

GreenDOT

Policy Summary: GreenDOT is the Massachusetts Department of Transportation’s (MassDOT) sustainability initiative, announced through a Policy Directive in June 2010. The GreenDOT Implementation Plan, also from 2010, serves as the framework for embedding the sustainability principles of GreenDOT into MassDOT’s core business practices. GreenDOT is intended to fulfill the requirements of several state laws, regulations, Executive Orders, and MassDOT policies, including the Global Warming Solutions Act, the Green Communities Act, the Healthy Transportation Compact, and Leading by Example Executive Order. The original CECP anticipated that various measures implemented by MassDOT pursuant to the GreenDOT Plan would produce approximately a 1 MMTCO₂e reduction in 2020, and this CECP Update maintains this assumption.

	Savings from full policy implementation	% of 1990 level
Economy-wide GHG reductions in 2020	1.0 MMTCO ₂ e	1.1%

In January 2015, after a public process in which MassDOT worked closely with the Massachusetts Department of Environmental Protection (MassDEP) to determine the best regulatory framework for achieving the goals set forth in the Policy, MassDEP issued regulations, 310 CMR 60.05, intended to assist the Commonwealth in achieving the GHG emissions reduction goals adopted pursuant to the Climate Protection and Green Economy Act. The regulations require MassDOT to demonstrate that its GHG reduction commitments and targets in the CECP are achieved. They also require metropolitan planning organizations (MPOs) to evaluate and track the GHG emissions and impacts of Regional Transportation Plans (RTPs) and regional Transportation Improvement Programs (TIPs); and in consultation with MassDOT, to develop and utilize procedures to prioritize and select projects in RTPs and TIPs, based on factors that include GHG emissions and impacts. In addition, under the regulations, MassDOT must evaluate and track the GHG emissions and impacts of Statewide Transportation Improvement Programs (STIPs) and state-funded projects that are not included in these Programs.

Based on interagency consultation, it appears that the regulatory requirements have been met, with the exception of identification of existing or supplemental measures sufficient to demonstrate that the required 1 MMTCO₂e reductions will be achieved. In order to address any shortfall between the projected GHG reductions and the GHG reduction target in the CECP, the regulations require MassDOT to identify, quantify, and implement supplemental measures and initiatives within the transportation sector and/or areas of MassDOT’s responsibility that will achieve the GHG reduction shortfall by 2020. Pending submission by MassDOT of a GHG Assessment—as required under 310 CMR 60.05—that had not been received by MassDEP as of the issuance of this CECP Update, it appears that MassDOT will be short of its required GHG reductions.

Once the final GHG Assessment is received, and the projected shortfall confirmed and quantified, the Baker-Polito Administration will identify transportation sector emission reduction measures sufficient to close the gap between the required 1 MMTCO₂e in 2020 and the GreenDOT related emissions reductions identified by MassDOT. The importance of reducing emissions from transportation—now the largest emissions sector—is recognized and a priority for the Administration.

GreenDOT Implementation: GreenDOT is focused on three related goals: reduce GHG emissions; promote the healthy transportation modes of walking, bicycling, and public transit; and support for smart growth development. GreenDOT encompasses a number of different program areas, which are described briefly below: statewide and regional long-range transportation planning, transportation project prioritization and selection, Complete Streets, rail transportation, bicycle and pedestrian transportation, promotion of eco-driving, sustainable design and construction, system operations, facilities management, generation and use of renewable energy, and travel demand management.

Transportation Long-Range Planning and Project Prioritization and Selection: Long-range planning documents, including statewide planning documents (e.g., the Strategic Plan, State Freight Plan, and MassDOT Capital Investment Plan), as well as the long-range RTPs from the MPOs, must address MassDOT's three sustainability goals and evaluate, track, and plan for reducing GHG emissions over time. Similarly, the shorter-range TIPs and STIPs, under which particular projects are chosen for funding in the coming four years, must be consistent with the Commonwealth's GHG reduction target. This will require that the MPOs and MassDOT minimize highway system expansion projects and balance their impact with other projects that support smart growth development and promote public transit, walking, and bicycling. In addition, the project programming mix included in the RTPs, TIPs, and STIPs can contribute to GHG reduction through prioritizing roadway projects that enable improved system operational efficiency without expanding overall roadway system capacity. All of these goals and requirements will be addressed as MassDOT and the MPOs incorporate the recommendations of the Project Selection Advisory Council for a more data-driven, transparent, and uniform project selection process into MassDOT's capital planning.

Over the long term, both long-range planning and project selection will affect where new development in the Commonwealth is located and how that development is spatially configured. These choices affect the degree to which future development represents smart growth, or clustered development patterns that facilitate walking, bicycling, riding public transit, and driving shorter distances, which would minimize the number of motor vehicle miles that people must travel in order to go about their lives.

Project Design and Construction: The MassDOT Highway Division Project Development and Design Guide requires that all projects must adhere to a Complete Streets design approach, meaning that new and redesigned roads must provide appropriate accommodation for all users, including pedestrians, bicyclists, and public transit riders. These modes of transportation will also be promoted by several other means. These include taking steps to see that more alternative transportation projects move forward, extending the Bay State Greenway, improving

accommodations for bicycles and pedestrians on bridges, and improving bicycle parking facilities at MBTA stations.

Several efforts will continue to improve rail transportation in the state. The MBTA is striving to both improve service on existing subway and commuter rail lines and to develop new service, such as the Green Line Extension and the South Coast Rail Project. Other projects will improve long-distance rail service for both passengers and freight.

MassDOT project design and construction will also reduce GHG impacts through measures such as the use of recycled content in paving materials, use of warm mix asphalt paving, implementation of stormwater remediation and use of best management practices, and requirements for diesel engine retrofits for construction contractor vehicles.

Travel Demand Management and Travel Information: MassDOT will continue to promote and deliver travel demand management (TDM) information and services, including a ride-matching/trip planning system to facilitate carpooling, vanpooling, and mode shifting from automobile travel; traveler information; real-time bus tracking; and other measures for the general public and among MassDOT employees.

Eco-driving: Fuel efficiency can be improved greatly by maintaining vehicles properly, driving within the speed limit, and accelerating more gently. The EPA estimates that smart driving can improve fuel efficiency by up to 33 percent, and EcoDriving USA estimates that Massachusetts' drivers, with 5.4 million registered autos, could save about 4 MMTCO₂e emissions annually if eco-driving practices were followed. MassDOT will promote eco-driving through: internal education for staff and contractors; external education of all Commonwealth drivers through website content, RMV manual and testing content, signage, and brochures; and development of a plan to improve tire inflation infrastructure.

System Operations: MassDOT, along with the MBTA and other regional transit authorities, will continue to take a variety of steps to minimize fuel use and GHG emissions from vehicles and facilities. This includes retrofitting diesel buses with emission control devices, truck stop electrification, using solar and wind power at MassDOT facilities and rights-of-way, improving energy efficiency in MassDOT facilities, and increasing the share of low-emission transit vehicles in the MBTA fleet.

MassDOT will also facilitate more efficient roadway system operations, improvements that can reduce GHG emissions by reducing congestion and time spent idling in traffic. MassDOT will do this through the effective management of roadway capacity, using intelligent transportation systems—which may include such measures as real-time traveler information and management of traffic flow through improved traffic signal operations—ramp metering, and variable speed limits. MassDOT will also continue to address roadway system bottlenecks or points of localized capacity constraints, improvements that can reduce GHG emissions when traffic flow is improved without expanding overall system capacity.