



Promising Greenhouse Gas Reduction Strategies for the Boston Region

February 1, 2018

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Presentation Outline

- Review Recommended Strategies from Previous MPO GHG Report
- Select effective GHG reduction strategies for closer study in geographic areas similar to the Boston Region MPO
- Research into Northeast Agencies
- Takeaways



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Recommended National Strategies from the 2016 MPO Greenhouse Gas Reduction Strategy Alternatives Study

Travel Demand Management	Transportation System Planning, Funding, and Design	Transportation System Management and Operations	Public Education	Land-Use Policies
Workplace Transportation Demand Management	Pedestrian Improvements	Increased Transit Service	Driver Education and Eco-Driving	Parking Management
Teleworking	Bicycling Improvements	Truck-Idling Reduction	Information on Vehicle Purchases	
Individualized Marketing of Transportation Services	Expansion of Urban Fixed-Guideway Transit			
Ridesharing	Rail Freight Infrastructure			
Car Sharing				



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Evaluation of Relevant Strategies from MassDOT's EERPAT Study

Policy	Emissions Reduction Percentage by 2030	Annual Cost Per Metric Ton of GHG	GHG Reduction Strategy
Transit Investment/Service	0.37%	\$1,700	Increased Transit Service, Expansion of Urban Fixed-Guideway Transit
Bicycle Infrastructure	0.91%	\$510	Bicycling Improvements
Travel Demand Management	0.10%	\$300	Workplace Transportation Demand Management, Teleworking, Individualized Marketing of Transportation Service, Ridesharing
Electric Vehicles	0.34%	\$370	Information on Vehicle Purchases
Parking Pricing	0.07%	\$71	Parking Management

Source: Cambridge Systematics, *Application of the EERPAT Greenhouse Gas Analysis Tool in Massachusetts* (Boston, MA: Massachusetts Department of Transportation, May 2016), 1-7



Evaluation of Relevant Strategies from Georgetown Climate Center Study

Policy	Emission Reduction Percentage by 2030	Annual Cost Per Metric Ton of GHG	GHG Reduction Strategy
Transit	0.10%	\$3,500 - \$19,300	Increased Transit Service, Expansion of Urban Fixed-Guideway Transit
Bicycle and Pedestrian Infrastructure	0.70%	\$790 - \$13,425	Bicycling Improvements, Pedestrian Improvements
Employer / Worksite Travel Demand Management		\$30 - \$420	Workplace Transportation Demand Management, Teleworking
Rideshare Programs		\$80	Ridesharing
Miscellaneous Travel Demand Management		\$40 - \$7,486	Individualized Marketing of Transportation Service, Car Sharing
Electric / Alternative Fuels Vehicles	2.7% - 5.4%		Information on Vehicle Purchases
Freight / Intermodal Infrastructure and Operations		\$172 - \$86,500	Rail Freight Infrastructure

Source: G. Pacyniak, K. Zyla, V. Arroyo, M. Goetz, C. Porter, D. Jackson, et al., *Reducing Greenhouse Gas Emissions from Transportation: Opportunities in the Northeast and Mid-Atlantic – Appendix 2* (Washington, DC: Georgetown Climate Center, November 2015), 28-41.



TABLE 1 restructured National Strategies from the Boston Region MPO's Greenhouse Gas Reduction Strategy Alternatives Study

Travel Demand Management	Transportation System Planning and Design	Transportation System Management and Operations	Public Education	Land-Use Policies
Workplace Transportation Demand Management	Pedestrian Improvements	Increased Transit Service	Driver Education and Eco-Driving	Parking Management
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Ridesharing				
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Presentation Outline

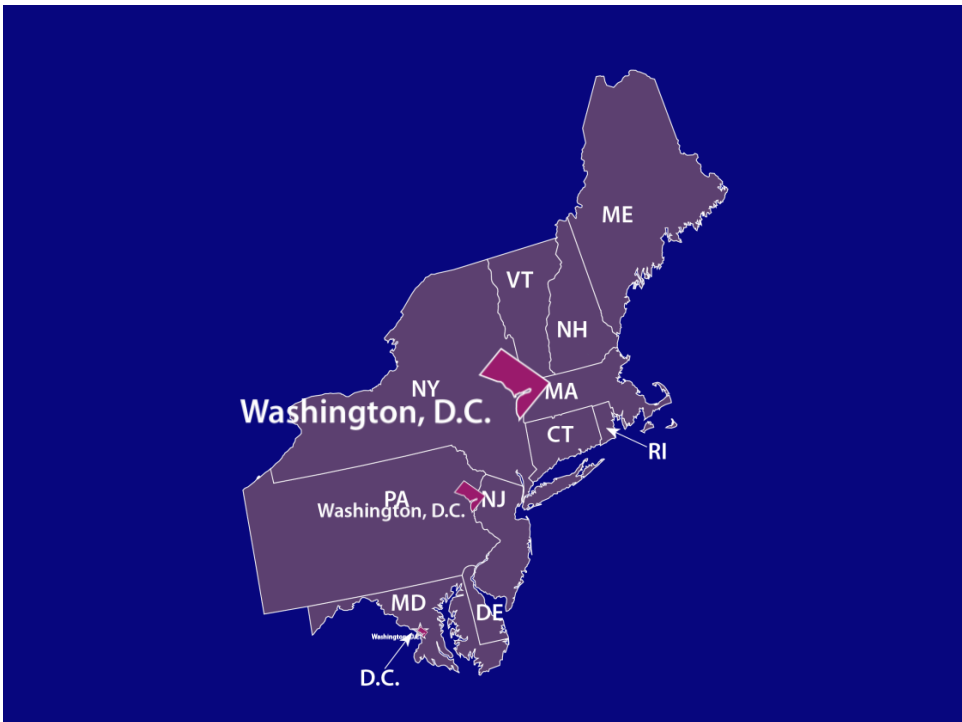
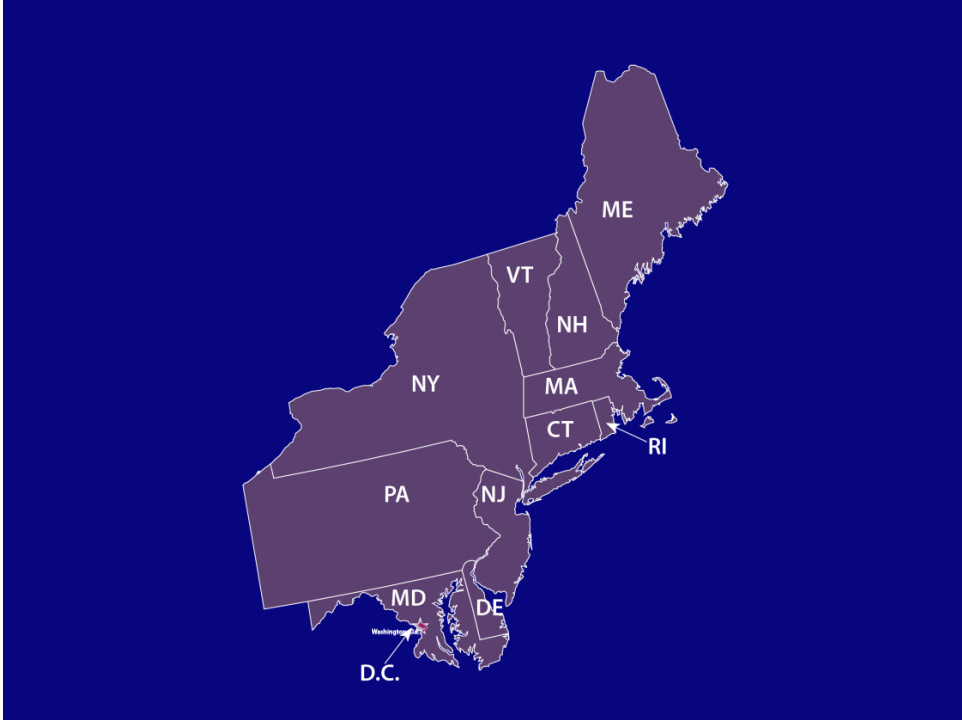
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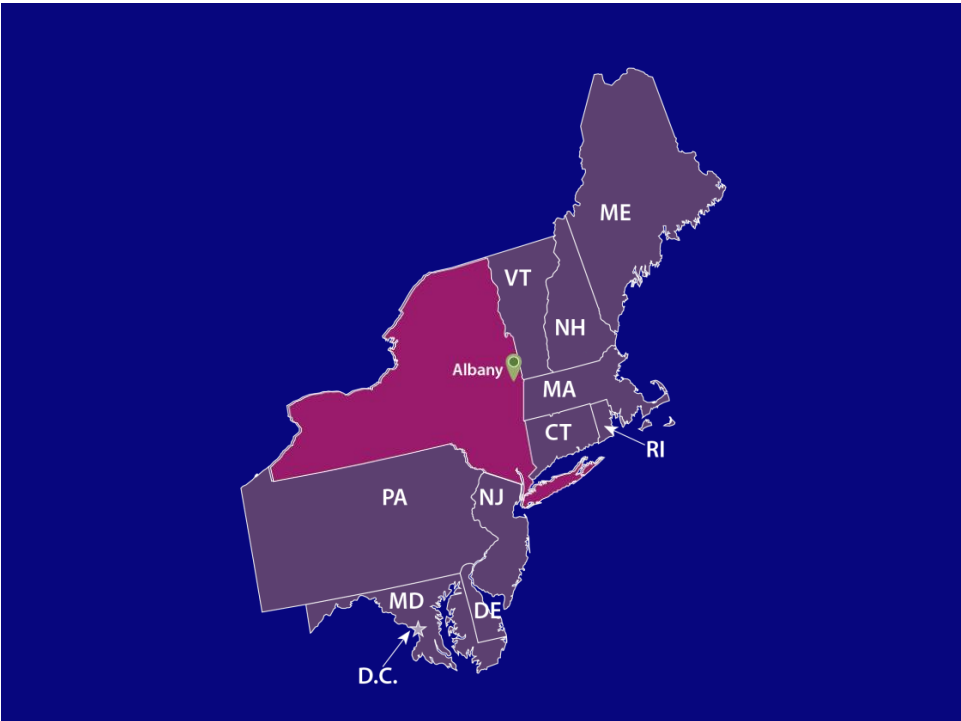
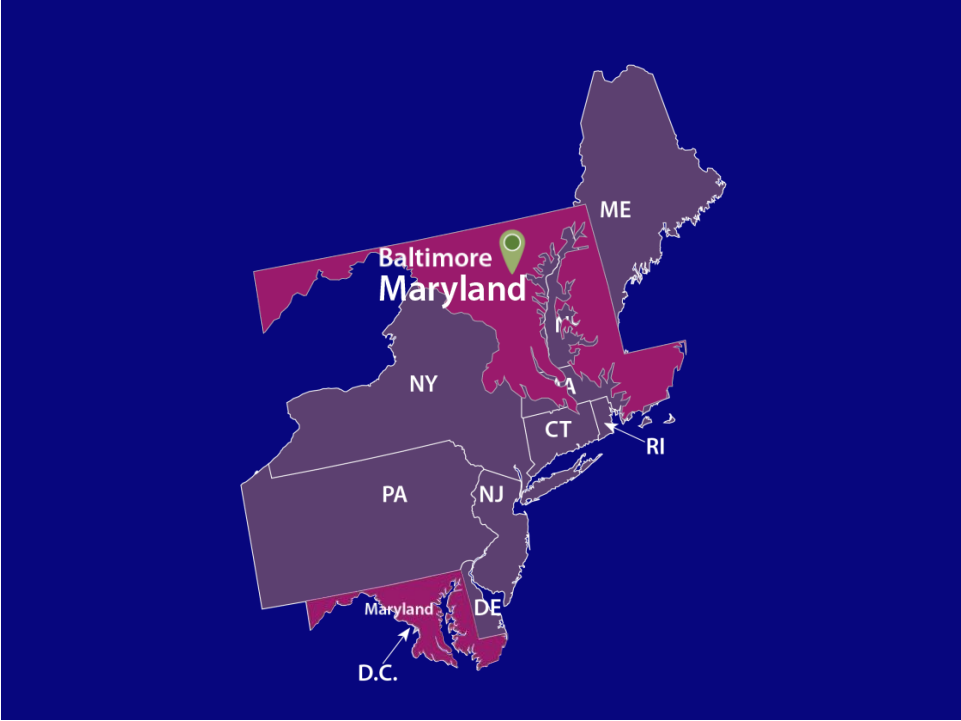


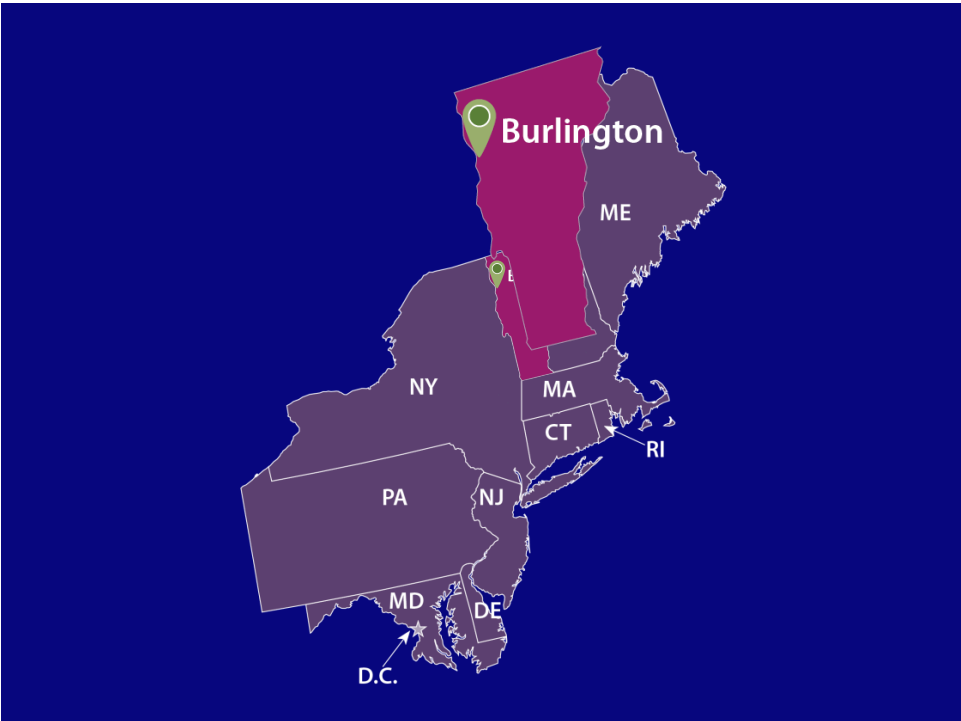
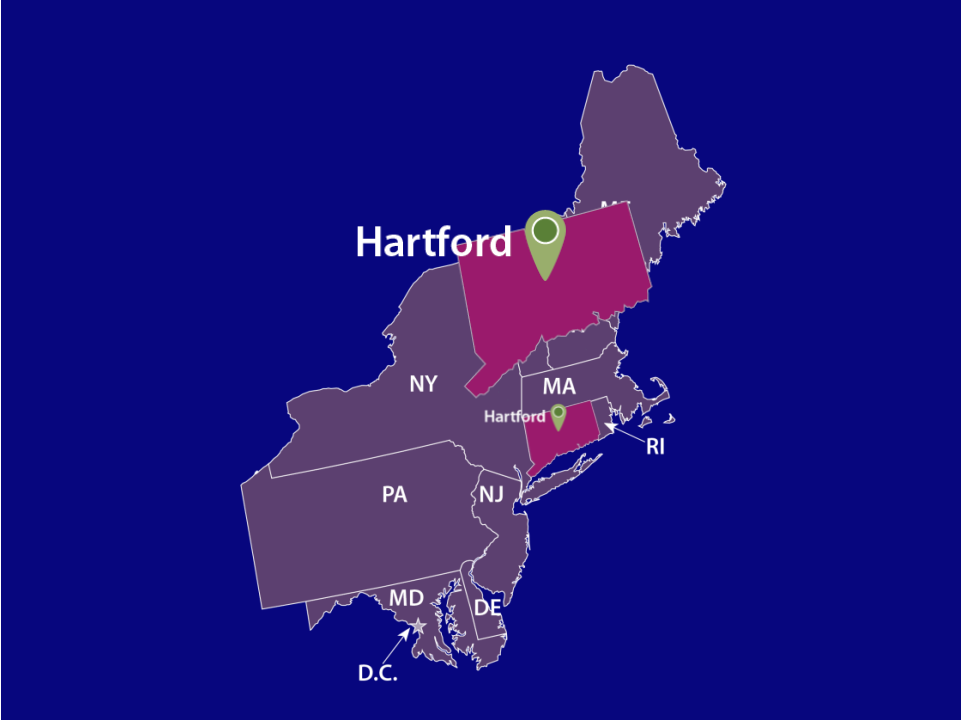
Experiences with Selected GHG Reduction Strategies

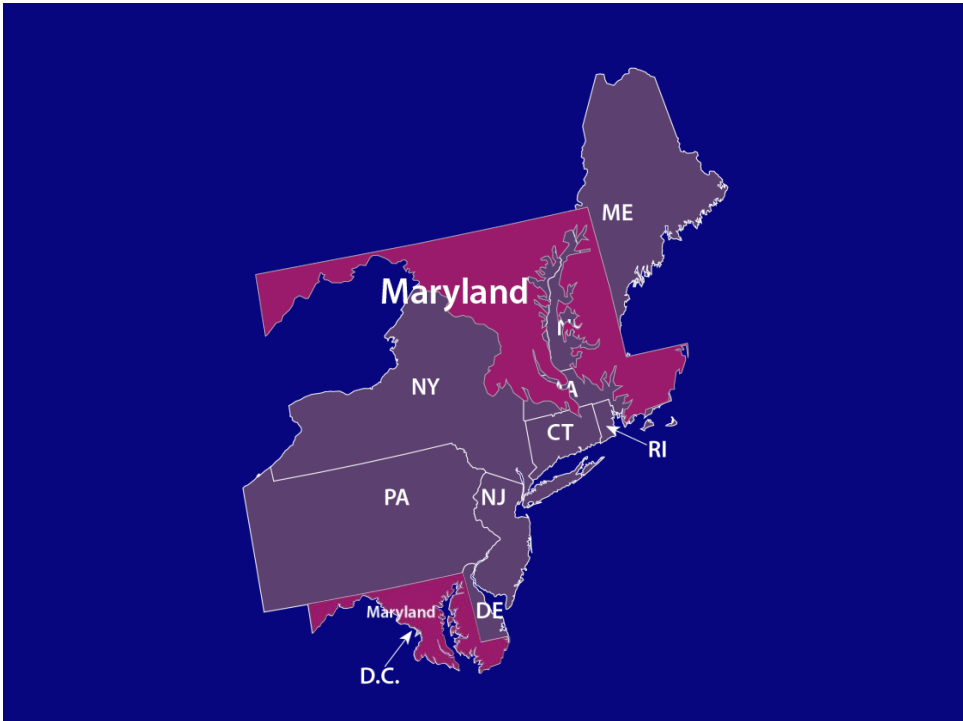
- What has been tried?
- What has worked?
- Evaluation / monitoring
- Comparison with other agency goals
- Past and Future Measurement
- Use in Project Programming
- Scenario Planning

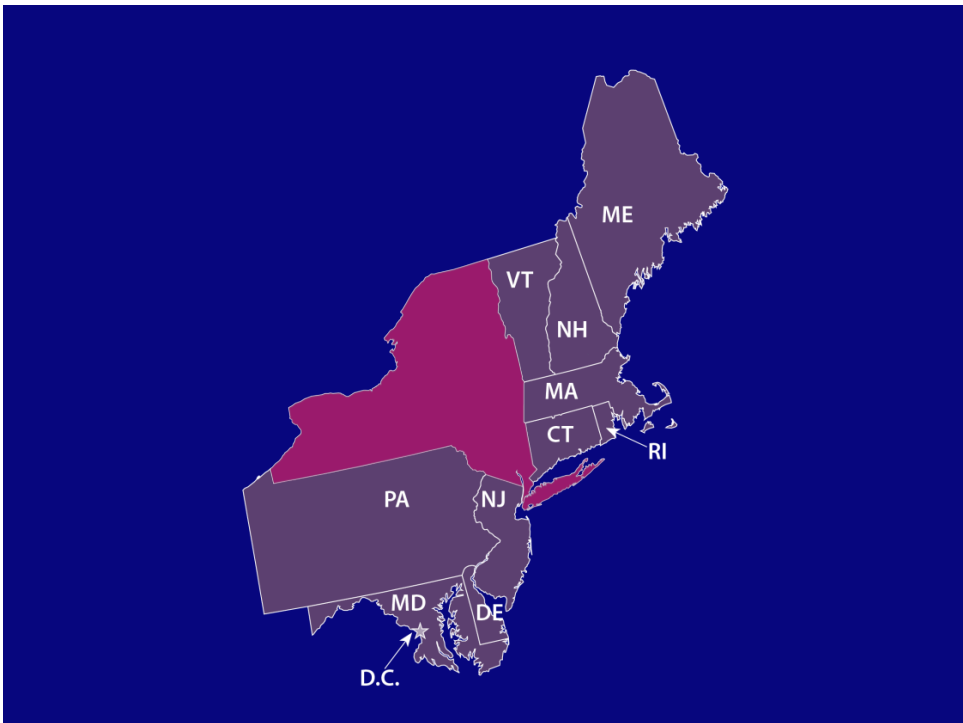
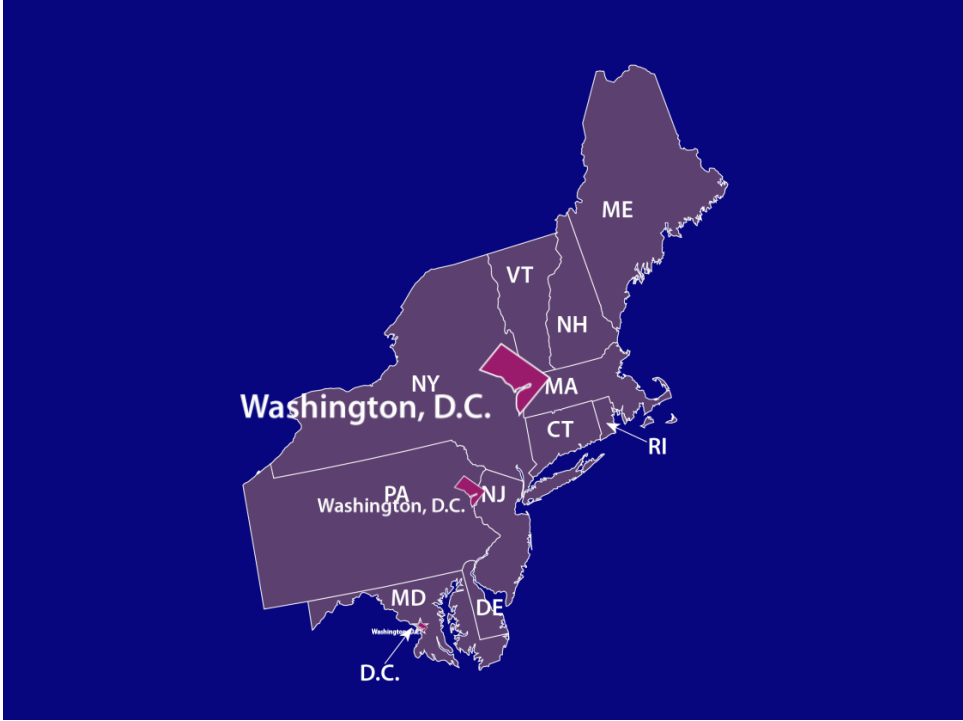












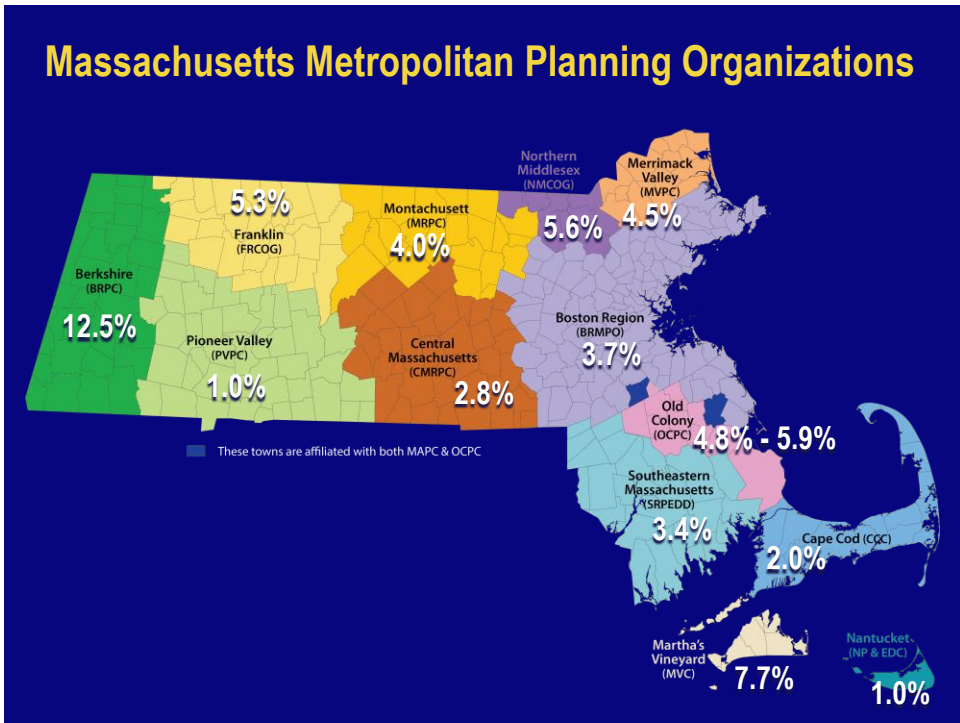
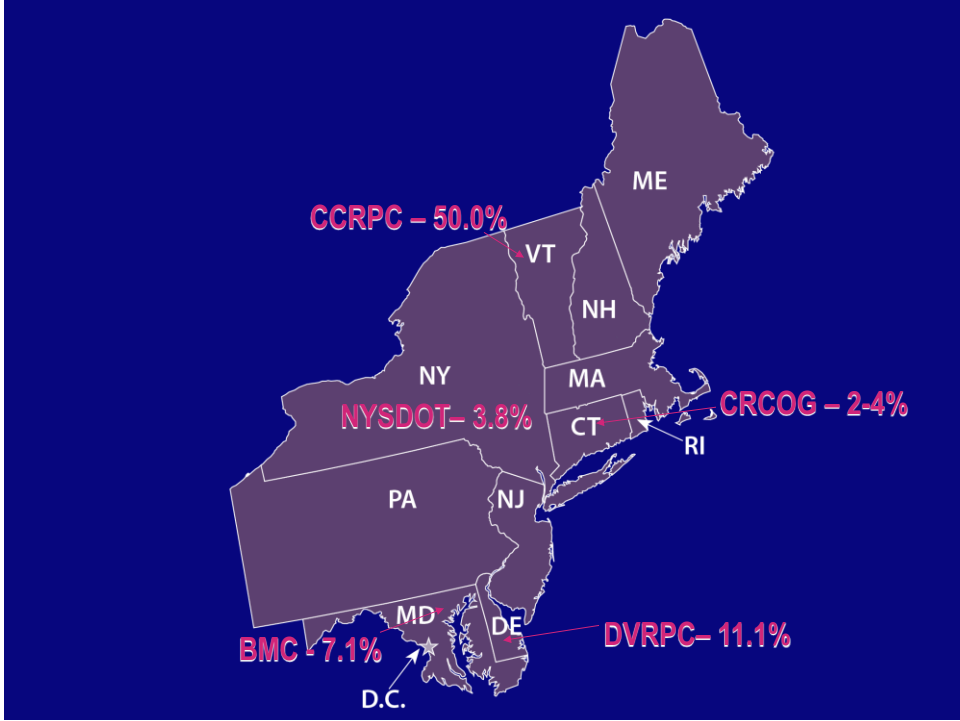
Tools for Measuring GHG Reduction

- Estimate VMT reduction and apply MOVES emissions factors
 - Travel Demand Models
 - Sketch Planning
- Other methods
- Cost-effectiveness models
 - EERPAT
 - LCC



Informing the TIP Process





Scenario Planning



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Takeaways

- In line with and ahead of studied peers
- Few agencies have evaluated their GHG reduction initiatives
- GHG reduction correlated and enmeshed with other regional goals
- GHG reduction never seen as the primary motivation for policy, only as co-benefit



Takeaways

- Different approaches to GHG reduction
 - Programming initiatives
 - Operation and Management of initiatives
- Consider GHG reduction strategies in next evaluation of TIP and LRTP criteria
- Consider GHG reduction strategies in LRTP scenario planning
- Consider using cost-effectiveness models



Thank you!

Questions?

