Heads may wish to identify criteria with which to narrow the options and select avenues for collaboration.

#### Background

States have taken a leadership role in addressing climate change for more than 20 years. To date, 27 states have adopted specific greenhouse gas (GHG) reduction targets, and have completed climate action plans that identify policies and programs designed to meet those targets. State climate planning efforts typically focus on emission reduction strategies for a number of sectors, including energy production, industry, transportation, land use, agriculture, forestry, waste management, water, and the commercial and residential sectors.

Efforts to reduce GHG emissions in the U.S. transportation sector have largely focused on increasing vehicle efficiency and reducing the carbon intensity of fuels. In addition to these measures, meeting the climate challenge will require reduction in annual vehicle use, as measured by vehicle miles traveled (VMT). The Urban Land Institute (ULI) reports that since 1980, the number of miles Americans drive has grown three times faster than population, and almost twice as fast as vehicle registrations, and that sprawling development patterns are a key factor in that rate of growth.<sup>2</sup> The ULI warns that if sprawling development continues to fuel growth in driving, the projected **48** percent increase nationally in VMT between 2005 and 2030

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<sup>1</sup> New York is currently in the process of conducting comprehensive climate action planning. Policies proposed for inclusion in the NYS Transportation and Land Use Section of the NYS Climate Action Plan are included in this analysis.

<sup>2</sup> Ewing, R., K. Bartholomew, S. Winkelman, J. Walter and D. Chen. 2007. Growing cooler: the evidence on urban development and climate change. Washington, DC: Urban Land Institute.

will overwhelm expected gains from vehicle efficiency and low-carbon fuels. Given these trends, states engaging in climate planning have adopted VMT reduction strategies such as supporting mixed-use compact land development, increasing low-GHG travel options for passenger and heavy duty vehicles, incentivizing use of transit, and shifting goods-movement from truck to rail.

Following is a summary of GHG reduction strategies for the transportation and land use sectors that have been identified in the climate action plans of Pennsylvania, Virginia and all of the ten RGGI-participating states. Note that this summary is illustrative rather than exhaustive, and aims to offer a flavor for the diversity of options and the commonality of commitment. The number in brackets following each measure indicates how many of the eleven states have identified that measure as one that is either planned, underway or under serious consideration in their state. A zero indicates a measure that has been adopted by a state other than one of the eleven in this analysis. VMT reduction targets adopted by each of the states are listed in the Appendix.

## **Vehicles and Fuels**

Incentives for purchase of low-greenhouse gas passenger vehicles: **Feebate Programs** institute fees on high emission vehicles and rebates/tax credits on low emission vehicles [9 states]. **Vehicle Scrappage Programs (“Cash-for-Clunkers”)** accelerate retirement high-emission vehicles. [2] **CO<sub>2</sub>-Based Registration and Licensing Fees** link vehicle registration fees to GHG emissions or to vehicle weight using a dollar-per-vehicle-ton multiplier [0].

*Fuel measure: **Alternative Fuel Infrastructure Development*** for plug-in electric vehicles and/or natural gas vehicles [9]. ***Low Carbon Fuel Standard*** reduces GHG emissions by decreasing the carbon intensity of transportation fuels [9]. ***Biofuel Standards*** require a specific amount or percentage of fuel sold within the state to be a renewable fuel [6].

*Heavy-duty vehicle measures: **Purchase incentives for low-GHG vehicles*** including registration fees, feebates, and tax credits [3]. ***Truck stop electrification*** to eliminate idling [4]. ***Green Port Strategy*** for vessels and land-side cargo handling equipment [3]. ***Increased Size and Weight of Trucks***. Adopt regulations to allow larger trucks [0].

## **Land Use and Modal Options**

### ***General Location Efficiency [10]***

*Compact Development:* Financial incentives and streamlined zoning and permitting processes to encourage investment in compact development. ***Transit-Oriented Development*** for dense mixed-use communities near transit stations or facilities [8]. ***Brownfield Redevelopment*** for empty, underutilized or remediated urban industrial facilities and other brownfields [6]. ***Downtown Revitalization*** for downtowns and central business districts [7].

*Land Use, Zoning, Tax and Building Code Reform:* Modify and fund reforms of state and local property tax, development fees, and zoning/building codes to support GHG reductions [6].

*Planning: **Statewide Growth Management Plan*** with GHG emission goals. Regional transportation and land use plans must conform with the state plan’s GHG budgets and

per capita VMT targets [6]. **Technical and Financial Support for Municipal Planning Organizations (MPOs), planning offices, and local and regional agencies** for land use, planning, and zoning activities [7]. **Include GHG Evaluations in State Policies** by requiring evaluation of GHG implications of state transportation and land use legislation, regulations and policies, capital funding programs, long-range transportation plans, and environmental review processes [6].

### ***Incentives and disincentives [11]***

**Location-Efficient Mortgages:** Pass legislation allowing location-efficient mortgages. Mortgage providers set mortgage rates to reflect transportation cost savings of living in or near transit-oriented developments and forgoing car use or ownership [2].

Congestion Pricing, Emission-based Tolls, and Congestion Pricing (With Targeted Use of Revenue Toward Travel Alternatives): **Congestion pricing** sets variable tolls based on level of congestion [3]. **Emission-Based Tolls** are based on new car ratings and on emission inspection results for used vehicles [3]. **Cordon Pricing** requires tolls for driving within central urban areas. Electronic, camera, or similar toll collection methods avoid the need for toll booths [1].

**Pay-As-You-Drive Insurance:** Allow insurers to offer optional pay-as-you-drive (PAYD) auto insurance policies. Premiums are based on mileage rather than on actuarial brackets [8].

**VMT Charges:** Charge a tax or fee that reflects miles traveled, collected through odometer audits at annual vehicle inspection visits or through GPS or similar systems [3].

**VMT/GHG Offset Requirements for Large Developments:** Require identification of GHG footprint and mitigation measures in the environmental review process for large developments. Mitigation may include one-to-one VMT reduction measure, whereby developers invest in strategies to reduce VMT by the amount expected to be created by the new development [4].

**Transit Pricing Incentives:** Subsidize transit agencies to reduce fares [3].

**CO2 Conformity Requirements (VMT Cap-and-Trade):** Allocate transportation CO2 budgets to local jurisdictions and require them to meet the budget to receive additional state funding. The program could allow for emissions credit trading between jurisdictions [1].

**Parking measures: Free Downtown Parking to Carpoolers** via vouchers at municipal lots or via subsidy to private parking operators [2]. **Reserved Parking for High-Occupancy Vehicles and Car-Share Programs.** Set standards for use by local jurisdictions to reserve parking spaces [5]. **Parking Pricing, Excise Tax, and/or Supply Restrictions** include elimination of minimum parking supply requirements, establishment of parking supply caps, increased prices, etc. [2].

**Fuel Tax (With Targeted Use of Revenue Toward Travel Alternatives):** Increase the state tax on fossil fuels. Dedicate the revenue to transit and other transportation alternatives [0].

### ***Low Greenhouse Gas Travel Options [12]***

*Transit improvements:* **Improve Transit Service** for enhanced frequency, convenience, and quality of existing transit service [10]. **Expand Transit Infrastructure** for new rail lines, bus rapid transit routes, and bus terminals [9]. **Regional Intermodal Transportation Centers.** Fund intermodal terminals in centralized location where various forms of passenger transportation (e.g. rail, bus, and bikeways) connect [6]. **Transit Prioritization for urban bus and light rail** (HOV lanes, signal prioritization, or lane prioritization). High-occupancy vehicle (HOV) lanes decrease travel time. Signal prioritization and lane-specific prioritization use vehicle-mounted technology to give priority to transit vehicles by controlling traffic lights [7].

*Infrastructure:* **Bike and Pedestrian Infrastructure.** Construct and improve sidewalks and bikeways, bicycle parking and workplace shower/locker amenities. Require local governments to adopt “complete streets” policies. **Park-and-Ride Lots.** Construct well-lit and police-patrolled parking lots for carpoolers and transit customers [10]. **High-Occupancy Vehicle (HOV) Lanes.** Create HOV lanes by adding new road capacity or by converting existing lanes [8].

*Car Share:* Provide funding, subsidies and/or preferential parking for public or private car-sharing operators, which provide for hourly rental schemes with vehicles available at numerous locations throughout the metropolitan area [6].

Workplace programs: **Mandatory Telecommuting for Government Agencies** for appropriate state employees can reduce VMT and provide lead-by-example for the private sector [2]. **Telecommute, Live-Near-Your-Work, and Compressed Work Week.** Telecommuting may utilize regional telecommuting centers that offer office-type services. Live-near-your-work encourages organizations with multiple locations (e.g., banks and fast food restaurants) to transfer employees to branches closest to their home. A compressed work week (i.e., 10 hour/day four-day workweek) can reduce the numbers of commute trips [11]. **Guaranteed Ride Home Programs.** Encourage carpooling and transit use by providing a back-up means to return home when necessary [8]. **Vanpooling and Carpooling.** Provide financial incentives or preferential treatment for vanpools and carpools; fund regional ride-matching programs [11].

### ***Intercity Passenger Travel and Goods Movement [3]***

*Low-GHG Goods Movement:* Improve railroad infrastructure and rail yards, address rail freight system bottlenecks, encourage short sea (coastal) shipping, encourage industry to adopt low-GHG goods movement policies for supply chains. [5]

*Integrated Aviation, Rail, and Bus Networks:* Encourage intercity integrated transportation infrastructure, including intermodal passenger terminals, to support connectivity of alternative transportation modes [2].

*High-Speed Rail:* Provide financing, regulatory relief, and use of eminent domain to develop high-speed intercity passenger rail system. Improve services on existing Amtrak routes [3].

## Outlook

Given the many policy options available for reducing GHG emissions in the transportation and land use sectors, the Agency Heads may wish to identify criteria with which to narrow the options and select avenues for collaboration.

Potential criteria for consideration:

- Shared interest in both broad policy category and individual measures within that category. These may be “low hanging fruit” that lend themselves to quick action. Examples: Alternative fuel infrastructure development [9], feebate programs [9], telecommute, live-near-your-work and compressed work week [11];
- Shared interest in a policy category, but scattered interest among many individual measures within that category. These may be areas where states can assist one another in expanding policy options to address shared concerns. Examples: In the category *Land Use and Modal Operations – Incentives and Disincentives* [12], the following measures: location-efficient mortgages [2], congestion pricing [3], and VMT/GHG offset requirements for large developments [3];
- Policy categories or individual measures in which there is little shared interest. This may point to opportunities to share unique, innovative, or emerging approaches among states. Examples: CO<sub>2</sub> Conformity Requirements (VMT Cap-and-Trade) [1], low-GHG goods movement [5], cordon pricing [1];
- Eligibility for federal funding;
- High potential for economic stimulus;
- Maximum emissions reductions.

## APPENDIX

### Vehicle Miles Traveled Reduction Goals

*Goals identified in state climate action plans, or (indicated in parentheses) in other statewide plans*

STATE	VMT GOAL
CT	3% reduction from 2020 business-as-usual (BAU) level
DE	20.4% reduction from 2010 BAU
MA	A number of VMT-reduction strategies are recommended, but there is no specific % reduction goal.
MD	18% per capita reduction from 2020 BAU (in order to return to 2000 levels); 30% of 2020 BAU by 2035, 50% of 2020 BAU by 2050
ME	Slowing VMT growth is cited as a strategy, but there is no specific % reduction goal.
NH	A number of VMT-reduction strategies are recommended, but there is no specific % reduction goal.
NJ	VMT growth between Dec 2009 and 2020 will be limited to no more than 1% per year, and will stabilize thereafter.
NY	Reduce VMT 10% from BAU in 2020 (identified in <i>2009 State Energy Plan</i> )
PA	A number of VMT-reduction strategies are recommended, but there is no specific % reduction goal.
RI	A number of VMT-reduction strategies are recommended, but there is no specific % reduction goal.
VA	A number of VMT-reduction strategies are recommended, but there is no specific % reduction goal.
VT	Reduce VMT to 2000 levels by 2012 and to 1990 levels by 2025.

#### Methodology

The transportation and land use provisions of each state's climate action plan were compared to a catalog of sample state-level GHG-reducing actions and policy options based on actions undertaken or considered by state, local and private actors for reducing GHG emissions. The catalog is the work of the Center for Climate Strategies (CCS), which has facilitated climate action planning in more than 30 states. The CCS catalog is not exhaustive, nor does it include all of the climate policies in all eleven states.

#### Climate plans used for this analysis

CT: *Connecticut Climate Change Action Plan*, 2005. DE: *Delaware Climate Change Action Plan*, January 2000. MA: Personal communication, Nancy Seidman, Massachusetts Department of Environmental Protection. MD: *Maryland Climate Action Plan*, August 2008. ME: *A Climate Action Plan for Maine*, December 1, 2004. NH: *New Hampshire Climate Action Plan 2009*. NJ: *New Jersey Global Warming Response Act Recommendation Report*, December 2009. PA: *Pennsylvania Final Climate Action Plan*, 2009. RI: *Rhode Island Greenhouse Gas Action Plan*, July 15, 2002. VA: *Governor's Commission on Climate Change Final Report: A Climate Change Action Plan*, December 15, 2008. VT: *Vermont Final Report and Recommendations of the Governor's Commission on Climate Change*, 2007; *Climate Change Transition Team Recommendations*, 2008.